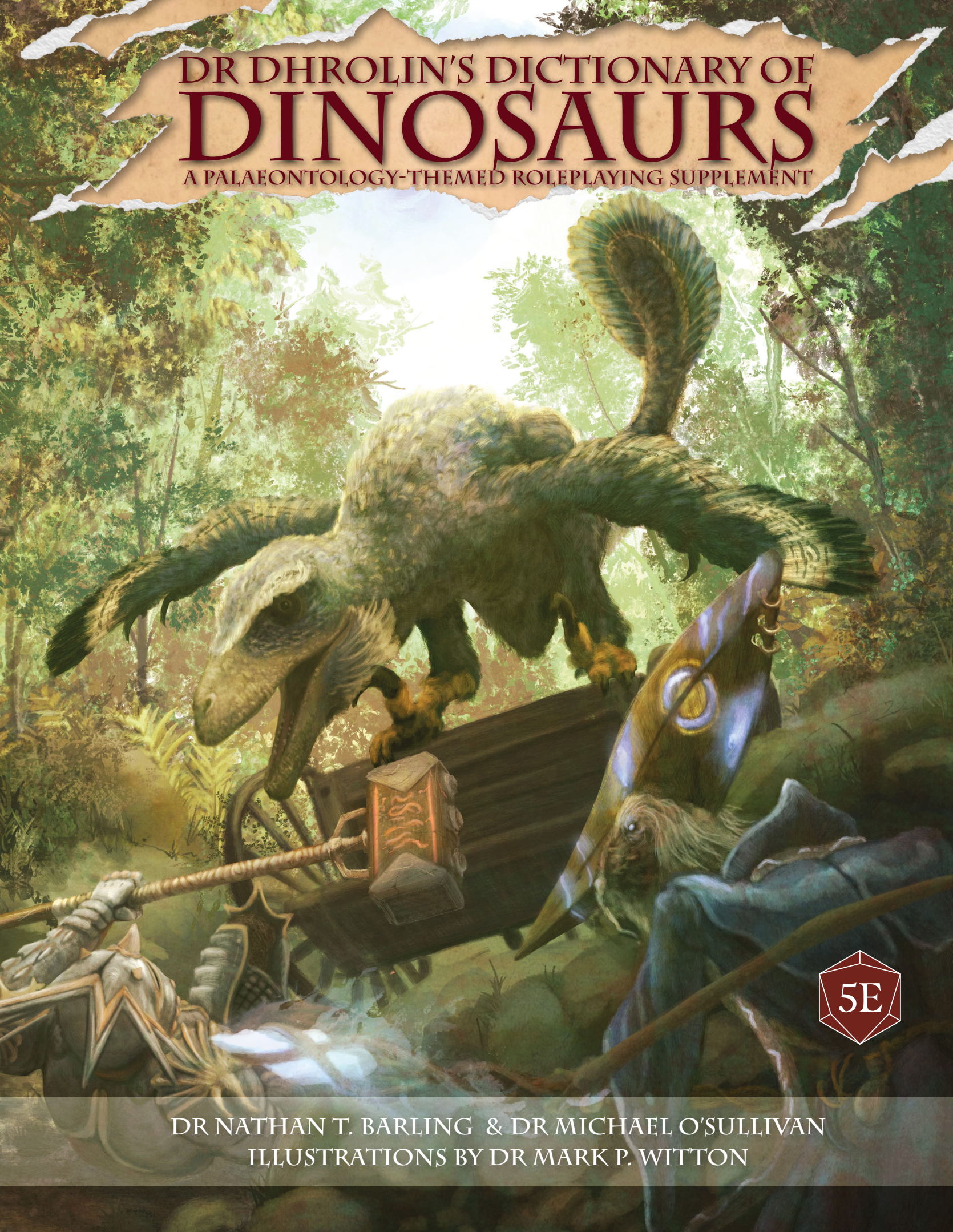
DR DHROLIN'S DICTIONARY OF DINOSAURS

A PALAEONTOLOGY-THEMED ROLEPLAYING SUPPLEMENT



DR NATHAN T. BARLING & DR MICHAEL O'SULLIVAN
ILLUSTRATIONS BY DR MARK P. WITTON

DR DHROLIN'S DICTIONARY OF DINOSAURS





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INTRODUCTION





Welcome adventurer and thank you sincerely for supporting our book. We are delighted that you've chosen to include palaeontological elements into your games and we hope that you enjoy using these rules and artwork as much as we did creating them.

We are PalaeoGames, a team of palaeontology research scientists and artists who have a passion for tabletop roleplaying games. *Dr Dhrolin's Dictionary of Dinosaurs* is our first major palaeontological outreach project, and we are immensely thankful to the wonderful pledgers who have helped make this dream a reality.

What's in the Book?

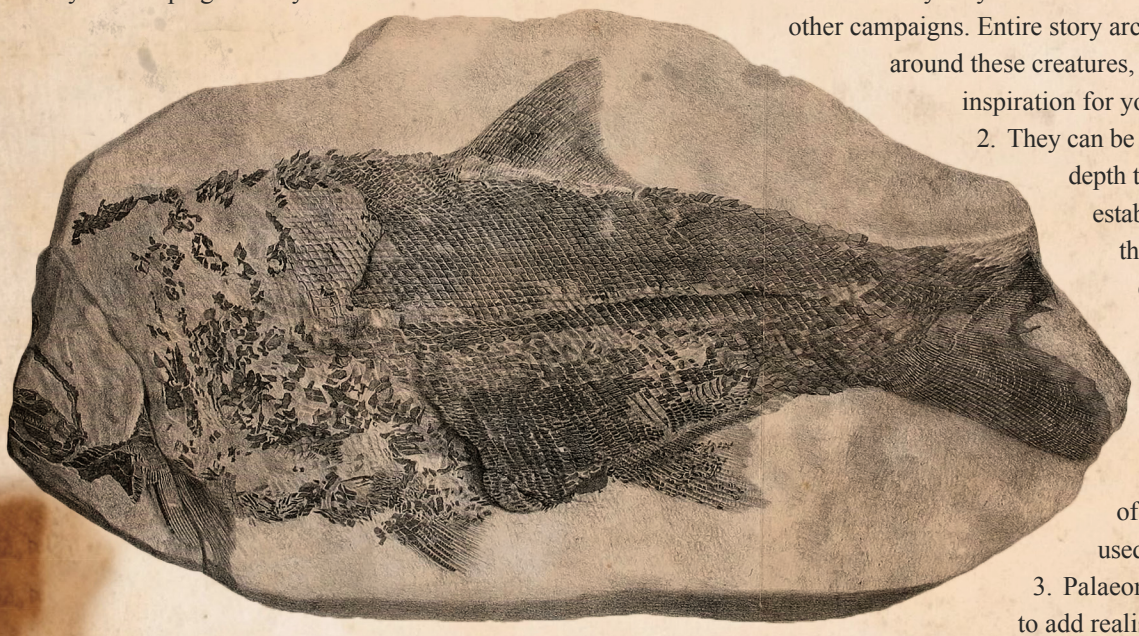
This book contains homebrew rules for including a variety of scientifically credible prehistoric elements in your 5e tabletop roleplaying games. These include reconstructions of Mesozoic reptiles, environmental reconstructions, and behaviour tables all based on real science. We've also included a variety of fantasy rules, such as playable races, subclasses, items, backgrounds, mutations tables, etc. With these prehistoric elements, you can build a prehistoric campaign, or add deep history to your existing world.

In addition to these gaming elements are sections addressing some of the science of palaeontology. We hope that you find them accessible and informative to read.

Why Include Palaeontology in Your Games?

We believe that there are several compelling reasons to include realistic ancient creatures and palaeontology in your campaigns. They are:

1. Including unusual ancient creatures can be a fun way to mix up the typical fantasy tropes of dragons and goblins, and give your players a chance to encounter creatures they may not have encountered before in other campaigns. Entire story arcs can be created around these creatures, providing a wealth of inspiration for your campaign.
2. They can be used to add further depth to an already established dinosaur-themed setting. For example, an ancient Lizardfolk temple might be defended by Lizardfolk riding dinosaurs and this book provides dozens of creatures that could be used as alternative mounts.
3. Palaeontology can be used to add realism and authenticity



Cosmolepis

Design Philosophy

Life is diverse. We find that the current 5e system of normal, proficiency, and expertise for saves/skills/attacks/etc. calculations based on one chosen stat is insufficient to express that diversity. To give us more granularity in our designs and to better represent what we think these animals were like in real life, we have largely disregarded this system. This allows us to increase/decrease the offensive/defensive capabilities of our Mesozoic reptile designs without over-inflating/deflating their base stats.

We've also added names to the armour class of each of our creatures, describing their defensive integument (skin/fur/feathers). This is purely to give DMs and players the opportunity to better visualise and describe combat. While reading this book, you will notice that a creature's modifiers do not necessarily match its stat bonus and proficiency bonus.

If you wish, you may recalculate any of these creatures' saving throws, skill bonuses, attacks or abilities, using their ability score bonuses and proficiency bonus, applying proficiency and expertise where you see fit. You may also rename their armour to "Natural Armour".

to your game world. For example, the presence of fossilised remains can give your players a sense of the history and age for the world they are in.

4. Creatures that look and behave in realistic ways can add a sense of immersion and believability to your game world. Your players may end up being more invested in the story if they feel like they are interacting with creatures that could have actually existed. When combined with scientifically accurate environmental reconstructions, you can provide a truly immersive experience.

Why do We Feel This is Important?

Palaeontology is a gateway science. That is, it is one of the first sciences that children and young adults are introduced to and acts as a point of entry for general scientific interest. It inspires awe in the natural world via the reconstruction of animals so dynamic that they seem like mythical monsters, as well as introducing topics like evolution that are fundamental for understanding the world around us. We have no doubt that, without it, many of the world's top scientists would be in other careers.

However, with this excitement and adoration comes an unusual negative side effect. Unlike most other sciences, palaeontology seems to hold a special place in people's hearts, leading to a deep nostalgia for the toys and media that they experienced as a child. Notably, this includes monstrous depictions that echo inaccuracies of the earliest outdated reconstructions. Correcting those inaccuracies has generally been met with vicious opposition, ridicule, and claims that "science is ruining dinosaurs", although it is worth noting that this has changed drastically in the last 10 years or so. While seemingly innocuous, this scientific dissidence has given space for a small, but vocal, group of science deniers to air their views. Those views are typically grounded in religious extremism, but have far-reaching consequences, particularly when they enter the school curriculum.

In addition to the more serious concern outlined above, there are other issues caused by palaeontology's unusual popularity and nostalgia. In public discourse, palaeontology functions more like pop culture, with large fan-based communities that idolise or despise particular scientists and their research. There is more to discuss there than we can adequately address in this book, but it is important to highlight some of the challenges faced by scientists while disseminating research. This is why we invest so much time and effort into projects like this.



Various Ammonites

Who are we?

The gaming world is full of wonderful people who have a deep passion for palaeontology and want to share that passion with others through their artwork and designs. PalaeoGames falls into that category, but also brings something more. PalaeoGames is composed of scientists publishing in the field of palaeontology, rather than enthusiastic amateurs. We are active researchers who form our designs and reconstructions based on published data. That means that the way these animals are portrayed is done so to the best of our scientific understanding of them, albeit with a little flexibility for things like movement speed and perception to allow them to function properly in-game. So, who are the individuals that constitute PalaeoGames, or work with it?

Dr Nathan Barling – Lead Designer, Lead Researcher, and Director of PalaeoGames Ltd.

Nathan is the scientific researcher who first came up with the idea for this project and founded PalaeoGames Ltd. in early 2022. He has subsequently overseen the project's implementation and successful execution. His research specialisation is in the processes of exceptional preservation and he has studied the Crato Formation extensively, examining the exceptional preservation of insect fossils found there. Nathan currently works with the University of Exeter as a Research Associate.

Dr Mark Witton – Lead Artist, Researcher

Mark is a world-famous palaeoartist and vertebrate palaeontologist. He regularly works as a consultant for major palaeontological documentaries, such as *Planet Dinosaur* and *Prehistoric Planet*. He has published several critically acclaimed books about palaeontology and the reconstruction of fossil species, including *Pterosaurs: Natural History, Evolution, Anatomy*; *Palaeoartist's Handbook: Recreating Prehistoric animals in Art*; *Recreating an Age of Reptiles*; *Life Through the Ages II: Twenty-first Century Visions of Prehistory*; and *The Art and Science of the Crystal Palace Dinosaurs* to just name a few. In part thanks to this project, Mark is now a full-time palaeoartist and scientific consultant.

Dr Michael O'Sullivan – Researcher, Designer

Michael is also an accomplished vertebrate palaeontologist and avid science educator. Michael specialises in the morphology and taxonomy of pterosaurs and is an active researcher. Recently, Michael has moved into the education sector and currently works in Ireland as a science teacher.

Annie Barling – Artist, Designer, and co-founder of PalaeoGames Ltd.

Annie is an accomplished artist who runs her own art business (Featherpaw Studio). Her artistic and design skills supplement Mark's reconstructions, as she provides additional artwork and design direction for the fantasy elements of the book. She also plays a pivotal managerial role in the running of PalaeoGames Ltd. as a company. Annie illustrated many of the fantasy NPC pieces in this book, including the Pluvenn festival artwork

Dr David Hone – Editor

Dave is a vertebrate palaeontologist, writer, and Reader at Queen Mary University of London. He focuses on the behaviour and ecology of dinosaurs and pterosaurs and has previously worked for The Guardian as a scientific writer.

Dr Emily Roberts – Researcher

Emily is a palaeobotanist who also spent much of her time working on the Crato Formation. She is an outstanding science educator and provided the palaeobotanical research for this project.

Jules Kiely – Researcher, Artist

Jules is also a palaeobotanist, as well as an exceptional artist. Her role within this project is to interpret the flora highlighted by Dr Roberts, and provide accurate reconstructions of those plants. As such, the palaeobotanical artwork and item artwork in this book is illustrated by her.

Eleanor Forty-Robbins – Layout Design

Eleanor Forty-Robbins is thanked sincerely for her exceptional work in constructing the layout of this book - which was no small feat.

Raphael Highgate-Betts – Inclusivity Consultant

Raphael is thanked deeply for his assistance in making this book as inclusive as possible. We want everyone to feel that they can create characters from our content that they can relate to.

Quinn Bastin and the playtesting team

Quinn is a professional playtester with a history of testing 5e content. He was a playtester for the Hellboy roleplaying game, which was based off of 5e, and has put together a team of playtesters to ensure our rules are balanced. Quinn's team consists of Charlie Bonnefond-White, Dan Davis, Jonathon Harris, Kail, Owen Cannon, and Tori.

Charlie and the playtesting team

An additional playtesting team headed by Charlie Davey also assisted in our balancing. This team included Chelsey Small, Bradley Hyde, Gemma Matthews, and Justin Isted. Charlie's team included players from a range of experience levels.

Additional Playtesters

Several other individuals have assisted with playtesting by attending sessions run by Nathan Barling. These include Zak Dawson, Paul Shannon, Alex Srdic, Erik de Graaff, William Clevett, Dan Davis, Sophie Phillips, Raphael Highgate-Betts, Haddi Conant, David Robbins, and Eleanor Forty-Robbins, all of whom are thanked sincerely for sacrificing their beloved characters to the maws of dinosaurs. None were spared.

Special thanks are given to:

Glen Ferguson who worked as an asset artist for PalaeoGames' digital battle maps and merchandise.

Chris and Laura of AFK Gaming Ltd. are thanked for their ongoing support and assistance with marketing.

Stephanie and James of GeekyClean Ltd. are thanked for providing many of the wonderful physical rewards for our Kickstarter.



UNDERSTANDING PALAEONTOLOGY

In this section, we outline educational information about palaeontology and its associated subjects, as well as how to be a palaeontologist.

What do Palaeontologists do?

Palaeontology (UK spelling) or paleontology (US spelling) is the study of ancient life and the natural world. Palaeontologists use fossils and associated evidence in the rock record to interpret the past. It is an extremely complex interdisciplinary science, requiring a strong foundation in geology (including sedimentology, geochemistry, radiometric dating, palaeotopography, and palaeoclimatology), biology (evolution, biochemistry, anatomy, ecology, behaviour, and phylogeny), and mathematics (data analysis [usually statistical] and modelling). Specialist aspects of palaeontology may require further expertise in physics, programming, cosmology, science communication, and many other disciplines. In this section, we will cover the fundamentals of palaeontology.

Types of Palaeontologist and Associated Careers

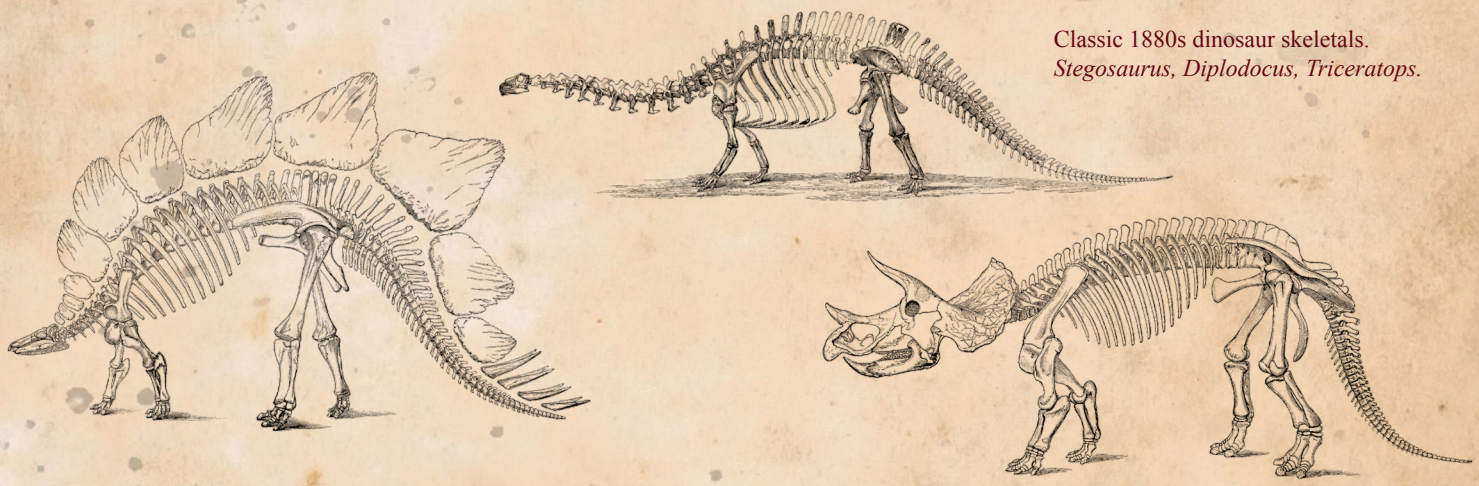
There are many different types of palaeontologist and anyone can contribute to the field. The good news is that you don't need any formal education to make ground-breaking (literally) discoveries in this field. We like to summarise different contributions to palaeontology as, academic, semi-academic, and associated roles.

Academic palaeontologists include scientific researchers, lecturers, and some research museum staff. A long career may encompass several or all of these aspects, as well as consultancy work for several industries. Academic palaeontologists require the most time and investment to achieve the level of education needed to fulfil their roles and there are few positions world-wide. This effort is rewarded by the opportunity to investigate and examine the best fossils in the world, as well as to be on the cutting edge of research.

There is an unbelievable variety of research areas and working styles within academic palaeontology. Some spend almost their entire careers behind a computer screen, reading and re-evaluating decades-old datasets, others program complex analyses to determine evolutionary relationships, some examine and describe the characteristics of new species, some test the mechanics of fossil anatomy, and others undertake field excursions to examine rock outcrops. Many palaeontologists specialise in several areas and their jobs could include several such aspects, while others hyper-specialise in one specific attribute of one group of organisms.

Semi-academic palaeontologists generally include field guides, museum staff, palaeoartists, and science communicators. Their work is vital for helping disseminate knowledge to the general public and the level of education among these individuals varies greatly. Some may have considerable education in palaeontology, including post-graduate studies, while others may be entirely self-educated.

Caution must be used when listening to a self-proclaimed palaeontologist, as the field is prone to "armchair experts" who spread misinformation. For every real expert, there are a hundred misguided amateurs who repeat misinformation they read online, or even embellish it with further misinformation to garner greater traffic to their social media profiles. This is a serious issue within palaeontology that has real-world impacts.



Classic 1880s dinosaur skeletals. *Stegosaurus, Diplodocus, Triceratops.*

Palaeo-associated roles include fossil preparators, fossil collectors, and fossil dealers. There is an entire industry around the extraction, cleaning, and sale of fossils, and these individuals facilitate it. They are typically not formally trained in palaeontology, but some can still be exceptionally knowledgeable. Their roles enable the safe recovery of millions of fossils that would otherwise be destroyed by weathering. The discovery of thousands of species can be attributed to non-academics such as these and their activities are an extremely important component of palaeontology as a whole. There is also a colossal community of people who fossil hunt as a hobby (including many of the academics and semi-academics). No formal education is required to be a fossil hunter, but it helps to have a good understanding of what you're looking for.

Types of Fossils

To study ancient life, we examine evidence left in the fossil record. There are many different types of fossils and they can range in age from a few thousand years to billions of years old. They all preserve information about an organism or its behaviour. Below are the key different types of fossils:

Body Fossils

Preserved organic remains and unaltered mineralised remains.

- Some carcasses preserve the actual body parts of an animal for thousands of years – that is, the original tissues are stabilised in a way that some of the in-life components remain. Technically, these aren't fossils, but palaeontologists often still study them. This type of preservation is very young (just a few thousand years) and usually occurs as mummified or frozen remains, or hard parts (shells and bone) that remain chemically the same as in life.

Carbonisation.

- Organic remains can be carbonised by the temperatures and pressures of geological processes. The crushing weight and baking heat cook the fossil, resulting in a carbon residue. Many feathers on dinosaurs are preserved in this manner.

Mineral replacement (permineralisation).

- This is what most people think of when hearing the word "fossil". These are components of an organism that have been replaced by minerals such as calcite or silica. Iconic dinosaur bones and mineralised arthropods/plants all fall under this category. Dissolved minerals are usually carried in water flowing through the sediment. The organic tissues, or cavities within them, act as a point for those dissolved minerals to precipitate, and they replicate the original shape of whatever they are replacing. There are a huge variety of minerals that can replace tissues, and some of them only require a few hours to do so. Some minerals can also form spontaneously within a carcass from elements freed by the processes of decay.



Aspidorhynchus

Moulds and casts.

- When sediment deposits around an organism and hardens, but then the body parts dissolve or rot away, it leaves behind a cavity with the same overall shape as the remains. This often occurs when shelly fossils are preserved in sediment, but then subsequently dissolve. In some cases, the cavity (mould) is then infilled by another mineral or sediment, creating a rough replication (cast) of the fossil.

Trace fossils

- Trace fossils are evidence of an animal interacting with its environment; usually deforming soft sediments that then cement into hard stone. These can be footprints, swim marks, burrows, nests, or marks from an organism tunnelling within sediment.

Fossil interactions

- Some fossil information can be inferred from other fossils. For example, chew marks on a fossil leaf can provide evidence of certain insects that are otherwise not preserved. Although this is a type of trace fossil, we distinguish it here as it requires other organisms to be preserved.

Geochemical markers

- Some organisms have no physical parts of their bodies preserved, but the presence of their remains changed the chemistry of the host sediment.

Geological indicators

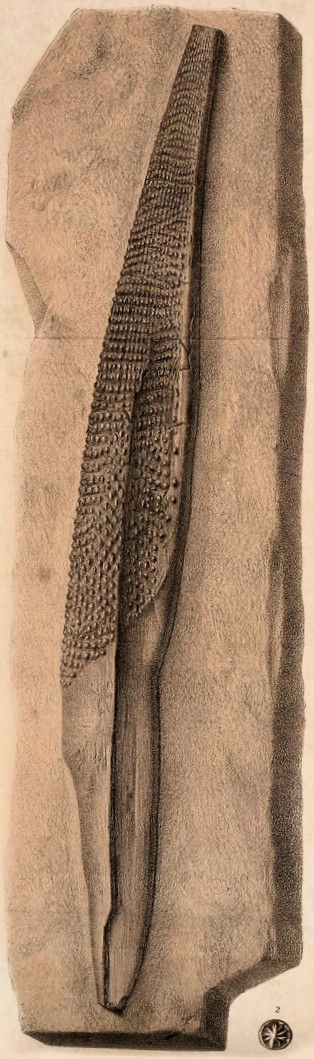
- Overarching geological changes in our world can be evidence of past life. The most obvious of these is the addition of abundant gaseous oxygen into Earth's atmosphere from photosynthesis. This caused a dramatic change in the chemistry of our planet's rocks.

How is a Fossil made?

This is a surprisingly complex question to answer, depending on the type of fossil. The truth is that there are many ways in which an organism may be preserved in the fossil record (as outlined above by the types of fossils). It may seem obvious that slowing the processes of decay is the key factor, either through harsh environmental conditions (like extreme salt levels or total lack of oxygen) or rapid burial under metres of mud. In actuality, to preserve soft tissues, a fine balance is required between these preservational processes and decay itself. Decay is necessary to create chemical bonding sites for mineral deposition and to liberate elements from a carcass. These, in turn, create chemical gradients that stimulate mineral precipitation. We now also know that, in some situations, this process can occur within *hours*, rather than millions of years.

Nevertheless, the most common steps that yield large three-dimensional fossils are:

1) An organism dies (usually near water).
2) The carcass is rapidly buried by mud/sand or sinks into soupy sediments.
3) In some cases, oxygen is depleted from the sediment, preventing excessive decay and allowing the preservation of soft tissues. This is not necessarily required for the preservation of shells and bone.
4) Dissolved minerals in the sediment pore waters deposit in/on the carcass, mineralising it.
5) The surrounding sediments cement into solid rock.
6) The rock is in a relatively geologically stable area, and so the fossil is not exposed to excessive heat or pressure.
7) The rock is uplifted (or sea levels drop) and weathered by wind and rain to expose the fossilised remains.



Asteracanthus fin spine

Studying Fossils, Creating a Hypothesis, Collecting Evidence

Once a palaeontologist has gained access to a fossil or fossil collection (either acquired themselves or accessed through a pre-existing collection), they utilise the scientific method to learn more about it and disseminate their findings through scientific publications. This can be broken down into the following steps:

Project: Determining what is being studied and setting general goals is the first step. These could include:

- Describing the characteristics of a new fossil and finding its position in the tree of life.
- Determining what factors have allowed for the preservation of a fossil, or have altered it over time.
- Improving understanding of a particular fossil species (with regards to its evolutionary relationships, how it looked, how it behaved, where it lived, what it ate, etc.).
- Undertake new largescale analyses that provide information about a collection of fossils (i.e. reassessing the evolutionary relationships between multiple organisms).

Hypothesis: In some cases, a hypothesis based on current observations must then be formed. A well-designed scientific hypothesis should be clear, concise, and based on existing knowledge and evidence. It must also be falsifiable, meaning that it can be tested and potentially proven incorrect. It usually makes a statement about the relationship between two or more variables. i.e. "*Tyrannosaurus rex* specalised in feeding on large herbivorous dinosaurs."

- **Exceptions:** Classic hypothesis-driven science isn't always applicable in palaeontology. When describing a new species, the goal is to determine whether a specimen possesses enough new characteristics to warrant the erection of a new species/genus. This is a somewhat subjective decision, although there are precedents established within the palaeontological community.
- **Null Hypothesis**: Some researchers include a null hypothesis, which is the inverse of the hypothesis. The null hypothesis provides a baseline against which the results of the experiment can be compared to ensure that the observed results did not arise by chance. i.e. "*Tyrannosaurus rex* did not specalise in feeding on large herbivorous dinosaurs."

Data collection: As much data as possible must now be gathered to prove/disprove the hypothesis.

- In our example, we might seek for evidence of tyrannosaur bite marks on large herbivorous dinosaurs, examine suspected tyrannosaur coprolites (fossilised dung) for bone fragments, and examine the mechanics of tyrannosaur jaws.

- Data collection should be as comprehensive as possible, but must also be realistic within the timeframe and budget of the research project. Some evidence may be contradictory and its important to gather diverse data, rather than focus on one supporting point.
- There are myriad techniques to collect fossil data. These may be simple measurements taken with a ruler and microscope, or they can be complex geochemical analyses that use sophisticated analytical tools like x-ray diffraction, hyperspectral phasor analysis, or energy dispersive x-ray fluorescence. Some data collection involves recording fossil characteristics in a data matrix, then processing them through complex algorithms that assess how similar fossils with different characteristics are to each other.

Testing: One of the key things that must be tested is statistical significance. This isn't a measurement of how important results are, but rather a mathematical calculation to determine whether the results could have arisen by chance. It helps give a degree of confidence.

- Algorithmic results may be run thousands of times to search for the most parsimonious (least complex) answer.
- However, it is not always possible to perform 'neat' statistical analysis when studying fossils, as data sets are often incomplete. We frequently have to work around gaps in the fossil record and the inherent variability of biology in general.

Discuss and draw conclusions: Once a data set has been collected and its robustness assessed, discussion of key points can begin and ultimately conclusions can be drawn. These should determine which hypothesis is supported.

Peer review: One of the most important steps in the scientific process is peer review. Before results can be published, they must be reviewed by other experts in the same field. These are often anonymous and provide comments and recommendations about how research can be improved, or whether further testing is required.

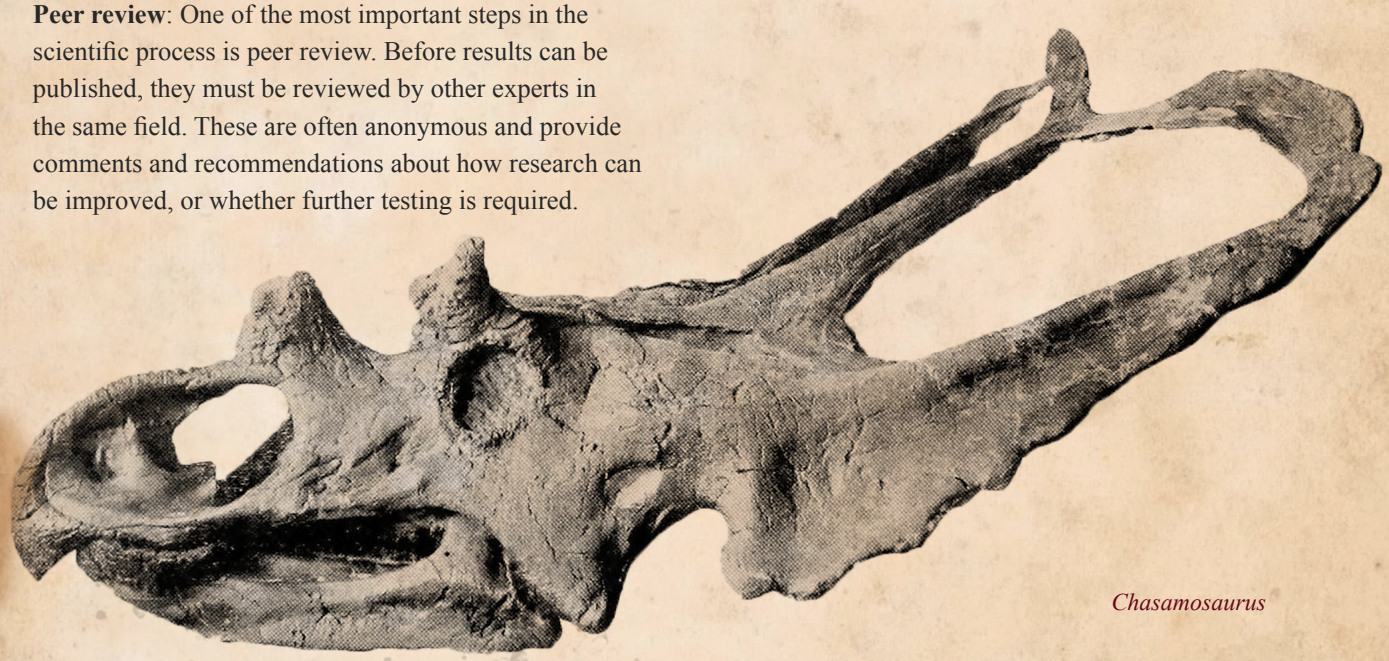
- **Self-correcting**: Science is not flawless, and errors often bypass peer review. However, review and reassessment tend to tease out errors over time. Steadily, our understanding is refined as new generations of scientists reanalyse and verify/adjust older results.

Reconstructing an Extinct Organism

Once palaeontologists have gathered enough information about an organism, they will often provide a reconstruction of the animal's morphology and/or behaviour to provide a clearer picture of how the animal lived. This may be accompanied by a reconstruction of the environment in which it lived. Palaeontologists use a variety of techniques to reconstruct extinct animals, including functional morphology, comparative anatomy, phylogenetic bracketing, and an understanding of the animal's environment.

Functional morphology involves the study of the structure and movements of an organism's tissues, and how they interact to allow for a particular function. This process is essentially reverse engineering – working out the task using only the tools. Functional morphology is combined with comparative anatomy to determine the most likely use and appearance of fossil tissues. Comparative anatomy is the comparison of the anatomy of extinct animals with the anatomy of living species. This allows palaeontologists to provide evidence of the possible uses of a particular tissue/organ/structure by watching similar structures being used in the modern world.

These techniques are further combined with phylogenetic bracketing to extrapolate missing components of the fossil. Phylogenetic bracketing uses evolutionary relationships to infer the unknown characteristics of extinct organisms



Chasamosaurus





by looking at the known characteristics of closely related organisms. For example, if a new fossil wolf species is found only from bones, we can safely say that it was likely covered in fur, as all other known wolves (both alive and extinct) are covered in fur.

Finally, the environmental context in which an extinct animal lived can also provide valuable information for its reconstruction. Paleontologists study the geological and paleontological context of fossil finds, including the types of rock formations, the climate and vegetation at the time, and the presence of other fossils. This information is used to understand the habitat and lifestyle of extinct animals and inform their reconstruction.

Palaeontology Associated Information

Palaeontology is a broad subject that intermingles with many other sciences. In this section we provide introductory information about the geological timescale, the processes of evolution, and the formation of life on Earth. If you are interested in fossils, these are extremely useful subjects to be familiar with. There are many other useful associated topics and we recommend you seek out further introductory information on geochemistry, biochemistry, and sedimentology. We have not covered those subjects here as they require much more information than is feasible for us to include in this chapter.

Deep Time and the Geological Timescale

The Earth is about 4 billion years old. We know this because of a method called radiometric dating. Radiometric dating works by looking at the different types of atoms, called isotopes, that make up any given material, and how those atoms have changed over time. Certain isotopes are unstable and change into other types of atoms over time by giving off radiation. By measuring the amount of these isotopes in a rock or other material and comparing it to that isotope's half-life, we can figure out how long it has been since that material formed.

An isotope's half-life is the amount of time it takes for half of the isotopes in a sample to change into a different isotope. For example, the isotope carbon-14 has a half-life of about 5,730 years, which means that if you start with a sample of carbon-14, after 5,730 years, half of the carbon-14 atoms in the sample will have changed into nitrogen-14 atoms. After another 5,730 years, half of the remaining carbon-14 atoms will have changed (so you would have only a quarter of what you started with), and so on.

This works on much larger timescales too. For example, rock containing a lot of uranium-238 and very little lead-206, tells us that the rock is relatively young, because it hasn't been around long enough for all of the uranium-238 to change into lead-206. Isotopes like this are not present in all rocks. They're usually restricted to igneous and volcanic deposits, and so we have to estimate the age of different rocks by their nearest volcanic deposits. We can improve this estimate using biostratigraphy.

Biostratigraphy is the process of establishing occurrence ranges of different fossil groups (usually in a place where radiometric dating can corroborate their age), then using those fossils to determine the age of rock elsewhere where radiometric dating cannot be used. The best fossils to use are those that had wide distributions and floated in water, like ammonites and graptolites. By determining the occurrence and absence of multiple groups, we can pinpoint a rather accurate age range of rocks that include these fossils.

With all of this information, geologists have created the geological timescale, which is a way of dividing up Earth's history into different divisions and subdivisions of time. These divisions are determined by the types of rocks that formed and the major changes in fossil groups through Earth's history. In this book, we focus on the Mesozoic era (252-66 million years ago), which is subdivided into the Triassic period (252-201 million years ago), Jurassic period (201-145 million years ago), and Cretaceous period (145-66 million years ago).

Understanding Evolution

Evolutionary theory is the foundation of our modern understanding of biology, ecology, and medicine, and misinformation about evolution is a genuine threat to everyone's wellbeing. You've no doubt had people claim that evolution isn't real or is "just a theory" (a misunderstanding of the term "theory"; in terms of science, a theory is the highest category of knowledge and understanding, and therefore also confidence, in an idea). These people are mistaken and, in our experience, usually have a political or religious agenda behind their statements. Regardless, evolution is observable and below is a brief summary of how it occurs in living organisms.

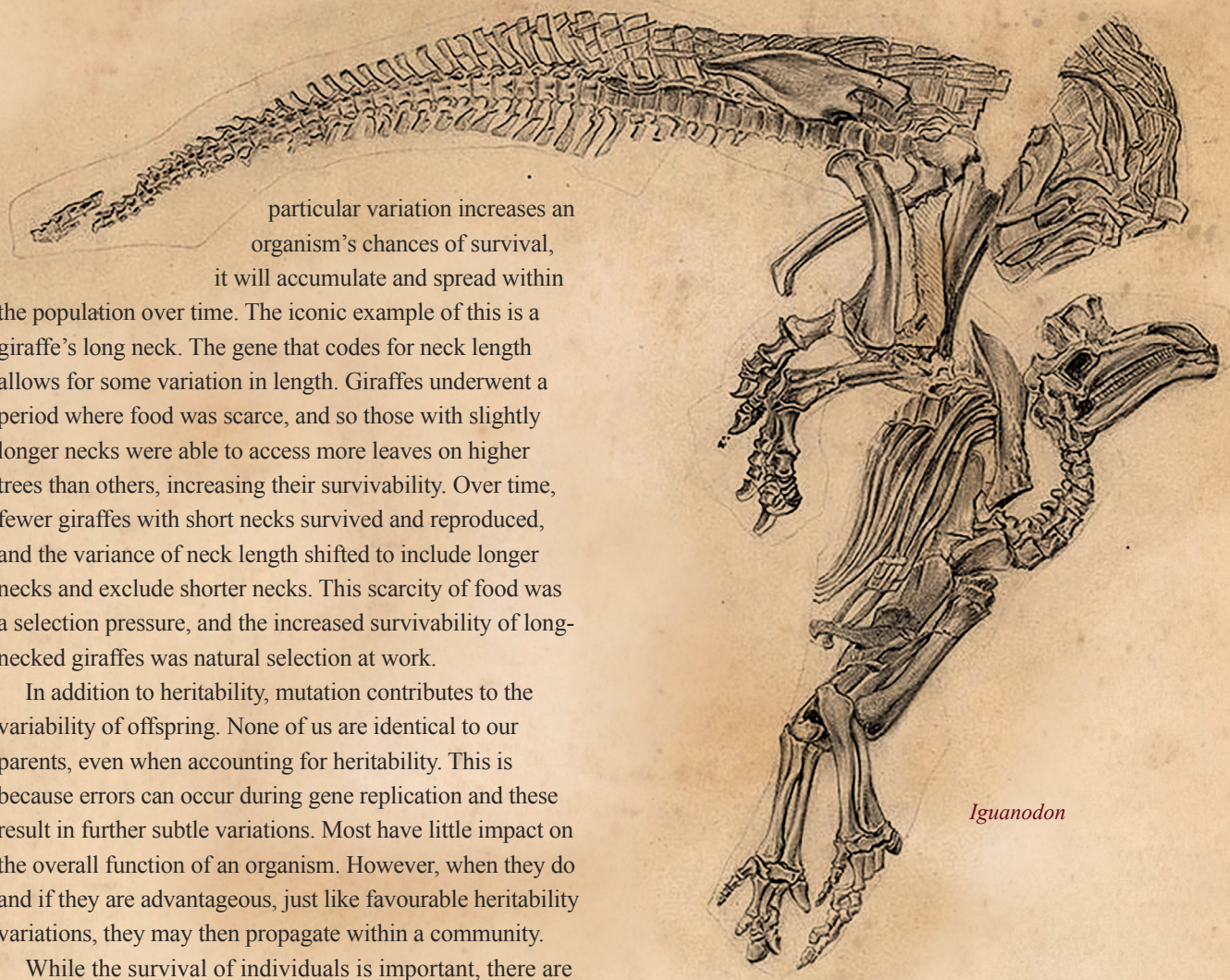
Evolution is the process by which lineages of organisms change over time. When organisms reproduce, their offspring inherit a mix of traits from the parents (i.e. eye colour, hair colour, height, etc.) by the passing on of particular genes. Genes have heritability, which is the measurement of how variable their associated traits are. This allows a population of individuals to differ subtly, and if a

particular variation increases an organism's chances of survival, it will accumulate and spread within the population over time. The iconic example of this is a giraffe's long neck. The gene that codes for neck length allows for some variation in length. Giraffes underwent a period where food was scarce, and so those with slightly longer necks were able to access more leaves on higher trees than others, increasing their survivability. Over time, fewer giraffes with short necks survived and reproduced, and the variance of neck length shifted to include longer necks and exclude shorter necks. This scarcity of food was a selection pressure, and the increased survivability of long-necked giraffes was natural selection at work.

In addition to heritability, mutation contributes to the variability of offspring. None of us are identical to our parents, even when accounting for heritability. This is because errors can occur during gene replication and these result in further subtle variations. Most have little impact on the overall function of an organism. However, when they do and if they are advantageous, just like favourable heritability variations, they may then propagate within a community.

While the survival of individuals is important, there are also factors that influence the survival of groups of closely related organisms. A trait that appears detrimental to one individual's reproductive success can be advantageous for other closely related individuals, and so despite the first individual not producing offspring, the gene coding for it is propagated in the offspring of their relatives. There are many examples of this, with the most heavily investigated example being homosexuality. Competing hypotheses have been presented to precisely explain the origin of this trait (see "Evolution of Homosexuality" by Savolainen and Hodgson), but its occurrence across the animal kingdom (including in mammals, birds, reptiles, and insects) is indicative of its role in group survival.

There is another key process in evolution. A group of individuals that become isolated from other members of their species may be affected by different selection pressures. After many generations, these different pressures cause them to become so different genetically that they can no longer successfully interbreed with their former species if they were to return. In essence, this causes them to become a new species and is a process we called speciation. When enough changes accrue over thousands of generations, the new species can look drastically different and eventually they may differ enough that we categorise them as an entirely new group of organisms.



Iguanodon

The Origin of Life on Earth

We have a hypothetical understanding of how life arose on Earth from non-living material. We call this process abiogenesis. We also know that this occurred relatively early in Earth's history and so is likely to have occurred in many places within our galaxy. Below is an extremely simplified summary of this process:

1) In Earth's early history, abiotic (non-living) chemical processes created simple molecules similar to the individual bases of ribonucleic acid (RNA) and deoxyribonucleic acid (DNA) in a water medium. This is sometimes referred to as "primordial soup". These molecules are not alive, but their structure stimulates the formation of another paired molecule adjacent to them, which in turn allows self-replication of the original molecule.

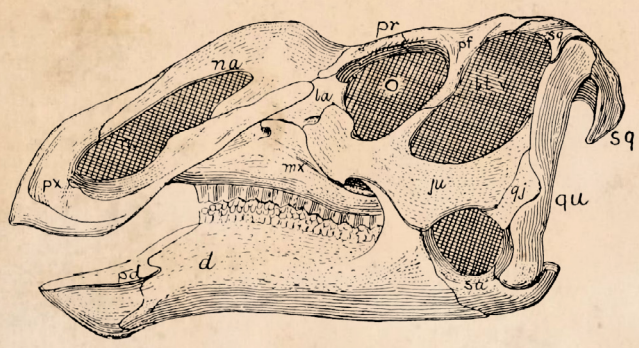
2) When the first molecules like these were encased in oily bubbles, they formed the basis from which all life evolved. The individual bases were small enough to move freely in/out of each oily bubble, but when they first form chains within an oily bubble, they became too large to leave and the first "protocells" were formed. Chains of bases replicated themselves, and the replicated base chains were also constrained within the protocell.
3) Osmotic pressure created by these chained bases made the protocell more physically resistant than bubbles without internal molecules. This allowed protocells to absorb smaller, less resistant bubbles, causing them to grow in size.
4) As they increased in size, with more molecule chains forming inside them, they eventually reached a size where the physical flow of water broke them apart, with each subsequent protocell containing some of the internal molecules. This is the origin of reproduction.
5) Some chains of molecules were able to interact with other types of molecules (namely amino acids, which also can occur naturally), causing those molecules to form chains where they wouldn't normally. These chains of amino acids formed proteins.
6) In certain proteins, the chains of amino acids form at angles, causing the protein to fold or curve. This, in turn, can cause a complex interplay of atoms positioned around a particular point that creates an area on the protein that functions chemically. We call this an active site.
7) Any protein that increased the resistance of the protocell, or increased the speed/efficiency that it replicated, passively propagated more than others. This was the first occurrence of evolution and essentially the start of life. Every single iteration and development of life as we know it was a derivation of this process.

So, You want to be a Palaeontologist?

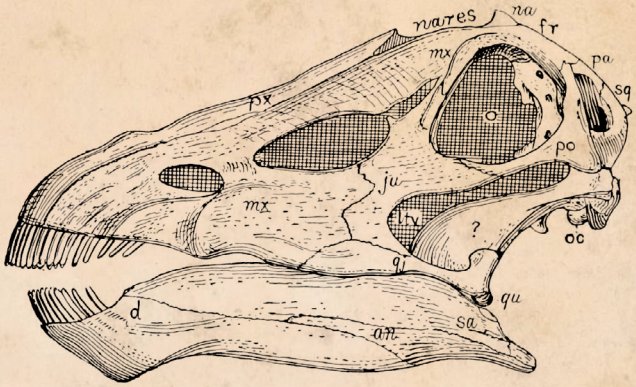
If you want to be a palaeontologist, academic or otherwise, the first step is getting a basic education in geology and biology. This doesn't necessarily require schooling, as beginner information can be found online and in many widely available books. This core understanding will allow you to avoid the pitfalls that many enthusiastic novices fall into, such as mistaking common geological structures for fossil material.

Once you have this basic understanding, you can either pursue further education within academia, or just get fossil hunting! However, if you're diving straight into hunting, **you must familiarise yourself with local and national laws on the extraction of fossils**. In some countries, fossil collecting is illegal without a permit. In others, you can collect loose fossils, but digging into rock is prohibited. You can seek out local fossil hunting groups for guidance on these matters.

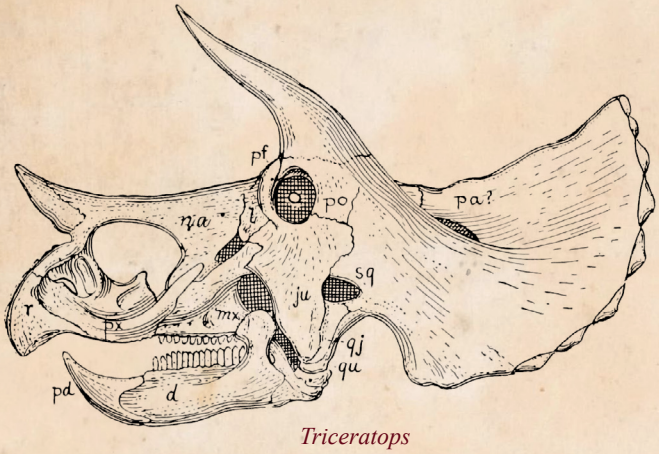
To pursue an academic career, you will likely need a degree in palaeontology, geology, or biology. Many



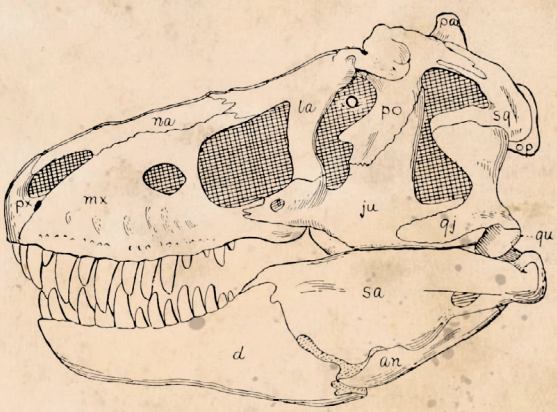
Kritosaurus



Diplodocus



Triceratops



Tyrannosaurus

universities around the world now offer dedicated degree pathways for the study of palaeontology (sometimes called palaeobiology), and the entry requirements vary depending on the university. Almost every university with a geology department will teach modules on palaeontology.

The typical education requirement (in the UK) is as follows:

- School education (typically until the age of 18).
- Undergraduate education (3-4 years).
- Master's education (1-2 years).
- Doctoral education (3-5 years).
- 2-4 Postdoctoral research positions (2-4 years each).

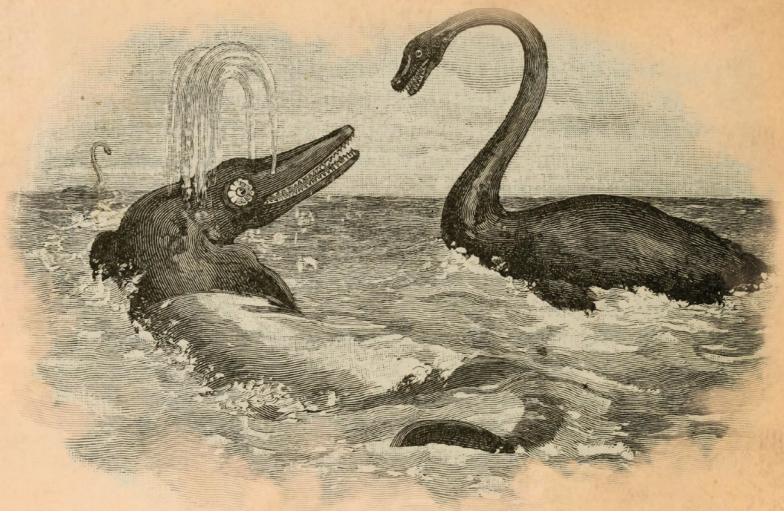
This is an intimidating timeframe, but don't worry – some full-time working positions only require an undergraduate degree. For more information about becoming a palaeontologist, we recommend the book "So you want to be a palaeontologist" by Dr David Penney (https://siriscientificpress.co.uk/products/so-you-want-to-be-a-palaeontologist).

Another great resource is the "Archosaur Musings" by Dr David Hone covering how to become a palaeontologist (https://archosaurmusings.wordpress.com/2018/07/04/how-do-i-become-a-palaeontologist/).

Finding, Understanding, and Interpretting Fossils

Anyone can find a fossil, and anyone can learn to identify it. However, there are important steps to take in this process:

- **Where should you look?** Keep in mind that fossils are preserved in sedimentary rocks and distorted versions of them may be infrequently preserved in metamorphic rocks. Igneous rocks do not directly preserve fossils. So, understanding the basic geology of where you're looking is the first step to knowing whether fossils will be present.
- **How old it is?** It is important to understand the age of the rocks you're looking at so that you know what *could* be found.
- **Temper your expectations.** Fossils are not found in all sedimentary rocks. In fact, the process of fossilisation is phenomenally rare, and it is only the overwhelming abundance of life on Earth that has given us the misrepresentation that fossils can be common. That said, when the right conditions are present, you can find a remarkable number of exceptionally preserved fossils together. We call these locations Lagerstätten (German for "deposit").
- **Instant museum quality.** You very rarely find perfectly preserved fossils visible lying around. More often than not, they will be partially worn and mixed into beach sand/shingle, or will be encased in rock with only small marks indicating their presence. The latter of these may be exposed through a few preparatory techniques. Expert preparers will take hours, days, or even weeks of painstaking work to expose a fossil perfectly.
- **Learn cross-sections.** Rocks split along their points of weakness. This can be around a fossil, but may equally be through it, splitting the fossil as well. It is important to be able to interpret a fossil as a cut cross-section through any angle. Cross-sections often look drastically different from complete fossils, and it takes time to learn to interpret them.
- **Pseudofossils.** Some geological structures can look like body fossils at first glance. Flint is the biggest culprit of tricking novice fossil hunters into thinking they've found a piece of bone (although flint can form trace fossils when infilling a burrow). It is always worth familiarising yourself with the local geology to ensure you don't misinterpret something.

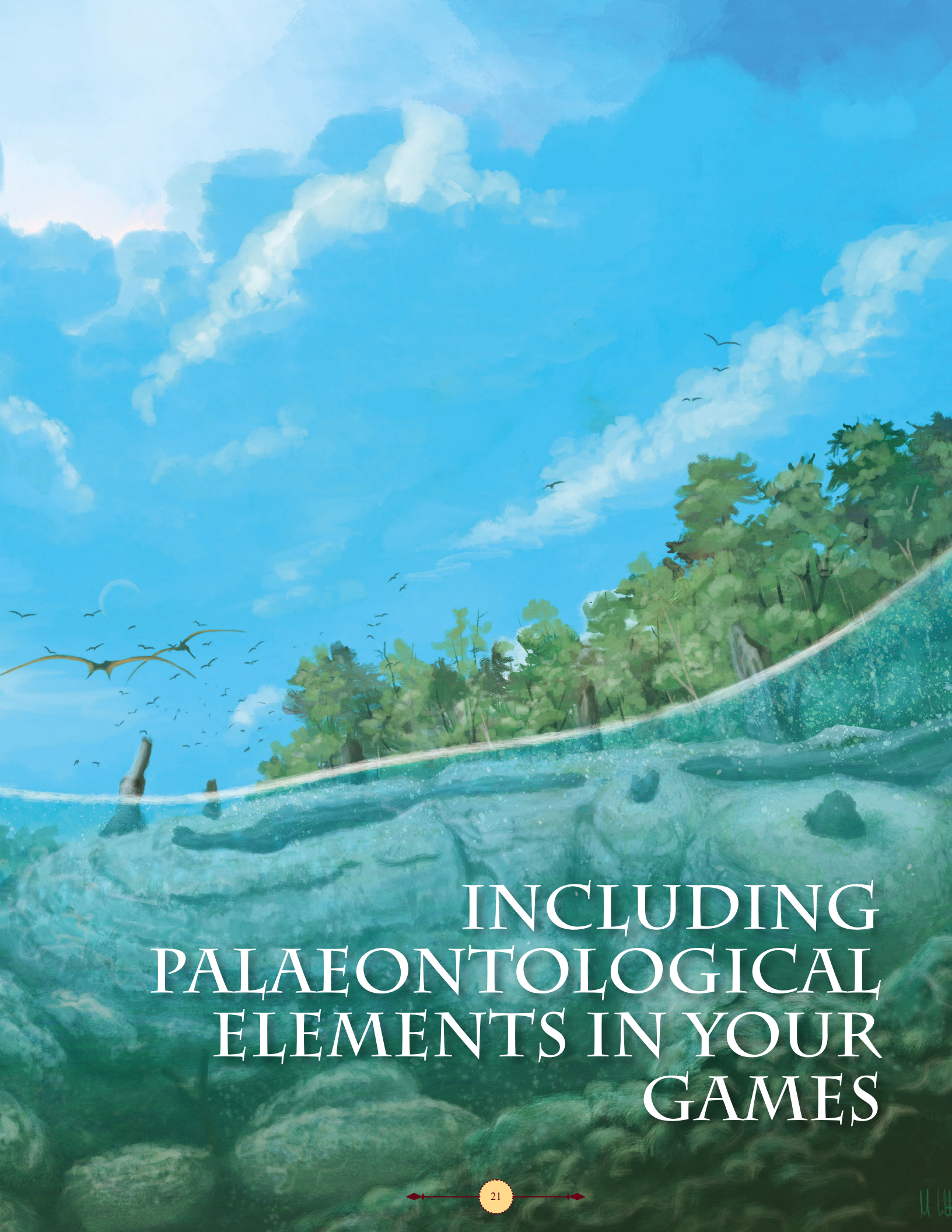


Classic *Ichthyosaurus* (left) and *Plesiosaurus* (right) palaeoart from 1863

Wrap up

We hope that you found the information in this chapter both interesting and digestible. With it, you could take the first steps to becoming a palaeontologist as a full-time career or explore collecting your own fossils. There is so much more that we would love to discuss and explain, but it's time to get to the meat of this book – the roleplaying content. Let's get some dinosaurs into your games!





INCLUDING PALAEONTOLOGICAL ELEMENTS IN YOUR GAMES

There are many ways that you could include palaeontological elements in your campaigns. You can build an entire campaign setting based on these rules, add in a specific story arc to an existing campaign, or simply scatter these elements throughout your established worlds. Below are four story prompts, pulling from popular fiction, to help inspire you.

Necromancer Island

From the ship's brow Dr Dhrolin could see a dark outline through the thick mist. As the ship approached, the fog cleared sluggishly, revealing a small mountainous island. Dotted along its imposing silhouette were the outlines of stone buildings nestled among dense jungle. The ship slowed to a stop as it pulled into a shallow harbour. Standing on the dock was a well-dressed figure in white, clutching a staff. His trimmed white beard parted into a broad grin. "Welcome to Necromancer Island, travellers. I trust your stay will be eventful", he bellowed, beckoning Dr Dhrolin off of the ship. Little did he know what horrors awaited him there.





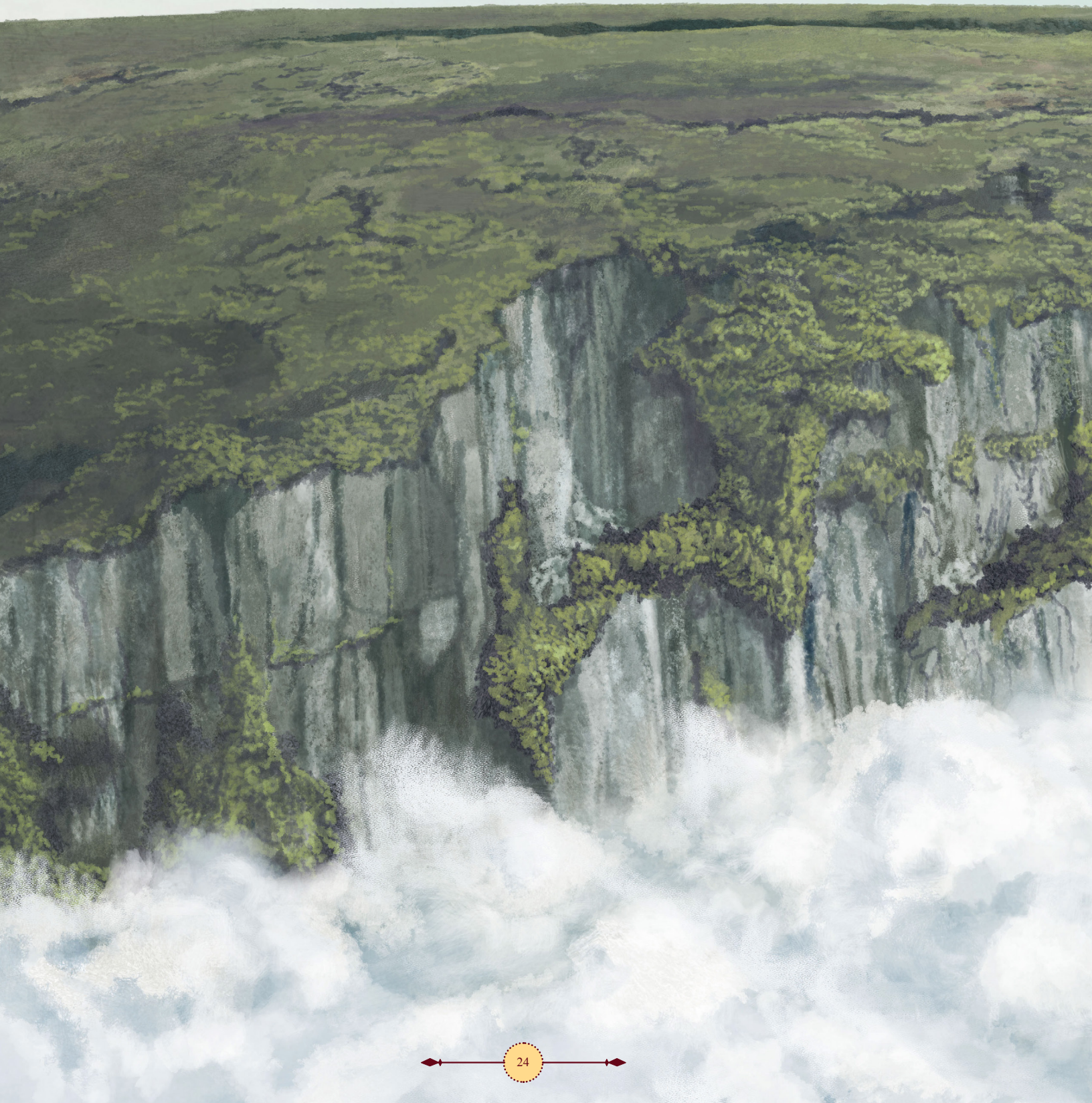
Taking cues from popular culture is an ideal way to incorporate unusual elements into your games. The suggestion above may be the most obvious reference, but fleshing out your world with additional elements can make for a unique and compelling story. Necromancer Island is fundamentally based on the re-animation of ancient creatures, either by one powerful necromancer, or by a dedicated cult. However, the main question is why? Why would these individuals want to re-animate such creatures? Are they academic curiosities, weapons of war, or flights of fancy for a rich benefactor? Could they be all three? We like to envision Necromancer Island as the pursuit of several powerful wizards, driven by academic curiosity, but funded by a mysterious noble. The motives of that noble remain a unknown, but the avarice of the wizards keeps them from asking further questions. You can flesh out the background of that mysterious noble in any manner of ways. Perhaps they are a dragon in disguise researching an alternative origin for their species, or an ambitious politician preparing to launch a coup with an army of dinosaurs.

In your world, how is Necromancer Island constructed? Is it a single fortress surrounded by dense jungle filled with dinosaurs, or is it a series of enclosures housing different species? Are those enclosures bound by magical means, or simply high walls? Is it far out in the ocean, or just off the coast of a populated region? We like the idea that the island is dotted with wizard towers, each housing a single necromancer who specialises in one species of dinosaur, pterosaur, or other ancient creature.

It's worth putting time into planning how these creatures will behave. Are they under the complete control of the necromancer(s), or are they essentially wild? You can run these creatures as wild animals based on the behavioural details we have provided, or you can have them enact the will of another. What would happen if these creatures escaped from Necromancer Island, either by their own means or by sabotage?! The various planes of existence offer even more variety to the consequence of this. What would happen if an entire ecosystem of dinosaurs spilled into the Plane of Air or the Nine Hells? Better yet, what would happen if they then persisted there for hundreds or thousands of years? How would they be transformed by the natural energies or alignment of that plane?

The Ancient Plateau

Before him stood an impossibly high cliff, extending well beyond the clouds above. Droplets of water dribbled down the cliff wall, giving it a dull and soft edge, glistening with a moist shine. The slippery sheer face seemed nigh impossible to climb and the howling winds above prevented those that had preceded him from ascending. But, in all those decades of searching, none had the skill, determination, and luck of Dr Dhrolin and his team. He held the scrying key to the cliff face, revealing four arcane glowing runes. Gibberish to anyone but the most ancient of gods, they spelt out a command to open a path. A path that no being had trodden for eons. All he needed to do now was decipher the command. Easy-peasy.



What happens if these environments are already present in your world, just entirely concealed from prying eyes? Some classic sci-fi works have envisioned ancient plateaus hidden from the rest of the world, where prehistoric ecosystems persist. Alternatively, an isolated island could achieve the same effect. This is a phenomenon we see in the real-world, with island habitats allowing relic species to persist long past their extinction in other areas.

When implementing an ancient plateau-style environment, think about how this could be possible in a world full of magic and mystery. Are there natural or artificial barriers protecting the region from discovery? These could be howling, perhaps magical, winds that prevent air travel, powerful magnetic fields that prevent navigation and teleportation, or simply vicious predators that pick off would-be adventurers.

Maybe the plateau is a well-known phenomenon, but is simply inaccessible. If this is the case, what might tempt adventurers to explore it? Does the fame and glory of simply discovering the world above provide all the motivation needed, or are there rumoured ancient ruined cities of gold, relics of long-dead civilisations lost to time, to tempt adventurers up? Perhaps the adventurers are accompanying (or running) a scientific expedition, harking back to the days of Charles Darwin and his voyages on the Beagle.



The Mad Chronoficer

Banging rhythmically on the heavy wooden door, the city guards were eventually able to burst through, splintering wood across the stone floor. They piled in and scattered throughout the exposed hall, clearing a path for Dr Dhrolin and his party. Inside, the air hung coldly. Tiny ice crystals drifted suspended in the air, stinging at Dr Dhrolin's skin as he moved through the building. Eventually, the group reached a grand hall. The floor and walls were embossed with beautifully sculpted gold filigree in broad spiral patterns. Atop the end of the hall was a balcony with a smartly dressed dragonborn glaring down at the party and guards. Wafts of cloudy breath emitted from her as she muttered under her breath "No, no. It's not time yet.". Reaching to her side, she pulled a large lever, springing the room into unnatural life. The filigree illuminated with an icy blue glow and the party found themselves floating helplessly for a moment. The last thing they recall was a bright blue flash and a piercing headache. From that point on, all they could sense was the press of a dense humid jungle around them and the cawing of strange creatures in the distance.

Our preferred means of introducing palaeontological elements into your games is to have the player characters hurtled through time. This places them wholly within the environments and ecosystems described in this book, allowing you to make the most of everything in a cohesive manner. We recommend that this be caused by an NPC who has limited and poorly controlled power over time (the Chronoficer). That way, you can explain why they opened a portal to such an unknown wilderness, accidentally sending themselves and others hurtling through time. Alternatively, they could be a master of this power and you could construct a dungeon or fortress deep in an ancient environment for them to hide in.



Plataleorhynchus

Regardless, the first question to address is how the players get there. There are at least three possible answers. The players could be chasing the Chronoficer, who takes refuge by activating their time machine. This might force the players to follow through a portal or seek another means to pursue their foe. Perhaps they could arrive before the Chronoficer, giving them time to prepare an ambush, or perhaps long after the Chronoficer has fortified their hideout. The second possible option is that the Chronoficer simply sends the players through time in an attempt to dispose of them. This could result in a tense and gritty survival situation, where the players need to stay alive until the magic wears off or they find another means to travel back. Finally, the players may work with the Chronoficer to travel through time intentionally, perhaps to retrieve a long-destroyed artifact or prevent some past catastrophe.

You can put a lot of creativity into imagining the device that allows your players to travel through time. It could be a simple circular portal embedded in an ancient temple. Stepping through it brings you back out in the exact same spot, but in a vastly different time. Perhaps the device is a rideable steam-punk-esque machine that the party can sit in. Whirling cogs and hissing pistons encompass the party as the world spins around them. Or, on a much grander scale, the device could be an entire castle capable of magical transportation. Blinking in and out of existence as it shifts through time, acting as a base of operations for your players. When constructing a story like this, it's important to provide multiple means of returning the players back to their normal timeline. The last thing you want is to have a singular fragile device that is immediately destroyed upon the party's arrival (unless of course that is your intention!). We recommend using some of the examples above as contingency in case the party becomes stranded.

Hollow World

It had been three months in this darkness. "Treasures beyond imaginin' in the depths below they said.", scoffed Dr Dhrolin, remembering the words of the Spelunking Guild's representative. He and his party had expected to find precious georesources – gemstones, gold, and fossils. Instead, after two weeks of delving, they were greeted by the enraged denizens of vast underground cities. Clearly the party's presence must have greatly offended them, as they had been hunted for a further 10 weeks now. A long game of cat-and-mouse in the endless caverns, stumbling past ancient eyeless horrors in the dark. They were sick of it but had little choice other than to press on. "Oh well", thought Dr Dhrolin."Move forward, or face death." He swung his pickaxe down on the cave wall, the twang echoing back up the tunnel. Hope had left them long ago, but they carried on. Twang! A second strike cracked the rock. When the third strike hit, the familiar twang was smothered by the sound of crumbling rock and shrill gasps. Everyone instinctively covered their eyes as a beam of pure yellow light pierced the darkness through the newly opened hole, illuminating Dr Dhrolin's feet. "What in the hells have we found?", he whispered.

Similar to the Ancient Plateau, the Hollow World proposes that your ancient environment persists in the modern day, but is sealed away from civilisation. Imagine a vast underground chamber, encompassing the centre of the planet and lined with its own inner surface, just like the outer surface. Instead of a roiling core of molten rock held solid under great pressure, the planet is held structurally sound by a giant prismatic crystal.

This enormous crystal is the source of all light and warmth in the Hollow World. Imagine that it glows with a dim yellow or white hue and illuminates the entire cavern, radiating a brilliant heat like the sun. Perhaps it pulses in a cycle that mimics night and day, albeit on a different timescale or with different intensities. This could lead to interesting variations on normal environments. For example, mountain peaks that stretch towards the crystal could be scorching deserts towards the top, and caverns and canyons might be icy frozen pits away from the crystal's warmth. Where it anchors to the crust could be extremely hot volcanic areas.

There is also an official 5e setting that explores this narrative in more detail.

Final Comment

These settings are only some of the potential story hooks you could use and we encourage the inclusion of palaeontological components in any world you can imagine. These palaeontological components could be within specific regions just outside the borders of a grand city or on the edge of a frontier. Imagine how these creatures might interact with the denizens of your world. Do they use them as hunting animals, companions, or are they merely dangerous beasts of the wilds to be feared? Perhaps, all three.



Yutyrannus

Story Hook NPCs

We have created two NPC stat blocks to facilitate introducing these elements into your games. These are the Chronoficer, and Dr Dhrolin himself. For the Chronoficer, we have provided a named character in Miss Nemona Hemsworth-Pennyfarthing, but feel free to design your own however you wish.

CHRONOFICER

A Chronoficer is first and foremost an inventor. They explore the manipulation of time and invent grand devices to control it, either distorting it, creating temporal portals, perceiving the past, or pausing it temporarily for others. As such, they are invariably forces of chaos within their worlds, disturbing the natural order of events. Their experiments attract interest from those seeking power and draw ire from those wishing to maintain the status quo. This usually pushes their research into the shadows, and their laboratories are often hidden in basements or secret chambers.

Each Chronoficer may have a different ultimate goal, ranging from the impartial pursuit of knowledge following a noble non-interaction principal, to the desperate resurrection of a deceased loved one, to the selfish redirection of events allowing them to hoard wealth. They may even have overarching grand ambitions for the restoration of what they perceive as the 'correct timeline', but in all cases there are unintended consequences.

The evidence of a Chronoficer's experiments can range dramatically, sometimes affecting only a single building or room, other times wreaking havoc across entire regions. Strange creatures may be pulled from the past or future into the current time as they stumble through unstable temporal rifts, time may speed up or slowdown in isolated spots, or temperatures may plummet in specific locations as a temporal flux momentarily creates a point of absolute zero. In any case, a Chronoficer's experiments are rarely subtle.

Tracking and capturing a rogue Chronoficer is *extremely* difficult. Even if their actions become predictable, their equipment allows them to escape through a variety of manipulations of time. They can routinely slow or stop time in small areas, escape to other time periods, or (in some cases) rewind time to reattempt their escape. However, their control is far from flawless and paradoxes or butterfly effects can completely disrupt any situation.

Miss Nemona Hemsworth-Pennyfarthing, Chronoficer

One such Chronoficer is the dragonborn Miss Nemona Hemsworth-Pennyfarthing. Born and raised in Urgleshire noble district, she was the child of a union between the Hemsworth and Pennyfarthing households, who both sought to consolidate their dwindling political power through the marriage of Miss Myarya Hemsworth and Sir Garroguk Pennyfarthing. Nemona grew up as an isolated child, busying herself with the study of engineering and the invention of her own mechanical toys. As she aged, this hobby grew into a passion, then an obsession. By the chance finding of a tome of temporal studies in her father's library, she dove into chronological research, enamoured by this new science. She is the sole heir to both



the Hemsworth and Pennyfarthing estates and this wealth allowed her to construct a bespoke laboratory within the confines of her properties.

Despite her family's efforts, her interest in politics, marriage, and the continuation of the joined family name was limited. Instead, she poured her time into her research. When anomalies began to form in her laboratory, she shielded her family from the truth, burying as much evidence as she could.

Inevitably, a catastrophic disaster struck and pulled two large predatory dinosaurs into her time. Unleashed upon the Pennyfarthing estate, they subsequently slew both Myarya and Garroguk before she was able to return them to their time. It was at this point that the authorities began to investigate. However, with her parents dead and the invading dinosaurs returned, Nemona had unlimited access to her family's wealth. In her grief, she sought to undo her mistakes – leading to several grievous errors and major prehistoric incursions. In their wake, Urgleshire authorities opted to dispatch an adventuring party headed by Dr Dhrolin to the Pennyfarthing manor to investigate these strange occurrences.

CHRONOFICER

Medium Humanoid, any chaotic alignment

Armour Class: 14 (Workshop Leathers)
Hit Points: 138 (16d8 + 74)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**16** (+3)	**12** (+1)	**20** (+5)	**12** (+1)	**18** (+4)

Saving Throws: Dex +6, Int +8
Skills: Arcana +11, Investigation +8, Sleight of Hand +6, Stealth +6
Condition Immunities: charmed and mind controlled
Senses: passive Perception 14
Languages: Common, and two other languages
CR: 5 (1800 XP) **Proficiency Bonus:** +3

Spellcasting. *The Chronficer's spellcasting ability is Intelligence (spell save DC 16, +8 to hit with spell attacks). They may cast the following spells:*

At will: Mending, Mage Hand, Light.

4/day: Grease, Alarm, Catapult.

3/day: Mirror Image, Misty Step, Magic Missile, Shield.

2/day: Nondetection, Counterspell, Time Stop.

1/day: Resilient Sphere, Locate Creature.

Ticking Clock (3/day). *Before rolling, the Chronoficer may choose to instead treat any d20 dice roll as a 10 instead of rolling.*

Gadget (3/day). *In addition to the Chronficer's spellcasting, they may use a series of gadgets to assist them while exploring new environments. They may select one of the following spells and cast it without components. They may only target themselves with these spells.*

- Water Breathing

- Jump

- Spider Climb

- Darkvision

Temporal Cerebral Destabilisation. *The Chronoficer is immune to charm and mind control effects, but must be a chaotic alignment (included above).*

Actions

Pistol of Timewarping. *Ranged Weapon Attack: +8, range 40 ft., one target. Hit: 13 (3d6 + 3) necrotic damage.*

Temporal Rift (1/day, or as narrative permits). *As an action, the Chronoficer may open a temporal rift. The rift functions as a portal and leads to a different time period (DM's choice if this is controlled by the Chronoficer or is random). The rift functions in one of the following ways (DM's choice):*

- A stable portal opens within 20 ft. of the Chronoficer. A creature of any size can pass through in either direction. This persists until deactivated by a control device in the Chronoficer's possession.

- A portal tied to a large, often immobile, device opens for 10 minutes. During this time, a creature of any size small enough to pass through the device can pass through the portal in either direction.

- A small portal opens within 20 ft. of the Chronoficer that allows several (usually 5-6) Medium or smaller creatures to pass through before closing.

DR DHROLIN, PALAEONTOLOGIST

Dr Reginald Dhrolin is a dwarven scientist, and associate professor in palaeontology at the University of Urgleshire. His research areas include pre-draconic Urgleshire fauna and macroevolutionary/magical-evolutionary trends among animals.

During our story, Dr Dhrolin is on sabbatical research leave, meaning that his teaching responsibilities are covered by other members of staff while he undertakes prolonged field research. This usually lasts a year and is provided to research staff to allow them to collect new data for future projects. The creature and environment pages in this book represent Dr Dhrolin's research notes during a particularly eventful sabbatical.



"Ya see, the changes that an organism undergos between successive generations are influenced by the world around 'em, be it magical or mundane. If we understand what happens in this process, we can bet'er understand what happened to us in our own past."

During this sabbatical, Dr Dhrolin was contacted by Urgleshire law enforcement to assist with the investigation of strange prehistoric occurrences in the city's noble district. Accompanied by an adventuring party, this is where his fate was intertwined with Miss Nemona Hemsworth-Pennyfarthing, whose reckless creations had thrown all of them hurtling through time. Awakening to strange sounds of unfamiliar wildlife, Dr Dhrolin and his party found themselves stranded in a strange land with only fleeting signs of Miss Hemsworth-Pennyfarthing's presence. It took several months of tracking and travelling through remnant temporal rifts, hopping between time periods, before they were able to capture Miss Hemsworth-Pennyfarthing and return to their own time. The consequences of their actions during this time are yet to be seen.

"Our travels pursuin' Miss Hemsworth-Pennyfarthin' allowed us to collect an astonishin' amount of information on our past. We'll be studyin' these notes for decades to come, but I do wonder whether the cost was too high. Who knows what but'erfly effects we may have caused while traipsin' through the past."

We envision Dr Dhrolin as a dwarf that speaks with a thick British rural Westcountry accent and has an enthusiastic demeanour, as well as an eagerness to explain the science behind his observations. Our dictations for Dr Dhrolin are based on the accent of a real person who lived in both the Midlands and Southwest, so include components of both dialects. We also imagine that he is easily distracted and sometimes ignores danger. Ultimately, you may give him any accent and personality you wish, play him however you want, or use his stat block as a basis to create your own palaeontologist character.

DR DHROLIN, PALAEONTOLOGIST

Medium Hill Dwarf, lawful good

Armour Class: 14 (Magical Field Gear)
Hit Points: 82 (7d8 + 54)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
19 (+4)	**8** (-1)	**16** (+3)	**17** (+3)	**13** (+1)	**11** (+0)

Saving Throws: Str +7, Int +6, Wis +4
Skills: Animal Handling +4, Athletics +7, History +6, Investigation +6, Nature +6, Survival +4
Senses: darkvision 60 ft., passive Perception 14
Resistances: poison and fire damage
Languages: Common, Dwarvish, and Archosauric
CR: 2 (450 XP) **Proficiency Bonus:** +3

Second Wind (1/day). *As a bonus action, Dr Dhrolin can regain 1d10 + 4 hit points.*

Action Surge (1/day). *Dr Dhrolin can take one additional action this turn.*

Spellcasting. *Dr Dhrolin's spellcasting ability is Intelligence (spell save DC 14, +6 to hit with spell attacks). He may cast the following spells:*

At will: Light, Mending, Create Bonfire.

2/day: Comprehend Languages, Detect Magic, Identify, Jump.

1/day: Continual Flame, Beast Sense.

Ring of Fire Resistance. *Dr Dhrolin has resistance to fire damage (included above).*

Dwarven Resilience. *Dr Dhrolin has advantage on saves against the poisoned condition and resistance to poison damage (included above).*

Geologist. *When travelling underground, Dr Dhrolin always knows his position relative to where he entered, and always knows what time of day it is.*

He has advantage on any History or Investigation checks that involve rocks, fossils, or stonework. He knows the value of any fossil, gemstones, or mineral at a glance.

Fortune Favours the Bold (2/day). *Dr Dhrolin may choose to re-roll a single d20 dice roll, or force a creature to reroll a single d20 dice roll, so long as it is a roll for an attack, spell, or ability that Dr Dhrolin is a target of.*

Actions

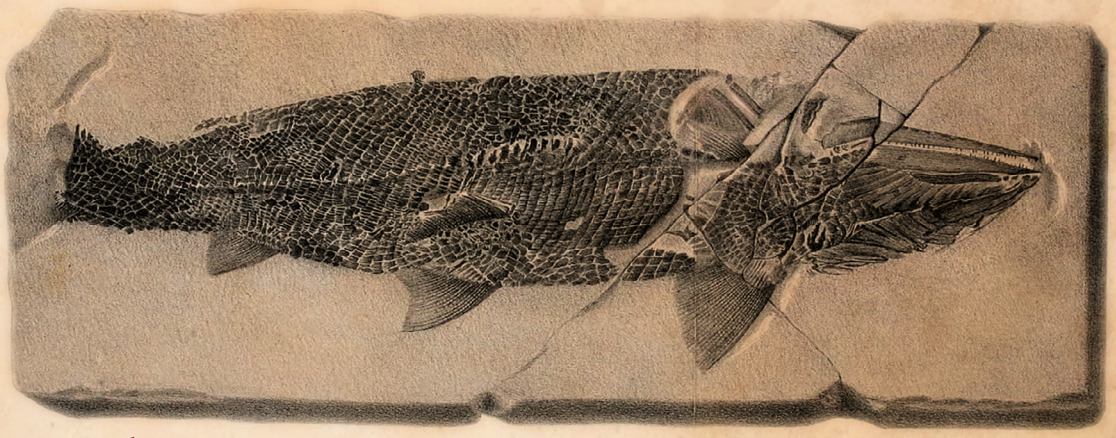
Trusty Rusty. *Melee Weapon Attack: +10, reach 5 ft., one target. Hit: 11 (1d8 + 7) magical piercing damage.*

Trusty Rusty can be used as an arcane focus, grants advantage on attacks against creatures made of stone or earth, and can be used as a tool for mining and digging.

This weapon scores a critical hit on a roll of 19 or 20.

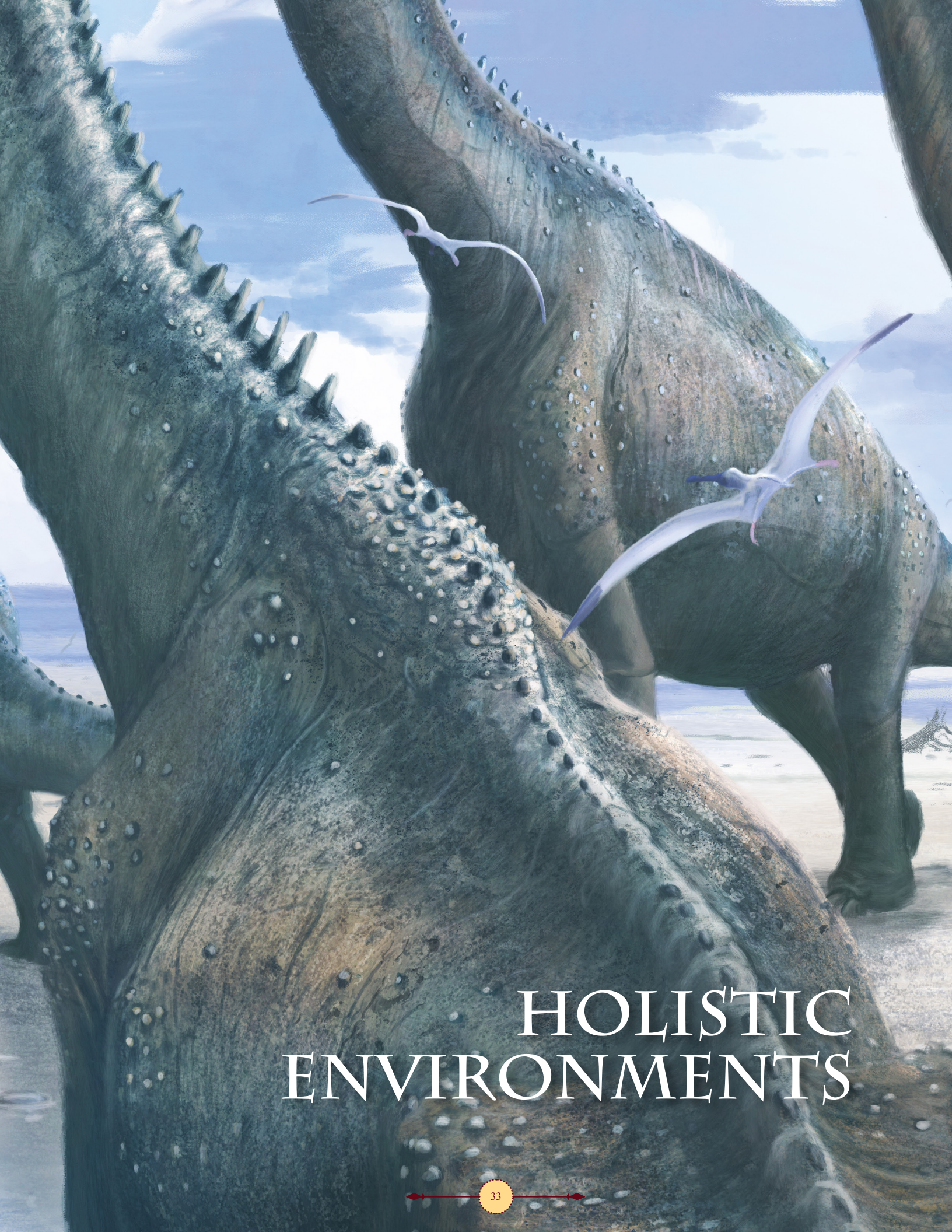
Throwing Axe. *Ranged Weapon Attack: +7, range 25 ft., one target. Hit: 7 (1d6 + 4) slashing damage.*

Interpret Beast. *As an action, Dr Dhrolin can examine a beast that he can see within 50 ft. He learns how difficult of a fight it would pose (its CR) and one of its abilities (determined at random). Once he interprets a beast, he cannot interpret it (or any beasts using the same stat block) again.*



Oxygnathus ornatus





HOLISTIC ENVIRONMENTS

Four of the most recognisable environments that Dr Dhrolin and his party visited on their chronological travels are presented in this section. Each provides a reconstruction of a place that existed in the real world, with roleplaying rules for in-game environmental effects, based on their actual palaeoenvironment. We have populated each of these environments with five animal and five plant species, although they contained many more. Each of these are accompanied by rules that let you interact with them in your roleplaying world. Some of these environmental reconstructions and species have never been illustrated in such a comprehensive manner before. As such, we've undertaken considerable research to make them as accurate as possible.

Environmental Icons

Each of our Mesozoic reptiles (and mutations later in the book) are accompanied by environmental icons that represent the habitats that these animals lived in. This system allows you to rapidly populate your own environments with appropriately adapted animals.



Swamp/ Wetland | Ocean/ Deep Water | Badlands/ Desert | Jungle/ Rainforest

River/ Lake | Plains/ Scrubland | Mountains/ Volcano

Tundra/ Polar/Frozen | Coastal/ Estuary | Island/ Archipelago | Temperate Forest/ Conifer Forest

Creature Encounter Table

The list below outlines all of the Mesozoic reptiles presented in this book. We have included their Challenge Rating (CR) and Magical Challenge Rating (MCR), the latter of which is applied if you are including their optional magical rules.

No.		Creature	CR	MCR	Environments	Page
1	*A*	*Arizonasaurus*	**1**	**2**		114
2		Ancient *Tyrannosaurus*	**13**	**13**		195

3		Bahariyan Polycotylid	**5**	**6**		66
4		*Balaur*	**1/2**	**1**		84
5	*B*	*Beipiaosaurus*	**2**	**3**		46
6		Big Al	**4**	**4**		197
7		*Bolong*	**4**	**4**		48
8		*Carcharodontosaurus*	**10**	**12**		69
9		*Carnotaurus*	**4**	**4**		198
10	*C*	*Centrosaurus*	**3**	**4**		116
11		*Concavenator*	**3**	**4**		119
12		*Cratoavis*	**1/8**	**1/8**		102
13		*Deinocheirus*	**6**	**8**		120
14	*D*	*Deinosuchus*	**11**	**11**		123
15		*Dilophosaurus*	**3**	**4**		203
16	*E*	*Erythrosuchus*	**8**	**9**		126
17	*F*	*Falcatakely*	**0**	**0**		126
18	*G*	*Garjainia*	**1**	**6**		129
19		*Giraffatitan*	**9**	**11**		133
20	*H*	*Hatzegopteryx*	**14**	**18**		89
21	*I*	*Iguanodon*	**4**	**4**		135

22	*J*	*Juravenator*	**0**	**1/8**		136
23	*K*	*Kentrosaurus*	**3**	**3**		139
24		*Klobiodon*	**1/8**	**1/8**		140
25		*Kulindadromeus*	**1/4**	**1/4**		143
26	*L*	*Leptonectes*	**4**	**5**		145
27		*Ludodactylus*	**3**	**4**		105
28	*M*	*Magyarosaurus*	**4**	**5**		90
29		*Mastodonsaurus*	**4**	**5**		146
30		*Megalosaurus*	**4**	**5**		149
31		*Microraptor*	**0**	**0**		50
32		*Mnyamawamtuka*	**5**	**6**		153
33		*Mosasaurus*	**11**	**12**		154
34	*N*	*Nothosaurus*	**3**	**4**		157
35		*Nyctosaurus*	**1/8**	**1/4**		158
36	*O*	*Oviraptor*	**1**	**1**		160
37	*P*	*Paralititan*	**10**	**11**		71
38		*Psittacosaurus*	**1/4**	**1/4**		53
39		*Pterodaustro*	**1/4**	**1/4**		162

40	*Q*	*Quetzalcoatlus*	**9**	**9**		165
41	*R*	*Rhamphorhynchus*	**1/8**	**1**		168
42	*S*	*Scelidosaurus*	**1**	**1**		172
43		*Sharovipteryx*	**0**	**0**		175
44		*Spinosaurus*	**7**	**8**		75
45		*Stomatosuchus*	**4**	**4**		77
46		*Struthiosaurus*	**1/2**	**1/2**		93
47	*T*	*Tanystropheus*	**1/2**	**2**		176
48		*Tetrapodophis*	**0**	**1/2**		106
49		*Tupandactylus*	**2**	**3**		109
50	U	“Ubirajara”	**1/2**	**1/2**		110
51		*Utahraptor*	**4**	**4**		181
52	*V*	*Velociraptor*	**1/2**	**1/2**		183
53	W	Wretchglow	**-**	**10**		205
54	X	Xu’thul	**-**	**12**		209
55	Y	Young *Tyrannosaurus*	**5**	**5 + 8 + 8**		186
56		*Yutyrannus*	**10**	**14**		56
57	*Z*	*Zalmoxes*	**1/4**	**1/4**		94
58		*Zuul*	**5**	**7**		188

THE YIXIAN FORMATION





Four weeks of trudgin' took us right into the heart of the continent. The further north and higher we pushed, the colder it got. Our path eventually required that we crossed a dangerous high-peaked volcano durin' mid-winter. As we ascended the towerin' volcano, the once lush conifer forest slowly began to give way to sparce snow-covered trees, then eventually to bare frosty stone. The only break from the bitter cold n' bitin' wind were patches of dense forest surroundin' warm volcanic lakes that steamed away on the slopes. Some of 'em were a welcome rest stop, but others were flanked by icy skeletal remains, revealin' their deadly nature.

Background

The Yixian Formation is a body of rock in North-eastern China that was deposited approximately 123 million years ago. This makes it Early Cretaceous in age, a time when the world was quite warm and flowering plants were becoming widespread. The Earth was dominated by dinosaurs, pterosaurs, and marine reptiles, but early mammals scurried around in the undergrowth and true birds flew among the trees. The Yixian Formation was first formally described in 1933, however it's most famous fossils were not discovered until the mid 1990s.

Description

We often characterize any Early Cretaceous environments as humid, tropical, and sunny. However, the Yixian Formation does not fit this archetype. It is unusual as it was deposited at a relatively high altitude with cyclic wet and dry seasons. The dry season had an average temperature of only 10°C (50°F), and so would have had frigid and potentially snowy periods. The dominant trees in this environment were conifers and we can imagine an environment closer to the mountainous parts of North America or Russia. Although perhaps sounding idyllic, the Yixian palaeoenvironment was far from peaceful. Dotted amongst the hills and mountains were volcanoes. These periodically erupted, clouding the skies with ash, sparking wildfires, and flooding hillsides with lava. Tranquil volcanic lakes would have boiled and bubbled with noxious gasses, creating deadly clouds of mist. The forests around these volcanoes would have been annihilated and rapidly regrown from the fertile volcanic soils.

Geology

The Yixian Formation is a complex set of sediments formed of fluvial (river), alluvial (floodplain), lacustrine (lake), and volcanic material. This means that the rock was formed by loose silt and sand being deposited by rivers, streams, and water flowing across the ground's surface, deposition within volcanic lakes, and the volcanic ashes and lavas themselves. It contains some layers of basaltic flow and breccia, which are rocks formed by flowing lava that sometimes contain angular shards of other rock types. However, the parts of the Yixian Formation that preserved fossils are the sediments deposited in an ancient lake. The bottom of this lake cycled between being well-oxygenated and lacking oxygen. When there was little oxygen, combined with volcanic ash, animals couldn't scavenge carcasses from the lakebed, nor could bacteria rot the carcasses. This allowed them to be covered by very fine volcanic sediment and ultimately preserved as beautiful fossils.

Fossils

The volcanic lakes of the Yixian Formation captured examples of animals and plants that thrived between the volcanic disasters. In the silent sediments of these lakes, carcasses of non-avian dinosaurs, birds, pterosaurs, mammals, insects, and plants were all preserved from the surrounding forests. There are also fossils of fish, crustaceans, and molluscs. Many are remarkably well-preserved, largely by the addition of volcanic sediments to the calm water setting. Some authors hypothesise that limnic eruptions (carbon dioxide bubbling) from the lakes may have released clouds of toxic gas that suffocated animals surrounding them, leading to their immediate death and deposition into the lake. In the following pages, we have provided stat blocks for some of these animals; *Beipiaosaurus, Bolong, Microraptor, Psittacosaurus*, and *Yutyrannus*.

As a roleplaying environment

The Yixian Formation should primarily represent a high-altitude cold and mountainous conifer forest with scattered pools of volcanically-heated water. These can act as hot springs or could be frozen mountain ponds. Seasonal snow may cover the landscape on colder years, but otherwise this forest can be full of life – cawing birds, swarming insects, and bellowing predatory dinosaurs.

Being volcanic, the Yixian comes with a variety of serious dangers beyond the usual dinosaur threats. Below, are two tables that provide some volcanic hazards. Depending on how capable your party is, you may want to include both, one, or none of these tables. You may roll on the tables when your players encounter or trigger one of the events or select which is most appropriate for your setting. However, be warned, that volcanos are serious threats and an overly-curious party could easily be TPK'd.

Volcanic Lake

When the party comes across a lake in this environment, roll for or select one of the options below to determine the type of lake.

(low- to medium-level parties)

Designers' Note

Give your players little clues as to the type of lake this may be. Acidic lakes might have a sickly smell or the remains of partially dissolved carcasses around it. Toxic pools may have no audible birdlife nearby.

d6	Result
1-3	**Normal lake.**
4-5	**Acidic volcanic lake.** Water from this lake causes 1d4 acid damage. A creature submerged in it takes 2d4 acid damage per round.
6	**Limnic eruption.** If the waters are disturbed, a gaseous cloud 15 ft. in diameter erupts and drifts 5 ft. per round in a random (or wind blown) direction. It causes 1d6 acid damage and 2d4 poison damage per round to any creature inside of it. The cloud can be dissipated by a powerful continuous wind.



Substeueroceras koeneni

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Volcanic Event

When the party first completes a long rest in this environment, roll for or select one of the options below to determine the volcanic event that is occurring.

(medium- to high-level parties)

Excluding 1-2, the result on this table are cumulative, so results 3, 4, 5, and 6 occur when rolling a 6.

d6	Result
1-2	**The volcano stirs**. Mild tremors rock the land and the sky darkens from ash. Re-roll on this table in 3d6 hours' time.
3	**Falling ash**. The sky darkens as burning cinders ignite fires throughout the forest. All native creatures begin to flee the area. Re-roll on this table in 3d6 hours' time.
4	**Eruption!** Slow flowing lava erupts, travailing at 10 ft. per round from the volcano's peak, igniting everything it touches. It flows downhill up to 900 ft., dealing 4d8 fire damage per round to creatures in contact with it. It deals a further 4d8 fire damage and 8d8 bludgeoning damage per round to creatures smothered by it. Creatures native to the Elemental Plane of Fire are unaffected.
5	**Explosive eruption!** Heavy tremors rock the land as a large explosion occurs at the peak. All nearby lakes undergo a Limnic Eruption (see Volcanic Lake table).
6	**Cataclysm!** The volcano blows its peak cataclysmically. Fire and rock rains down in all directions. Every minute spent unsheltered and within 1 mile of the volcano, a creature must succeed a DC 12 Dexterity saving throw, or take 2d8 fire damage and 2d8 bludgeoning damage. The eruption lasts 1 hour.

Designers' Note

Give your players warning that a volcanic event may be brewing. Have little tremors rock the landscape periodically for hours or days beforehand. If your party members are absent-minded (or curious) enough to be at the peak when it erupts, the consequences should be appropriately deadly. If you wish to use 6. Cataclysm! for a lower-level party, we recommend changing the damage to 1d8 fire and 1d8 bludgeoning. We also recommend rewarding ingenuity. If players take shelter or protect themselves away from the main lava flow, they should avoid the majority of the damage.

Yixian Formation Flora

The Yixian Flora has been described as a mesophytic to semi-xerophytic forest, meaning that it is a subtropical humid and sub-humid (somewhat dry) high-altitude woodland environment.

Khitania columnispicata

Khitania columnispicata is closely related to modern *Gentum* and would have grown as a woody vine that climbed the trunks of other plants, dangling from their branches (a liana). They produced a long thin cone-like strobile and female plants would have also produced spikes with clusters of red or orange 'fruits' (not true fruits) once pollinated. The flesh of modern *Gentum* 'fruits' is edible but isn't generally eaten. However, its seeds are often eaten once dried, and its leaves can be eaten once boiled in oil. It is likely that *Khitania columnispicata* shared some of these traits and could have made for a nourishing source of food in warmer months. Its fibrous bark would have also been useful for making rope for nets and bags.

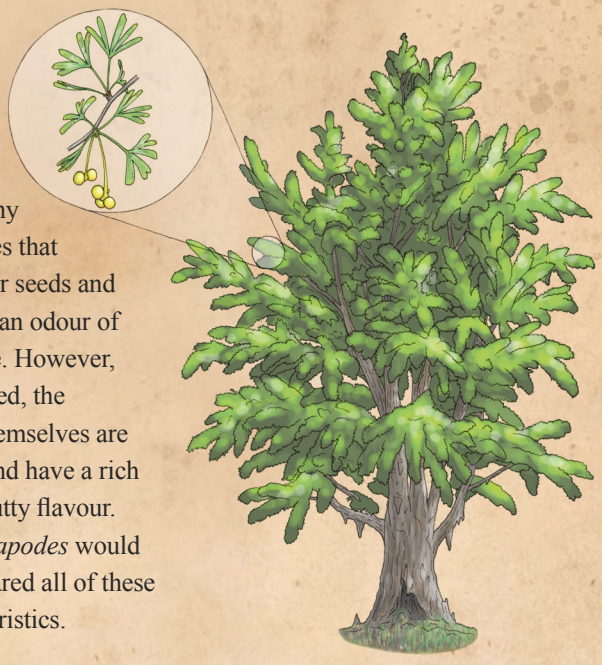


Optional Magical Rules

Hyper-thermo-genetic. *If the strobile of this plant is crushed into a paste and smeared on a creature's body, that creature gains resistance to cold damage for 24 hours. Consuming the seeds of this plant provide immunity to cold damage for 1 minute.*

Ginkgo apodes

Ginkgo apodes is a large tree with distinctive fan-like leaves that arose in the Jurassic, and whose relatives persist to the modern day. These trees can survive in regions with polluted air that would kill off less resistant plants and also live for an exceptionally long time, reportedly for over a thousand years. During this time, they can even develop stalactite-like structures of wood and are sometimes given the name "Maidenhair Trees" as a result. Female trees develop clusters of small yellow fruit-like fleshy structures that coat their seeds and give off an odour of cat urine. However, once dried, the seeds themselves are edible and have a rich sweet nutty flavour. *Ginkgo apodes* would have shared all of these characteristics.



Optional Magical Rules

Feline Warding. *If a humanoid creature touches the fruit-like berries from this tree, an oily residue coats them that smells strongly of cat urine. For the next 1 hour, herbivorous and omnivorous beasts will avoid that humanoid where possible, and the humanoid has advantage on Intimidation checks against them. However, for the next 1 hour, carnivorous beasts will be more aggressive towards that humanoid, favouring attacking them in combat, and they will have advantage on Perception and Survival checks to find them.*

Resistant. *Ginkgo apodes is immune to necrotic and poison damage, and it can survive in soiled, polluted, or otherwise contaminated land.*

Siphonospermum simplex

Siphonospermum simplex grew as a wiry bush and preferred dryer soils. Modern relatives of this plant can be used for medicinal purposes, particularly to treat allergies, coughs, and circulation issues, and some components can even be brewed into a psychoactive tea. It is possible that *Siphonospermum simplex* could have been used in similar ways. Interestingly, some plants of this group with flower-like cones only bloom during a full moon and are pollinated by nocturnal insects.



Optional Magical Rules

Psychoactive. *This plant is used as a key ingredient in spiced ales and is highly valued by some merchants. It can also be brewed into a delicious potion that provides advantage on Wisdom saving throws for 1 hour when consumed.*

Lunar Ritual. *During a full moon at night, this plant's flowers bloom and radiate magical energies. If a creature takes a long rest within 10 ft. of this plant during that night, they awaken with one of the affects below (DM's choice):*

1. *They awaken with an additional temporary spell slot of their highest level. This spell slot lasts until they cast a spell at that level or complete a long rest.*
2. *They awaken with additional temporary hit points equal to twice their level. These temporary hit points are lost when they complete a long rest.*

Sinocarpus decussatus

Sinocarpus decussatus was a small herb that grew in the shaded understory of the Yixian forests. It had tiny flowers that developed four peapod-like seed cases after pollination. Aside from these characteristics, little is known about the biology of this plant, as there are no close modern relatives of it.



Optional Magical Rules

Ultra-Pigmented. *The pollen of this plant is a bright yellow pigment that is extremely difficult to remove from clothing and skin. If a creature touches this plant's flowers, it becomes covered in a bright dusty yellow stain that persists for 3+1d4 days. Anything else that touches the stain on that creature also becomes covered in a bright dusty yellow stain that persists for 1d4 days. The stain is magical in nature and washing does not remove it.*



Gryphaea



Liaoningocladus boii

Liaoningocladus boii was a coniferous tree with red berry-like pseudofruits. The flesh of these pseudofruits was probably edible, but the seeds would have been poisonous to humans. This tree was regularly parasitised by insects, forming large swollen galls on the leaves. In fact, when these leaves were first discovered as fossils, they were misinterpreted as a part of the plant's intended anatomy and representative of a carnivorous pitcher. Modern relatives of this tree are frequently used to make longbows, as their wood is particularly suitable for them, and were historically planted around ancient burial grounds in some druidic traditions.

Optional Magical Rules

Each time the party encounters a new plant of this species, choose (or roll for) one of the options below and apply the corresponding ability. If a player examines the tree before touching it, they can determine which of the two it is by succeeding on a DC 12 Nature check.

1. Anaesthetic. *This tree will yield 1d20 red pseudofruits. These can be eaten and restore 1 hit point each, but also contain a large central seed. If a creature swallows one of these seeds it must succeed a DC 12 Constitution saving throw or become poisoned for 24 hours and fall asleep for 1 minute. The creature awakens if it takes damage.*

2. Galled. *This plant has concealed bulbous galls on its leaves that harbour vicious parasitic insects. The first time a creature touches the leaves of this plant, the galls burst, and the creature takes 1d4 + 1 poison damage.*



Liaoningocladus boii
historic reconstruction

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BEIPIAOSAURUS *"BAY-PEE-OW-SORE-US"* **(BEIPAO REPTILE)**

We were followin' a clearin' through the forest, hikin' in single file up the mountainside. Knackered from the walk, we stopped for a moment to catch our collective breath. Mid-swig o' water, I spotted 'em right there, less then 50 ft. away. Three slumped fuzzy creatures sat on their backsides, dozily graspin' at branches with their sickle claws and pullin' leaves off 'em. One of 'em turned its head sluggishly towards me and just carried on chompin' slowly. It didn't care one bit that we were there.

Beipiaosaurus is a small therizinosaurid from China that sheds light on the phylogenetic relationships of therizinosaurs.

Ecology

Beipiaosaurus was a small (8 ft. long) therizinosaurid, a group of unusual theropod dinosaurs that evolved herbivory within an otherwise generally carnivorous group. It had a long neck, small leaf-shaped teeth, a short tail, enlarged gut, and strong forelimbs with large sickle-like claws. *Beipiaosaurus* was an early member of the group, distinguished by its small size and relatively large head.

Some *Beipiaosaurus* specimens preserve a full body covering of simple quill-like feathers and *Beipiaosaurus* is unique among feathered dinosaurs due having secondary coat of more elongate feathers with unbranched filaments. Recent studies suggest that these feathers were brown in colour and were primarily for insulation in the chilly Yixian environment.

Beipiaosaurus' diet consisted mainly of ferns, early flowering plants, and leaves. However, it is possible that in the early stages of this group's transition into herbivory they supplemented their diet with insects.

Behaviour

Little is known for certain about the behavior of *Beipiaosaurus*, but some researchers report that their nests show that they were communal and probably cared for hatchlings, despite the hatchlings being able to feed themselves.

However, many parallels have been drawn between therizinosaurs and sloths (including giant ground sloths) due to their shared herbivorous diet, downy fuzz, enlarged guts, and sickle claws. It is possible that they occupied very similar niches, with *Beipiaosaurus* functioning like an agile dinosaur-sloth equivalent. Therizinosaurs were hunted by larger theropods, and *Beipiaosaurus'* small size and slow speed would have made it cautious and potentially highly-aggressive when threatened.

We recommend *Beipiaosaurus* be played as a relatively relaxed and seemingly sedate animal, that can erupt into an aggressive display of sharp claws if disturbed. Adults should be particularly hostile if in groups or near nesting sites.

Phylogeny

Therizinosaur skulls and teeth are similar to prosauropods, the precursors to sauropods, and they used to be considered a relic lineage of this group, or an unknown form of saurischian. It wasn't until 1993 that they were confidently identified as theropods. Within Theropoda, therizinosaurs are part of the maniraptorans, the group that includes dromaeosaurs, oviraptorosaurs, and modern birds.

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Lytoceras

BEIPIAOSAURUS

Small Beast (Theropod), unaligned

Armour Class: 12 (Downy Fuzz and Scales)
Hit Points: 36 (8d6 + 12)
Speed: 15 ft., climb 10 ft.

STR	DEX	CON	INT	WIS	CHA
13 (+1)	**8** (-1)	**14** (+2)	**3** (-4)	**12** (+1)	**10** (+0)

Saving Throws: Str +3, Wis +3
Skills: Athletics +3, Perception +2, Survival +2
Senses: passive Perception 12
CR: 2 (450 XP) **Proficiency Bonus:** +2

Peaceful Aura, Fearsome Presence. *Beipiaosaurus is a docile creature, calmly feeding on vegetation in the chilly mountains of Yixian. However, if attacked, Beipiaosaurus will erupt into a frenzy of slashing claws. The first time Beipiaosaurus is attacked, the attacking creature must succeed a DC 12 Charisma saving throw or be frightened of Beipiaosaurus until the end of their next turn.*

Slow Metabolism. *Beipiaosaurus has advantage on saving throws to prevent the poisoned condition. However, if it does become poisoned, the duration of that condition is doubled.*

Actions

Multiattack. *If Beipiaosaurus chooses the attack action, it may make two Sabre-Clawed Slash attacks.*

Sabre-Clawed Slash. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 6 (1d6 + 3) slashing damage.*

A creature hit by this attack must succeed a DC 10 Constitution saving throw or take 1d6 additional slashing damage.



Optional Magical Rules

If you choose to use the optional magical rules listed below, change Beipiaosaurus' CR to 3 and increase its XP to 700 accordingly.

Predatory Ancestors. *Beipiaosaurus retains the nocturnal hunter-killer instincts of its predatory theropod ancestors. At night, Beipiaosaurus gains the following temporary changes:*

- *It has darkvision 60 ft.*
- *Its movement speed is 35 ft. and its climb speed is 20 ft.*
- *It has advantage on Perception checks.*
- *It has resistance to non-magical bludgeoning, piercing, and slashing damage.*
- *It has vulnerability to radiant damage.*
- *It has an aversion to bright light.*
- *It loses its "Peaceful Aura, Fearsome Presence" ability.*



BOLONG *"BOW-LONG"* (BO'S DRAGON)

The blizzard had rolled in pretty hard and we were pushin' through the snow to find some shelter. We decided to move into a denser part of the forest – to get a bit of cover from that piercin' wind. Seems we weren't the only ones with that idea. We came across a herd of lumberin' hadrosaur-lookin' dinosaurs. They were kinda small for that group and were spendin' most of their time on their hind legs, scrapin' away the snow in search of fresh growth. They weren't keen on us takin' up their warm spot in the forest and were honkin' loudly. .

Bolong is one of the most basal members of the Hadrosauroidea, the group that includes the duck-billed dinosaurs, and is a relatively small member of it.

Ecology

Bolong was a relatively small hardrosauroid with an estimated length of 13 ft. and weighed approximately 440 lb. Although it shared many of the same features as other members of Hadrosauroidea, such as a beaked snout, robust hindlimbs, much lighter forelimbs, and a long thick tail, *Bolong* had much stockier proportions than its relatives. As the earliest branching hadrosauroid, it had features similar to the closely related iguanodontians including the first digit on each forelimb being modified into a thumb spike.

Like all hadrosauroids, *Bolong* was a herbivore and, given its low profile, likely fed near to the ground. It had large robust teeth and a modified jaw, specialised for chewing. This, combined with stomach contents, shows that *Bolong* was able to eat hard plants and even decomposing wood.

Behaviour

Hadrosauroids are frequently portrayed as relatively harmless animals that could only flee from danger. However, any modern large herbivore can be extremely dangerous, either because it is naturally aggressive or because it will use its bulk to defend itself. Hadrosauroids had thick, powerful tails which could strike attackers and *Bolong* possessed a thumb spike which could be used to fight predators (or other *Bolong*). Most hadrosauroids are also thought to have been communal animals, who were likely involved and protective parents, similar to modern cows.

We suggest *Bolong* be played as an apparently peaceful grazing animal, but with both the capacity for extreme aggression (especially if protecting young) and sudden panic, fleeing en-mass.

BOLONG

Medium or Large Beast (Ornithopod), unaligned

Armour Class: 15 (Heavy Hide)
Hit Points: 102 (12d8 + 54)
Speed: 40 ft.

STR	DEX	CON	INT	WIS	CHA
17 (+3)	**10** (+0)	**16** (+3)	**3** (-4)	**14** (+2)	**4** (-3)

Saving Throws: Str +4, Con +4, Wis +4
Skills: Survival +4
Senses: passive Perception 16
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Altruistic Behaviour. *When attacked, a herd of Bolong will tend to flee. However, one will always stay behind to buy time for the others to escape. That Bolong will attack and fight to the death. The other individuals will only fight if they are cornered or cannot escape.*

Thundering Charge. *If Bolong moves at least 20 ft. in a straight line before using its Crushing Bulk attack, that attack deals an additional 2d6 bludgeoning damage this turn, but also deals 1d6 bludgeoning damage to Bolong on a successful hit.*

Defensive Gouge. *If Bolong is hit by a melee attack, it may use its reaction to make a single Thumb Gouge attack at the creature that hit it.*

Actions

Crushing Bulk. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 11 (2d6 + 4) bludgeoning damage.*

Thumb Gouge. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 5 (1d4 + 3) piercing damage.*

Phylogeny

Hadrosauroids are members of the iguanodontians, a highly successful group of dinosaurs that arose in the Middle Jurassic and thrived until the end Cretaceous extinction. They were a varied group, containing animals such as *Iguanodon* (**page 132**) and the famous "duck-billed" hadrosaurs, as well as small bipedal animals like *Dryosaurus*.

Bolong provides a better understanding of this group's distribution during the Early Cretaceous. It's presence in China clarifies that a land connection between Asia and western North America + Europe was already established before or during the Barremian (middle of the Early Cretaceous), allowing us to better reconstruct ancient geography.

Walking

There has been some debate over whether *Bolong* walked on four legs all the time (obligate quadruped) or was capable of walking on two legs as well (facultative biped). Its front legs were relatively short and appear less able to support its body weight compared to other hadrosauroids, yet the foot was short and stocky, similar to those of true quadrupeds. Interestingly the younger animals had proportionally longer limbs, similar to their four-legged relatives. Perhaps juveniles walked on all fours before becoming more bipedal as heavier adults.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Bolong's CR.

Bo's Dragon (Recharge 4-6). *As an action, Bolong may spit a ball of burning ash at a point within 20 ft. of it. The ground within a 10 ft. radius from that point is engulfed in burning embers and flame.*

For the next minute, any creature that starts its turn within or moves into this area must succeed a DC 12 Constitution saving throw or take 3d6 + 3 fire damage. On a success they take half as much damage.

Dragon's Legacy. *Bolong has resistance to fire damage.*



MICRORAPTOR *"MY-CROW-WRAP-TOR"* (SMALL PLUNDERER)

The ancient forest 'round us was filled with the chirpin' and squawkin' of various dinosaurs, radiatin' from the trees above. Among the foliage, I glimpsed the shimmerin' of iridescent feathers streakin' through the sky. A tiny, but brilliant, four-winged dinosaur soared down from above, landin' on a branch just a few feet away. Remarkable!

Microraptor is a small, highly specialised member of the Dromaeosauridae. Its most distinctive feature was its well-developed flight feathers on all four limbs, making it the first four-winged dinosaur known. This trait may be present in other dromaeosaurs, but *Microraptor* was the first animal with unequivocal evidence of four wings.

Ecology

Microraptor was extremely small, one of the smallest non-avian theropods at only 2.5 ft. long, weighing only 1-3 lb., and with a wingspan of about 3 ft. Its long tail ended in a feathery fan, and it possessed long flight feathers on both its forelimbs and hindlimbs. Studies into dinosaur colour suggest that it might have been black with an iridescent sheen like modern starlings.

Microraptor was a predatory arboreal (tree dwelling) animal, hunting in dense forests. It could fly, although not particularly well by modern bird standards. It likely darted from tree to tree, jumping from one and flapping somewhat awkwardly or gliding to another.

Microraptor had a non-specialized carnivorous diet, eating whatever it could find. This included insects, small lizards, small mammals, birds, other non-avian dinosaurs, and fish. It is known to have swallowed small prey whole, likely dropping down from branches above, surprising prey.

Behaviour

The four wings of *Microraptor* likely made it a clumsy walker. It spent the vast majority of its time in trees, gliding and flying from branch to branch. It should rarely leave the trees but can be seen by players hunting in the canopy. As a dromaeosaur, *Microraptor* was probably relatively intelligent for its size.

We recommend playing this creature as an inquisitive hunter that may follow a party, taking advantage of them distracting prey. This may lead a particularly curious *Microraptor* to become relatively docile around the party and may allow an opportunity for a wily party member to tame it.

MICRORAPTOR

Tiny Beast (Theropod), unaligned

Armour Class: 11 (Feathers)
Hit Points: 2 (1d4)
Speed: 10 ft., fly 25 ft., climb 15 ft.

STR	DEX	CON	INT	WIS	CHA
3 (-4)	**12** (+1)	**4** (-3)	**5** (-3)	**10** (+0)	**11** (+0)

Saving Throws: Dex +3, Int +0
Skills: Acrobatics +4, Perception +3, Stealth +3, Survival +3
Senses: passive Perception 14
Resistances: cold damage
CR: 0 (10 XP) **Proficiency Bonus:** +2

Arboreal. *If Microraptor uses the Dash action, do not increase its flight speed, but instead triple its climb speed. Microraptor also has advantage on Stealth checks while in a wooded or forested environment.*

Feathered and Evasive. *When making a Dexterity saving throw to take half damage from an attack, spell, or effect, Microraptor instead takes no damage if the saving throw is succeeded. Microraptor also has resistance to cold damage (included above).*

Actions

Scratch. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 2 (1d2 + 1) slashing damage.*

Phylogeny

Microraptor was a dromaeosaurid but was not closely related to the more famous *Velociraptor* (**page 183**) or *Utahraptor* (**page 181**). Instead, it was part of a group of smaller dromaeosaurs currently only known from China. Many of these animals had a similar morphology to *Microraptor* and it has been suggested they may also have been able to fly or glide.



Fossil Fakes

When the first *Microraptor* fossil was discovered between 1997-1999, it was illegally smuggled out of China and amalgamated into a chimera. This is a practice that some unscrupulous fossil dealers undertake to try to increase the value of their fossils. Chimeras and improper fossil collecting methods not only risk the loss of valuable scientific information, but they also give private collectors (even those who act legally and morally) a bad reputation.

The original specimen, informally called "Archaeoraptor", attracted a lot of media attention for its excellent preservation, but controversy quickly arose due to the illegal handling of the fossil and its suspicious 'cobbled-together' appearance. When finally examined, it became apparent that the fossil was actually three distinct animals that were each a new species. The tail-end was eventually described as the remarkable *Microraptor*.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Microraptor's CR.

Familiar. *Microraptor may be used as a familiar via the Find Familiar spell or any similar effect.*

Shimmering Feathers (2/day). *Microraptor is protected by a layer of iridescent feathers that can be used to misdirect and confuse attackers. When hit by an attack, Microraptor can use its reaction to increase its AC by 2 until the end of the turn.*

PSITTACOSAURUS *"SI-TAC-OH-SORE-US"* **(PARROT REPTILE)**

Occasionally, the doldrum of the cold forest would be broken by loud cherpin'. The first time this happened, we moved on quickly to avoid whatever was makin' that racket. The second time, we hung around to see what it was. Turns out it was a huge swarm of quilled, beaked, ceratopsians. There was one big 'un, and dozens of lil' 'uns. They didn't half make a racket, cryin' at the big one for attention as they scurried to keep up. Like a mumma duck and her hatchlin's, 'cept no single mumma laid that many eggs for sure!

Psittacosaurus is a basal member of the Ceratopsia (horned dinosaurs) and is known from many Early Cretaceous localities, including several from Mongolia, China, Russia, and Thailand. Due to the high number of exceptionally preserved fossils of *Psittacosaurus*, it is one of the best understood dinosaurs.

Ecology

Psittacosaurus was a 6.5 ft. long bipedal herbivore that lacked the true horn and frills of its more derived ceratopsain relatives. It had a broad head with cheek bones that flared out into triangular keratin-covered points. Exceptionally preserved specimens have retained the entire exterior of this animal, revealing colour patterned scaly skin, a series of long quills running down the upper surface of its tail, and even a cloaca with dark pigmentation.

Psittacosaurus was a herbivorous animal, able to scissor off tough leaves with its beak. This, combined with grinding teeth and its short stature, strongly indicates that it was an undergrowth-feeder, devouring fresh plant growth. Wear marks on young *Psittacosaurus* teeth indicate that they were precocial and could feed themselves immediately after hatching.



Behaviour

Psittacosaurus are known to be highly social and gregarious (grouping together), even beyond basic nesting behaviour. They formed large herds of dozens to hundreds of individuals and, despite the young being able to feed themselves, they were still protected by numerous adults. Eggs were laid in clutches of up to 30, and the young formed creche groups made up of individuals of a variety of ages. It is even possible that parental duties may have been shared among the herd to lessen the load.

We recommend that *Psittacosaurus* be played as a dinosaurian equivalent to sheep, gathering in huge herds with some individuals maintaining a lookout. Upon spotting a threat, they should be more prone to fleeing, using their numbers to confuse their attackers. They should only stand and fight in desperate situations when unable to flee.

Phylogeny

Psittacosaurus was the most basal member of the Ceratopsia, the horned dinosaurs. This group includes a huge variety of dinosaurs ranging from small bipeds (like *Psittacosaurus*) to large-headed quadrupeds in the Leptoceratopsids, and the classic horned giants like *Centrosaurus* (**page 116**). The group enjoyed great success, surviving right up to the end-Cretaceous extinction.

Biostratigraphy

Psittacosaurus was an exceptionally successful animal. They inhabited huge swathes of Asia in vast herds and persisted for at least 24 million years. This means that their fossils occur in such large numbers across such vast areas and timescales that we are able to use them to reliably date rock formations, based on the species of *Psittacosaurus* present (see Biostratigraphy **page 16)**. This is almost unheard of for vertebrates and highlights just how successful *Psittacosaurus* was.

References

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PSITTACOSAURUS

Small Beast (Marginocephalian), unaligned

Armour Class: 12 (Quilled Skin)
Hit Points: 14 (4d6 + 2)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**14** (+2)	**10** (+0)	**3** (-4)	**10** (+0)	**5** (-3)

Saving Throws: Con +1, Wis +1
Skills: Perception +3, Survival +1
Senses: darkvision 30 ft., passive Perception 13
CR: 1/4 (50 XP) **Proficiency Bonus:** +1

Quilled Back. *The quills on Psittacosaurus' back make it dangerous to hit. If Psittacosaurus is hit by a melee attack, it may use its reaction to make a Quill Stab attack at the attacking creature.*

Vast Herd. *Psittacosaurus swarm in vast herds of dozens to hundreds of individuals, roaming the mountainsides, rivers, and hills. When fleeing from a threat, it is difficult to make out individual Psittacosaurus among the crowd. So long as there are three or more Psittacosaurus fleeing within 20 ft. of each other, ranged attacks against them are at disadvantage.*

Group Sentinel. *If three or more Psittacosaurus are together, select one of them to be the Group Sentinel. That Psittacosaurus has advantage on Perception checks.*

Actions

Beak Snap. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d4 + 2) piercing damage.*

Quill Stab. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 3 (1d4+1) piercing damage.*

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Psittacosaurus' CR.

Quill Spray. *As an action, Psittacosaurus can fire a spray of quills. Each creature in a 10 ft. cone in front of Psittacosaurus must succeed a DC 11 Dexterity saving throw or take 1d4 + 1 piercing damage.*

YUTYRANNUS *"YOU-TIE-RAN-US"* (FEATHERED TYRANT)

The silence of the frigid night-time forest was broken by the sound of deep, growlin' breathin'. In the darkness, those topaz eyes pierced the black veil, locked directly with mine. An eerie shiver ran up me back as a second, then third pair appeared.

Yutyrannus is an early tyrannosauroid. While much smaller than the true giants like *Tyrannosaurus* (**pages 186 and 195**), it was still a very large predator and is the biggest animal known with direct fossil evidence of feathers.

Ecology

Yutyrannus was a sizeable animal, estimated to be about 30 ft. long and weighing 1.5 tonnes. It was more lightly built than its larger cousins, although was still a powerful animal, and retained relatively long arms with three clawed fingers. It also possessed a small but distinctive head crest, accompanied by small, pointy brow horns.

Yutyrannus was covered in a thick layer of feathers, and these are preserved in some of its fossils. These feathers were undoubtedly used for insulation in the chilly Yixian Formation environment, but also perhaps for camouflage. As the largest predator currently known from Yixian, *Yutyrannus* is thought to have preyed on a variety of potential food items including ceratopsians, sauropods, therizinosaurs, hadrosaurs, ankylosaurs, and other theropods. It is presumed to be the arch-predator of the Yixian food chain.

Behaviour

The first *Yutyrannus* fossils found were a near complete adult specimen associated with two smaller *Yutyrannus*, with one at least eight years younger than the adult. This association is unlikely to be chance and the assemblage probably represents an adult with its large (but still immature) offspring. The association of these three together suggests that *Yutyrannus* reared its young well past the hatchling stage and could indicate that they were group hunters. While still speculation, this hypothesis is supported by research into other large social predators and additional evidence also suggests that some tyrannosaurids probably lived in social or family groups.

We suggest that *Yutyrannus* be played as a dominant active predator living in small groups. During colder periods, they should be hunting considerably more to help maintain their energy reserves. Hunting *Yutyrannus* should be a deadly threat, able to pursue prey for a long time and potentially coordinate their attacks. When not hunting, they can be resting or be socialising, bickering and playing with each other. Nevertheless, they should opportunistically attack a party if they see them as easy prey.

Phylogeny

Yutyrannus was a tyrannosauroid, a highly diverse group of theropods ranging from 10 ft. long average-sized animals to 40 ft. long giants. They arose in the Middle Jurassic of Asia, and became one of the dominant theropod groups, spreading to modern day North America, across the northern palaeo-continent of Lauraisa. There is currently no record of them from the southern palaeo-continent of Gondwana, excluding perhaps one putative bone from Australia.

Yutyrannus is the largest dinosaur with preserved feathers, but other larger tyrannosauroids appear to have secondarily lost their full feather coat and replaced them with scales, or perhaps reducing them to a thin covering of small, sparse feathers.

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YUTYRANNUS

Huge Beast (Theropod), unaligned

Armour Class: 17 (Tough Skin and Thick Feathers)
Hit Points: 166 (22d12 + 34)
Speed: 45 ft.

STR	DEX	CON	INT	WIS	CHA
22 (+6)	**15** (+2)	**19** (+4)	**4** (-3)	**12** (-1)	**12** (+1)

Saving Throws: Dex +4, Int +0, Wis +4
Skills: Athletics +7, Intimidation +5, Perception +7, Survival +7
Senses: darkvision 60 ft., passive Perception 15
Resistances: non-magical bludgeoning and piercing damage (see Thick Feathered Coat)
Immunities: cold damage (see Thick Feathered Coat)
CR: 10 (5900 XP) **Proficiency Bonus:** +5

Thick Feathered Coat. *Yutyrannus has immunity to cold damage and resistance to non-magical bludgeoning and piercing damage (all included above).*

If Yutyrannus falls below half health, it loses its resistance to piercing and bludgeoning damage and replaces its immunity to cold damage with resistance to cold damage.

Arch-Predator. *Yutyrannus cannot be easily swayed from the hunt. It has advantage on Charisma and Wisdom saving throws.*

Call the Pack (1/day). *As a bonus action, Yutyrannus can let out a gut-wrenching bellow alerting other members of its pack to the conflict.*

At the start of the next round, up to two additional Yutyrannus join the combat as allies to this Yutyrannus. They approach from nearby cover and do not have the Call the Pack ability.

If this ability is used by a polymorphed or otherwise shapeshifted humanoid, their friends, family, or party members are considered to be their 'pack' instead, and are made aware of the conflict, regardless of where they are.

Actions

Multiattack. *If Yutyrannus chooses the attack action, it may make one Feathermaw Bite attack and two Feathered Claw attacks.*

Feathermaw Bite. *Melee Weapon Attack: +11, reach 10 ft., one target. Hit: 19 (4d6 + 5) piercing damage.*

If a creature hit by this attack is Medium or smaller, it is grappled (escape DC 16). Until this grapple ends, the target is restrained, and the Yutyrannus cannot Feathermaw Bite another target.

Feathered Claw. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 10 (1d12 + 4) slashing damage.*

Downy Shoulder Bash. *Melee Weapon Attack: +11, reach 5 ft., one target. Hit: 23 (4d8 + 5) bludgeoning damage.*

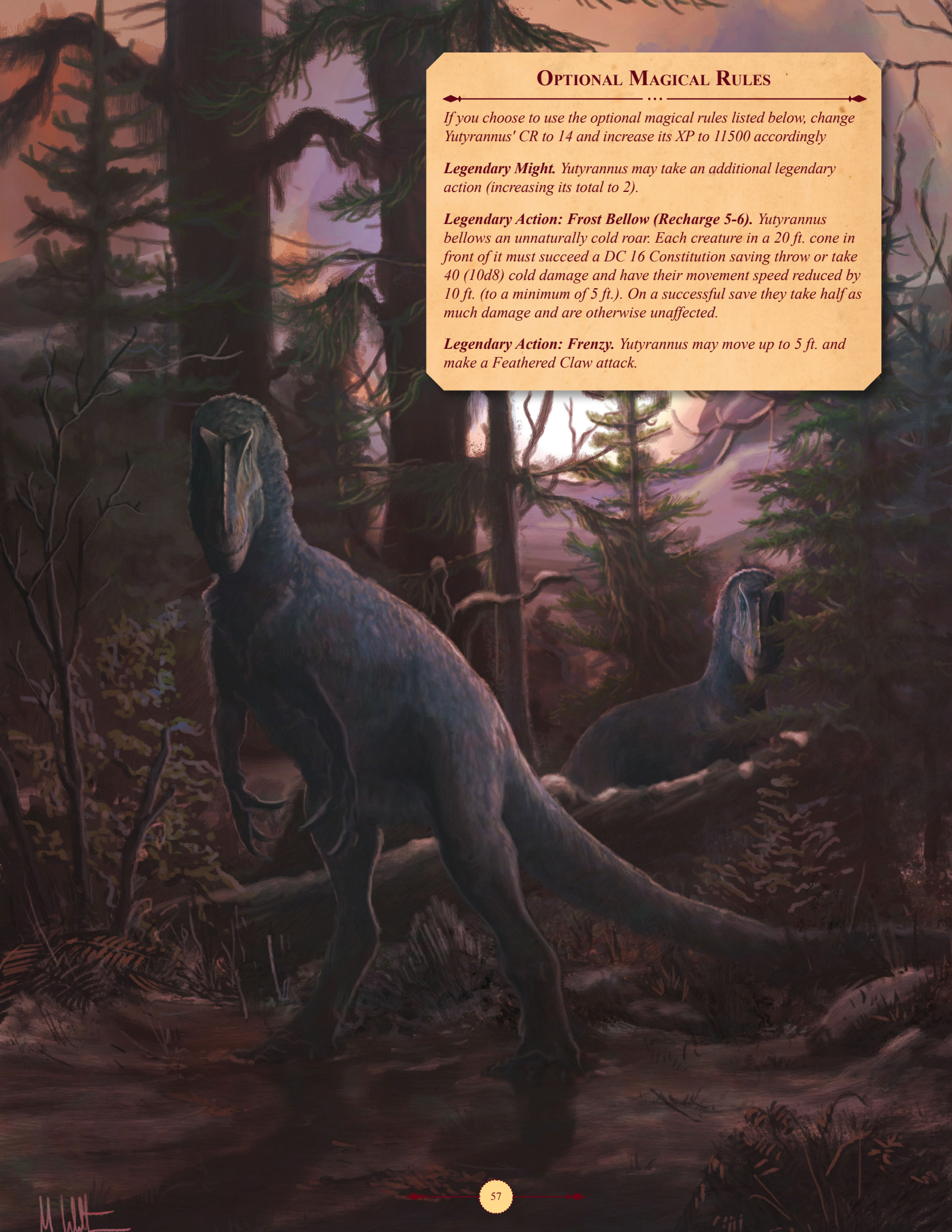
If Yutyrannus moved at least 30 ft. before using this attack, a creature hit by this attack must succeed a DC 16 Strength saving throw or be knocked prone. If Yutyrannus knocks a creature prone with this attack, it may then make a single Feathered Claw attack against that creature.

Legendary Actions

*Yutyrannus can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Yutyrannus regains spent legendary actions at the start of its turn.*

Legendary Action: Coordinate. *Yutyrannus signals its pack with grumbles and tail flicks. On its next turn, Yutyrannus has advantage on attack rolls against any creature that has at least one other Yutyrannus within 10 ft. of it that isn't incapacitated.*

Legendary Action: Hunt. *Yutyrannus searches for its prey. It may make a Perception check. If a hidden creature within 60 ft. has taken damage, Yutyrannus has advantage on this check, specifically for detecting that creature (disregard the additional d20 for all uninjured creatures).*



Optional Magical Rules

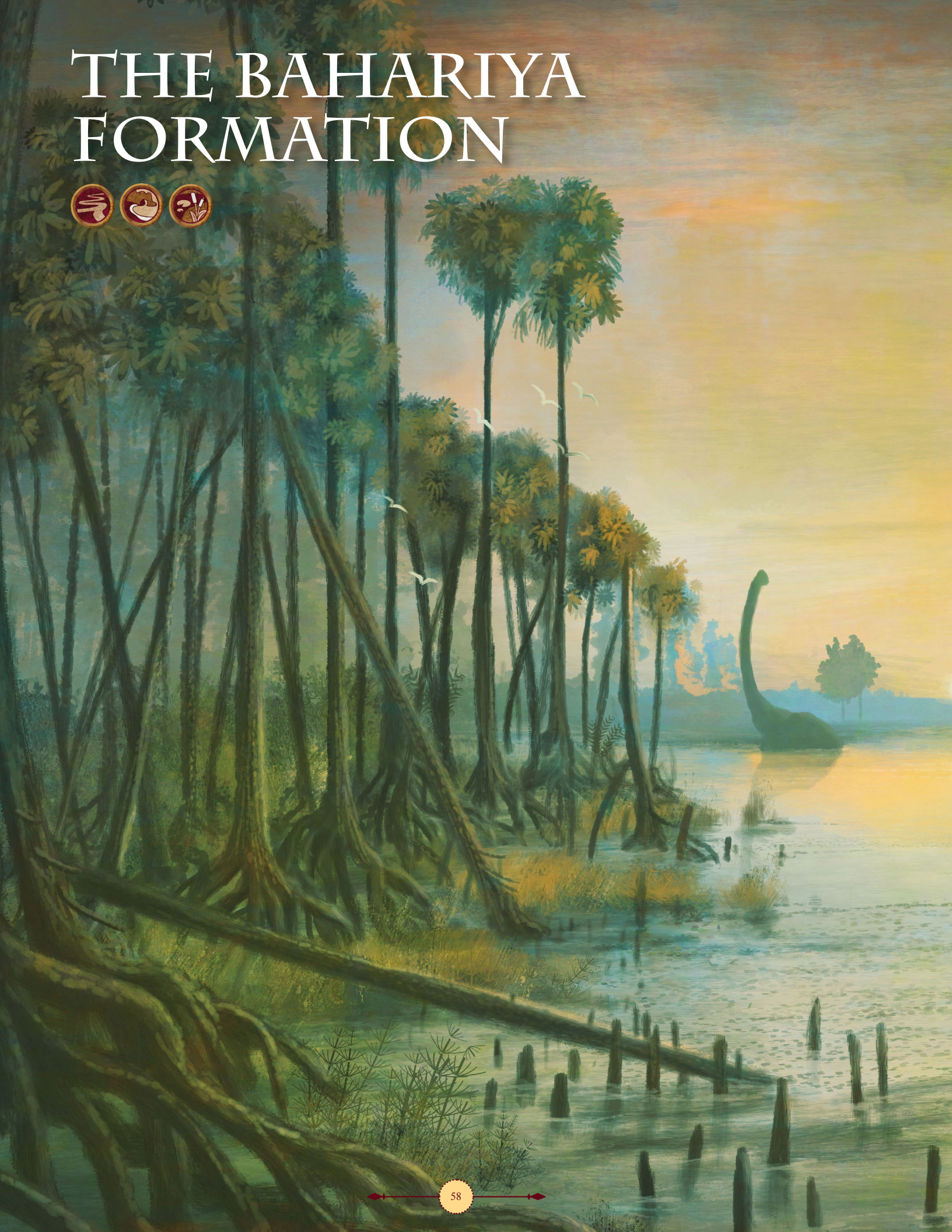
If you choose to use the optional magical rules listed below, change Yutyrannus' CR to 14 and increase its XP to 11500 accordingly

Legendary Might. *Yutyrannus may take an additional legendary action (increasing its total to 2).*

Legendary Action: Frost Bellow (Recharge 5-6). *Yutyrannus bellows an unnaturally cold roar. Each creature in a 20 ft. cone in front of it must succeed a DC 16 Constitution saving throw or take 40 (10d8) cold damage and have their movement speed reduced by 10 ft. (to a minimum of 5 ft.). On a successful save they take half as much damage and are otherwise unaffected.*

Legendary Action: Frenzy. *Yutyrannus may move up to 5 ft. and make a Feathered Claw attack.*

THE BAHARIYA FORMATION





We had sailed down that river for three days, but eventually found ourselves unable to continue. The waterways fanned out into an expansive delta, stretchin' as far as the eye could see. Lush vegetation and mangroves filled the area, along with the silhouettes of some pretty big dinos in the mornin' sun. The stretchin' of the river made it pretty shallow and the mangroves encroached on almost all of the waterways. They were far too shallow and narrow for our boat to get through quickly, and we knew that the ship off the coast would only wait for us a few more days. There wasn't time to carry the boat around, and the smoke on the horizon suggested that it ain't safe anyway. So, we had only one option: ditch the boat, wade through the delta, and flag down the ship with a fire from the coast. I knew this was gunna be a dangerous few days.

Background

The Bahariya Formation is located in the Western Desert of Egypt and is Early Cretaceous, specifically Cenomanian (93.5-99 million years ago), in age. Its sedimentology and stratigraphy are well-studied, in part due to the region's rich iron deposits making it a focal point of geological research. The Bahariya Formation itself was deposited over a period of 3 to 6 million years and forms a consistent succession of rock between 295 and 330 ft. thick.

Early excavations of the Bahariya Formation were undertaken by German palaeontologist Ernst Freiherr Stromer von Reichenbach (1871-1952) and his expedition team. They discovered the first *Spinosaurus* fossils, along with many other animals from the Bahariya Formation. Unfortunately, the vast majority of their collection was destroyed in the bombing of Munich Museum in 1944 during World War II.

Description

The lowermost part of Bahariya Formation yields most of its dinosaur fossils. This portion of the formation was deposited in a fluviatile-deltaic (river-delta) setting, which was a major component of the Bahariya palaeoenvironment. Plant fossils indicate that Bahariya was a colossal mangrove swamp (sometimes called the Bahariya Bight), possibly up to 115 mi^2 and is hypothesised to be similar to the "Ten Thousand Islands" in modern Florida, USA.

The Bahariya Formation had regular dry and monsoonal seasons. The monsoons were likely violent and devastating during the wet season, whereas the dry season would have been very hot and calm, leading to low-energy waters for most of the year and the retention of nutrients within the sediments. This made the mangroves among the most productive non-marine biomes from the Mesozoic (measured in tonnes of carbon produced by photosynthesis per unit area), meaning abundant plant growth within organic and nutrient-rich sediments that were not washed away by high-energy waters for most of the year. This provided a lush and nourishing environment. Rare traces of charcoal indicate that wildfires ripped through the surrounding arid scrub during the hottest periods.

Geology

The Bahariya Formation is an excellent example of a complete stratigraphic sequence. It has unconformities at its base and top, which means that there was a period of erosion before it was deposited, and deposition stopped after it (but it wasn't eroded entirely away). This means that the Bahariya Formation provides a single snapshot of one basin that we can be sure represents continuous deposition over 3-6 million years. This, in turn, allows us to understand how environments in a single location change over time. For Bahariya, the lowermost rocks were deposited in river and delta settings, which then transitioned to costal, shoreface, shelf, and finally outer shelf in the uppermost rocks. This shows that the environment changed from river, to coastal, then to open sea as the basin level changed.

The rocks themselves consist of interbedded siltstones and sandstones, followed by cross-bedded amalgamated sandstones, then dark coloured ferruginous (iron-rich) sandstones in the uppermost unit. The different stages of the environmental change correspond to different rock types and colours.

Fossils

The formation yields a mixture of aquatic and terrestrial animals, with lots of molluscs (specifically oysters and clams), crabs, and fish, as well as turtles, sea snakes, plesiosaurs, crocodiles, and pterosaurs. Dinosaurs are not uncommon but, despite the abundance of lush plant-life, the fossils indicate that herbivores were relatively under-represented within the formation, generally restricted to gigantic titanosaurian sauropods (with lots of offspring, but few large adults). On the other hand, carnivores were present in their normal numbers and were probably sustained by the abundant fish and crustaceans that thrived in the nutrient-rich waters. This would have led to an environment that is substantially more carnivore-dominated than other Cretaceous settings. In the following pages, we have included the rules for the Bahariyan Polycotylid, *Carcharodontosaurus, Paralititan, Spinosaurus*, and *Stomatosuchus.*

As a roleplaying environment

The Bahariya delta is a region of extremes. In the dry season, the weather should be beautifully calm and sunny with overwhelmingly lush mangroves and waters abundant with life. Giant dinosaurs should roam the sandbanks, most of which are predators, making it a treacherous place for humanoids. Players can be directed into the mangroves by fires in the surrounding scrub, pushing all manner of creatures into the confines of the waterways for safety.

In the monsoon season, the region should be battered by heavy rains, strong winds, and blackened skies. Many of the animals will persist in the region, but may be seeking shelter within the densest mangroves, or fleeing rising waters by moving into the soaked scrubland.

Predatory Population

Players have an increased chance of encountering carnivores. If you roll on a table to determine encounters for the party, the first time you roll, re-roll any result that isn't a carnivore (do not re-roll a second time). If you do not use an encounter table, the first time the party encounters a large carnivore, they instead encounter two fighting in a titanic battle.

Over-productivity

When foraging for food, you can find triple the amount of food that you would normally be able to find in the same amount of time (particularly fish, fruits, and shellfish).

Soupy Sediment

Any creature that takes the dash action while moving across the mangrove sediment (touching the ground) must roll a d6 and consult the table below.

d6	Effect
1-2	Its speed becomes 0 until its next turn. It may use a bonus action to make a Strength or Intelligence check with a DC of 14. On a success, it is instead considered to be moving through difficult terrain until its next turn.
3-4	It treats the ground as difficult terrain.
5-6	It may move normally.

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Bahariya Formation Flora

The Bahariya forest was fundamentally a mangrove forest with mixed salinity waters. However, muddy banks and margins would have allowed other plants to flourish as well. Further upstream from the delta's mouth, the fresh waters would have fed more diverse forests.

Weichselia reticulata

Weichselia reticulata was a tree fern that formed much of the Bahariya mangrove forest. Its long, slender, and light trunks would have been useful for simple raft building, but lacked the structural integrity to be used in larger constructions. Their leaves may have contained an irritant, and caused mild rashes when touched, however the submerged part of the stem would likely have been edible, although not very tasty and difficult to harvest.



Optional Magical Rules

Congestant. *The thick stem of this plant causes a creature's sinuses and ear canals to swell if chewed, dulling their hearing. A creature that chews this stem gains resistance to thunder damage for 24 hours, but also has disadvantage on Perception checks that involve sound for 24 hours.*

Mild Irritant. *If a humanoid creature touches the leaves of this plant, they break out in a mild rash. This causes no damage and does not affect any of their abilities, but is itchy and uncomfortable.*

Marsilea sp.

Marsilea sp. was a small aquatic fern with clover-like leaves. These leaves would have floated on the surface of shallow water around the Bahariya delta. Both the leaves and sporocarps (small growths at the base of the leaf) would have been edible. In fact, the sporocarps could have been ground into flour if enough were harvested. However, other components of the plant would have been highly toxic and modern relatives of this genus are known to cause brain damage to livestock that eat it.



Optional Magical Rules

Neurotoxic Stimulant. *The leaves of this plant are a powerful stimulant. They can be crushed to create a potion that, if consumed, gives advantage on Dexterity saving throws for 24 hours. However, if the wrong parts of the plant are included in the potion, it also inflicts 2d4 psychic damage when consumed. When harvesting the plant as an ingredient, a DC 14 Nature check is required to ensure that only the correct parts are harvested.*

Designers' Note

The use of "sp." indicates" that the specimen belongs to a species within that genus, but the scientists describing it cannot determine which one.

Agathis sp.

Agathis sp. was an exceptionally tall evergreen coniferous tree that stood more than twice the height of the tallest sauropods. This genus persists today and its trees (sometimes called Kauri or Dammara trees) can be found in Southeast Asia, Australia, and many of the surrounding island regions. The hard wood and wide trunks of this tree make it an exceptional building material and Polynesian cultures have historically used it in ship construction. The trees themselves can live for a very long time, reportedly well over a thousand years.



Optional Magical Rules

Ancient Soul. *Certain trees of this species harbour an old druidic soul (DM's choice). A humanoid who knows the spell Speak with Plants feels a strange spiritual connection to this tree when they first come within 30 ft. of one possessing such a soul. They instinctively know that they can commune with it in a 10 minute meditation ritual. If they do so, they gain advantage on all saving throws for the next 24 hours.*

Cladophlebis sp.

Cladophlebis was a genus of fern that grew in clusters within moist ground. It grew along the margins and sandy banks of the Bahariya delta as a low-lying plant. Despite its generic appearance, some components of this plant would have been edible. Young fiddleheads (the curled up developing leaves) could have been cooked and eaten, and the rhizome (underground stem) could have been processed to make a butter-like substance.



Optional Magical Rules

Flammable Oils. *The oils in this plant's rhizome ignite and detonate when compressed rapidly. If a Medium or larger creature falls onto or steps on this plant, it suffers 1d4 bludgeoning damage and 1d4 fire damage as the plant detonates. The plant is destroyed by this process.*

Alternatively, the rhizome can be carefully extracted with a DC 10 Sleight of Hand check and then may function like a grenade:

Rhizome grenade. *As an action, a humanoid creature can throw the grenade (20/60 ft.). Any creature within 5 ft. of where it lands must succeed a DC 12 Dexterity saving throw, or take 1d4 bludgeoning damage and 1d4 fire damage.*



Nelumbites

Nelumbites was a small aquatic lotus that grew in still water. The close modern relative *Nelumbo* (lotuses) is grown as a food crop, as it produces nutritious tubers buried in the wet sediment. Unusually, this plant is also able to generate its own heat through a thermoregulatory alternative oxidase pathway (AOX). It is probable that *Nelumbites* also produced such edible structures, and would have been an excellent source of food, and may have even had the same heat-generating properties as *Nelumbo*. Lotus flowers also carry cultural significance as symbols of beauty, purity, faithfulness, and spirituality.

Optional Magical Rules

Daucunoid-like Tuber. *Each plant yields a thick tuber that can provide one day's ration and grants a darkvision of 60 ft. for 24 hours when consumed.*

Spiritual Warmth. *Rarely, this plant will produce a single large magical flower. This flower radiates warming spiritual energies and can be carefully harvested by completing a DC 15 Nature check. On a success, the harvested plant becomes the magical item described below. On a failure, it instead crumbles to ash.*

Pure Lotus Broach/Barrette *Wondrous Item, RARE, requires attunement. Appearance: A large perfectly formed lotus flower, coloured with soft pink and white petals.*

Rules: This flower hardens into a durable porcelain form and can be attached to clothing or hair. While attuned to this item, you gain resistance to cold damage and advantage on Wisdom saving throws.

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Dapedium

BAHARIYAN POLYCOTYLID

"POL-E-COH-TEA-LID"

When we approached a small pool, the water was murky and muddy. Practically opaque – couldn't see a thin' through it. The only indication that somethin' was in there were the rollin' splashes in the otherwise calm water. We threw a large pebble in to see if we could spook whatever it was away. The splashes stopped for a bit, then a slick shiny reptilian head poked out of the water to look at us. It almost looked friendly, like a croc crossed with a seal. But the set of nasty pointed teeth interlockin' along its mouth hinted otherwise.

The Bahariyan Polycotylid is a relatively long (>10 ft.) freshwater plesiosaur from the Bahariya Formation, Egypt. We initially included this animal based on its original identification as the cosmopolitan genus *Leptocleidus*. However, recent studies noted the lack of leptocleidids in the Bahariya Formation and the reappraisal of these fragmentary specimens to the family Polycotylidae. As the fossil material has not been redescribed since its original study in the 1920s, we will refer to it here as the "Bahariyan Polycotylid".

Ecology

Plesiosaurs are relatively morphologically conservative within their group, with streamlined bodies, elongated necks, squat heads, short tails, and four highly modified paddle-like limbs. Polycotylids deviated from this norm however, and had much shorter necks, as well as relatively thin and elongated jaws. This gave them a superficially streamlined crocodile-like appearance, similar to the giant oceanic pliosaurs, which are a group of plesiosaurs adapted to hunt other large marine reptiles. The Bahariyan Polycotylid was, in contrast, much smaller and better suited to life in shallow water. Its occurrence in the Bahariya Formation indicates that it likely ventured into estuaries, freshwater lagoons, and riverways, as well as along the coastal shelf. Its smaller body would have allowed greater mobility in these restricted environments, while its long jaws would have allowed it to easily snap up passing fish or potentially grab small animals from the shoreline.

Behaviour

While the Bahariyan Polycotylid would have been a prominent predator of fish in the African lagoons and coastal areas, its small size meant it would have been vulnerable to larger aquatic predators. This means it may have been relatively cautious, perhaps using the murky waters as a means of evading attacks or hiding from prey.

We suggest that it be played as a wary animal. Most humanoids should be too large to be considered potential prey, but players entering the water may be considered a disturbance to their feeding or breeding grounds, which could result in an attack – especially if the animal has limited options to escape. If more than one Bahariyan Polycotylid is in the area (especially a mother and large calf), they may attack in a co-ordinated manner, making them much more dangerous to unlucky parties.

Phylogeny

Polycotylids were a globally successful group of plesiosaurs found in deposits throughout the Cretaceous. Their highly modified bodies mean that it is difficult to place them precisely within Plesiosauria, with different phylogenies resolving them in very different positions. The current consensus associates them with similarly highly modified leptocleidids, potentially even as a sibling group.

Escaping the land

For many years, it was theorised that plesiosaurs were capable of limited terrestrial movement. This was largely tied to the idea that they needed to lay eggs on land, like turtles. However, new polycotylid specimens have since demonstrated that they birthed a single, relatively large, infant. The size of their offspring suggests a heavy investment from the parent and could indicate that plesiosaurs continued to nurture their young until maturity. If they did not lay eggs, then it also means that they had little need to come onto land and, given their highly adapted morphology, it is likely that they never willingly left the water.

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BAHARIYAN POLYCOTYLID

Medium or Large Beast (Plesiosaur), unaligned

Armour Class: 14 (Dexterous Slick Skin)
Hit Points: 95 (10d8 + 51)
Speed: swim 45 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**18** (+4)	**13** (+1)	**3** (-4)	**12** (+1)	**12** (+1)

Saving Throws: Int -2, Wis +3
Skills: Acrobatics +5, Athletics +4, Stealth +4, Survival +3
Senses: passive Perception 16
CR: 5 (1800 XP) **Proficiency Bonus:** +3

Dexterous Aquatic Predator. *While submerged in water, the Bahariyan Polycotylid has advantage on Dexterity checks, advantage on Dexterity saving throws, advantage on saving throws to prevent it from being restrained, and cannot be knocked prone. The Bahariyan Polycotylid can also hold its breath for up to 10 minutes.*

Actions

Multiattack. *If the Bahariyan Polycotylid chooses the attack action, it may make one Swim-by Bite attack and one Paddle Slap attack.*

Swim-by Bite. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 13 (2d6 + 6) piercing damage.*

Paddle Slap. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 11 (2d4 + 6) bludgeoning damage.*

Stir Mud. *If submerged in water, as an action, the Bahariyan Polycotylid can use its paddles to stir up sediment from the riverbed/seabed. For 30 seconds all connected water within 30 ft. becomes clouded with mud, rendering it opaque. A creature submerged in this water is considered blind and heavily obscured.*

Optional Magical Rules

If you choose to use the optional magical rules listed below, change the Bahariyan Polycotylid's CR to 6 and increase its XP to 2300 accordingly.

Echosnap. *The Bahariyan Polycotylid has a blindsight of 40 ft.*



CARCHARODONTOSAURUS

"CAR-CHAR-OH-DON-TOE-SORE-US" **(SHARK TOOTH REPTILE)**

There are some beasts that really do straddle the line between animal and monster. We heard it first – the thunderin' footsteps and gurglin' deep growls. We could feel the sounds deep in our chests. Cowerin' in the undergrowth, we used some subtle magic to mask our scent and a few members of the party whispered prayers to their deities. When we finally glimpsed it through the bushes, we had to hold back our gasps. The towerin' creature was among the peak of predatory perfection. A massive bulk and its maw was encrusted with dried blood – soaked in fact. It must have had a rippin' bite like no other.

Carcharodontosaurus was a Cretaceous (99-94 million years ago) theropod dinosaur and one of the largest theropods in the fossil record.

Ecology

Carcharodontosaurus was an extremely large animal, comparable in size to *Tyrannosaurus rex* (**page 195**). It had an enlarged skull which was over 5 ft. long with jaws full of serrated knife-like teeth. Its eyes were positioned laterally, giving it an excellent range of vision, but compromising its binocular eyesight slightly.

While it shared its environment with another large carnivore, *Spinosaurus* (**page 75**), it is likely that these animals were niche partitioned. This means that they relied on different resources for survival and probably did not directly compete with each other for food. This was partially because *Carcharodontosaurus* was not a permanent resident of the Bahariya environment, and may have spent more time hunting in the dryer scrubland surrounding the mangroves.

Carcharodontosaurus was likely a generalist hunter, meaning that it fed on anything it could bring down or scavenge. Evidence suggests it was capable of lifting animals or chunks of meat weighing up to 1750 lb. Potential prey from the Bahariya Formation included immature sauropods, hadrosaurs, other theropods, reptiles, and washed-up fish.

Behaviour

As a large carnivore, *Carcharodontosaurus* would have spent most of the day resting, and less time searching for food. Given its size, it would not have been able to hide from prey, and likely relied on chasing down slower-moving animals. We recommend that it be run as a pursuit hunter, which will chase prey over a long distance. When not hunting or resting it should be curious of, but not automatically hostile to, players if given a wide berth.



Phylogeny

Carcharodontosaurus was a member of the Carcharodontosauridae. This was a sub-group of the Allosauroidea, the group that includes *Allosaurus* (**page 197**). Carcharodontosaurids were medium-to-large sized theropods which included many giant species such as *Carcharodontosaurus, Concavenator* (**page 119**), *Giganotosaurus*, *Acrocanthosaurus* and *Meraxes*. They have been found globally in the Early-Middle Cretaceous, frequently occupying the role of arch-predators, and are considered a highly-successful group.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Carcharodontosaurus' CR to 12 and increase its XP to 8400 accordingly.

Hyper Adaptations. *You may choose or roll for one major mutation (**page 227**) and two minor mutations (**page 218**). Carcharodontosaurus gains these mutations.*

Legendary Actions

*Carcharodontosaurus can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Carcharodontosaurus regains spent legendary actions at the start of its turn.*

Legendary Action: Adapt*. Roll a d20, on a 10 to 20, you may replace one of Carcharodontosaurus' mutations with another of your choice from the same table. On the roll of a 1 to 9 you must replace one of Carcharodontosaurus' mutations with another randomly determined mutation from the same table.*

Carcharodontosaurus

Huge Beast (Theropod), unaligned

Armour Class: 15 (Thick Hide and Scales)
Hit Points: 181 (18d12 + 73)
Speed: 60 ft.

STR	DEX	CON	INT	WIS	CHA
23 (+6)	**14** (+2)	**20** (+5)	**4** (-3)	**12** (+1)	**9** (-1)

Saving Throws: Str +8, Con +8, Wis +4
Skills: Intimidation +5, Survival +5
Senses: passive Perception 15
Resistances: non-magical slashing damage
CR: 10 (5900 XP) **Proficiency Bonus:** +5

Titanic Fighter. *Carcharodontosaurus has advantage on attacks against creatures with a size category of Large, Huge, or Gargantuan. Carcharodontosaurus also has resistance to slashing damage (included above).*

Legendary Resistance (1/day). *If Carcharodontosaurus fails a saving throw, it may choose to succeed it instead.*

Actions

Multiattack. *If Carcharodontosaurus chooses the attack action, it may make three Ripping Bite attacks.*

Ripping Bite. *Melee Weapon Attack: +11, reach 10 ft., one target. Hit: 24 (4d8 + 6) piercing damage.*

When a creature is hit by this attack, if it is not already affected by the 'Torn' condition, it gains the 'Torn' condition (see below).

Condition: Torn. *A torn creature has had a large piece of flesh ripped away from its body and is bleeding heavily.*

At the start of its turn in combat or every minute outside of combat, the creature must succeed a DC 18 Constitution saving throw or take 3d6 slashing damage. On a successful save they take half as much damage.

This effect persists until one of the following occurs:

- The creature is healed by at least 25 hit points.

- The creature finishes a long rest (do not make saves while resting but begin again if the rest is interrupted).

- A DC 18 Medicine check is passed on the creature.

- A lesser restoration spell is cast on the creature.

- It dies.

PARALITITAN *"PAH-RA-LEE-TIE-TAN"* (TIDAL GIANT)

The whole time we were wadin' through the river delta, we could see towerin' sauropods in the distance. They were flankin' the edges of the delta mostly, feedin' on the lush vegetation without venturin' too close to the muddy waters. I reckoned they could easily stride through the water and walk on the sand, but gettin' caught in the wrong patch of mud could be lethal. Still, their long necks gave 'em ample reach to feed – archin' over the waterways. Funny really, they seemed unbothered by most of the big predators. I guessed they could pack a punch if somethin' got too close.

Paralititan stromeri (Stromer's Tidal Giant) was a large member of the Titanosauria, a group of sauropods which included the largest known land animals to ever live.

Ecology

Paralititan is a relatively poorly known sauropod despite its discovery dating back to 1912. Recorded by German palaentologist Ernst Stromer, the original material was among the large fossil collection destroyed in World War II. It was not until 2000 when a team of palaeontologists discovered new material. Initially, it was estimated to weigh approximately 65 tonnes with a projected length of 85 ft. although it has been estimated to have been as light as 33 tonnes. While neither estimate would make it a match for the very largest titanosaurs, it was considerably bigger than any other animal known from the Bahariya Formation.

Like all sauropods, *Paralititan* was a herbivore. Due to its enormous size, it must have been a non-selective feeder. This means it was not choosy about what it ate, ingesting whatever plant matter (including early grasses) it could without any sort of preference.

Behaviour

Paralititan's sheer size gave it enormous strength and healthy adults would have been safe from most predators. However, like for modern elephants, some predators (such as *Carcharodontosaurus* (**page 69**)) would have been a potential threat if attacking in numbers, and especially to younger animals. Sauropods are frequently portrayed as being gentle giants. However, for many of them this is likely far from the truth, as modern large herbivores can be extremely aggressive and territorial (e.g., rhinos and buffalo). While sauropods may not have hunted for food, it is very possible that they would have met anything large enough to be a potential threat with a violent response.

Like most sauropods, *Paralititan* was not an involved parent. Juveniles grew rapidly and were capable of feeding without care (precocial). However, there is strong evidence that hatchlings of various ages grouped together for safety.

We recommend *Paralititan* be played as a gregarious animal, moving in herds while constantly feeding. Unfamiliar party members may spook them, resulting in unpredictable and aggressive behaviour, such as mock charges, displays of strength, or all-out attacks. When unthreatened they should be relatively calm animals.

Phylogeny

Titanosaurs were an unusual group of animals which arose in the Early Cretaceous to become the dominant sauropod across the world and survived up the end Cretaceous extinction. They were members of the Macronaria, a group of long limbed large and skulled sauropods including *Brachiosaurus* and *Giraffatitan* (**page 133**). Like brachiosaurs, their forelimbs were elongated, giving them a tall-chested giraffe-like profile. Titanosaurs possessed short, blocky reduced toes; with most of the foot being made up of the metacarpals (knuckle bones). In some species the toes were completely absent.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Paralititan's CR to 11 and increase its XP to 7200 accordingly.

Lightning Rod. *The first time Paralititan uses its Bellowing Call ability each day, the sky darkens and storm clouds form directly above it. For the next hour, each time Paralititan uses its Bellowing Call, any creature within 20 ft. of it (including itself) must succeed a DC 18 Dexterity saving throw or take 3d10 lightning damage. They take half as much damage on a successful save.*

After an hour passes, the storm clears.



Pecopteris aquilina

PARALITITAN

Gargantuan or Colossal Beast (Sauropod), unaligned

Armour Class: 12 (Scales and Skin)
Hit Points: 286 (16d20 + 126)
Speed: 15 ft.

STR	DEX	CON	INT	WIS	CHA
28 (+9)	**3** (-4)	**25** (+7)	**3** (-4)	**10** (+0)	**8** (-1)

Saving Throws: Str +10, Con +8
Skills: Intimidation +5, Survival +4
Senses: passive Perception 12
Resistances: lightning damage
Immunities: non-magical bludgeoning, piercing, and slashing damage from non-Huge/Gargantuan/Colossal sources (see Immutable Stature)
Condition Immunities: frightened and prone
CR: 10 (5900 XP) **Proficiency Bonus:** +4

Immutable Stature. *Paralititan is immune to being frightened or knocked prone (included above). It has advantage on Strength saving throws, and any saving throw to resist being paralyzed or poisoned. However, it automatically fails any Dexterity saving throw.*

Non-magical bludgeoning, piercing, and slashing attacks have no effect on it as its hide is far too thick (included above). Attacks from Huge, Gargantuan, and Colossal creatures bypass this immunity.

Bellowing Call. *As a bonus action, Paralititan may let out a bellowing call. This is a deep guttural rumble that shakes the very core of other creatures. Each other non-Paralititan creature within 60 ft. must succeed a DC 16 Wisdom saving throw or be frightened of Paralititan for 1 minute. They may repeat this save at the end of their turn and on a successful save are immune to the effect for 24 hours.*

Actions

Rear Up. *As an action, Paralititan can rear up onto its hind limbs. If it does, its speed is reduced to 0 ft. and it is able to use its Almighty Stomp attack until it is no longer rearing up.*

If Paralititan takes the attack action, or makes an attack of opportunity as a reaction, it lands on all fours and it ceases rearing up.

Multiattack. *If Paralititan chooses the attack action, it may make two Huge Stomp attacks. Alternatively, it may make a single Almighty Stomp attack if it is rearing up.*

Huge Stomp. *Melee Weapon Attack: +11, reach 10 ft., one target. Hit: 28 (4d8 + 10) bludgeoning damage.*

A creature hit by this attack must succeed a DC 16 Strength saving throw or be knocked prone.

Almighty Stomp. *Melee Weapon Attack: +15, reach 10 ft., up to two targets. Hit: 75 (10d10 + 20) bludgeoning damage. Paralititan must be rearing up to use this attack.*

Any creature hit by this attack is knocked prone. All other non-sauropod creatures within 30 ft. of Paralititan must succeed a DC 16 Strength saving throw or also be knocked prone. Any non-magical metal, stone, or wooden object not being carried or worn hit by this attack is shattered and destroyed.

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SPINOSAURUS *"SPY-NO-SORE-US"* (SPINE REPTILE)

We had gotten complacent seein' so many of these giant spinos lazin' by the rivers. Despite their massive size and vicious teeth'n'claws, they seemed uninterested in us. Preferrin' to stand motionless in the water with their snouts submerged in the flow, occasionally snappin' their colossal jaws. When they did, they hurled their heads upwards and dragged huge fish out of the water to feast on. It was a sight to behold every time. All was fine passing them, so long as we didn't get too close while they was feedin'. At least that's what we thought… until we came across a territorial male.

Spinosaurus was the largest member of the Spinosauridae and is known from the Cretaceous Bahayria, Chenni, Kem Kem, and Echkar formations of North Africa. *Spinosaurus* is undoubtedly the most hotly debated dinosaur of the 21st century.

Ecology

Spinosaurus was a very large carnivore at about 45 ft. in length. It had an elongated snout filled with sharp peg-like teeth, a long muscular neck, and muscular forearms sporting large curving claws. The vertebrae on its back had extremely elongated spines, extending over 3 ft. above the backbone, forming a long sail along its back. Its tail was modified into a tall oar-like shape. Its hind legs were shorter than in most theropods, making it appear much squatter, with unusually long toes and less curved toe claws, similar to many waterbirds, suggesting that it had webbed toes.

Spinosaurus is one of the few dinosaurs known to be well adapted for hunting fish. Its long snout and rounded pointed teeth are perfect for spearing passing fish. Its large claws functioned well as fishhooks and its short, long toed feet made it a capable wader in shallow water. Its diet would have included a wide variety of fish including giant sawfish and sharks. Like many otherwise specialised carnivores, it would have been opportunistic and fed upon smaller land-dwelling prey or scavenged from carcasses where possible.

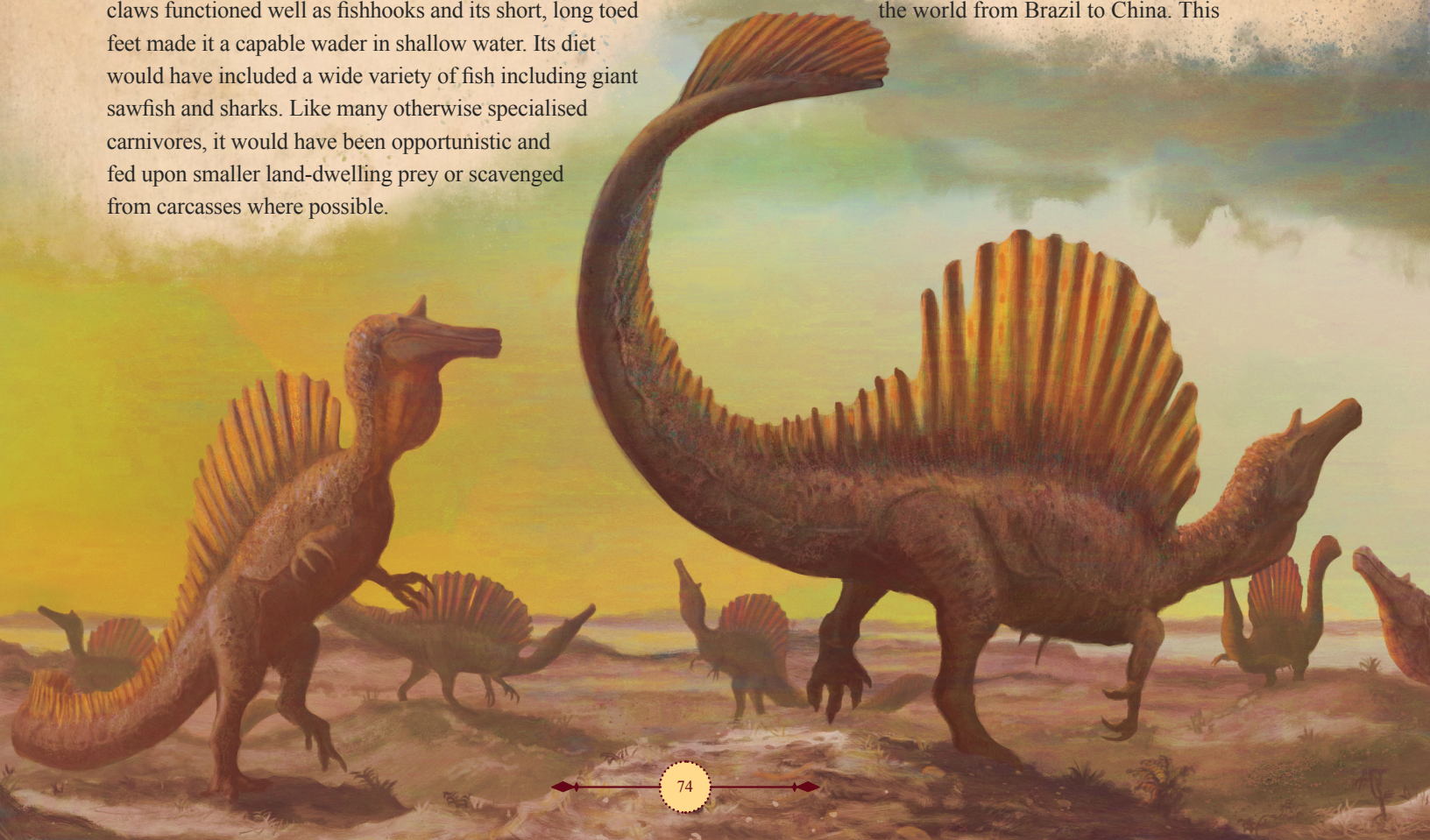
Behaviour

Spinosaurus is now believed to have been a large, shoreline wader, hunting fish from the edge of rivers and beaches. It may have been a more capable swimmer than other theropods and able to easily move throughout estuaries in search of prey. It would have likely avoided other large carnivores where possible.

When running *Spinosaurus*, we recommend it be treated as a hunter that stuck to the shoreline of rivers or coasts. It should have a great deal of patience, being willing to stand still for long periods waiting for prey to approach. It may be relatively safe for a party to pass by, so long as it is given a wide enough berth. However, this seemingly peaceful animal may be waiting for a player to stray too close to the shoreline, giving it the opportunity to strike.

Phylogeny

Spinosaurus is the largest known spinosaurid, a group of highly successful Cretaceous predators found across the world from Brazil to China. This



group included well-known animals such as the South American *Irritator* and the British *Baryonyx*. Spinosaurids are distinguished by their unusually elongated snouts filled with rounded teeth, enlarged claws on their forelimbs, and elongated spines on the vertebrae in many species.

An Ever-Changing Picture

While *Spinosaurus* has been known since the early 1900s, the original specimen was destroyed in World War II. This has led to a great deal of debate and speculation over its morphology, biology, and ecology. New fossil discoveries in the 2010s provided a wealth of information regarding the animal and revealed it to be highly unusual in its proportions, which resulted in many years of debate over how it looked and lived. It has been reconstructed as a four-legged ambush predator, a wader, an entirely aquatic animal, a nearly 22 ton giant, and a more manageable 8 tons. What we present here is the most up-to-date summary of its morphology, but it serves as an excellent reminder that palaeontology is an ever-evolving science where new discoveries frequently upend our understanding of an animal.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Spinosaurus' CR to 8 and increase its XP to 3900 accordingly.

Dramatic Reinterpretation. *Select one option listed below and apply it to Spinosaurus. The next time the party encounter a Spinosaurus, select a different option, which overrides the previously selected option.*

- Increase Spinosaurus' strength to 28, but decrease its dexterity to 10. Its attacks deal 1d8 additional damage (of the same damage type), but subtract 2 from any rolls to hit.

- Change Spinosaurus' speed to 60 ft., but it may no longer swim.

- Increase Spinosaurus' AC to 20.

- Spinosaurus gains a fly speed of 40 ft. (This may not be selected the first time a party encounter Spinosaurus).

SPINOSAURUS

Huge Beast (Theropod), unaligned

Armour Class: 14 (Scaly Hide)
Hit Points: 128 (15d12 + 38)
Speed: 30 ft., swim 30 ft.

STR	DEX	CON	INT	WIS	CHA
21 (+5)	**13** (+1)	**18** (+4)	**4** (-3)	**15** (+2)	**16** (+3)

Saving Throws: Str +9, Con +7, Int -2, Wis +5
Skills: Intimidation +10, Perception +7, Survival +7
Senses: blindsight 10 ft. (in water), passive Perception 15
CR: 7 (2900 XP) **Proficiency Bonus:** +4

Reactionary Thermoregulation. *When hit by an attack or when making a saving throw, Spinosaurus may use its reaction to gain immunity to fire or cold damage until the end of the turn.*

Crocodile Mimic. *Spinosaurus can hold its breath for up to 30 minutes.*

Rostral Dermal Pressure Sensors. *While submerged in water, Spinosaurus has a blindsight of 10 ft. (included above).*

Actions

Multiattack. *If Spinosaurus chooses the attack action, it may make one Snapping Jaw attack and one Hooked Claw attack.*

Snapping Jaw. *Melee Weapon Attack: +9, reach 10 ft., one target. Hit: 27 (5d6 + 10) piercing damage.*

A creature hit by this attack is grappled (escape DC 16) and pulled 5 ft. closer to Spinosaurus. While a creature is grappled by this attack, Spinosaurus cannot attack another target with its Snapping Jaw.

Hooked Claw. *Melee Weapon Attack: +9, reach 5 ft., one target. Hit: 21 (3d8 + 8) slashing damage.*

A creature hit by this attack can be moved up to 5 ft. in any direction by Spinosaurus (no save allowed).

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STOMATOSUCHUS *"STOH-MAH-TOE-SOO-CUS"* (MOUTH CROCODILE)

The riverways weren't just filled with monstrous threats and titanic predators. Believe it or not, there were a few docile beasties too. One of the most surprisin' was a giant croc that gently swam the riverways. It snapped at the water and raised its mouth high, gullet swollen. We could see lil' fish tails flickin' out the sides of its mouth and water poured through the gaps in its needle-like teeth as it squeezed its throat.

Stomatosuchus is a poorly understood crocodile-like animal with an unusual appearance, known only from a single specimen discovered in the 1920s.

Ecology

Little is known about *Stomatosuchus'* morphology beyond it possessing an unusual U-shaped head, 30 times longer than it was deep. Its upper jaw was full of closely packed thin pointed teeth, whereas its lower jaw is thought to have been toothless. It has been suggested by some that it possessed a deep throat pouch, but this remains speculative. The skull was extremely large, suggesting an animal 32 ft. in length.

The diet of *Stomatosuchus* is debatable. It lacks the large conical teeth seen in most other large crocodylomorphs and some have suggested it was a planktonic feeder, using a throat pouch to push water through its thin teeth. However, an alternative suggestion is that it was a predator of small fish and used its thin teeth in unison with the broad jaw to trap them, similar to the closely-related *Laganosuchus* and the more distantly-related *Aegisuchus*, both of which have more complete fossils. As planktonic filter-feeding requires highly-specific feeding structures, we think that a small vertebrate based diet is more plausible.

Behaviour

Laganosuchus and *Aegisuchus* are thought to have been ambush predators, snapping passing fish or small animals and *Stomatosuchus* probably was too. Its jaws were remarkably slender, and therefore it would not have been able to easily hold large struggling prey, preferring smaller morsels or scavenging where possible.

We suggest *Stomatosuchus* be played as a patient predator, willing to wait several hours for prey to come within striking distance. Many playable races should be too large to be considered prey, but smaller races could be susceptible to attack. As long as these smaller party members do not approach the water, *Stomatosuchus* should be relatively benign.

Phylogeny

Stomatosuchids are thought to be part of the Neosuchia, the group of crocodylomorphs more closely related to modern crocodiles than other groups such as the notosuchians. The group remains poorly understood and it has been suggested they belong to the Eusuchia, the "true crocodiles", but without more material there remains a great deal of mystery surrounding *Stomatosuchus'* phylogenetic placement.



Like so many of the Bahariya fossils, *Stomatosuchs*' type specimen was described in the 1920s by Ernst Stromer, and was later destroyed in World War II by allied bombers. No new material has been found since, and the only information we have is from Stromer's published figures.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Stomatosuchus' CR.

Careless Swallow. *Stomatosuchus gulps huge volumes of water daily as it filters out tiny fish to devour. In doing so, it occasionally swallows small gemstones or trinkets that wash into the water. Roll a d6 and consult the list below, Stomatosuchus gains the corresponding effect.*

1 - Gemstone. Select a damage type from lightning, cold, fire, or poison. Stomatosuchus' Needle Maw attack deals an additional 1d4 damage of that type and also change the damage of its Throat Pouch to that type.

2 - Ring of Protection. Increase Stomatosuchus' AC by 1.

3 - Holy Symbol. Stomatosuchus gains immunity to radiant damage.

4 - Gold Coins. Stomatosuchus' throat pouch deals an additional 1d6 bludgeoning damage and it regurgitates 100 gp when slain.

5 - Wand Shard. Stomatosuchus knows the Firebolt, Ray of Frost, or Thunderclap cantrip. It can cast them as though it were level 5, its spell attack modifier is +4 and any saving throw from its cantrips has a DC of 14.

6 - Ticking Clock. Stomatosuchus loses its Size Matters ability and becomes exceptionally aggressive. It also constantly makes a faint ticking sound.

Treasure Trove. *When Stomatosuchus is slain, it's throat pouch contains 1d4 trinkets, small items, or gemstones (DM's choice, typically including whatever is described above).*

Stomatosuchus

Large or Huge Beast (Crocodylomorph), unaligned

Armour Class: 14 (Thick Scales)
Hit Points: 82 (12d8 + 34)
Speed: 20 ft., swim 30 ft.

STR	DEX	CON	INT	WIS	CHA
20 (+5)	**10** (+0)	**16** (+3)	**3** (-4)	**12** (+1)	**8** (-1)

Saving Throws: Con +5, Wis +3
Skills: Stealth +2, Survival +2
Senses: passive Perception 12
Resistances: poison damage
Condition Immunities: poisoned
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Aquatic. *Stomatosuchus has advantage on Stealth checks while submerged in water. It can hold its breath for up to 30 minutes.*

Size Matters. *Stomatosuchus will not attack a creature of Medium size or larger, unless to defend itself or its feeding grounds.*

Throat Pouch. *A creature within Stomatosuchus' throat pouch is restrained and takes 2d4 bludgeoning damage at the start of each of their turns. At the end of its turn, the restrained creature may attempt to escape by succeeding on a DC 14 Strength check.*

If Stomatosuchus falls below half hit points, it will regurgitate any creature in its throat pouch. If a creature dies while in the throat pouch, Stomatosuchus swallows it.

Crocodilian Immune System. *Stomatosuchus is resistant to poison damage and immune to the poisoned condition (included above).*

Actions

Multiattack. *If Stomatosuchus chooses the attack action, it may make one Needle Maw attack and one Tail Swipe attack.*

Needle Maw. *Melee Weapon Attack: +8, reach 5 ft., one target. Hit: 13 (2d8 + 4) bludgeoning damage.*

If Stomatosuchus' throat pouch is empty, it may attempt to swallow a Small or Tiny creature hit by this attack. The target must succeed a DC 14 Strength saving throw or be swallowed into Stomatosuchus' throat pouch.

Tail Swipe. *Melee Weapon Attack: +7, reach 10 ft., one target. Hit: 15 (2d8 + 6) bludgeoning damage.*

HAŢEG ISLAND





We'd been told of a mysterious island 30 miles off the coast that was, apparently, filled with all manner of strange creatures. After a few hours of sailin', we arrived. This island was quite large, covered in dense forest and jungle. The tales were indeed true, as it was largely populated by miniature dinosaurs – a remarkable sight to behold. I had read about such a phenomenon, called "insular dwarfism" in the literature. A term I found interestin' as a dwarf meself. Several other adventuring parties had also warned us not to go though, sayin' it was unsafe. Looked perfectly fine when we arrived and most of the lil' beasts posed no threat at all. However, we soon found out that the warnin's were to be heeded.

Background

Haţeg Island isn't a single geological formation, but rather a landmass that we can determine existed by the characteristics of the sediments that were deposited in its surrounding basins. Located in modern day Romania, Haţeg Island was a landmass that persisted for a very long time, but the sediments that we study to learn about it are of Late Cretaceous age.

Haţeg Island first drew the attention of palaeontologists in the early 1900s, after the discovery of dinosaur bones in the region. It quickly became apparent that many of the examples found appeared to be adult specimens, but were significantly smaller than their close relatives found elsewhere. It soon became apparent that Haţeg Island was the first example of insular dwarfism in the fossil record. This is a process whereby large animal communities isolated on islands for thousands or millions of years adapt to the limited resources by significantly reducing their body size over many generations.

Description

Haţeg Island was either a single island, archipelago, or (at the very least) an isolated spit of land. Current data suggests that it was most likely a very large island (30,000 mi^2), with the nearest mainland over 125 mi away, and had at least one volcano.

It was in the warm sub-tropical part of the Tethys Sea, about 27° North of the equator. This gave it a hot climate with a mean annual temperature of 20 – 25 °C (68 – 77 °F), as the Cretaceous was warmer than the world today. This climate supported a sub-tropical flora, with a mix of ferns and flowering plants.

Geology

As there are many geological formations that allow us to reconstruct Haţeg Island, describing the combined geology of all of these strata is rather complex. Nevertheless, the two main Late Cretaceous successions are the Densuş–Ciula and Sânpetru formations. These are generally molasse-type deposits, which in geology means a combination of sandstones, shales, and conglomerates (rounded coarse-grains cemented together) deposited in non-marine aquatic settings, such as lakes, rivers, and streams. Deposits of volcanic tuffs, tuffities, and volcanic agglomerates indicate infrequent periods of volcanic activity from at least one volcano on the island. Most of the fossils are preserved in these molasse-type deposits, but our information about Haţeg Island is also supplemented by an array of shallow marine basin deposits that were formed in the surrounding Tethys Sea.

Fossils

Haţeg Island has been described as having a diversity so large that it must have been from a large island (>30,000 mi^2). These encompass a wide variety of animals, including fish, frogs, turtles, and crocodiles in the island's waterways and coastal waters, as well as lizards, snakes, pterosaurs, dinosaurs, and mammals throughout the island. This fauna is generally reflective of the typical Euramerican Early Cretaceous fauna. As mentioned above, the flora was dominated by ferns and angiosperms (flowering plants), forming a hot dry sub-tropical woodland setting.

As a roleplaying environment

Haţeg Island can be run one of two ways: either as a giant mysterious island, or as dozens of small islands, each populated with their own unique creatures. In either case, the creatures found on Haţeg should be visually distinct from their mainland relatives, displaying unusual colours and patterns in addition to their reduced size.

Haţeg borderlines on a tropical island setting (albeit a bit cooler) and can be populated by lush forests and jungles. The isolation of the island(s) makes it a great setting for forgotten temples and lost civilisations, and including Haţeg as a 'lost island' in a nautical-themed setting can add a sense of realism to this standard fantasy trope. In the following pages, we have provided stats for *Balaur, Hatzegopteryx, Magyarosaurus, Struthiosaurus,* and *Zalmoxes.*

Insular dwarfism

Any creature (excluding *Hatzegopteryx, Balaur, Zalmoxes, Magyarosaurus,* and *Struthiosaurus*) that makes landfall on Haţeg Island is affected by **Insular Dwarfism**. If the affected creature remains on the island, it will shrink by

one size category after its next long rest. A creature can only ever be reduced by one size category from this effect. The affect dissipates after 24 hours if the creature leaves Haţeg Island within the next two days. If it does not, the affect becomes permanent and can only be removed by a Greater Restoration spell or effect.

Island Isolation

Non-humanoid creatures on this island do not see humanoids as a threat and are instead highly curious of them. These creatures may still see humanoids as prey.

Designers' Note

We ran an adventure to Haţeg Island with a level 4 party and it worked exceptionally well. In this, we had Hatzegopteryx be a looming deadly presence that the party had to avoid, rather than fight. They travelled throughout the island, encountering other dinosaurs and the ruins of a civilisation that worshipped Hatzegopteryx. This was interspersed with chase scenes through narrow forests and caves, fleeing from Hatzegopteryx itself.

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Haţeg Island Flora

Although Haţeg island was in the sub-tropical part of the Tethys Sea, the warmer Cretaceous temperatures meant that its flora would have been comparable to a modern tropical island, rather than a modern sub-tropical one. This means that most of the island was covered by lush forest and jungle.

Phyllites sp.

Phyllites sp. was a small undergrowth fern that would have grown around the bases of trees and in other shaded areas. It favoured damp soils and in summer would have likely developed rows of orange-brown or yellow sori (clusters of spore-making structures) along the underside of its leaves. *Phyllites* sp. would not have been edible, and may even have been an irritant or poisonous to humans.



Optional Magical Rules

Phototoxic. *A viscous milky fluid runs through this plant's stem. If the plant is damaged, it oozes out. Any creature that comes into contact with this fluid gains vulnerability to radiant damage for 24 hours. This affliction can be removed with a lesser restoration spell or effect.*

Pandanites trinervis

Pandanites trinervis was a branching shrub with root supports at its base and rosettes of strap-like spiky leaves at the ends of branches that would have been sharp enough to cut skin. These leaves were also highly fibrous and could have been weaved into baskets or used to make thread or rope. Interestingly, modern relatives of this plant (*Pandanus*) are a key ingredient in many curries, and it is likely that *Pandanites trinervis*' leaves could have also been dried and used as a curry spice. The plant also produced fragrant flowers that could have been used as a perfume or to flavour drinks. Upon pollination, these would have developed into pineapple or cone-like fruits that were edible and yellow or orange in colour.



Optional Magical Rules

High Scoville Pungency. *This plant is exceptionally spicy. If a creature consumes this plant's fruit, it takes 1d6 fire damage, but gains the following ability for 24 hours:*

Flamin' Breath. *This ability has a number of charges equal to your proficiency bonus. As an action, you can exhale a cone of flaming breath. Each creature within a 15 ft. cone in front of you must succeed a DC (8 + Constitution bonus) Dexterity saving throw, or take 1d6 + PB fire damage.*

Araliaephyllum sp.

Araliaephyllum sp. was a small to medium sized lauraceous bush with multiple thin stems or trunks and a bushy canopy. This canopy was made up of narrow three-lobed leaves that had the silhouette of a bird's foot. Little is known about this plant, but its modern affinities suggest that it may have developed small inedible black fruits and possibly had medicinal uses.



Optional Magical Rules

Theropod-footed Healing Balm. *This plant's bird-foot-shaped leaves can be crushed into a paste and applied to a wound to help it heal. If this balm is applied to a creature during a short rest, that creature heals 1d6 + 2 hit points and its walking speed is increased by 10 ft. for the next 24 hours.*



Sphenopteris

Sabalites longirhachis

Sabalites longirhachis was a tall, thin, large-leaved palm tree that reached up to 45 ft. in height. It possibly produced bunches of small dry berry-like fruits, but these would have been extremely difficult to reach, given the tree's height, and were probably inedible to humans. The large leaves and long, straight trunks of this tree would have made it an ideal resource for building structures.



Optional Magical Rules

Synaptic Regulator. *The small dry fruits that this plant produces have a bitter taste and cause a creature to feel nauseous for a few minutes if consumed. However, they also stimulate the nervous system and provide that creature advantage on Intelligence saving throws for the next 24 hours.*

Ettingshausenia onomasta

Ettingshausenia onomasta was a large plane-like tree with broad three-lobed leaves that favoured moist soils, growing near water. Its bark would have had a knobbly and mottled appearance, with a camouflage-like pattern. Its wood would have been highly resistant to splitting and therefore useful for making sturdy wooden objects (e.g. a butcher's block), but would have been hard to carve. Modern relatives of this plant produce hair-like new growth that can become a respiratory irritant when the wood is cut.



Optional Magical Rules

Polymorphic Fibres. *When this plant is cut down, pale pink hair-like fibres erupt from its central trunk, causing creatures within 10 ft. to cough and splutter. When this happens, the closest creature must succeed a DC 12 Wisdom saving throw or be polymorphed into a non-magical Sharovipteryx (see* ***page 175****) for 10 minutes. If that creature takes damage, the effect ends.*

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BALAUR *"BAL-OR"* (BALAUR, A DRAGON IN ROMANIAN MYTHOLOGY)

As we pushed through the thick undergrowth, we entered a small clearin'. Light beamed down through the canopy revealin' a handful of nests sat on by some lil' theropods. We were immediately greeted by goose-like hissin'. Very angry lil' thin's. When they pounced, we learnt just how sharp their sickle claws are – and that they had two on each foot for twice the pain!

Balaur is a small and unusual theropod that is an excellent example of the difficulty in clarifying the relationships of fossil animals.

Ecology

Balaur is only known from a partial skeleton that lacks several major parts, including its skull. This makes reconstructing *Balaur* difficult, but researchers estimate that it was up to 8 ft. long and weighed about 33 lb. It was clearly an unusual animal as it had remarkably stocky feet with a pair of large dromaeosaur-like sickle claws on each foot. Dromaeosaurs like *Velociraptor* (**page 183**) and *Utahraptor* (**page 181**) hold these claws vertically, but *Balaur*'s could only be held flat, making it flat footed. Despite having wing-like forelimbs, it is also thought to be fully flightless, with a non-functional reduced third finger on each hand.

Without its skull, determining *Balaur*'s diet is difficult. Due to its dromaeosaur-like claws, it was originally classified as part of that group and therefore assumed to be carnivorous. However, later investigations noted that its relative bulkiness, large swept back pubic bone (suggestive of a big gut, but present in all paravian theropods), and robust limbs could indicate that it was herbivorous. A more recent study in 2015 focused on *Balaur*'s phylogeny, but also addressed its ecology and suggested that it was part of an evolutionary grade containing both herbivores and omnivores. Based on the more predatory elements of its morphology, they argued it was likely omnivorous.

Behaviour

With so much debate around *Balaur*, it is hard to pin down much of its behaviour. Still, we can make some suggestions based on similar animals. We know it was probably ground-dwelling and may have lived in pairs or small groups. It would likely have foraged for fruits and berries, while also taking down suitably sized prey using its stocky build to overpower them. With this in mind, we recommend that *Balaur* be played as an alert and curious animal. It may approach a party or player out of interest or in search of food and, as an island dweller, it may not view humanoids as a threat at all. However, a lone player could find themselves approached by several *Balaur* that are much more willing to attack.

BALAUR

Small Beast (Theropod), unaligned

Armour Class: 12 (Feathers)
Hit Points: 18 (3d6 + 9)
Speed: 40 ft.

STR	DEX	CON	INT	WIS	CHA
10 (+0)	**16** (+3)	**9** (-1)	**5** (-3)	**12** (+1)	**8** (-1)

Saving Throws: Dex +7, Int +0, Wis +3
Skills: Acrobatics +4, Perception +4, Stealth +4
Senses: darkvision 60 ft., passive Perception 14
CR: 1/2 (100 XP) **Proficiency Bonus:** +2

Ambush Predator. *Balaur has advantage on Stealth checks.*

Flutter-Leap. *Balaur can jump up to 30 ft. and is immune to falling damage.*

Actions

Pair Bonding. *As an action, Balaur may give another allied Balaur within 60 ft. advantage on that Balaur's attacks and saving throws until the start of this Balaur's next turn.*

Twin Claw Grapple. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 7 (2d4 + 2) piercing damage. A creature hit by this attack must succeed a DC 10 Strength saving throw or be grappled by Balaur.*

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Balaur's CR to 1 and increase its XP to 200 accordingly.

Twin Spirited. *The first time Balaur is reduced to 0 hit points, so long as it used Pair Bonding at least once, or was the target of another Balaur's Pair Bonding, it is revived with full hit points although it has an ethereal ghost-like appearance. Its Twin Claw Grapple attack now deals necrotic damage instead of piercing.*



Phylogeny

Balaur's phylogeny has been the subject of debate since its discovery. Initially it was described as a dromaeosaurid based on similarities in shoulder girdle, forearm shape, and its sickle-like claws, but was considered highly unusual within the group for its reduced third finger, fused wrists, and fused ankles. These peculiarities were assumed to be a result of its island isolation.

Several subsequent studies challenged this identification, noting features that are unheard-of in dromaeosaurs, but common in avialans (the non-bird dinosaurs that are most closely related to birds). After discussions about other occurrences of dromaeosaur-like sickle claws in modern birds, it was determined to most likely be an avialan, with secondary flightlessness. This is a trait known to evolve in other island-dwelling birds, such as the dodo and kākāpō.

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HATZEGOPTERYX *"HATS-EGG-OP-TEAR-IX"* **(HAȚEG BASIN WING)**

We were told that it wasn't safe to explore these islands, but we didn't care for the stories. We should'a listened… We figured that the biggest critters would be towards the centre of the islands, and it'd be safe to skirt the edges. But after only a few hours walkin' along the coastline that hypothesis was flattened. The beast descended from the sky faster than any dragon I've ever seen and with more lethal ferocity than the nastiest rex. It downed two members of our crew on impact, snatched up one of our guides and took straight back off. I saw it swallow the poor sod whole. The entire attack took seconds and in just as much time we were all scrabblin' for the treeline as it circled above. We should'a listened.

Hatzegopteryx is a member of the Azhdarchidae, the giant, long-necked pterosaurs. It is one of the largest and heaviest flying animals known and is a close relative of the famous giant pterosaur *Quetzalcoatlus* (**page 165**).

Ecology

Hatzegopteryx was an enormous pterosaur, with a wingspan estimated to be between 33 and 39 ft. It was also extremely heavy for a flying animal, weighing somewhere in the range of 440-550 lb., at least 10 times heavier than the heaviest flying birds alive today. Like other azhdarchid pterosaurs, it had long limbs and was very tall when standing, with forelimbs longer than its hindlimbs, giving it a sloping back. Its neck was elongated in comparison to most pterosaurs, but it was shorter and stockier than other azhdarchids. Its skull was massive, perhaps 5 ft. long, but again more robustly built than animals like *Quetzalcoatlus*.

Hatzegopteryx stood at about the height of a giraffe and towered above the (often) dwarfed fauna of the Haţeg Island. As it could fly, it was not affected by the resource limitations of the island and did not undergo insular dwarfism, making it the largest carnivore present by far. Azhdarchids were once assumed to be fish specialists that skim or dip fed, however the consensus now is that they were largely terrestrial animals that spent most of their time walking on the ground, hunting like giant storks. *Hatzegopteryx* would stalk the undergrowth, catching prey and killing it with its powerful beak. Its prey would have included any animal small enough for it to grab and swallow whole, but it may also have been able to skewer and pull apart slightly larger prey and carrion.

Behaviour

As the dominant predator on the island, *Hatzegopteryx* would have had little to fear from other animals once fully grown. It was likely a relatively solitary animal that nested on the ground and may have had at least some level of parental care, although to what degree is still speculative.

Combat between *Hatzegopteryx* may have involved striking each other with their jaws or side-on blows using their powerful necks.

We recommend that *Hatzegopteryx* be played as an animal with little fear that would be highly curious of new creatures or objects in its territory. It would not hesitate to strike potential prey, including most humanoids. When faced with a party, it may choose to snatch and swallow a single target, before simply flying away. This makes it a particularly lethal threat to players. It can be portrayed moving in a bobbing, ungainly fashion (perhaps similar to a marabou stork).

Phylogeny

Azhdarchid pterosaurs are a diverse group, with members ranging from relatively small animals (10 ft. wingspans) to giants like *Quetzalcoatlus* and *Hatzegopteryx* (>33 ft. wingspans). The group first arose around the middle of the Cretaceous and survived right up until the end-Cretaceous extinction. In this time, they spread globally and azhdarchids (or possible azhdarchids) are known from every continent except Antarctica.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Hatzegopteryx's CR to 18 and increase its XP to 20000 accordingly.

Sonic Shockwave (1/day). *Hatzegopteryx may choose to forgo its action and bonus action this round. If it does so, its fly speed is increased to 600 ft. and, if it moves its maximum fly distance in a straight line, it may emit a Sonic Shockwave at any point along that route.*

When it does, each other creature within 120 ft. of Hatzegopteryx must succeed a DC 19 Constitution saving throw or take 12d8 thunder damage. On a success they take half as much damage.

Hatzegopteryx may only perform a Sonic Shockwave if there are no creatures in its crop.

Unnatural Resistance. *Hatzegopteryx is resistant to both magical and non-magical bludgeoning, piercing, and slashing damage as well as cold, fire, and lightning damage.*

Legendary Action: Screech. *Hatzegopteryx lets out a harrowing screech. Each other creature within 60 ft. must succeed a DC 16 Constitution saving throw or take 2d6 thunder damage and be frightened of Hatzegopteryx for 1 minute. A creature can make a DC 16 Wisdom saving throw at the end of each of its turns, and on a success they are no longer frightened of Hatzegopteryx and cannot be frightened of it again for the next 24 hours.*

HATZEGOPTERYX

Huge Beast (Pterosaur), unaligned

Armour Class: 14 (Leathery and Downy Skin)
Hit Points: 286 (22d12 + 154)
Speed: 25 ft., fly 100 ft.

STR	DEX	CON	INT	WIS	CHA
20 (+5)	**18** (+4)	**16** (+3)	**3** (-4)	**10** (+0)	**9** (-1)

Saving Throws: Dex +9, Con +4, Int -3, Wis +5
Skills: Athletics +8, Intimidation +6, Perception +8, Stealth +3, Survival +5
Senses: passive Perception 18
Damage Immunities: thunder damage
CR: 14 (11500 XP) **Proficiency Bonus:** +5

Crop. *Hatzegopteryx has a large throat pouch called a crop that is able to hold a Medium or smaller sized creature. Creatures inside this crop are restrained and suffer 4d4 bludgeoning damage at the start of their turn. There is only enough air within the crop to breathe for 1 minute.*

While a creature is inside it's crop, Hatzegopteryx's fly speed is reduced by half, it cannot dash, and it will generally attempt to flee a fight to keep its meal.

A swallowed creature may attempt to escape by making a DC 17 Strength check. On a success, they are regurgitated. Alternatively, if Hatzegopteryx falls below 100 hit points, they are regurgitated.

Evasive Flying. *If Hatzegopteryx makes a Dexterity saving throw while flying to take only half damage from an attack, spell, or effect, it instead takes no damage if the saving throw is succeeded.*

Hatzegopteryx cannot make Dexterity saving throws against attacks, spells, or effects that originated from within its crop.

Legendary Resistance (1/day). *If Hatzegopteryx fails a saving throw, it may instead choose to succeed.*

Swallow. *So long as Hatzegopteryx has at least 100 hit points, as a bonus action it may attempt to swallow a creature that is lying prone. The creature must succeed a DC 16 Strength or Dexterity saving throw (their choice) or be swallowed into Hatzegopteryx's crop.*

Heavy Flier. *Hatzegopteryx can only begin flying by using its Quad Launch Legendary Action, or if it is falling. Hatzegopteryx is also immune to thunder damage (included above).*

Actions

Grounded Multiattack. *If Hatzegopteryx chooses the attack action while standing on the ground, it may make one Beak Spear attack and two Beak Flurry attacks.*

Beak Spear. *Melee Weapon Attack: +8, reach 10 ft., one target.Hit: 30 (5d8 + 8) piercing damage.*

A creature hit by this attack must succeed a DC 12 Constitution saving throw or be knocked prone and stunned until the end of their next turn.

Beak Flurry. *Melee Weapon Attack: +12, reach 10 ft., one target. Hit: 12 (2d6 + 5) piercing damage.*

A target hit by this attack must succeed a DC 12 Strength saving throw or be knocked prone.

Legendary Actions

*Hatzegopteryx can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Hatzegopteryx regains spent legendary actions at the start of its turn.*

Legendary Action: Quad Launch (Hatzegopteryx). *Hatzegopteryx launches itself into the air. Every other creature within 10 ft. of Hatzegopteryx must succeed a DC 18 Strength saving throw or be knocked prone. Hatzegopteryx then begins to fly and must fly 20 ft. in a straight line (either horizontally, or vertically up).*

Hatzegopteryx cannot use this Legendary Action next battle round.

MAGYAROSAURUS *"MAG-YAHR-OH-SORE-US"* (MAGYAR REPTILE)

As we pushed through the undergrowth, keepin' outa sight of the sky, we encountered dozens of strange island species, includin' many that were miniature versions of their mainland cousins. One of the most strikin' examples we came across were some titanosaurs. Hidden between the trees were lumberin' longnecks, usually towerin' over the treeline – but these ones were about the size of a horse, albeit much longer. Pretty calm thin's really. I guess they didn't have many land-based predators botherin' 'em in the forest.

Magyarosaurus was an exceptionally small titanosaur, a group famous for including the largest land animals ever to live. It is a dramatic example of the effect of living in a restricted environment, as it is one of the smallest sauropods discovered.

Ecology

Magyarosaurus was not only a modestly-sized dinosaur in general, but one of the smallest sauropods. It was tiny in comparison to its giant relatives like *Paralititan* (**see page 71**), at a measly 20 ft. long and about 1 tonne in weight. It was so small that initially all remains were assumed to have been from juveniles, however research in 2010 provided strong evidence that the animals were indeed simply tiny adults (at least by sauropod standards). This makes *Magyarosaurus* one of the most compelling examples of insular dwarfism among the Haţeg Island fauna.

As with all sauropods, one of *Magyarosaurus'* most distinctive features was its long neck. The function and posture of these necks has been the subject of debate for many years. Current consensus supports the idea that sauropods held their necks aloft, allowing them to feed higher than other herbivores, or swung their necks low over a wide area, allowing them to browse on low lying plants without moving. While small, *Magyarosaurus* likely specialised in stripping leaves from tall trees and would still have been able to feed at a much higher level than competing hadrosaurs, ankylosaurs, or rhabdodonts.

Behaviour

Although tiny, it is likely that *Magyarosaurus* behaved much like other titanosaurs. It would have lived in a herd, constantly moving to find new food. While it lacked the sheer strength of its relatives, an adult *Magyarosaurus* would still have been difficult for any ground predator on the island to tackle as it was still a large animal, and had a hide studded with osteoderms (bony structures in the skin). Juveniles were able to feed themselves from hatching, but would have been exceptionally vulnerable to predation, given their relatively slow speed. They may

MAGYAROSAURUS

Large Beast (Sauropod), unaligned

Armour Class: 17 (Separated Osteoderms)
Hit Points: 106 (14d10 + 36)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	**7** (-2)	**18** (+4)	**3** (-4)	**10** (+0)	**8** (-1)

Saving Throws: Dex -4, Con +6
Skills: Perception +2, Stealth +1
Senses: passive Perception 12
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Sweeping Defence. *When hit by a melee attack, Magyarosaurus may use its reaction to make a Neck Bludgeon attack against the creature that attacked it.*

Pint-Sized Powerhouse. *Magyarosaurus has advantage on Strength saving throws.*

Actions

Rear Up. *As an action, Magyarosaurus can rear up onto its hind limbs. If it does, its speed is reduced to 10 ft. and it is able to use its Mighty Stomp attack until it is no longer rearing up.*

If Magyarosaurus takes the attack action, or makes an attack of opportunity as a reaction, it lands on all fours and it ceases rearing up.

Neck Bludgeon. *Melee Weapon Attack: +8, reach 10 ft., one target. Hit: 15 (2d6 + 8) bludgeoning damage.*

Mighty Stomp. *Melee Weapon Attack: +8, reach 5 ft., one target. Hit: 33 (6d6 + 12) bludgeoning damage.*

Magyarosaurus must be rearing up to use this attack.

A creature hit by this attack must succeed a DC 14 Strength saving throw or be knocked prone.

have relied on camouflage to hide from predators, keeping to dense undergrowth. It is almost certain that the giant azhdarchid pterosaur *Hatzegopteryx* (**page 89**) hunted these hatchlings.

We suggest that *Magyarosaurus* be played as an animal always slowly on the move and rarely found alone. While not much heavier than a large cow, it is still a powerful animal that could easily injure or kill humanoids. In comparison to other sauropods, it should be more wary and more aware of its surroundings, yet its island isolation should make it less cautious of unfamiliar threats. Like *Zalmoxes* (**page 94**), we suggest Magyarosaurus would fit well into the role of agricultural livestock.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Magyarosaurus' CR to 5 and increase its XP to 1800 accordingly.

Dynamic Camouflage (2/day). *As an action, Magyarosaurus can cast Invisibility at 2nd level on itself without requiring components or a spell slot.*

Phylogeny

Magyarosaurus is a titanosaur, a group known for its giants like *Argentinosaurus* and *Paralititan*. *Magyarosaurus* is part of a subfamily of small to medium sized animals called the Saltasauridae. The saltasaurs were a successful group with a near global biogeographical range.

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STRUTHIOSAURUS *"STROO-TH-EE-OH-SORE-US"* **(OSTRICH LIZARD)**

After the first night, we stumbled across another species of dinosaur – quite literally. Our unaware wizard stepped over a shrub 'n' tripped on somethin'. Turns out it was a miniature nodosaur, one of the armoured dinosaurs. Adorable lil' thin' about the size of a large dog. Short, stout, and covered in spikey osteoderms – a creature after me own heart. It shuffled away into the brush and, thankfully, our wizard escaped with all but his pride bruised.

Struthiosaurus is a small member of the nodosaurids, a somewhat contested group of heavily armoured dinosaurs that with the ankylosaurids make up the Ankylosauria. Its name comes from the bird-like morphology of its braincase.

Ecology

Struthiosaurus was small for a nodosaur, being only 10 ft. long and weighing around 600 lb. As a nodosaurid, it was less heavily armoured than the more well known ankylosaurids and lacked a tail club, but was nonetheless still formidably defended. Its armour was made up of multiple individual sharp blade-like and domed osteoderms (bony structures in the skin) that dotted its flanks.

Struthiosaurus was a herbivorous dinosaur with coarse leaf-shaped teeth. Wear patterns on these teeth suggest that it fed mostly on tough plants. Ankylosaurs appear to have had long, flexible tongues which they would have used to strip low lying fresh plant growth. This specialisation towards ground level feeding allowed them to avoid competition with taller sauropods and hadrosaurs.

Behaviour

While famous for their armour, nodosaurs are now thought to have been relatively inert animals (unless attacked). Micro-CT analysis of *Struthiosaurus*' skull reveal that it had less sophisticated senses than other dinosaurs, which could indicate that it was a solitary animal relying entirely on its armour for defense. This sensory loss also suggests that there were few direct predators of an adult *Struthiosaurus*, allowing it to reduce resource investment in its senses. It was probably oblivious to non-native threats in the same manner that dodos were reported to have been.

We suggest *Struthiosaurus* be played as a relaxed, almost lackadaisical animal, living a peaceful solitary life. If approached by a party it should react with mild curiosity or disinterest, but if attacked should default to a defensive stance, striking with its tail or tackling opponents.



Phylogeny

Struthiosaurus is usually identified as a nodosaurid, one of the main two groups of Ankylosauria. This group are identified as more lightly-built animals, with flexible, bladed tails rather than the giant, clubbed tails in animals such as *Zuul* (**page 188**). They appeared in the Middle Jurassic and survived until the end-Cretaceous extinction. Nodosaurs were a widespread group and a major part of the herbivore population across Laurasia (North America, Europe, and Asia) and South America. However, a 2023 study suggested that Nodosauridae was not a natural group and instead put *Struthiosaurus* within its own clade, the Struthosauridae.

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STRUTHIOSAURUS

Small Beast (Thyreophoran), unaligned

Armour Class: 17 (Small Osteoderms)
Hit Points: 22 (5d6 + 7)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**8** (-1)	**13** (+1)	**2** (-4)	**10** (+0)	**9** (-1)

Saving Throws: Str +2, Con +2, Wis +1
Skills: Survival +2
Senses: passive Perception 10
Resistances: (see Defensive Stance below)
CR: 1/2 (100 XP) **Proficiency Bonus:** +1

Bladed Osteoderms. *Any creature that hits Struthiosaurus with a melee attack suffers 1d4 slashing damage.*

Actions

Defensive Stance. *As an action, Struthiosaurus may take up a defensive stance, lowering its head and limbs, only allowing its armoured back to be attacked. This stance lasts until it attacks. Struthiosaurus gains resistance to non-magical bludgeoning, piercing, and slashing damage while in a defensive stance.*

Armoured Tackle. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 2 (1d4) slashing damage plus 2 (1d4) bludgeoning damage.*



Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Struthiosaurus' CR.

Rainbow Osteoderms. *When hit by an attack or failing a saving throw, as a reaction and while in a Defensive Stance, Struthiosaurus may swap one of its resistances from bludgeoning, piercing, or slashing to any other one resistance type. While it has that resistance, its Bladed Osteoderms deal an additional 1d2 damage of that damage type. This resistance is lost if it attacks.*

ZALMOXES *"ZAL-MOCKS-EES"* (ZALMOXIS, A DACIAN GOD)

By far the most common dinosaurs we encountered on that bizarre island were the miniature ornithopods. They were awfully calm considerin' we was so much bigger than 'em. I only saw 'em spook when they were out of cover – obviously knowin' what circled above, or when someone made lots 'o noise and commotion. Otherwise, they seemed to just eat and make lil' chirpin' sounds at each other.

Zalmoxes is a small bipedal ornithopod and has been used as the textbook example of insular dwarfism in the fossil record.

Ecology

Zalmoxes is thought to have reached about 8-10 ft. in length and weighed 100-110 lb. It was a stout animal with relatively long forelimbs and a robust skull. Its teeth were simple and leaf shaped, set in a mouth tipped with a sharp beak.

Zalmoxes is quite small for its group, the Rhabdodontidae. This group of herbivorous ornithopod dinosaurs includes many large animals such as *Rhabdodon* and *Iguanodon* (**page 135**), which could reach up to 20 ft. in length. This size difference, and the occurrence of *Zalmoxes* on Haţeg island, has led to it being the textbook example of insular dwarfism. However, a study in 2012 challenged this, arguing that the primitive *Zalmoxes* represents the ancestral size range for this group and that the other members instead evolved to be larger.

As a herbivore, *Zalmoxes*' strong jaws and powerful muscles allowed it to slice plants in a cutting action. Like many ornithopods, it was a capable chewer, allowing it to process a variety of tough plants effectively. However, its narrow head suggests that it may have instead been a selective feeder, picking out softer nutritious plant material. Either way, this allowed it to occupy a separate ecological niche on Haţeg Island from the larger herbivores, avoiding competition.

Behaviour

While *Zalmoxes* had a strong bite, it was ultimately a small animal that would likely have run from threats, rather than fight. There is some evidence that rhabdodontids lived in herds and *Zalmoxes* may have moved in groups as a means of protection. We recommend that *Zalmoxes* be played as a very skittish animal. Herds should include sentries who frequently scan for threats and will sound an alarm if any are spotted. The sight of a party may cause them to flee, and they should only attack if cornered or trapped. Their stout body and timid nature would make them excellent options for taming as livestock.

ZALMOXES

Small Beast (Ornithopod), unaligned

Armour Class: 11 (Tough Hide)
Hit Points: 42 (5d6 + 27)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
10 (+0)	**12** (+1)	**12** (+1)	**4** (-3)	**7** (-2)	**9** (-2)

Saving Throws: Dex +2
Skills: Perception +3, Stealth +2, Survival +0
Senses: darkvision 30 ft., passive Perception 12
Resistances: non-magical bludgeoning damage
CR: 1/4 (50 XP) **Proficiency Bonus:** +1

Stout Body. *Zalmoxes' unusually stout body makes it remarkably tough for its size. It has resistance to non-magical bludgeoning damage (included above).*

Docile and Cowardly. *Zalmoxes will not attack unless provoked. It will flee from creatures it perceives as predators.*

Actions

Beaked Bite. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d6 + 1) piercing damage.*

Phylogeny

The Rhabdodontidae were a group of very successful relatively primitive ornithopods that included animals like *Iguanodon* and *Hypsilophodon*. Rhabdodonts are currently exclusively European, as species previously considered rhabdodonts from Australia (*Muttaburasaurus*) and America (*Tenontosaurus*) have recently been reclassified as a sibling taxon (closely related but not part of the true group).

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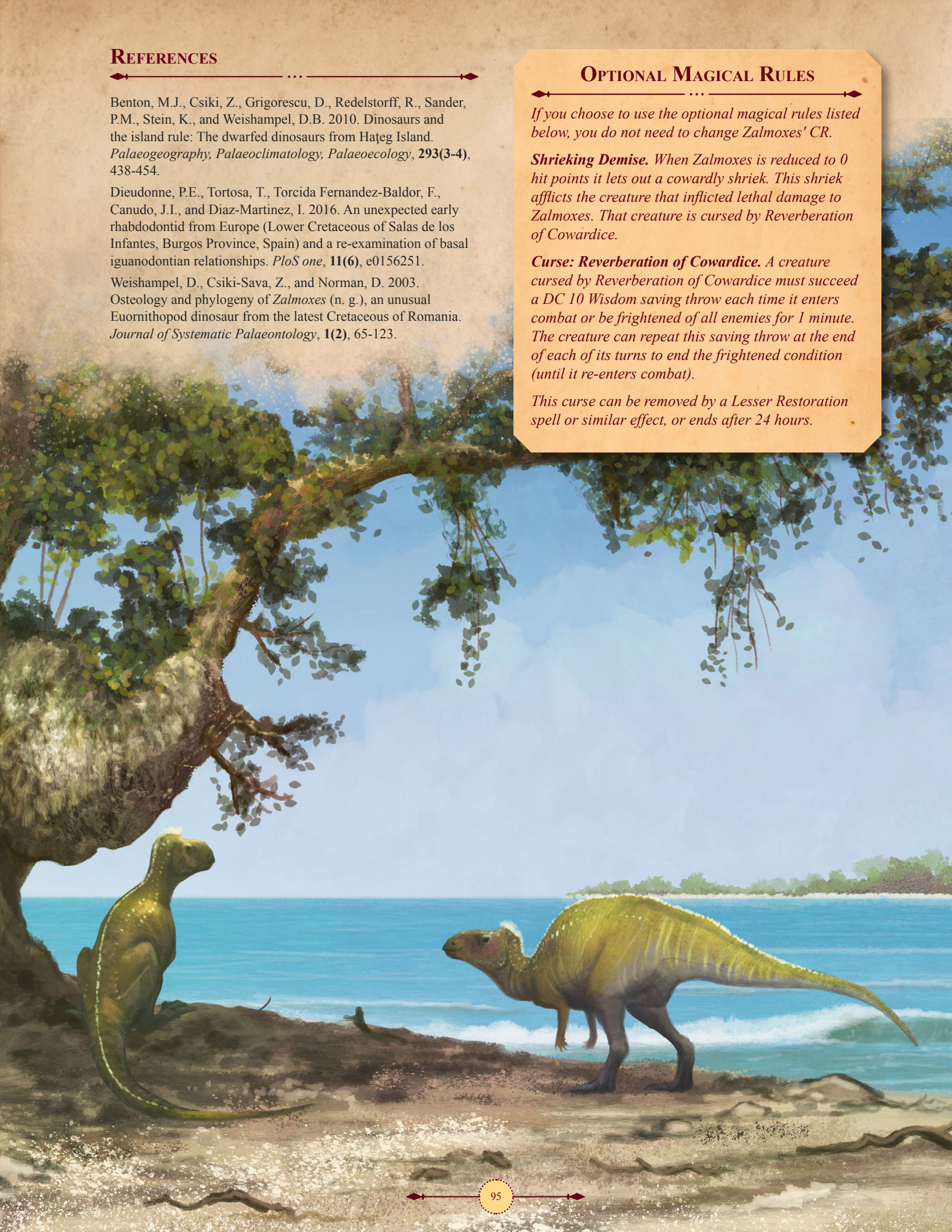
Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Zalmoxes' CR.

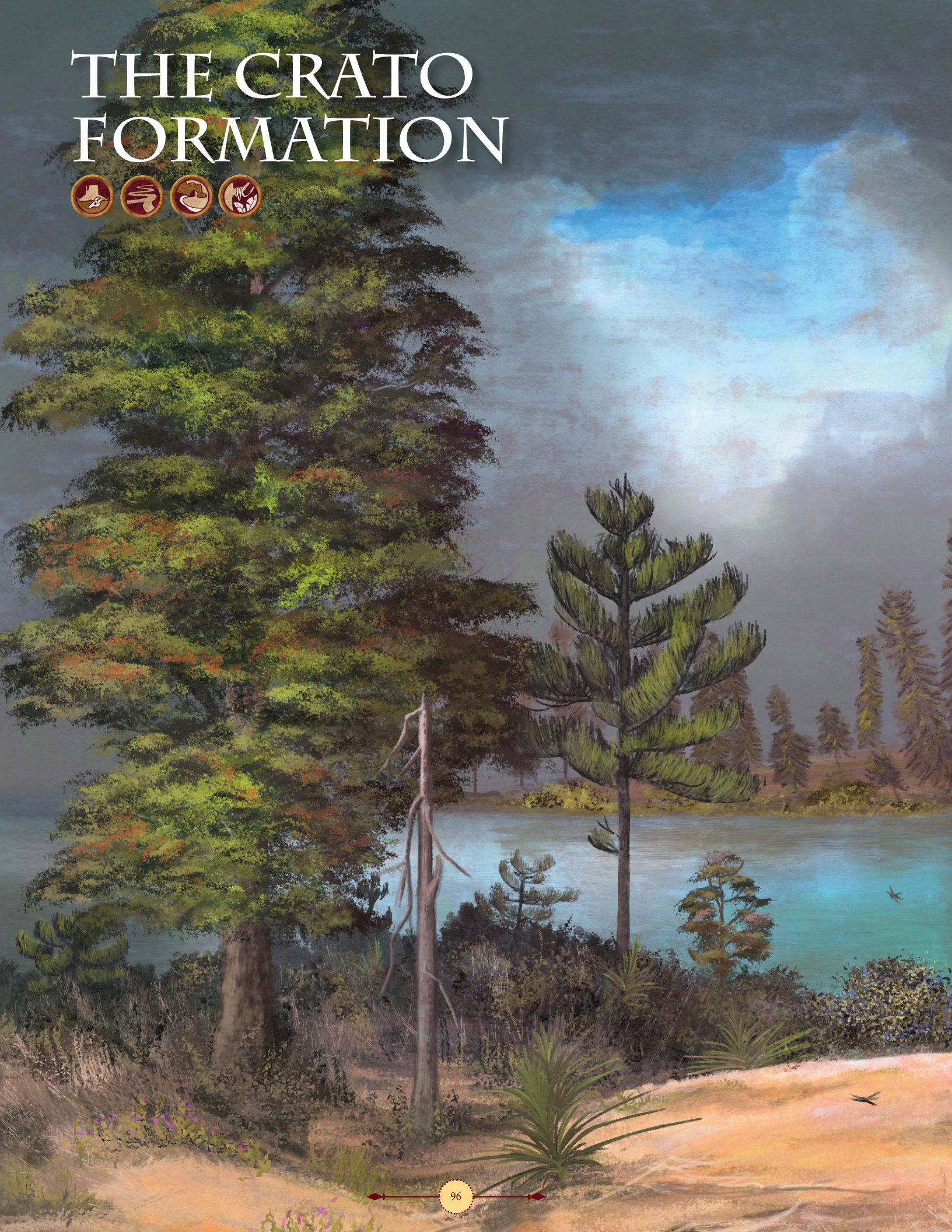
Shrieking Demise. *When Zalmoxes is reduced to 0 hit points it lets out a cowardly shriek. This shriek afflicts the creature that inflicted lethal damage to Zalmoxes. That creature is cursed by Reverberation of Cowardice.*

Curse: Reverberation of Cowardice. *A creature cursed by Reverberation of Cowardice must succeed a DC 10 Wisdom saving throw each time it enters combat or be frightened of all enemies for 1 minute. The creature can repeat this saving throw at the end of each of its turns to end the frightened condition (until it re-enters combat).*

This curse can be removed by a Lesser Restoration spell or similar effect, or ends after 24 hours.



THE CRATO FORMATION





When our ship arrived at the coast, we were greeted by the most beautiful lagoon I'd ever seen. The pale creams and oranges of the sun-baked sand were stunnin'ly contrasted with the milky-blue water and deep-green tropical plants. This felt like a lil' paradise in a dry desert. Once we made landfall, one of the crew set to restock their water. They scooped up a mouthful and in delight it was fresh! Well, at least the first gulp was. The second scoop their faces scrunched, and they spat it out. Seems there was only a sliver of fresh water on the top. Told 'em that the milky colour shows they shouldn't drink it. "Noted", said the crewman.

Background

The Crato Formation of north-eastern Brazil is a series of strata that boasts arguably some of the best-preserved fossils ever found. A unique combination of environmental, geochemical, sedimentological, and geological events caused fossils from this locality to be preserved with unbelievably high fidelity. It is approximately 120 million years old and was deposited near the equator during the hot Early Cretaceous.

There is a lot of controversy around the Crato Formation (and the nearby Santana Formation). Fossils from these locations have been routinely illegally exported for decades and can be found in almost every fossil shop around the world. While this has allowed exceptional Crato material to be widely studied, it has also impacted domestic Brazilian palaeontology and science tourism, as well as perpetuated colonial attitudes. We here at PalaeoGames Ltd. support the repatriation of illegally acquired fossils to their home country.

Description

There is still conjecture about the exact environmental setting of the Crato Formation, with some scientists arguing that it was an ancient lake/lagoon, and others that it was a semi-arid wetland. Regardless, the entomofauna (insects) and flora (plants) show a combination of species that are from harsh arid scrublands and lush freshwater environments. This, combined with the high salinity, geological data, and reduced fish fauna, indicates that the Crato Formation was a body of lush water in an otherwise arid region, but that that water was stratified – with fresh water on top and salty, oxygen-poor water at the bottom. Regardless of the exact parameters of its deposition, the Crato Formation was an oasis of beauty in an otherwise barren landscape. This desolate weather was intermittently broken by huge storm events that flooded the surrounding landscape, flushing many small ground-dwelling invertebrates into the water.

Geology

The Crato Formation is a sequence of rock about 200 ft. thick and is composed of a variety of rock types. The strata of interest (called the Nova Olinda Member) is a buff-coloured creamy rock made of 99% calcium carbonate. This mineral was precipitated in water by algae as they photosynthesised, causing a milky haze in the water that drifted down as tiny crystals. Over time, the accumulation and cementation of these crystals formed the rock that entombed any carcasses that sank to the bottom of the water body.

Fossils

The Crato Formation yields truly astonishing fossils. Some of them preserve details that most people would not believe is possible. A single insect fossil can be preserved entirely intact with every joint fully articulated, with every body segment complete, each covered in cuticular scales, with hair-like setae still attached to those scales, with each of those hairs retaining microscopic surface details (such as ridges and grooves), and with fossilised bacteria sat between those grooves. This sub-cellular level of preservation absolutely shatters the previous understanding of the limitations of fossilisation. Furthermore, some fossils not only retain their external-most features, but volatile internal tissues that usually degrade within hours of death can also be preserved. We do not exaggerate when we say that the Crato Formation may yield the best-preserved fossils in the world.

Interestingly, there are no skeletal records of large terrestrial vertebrates, like big dinosaurs, or large logs (although some amber has been found) in the Crato Formation. This suggests that there is a mechanism that prevents larger fossils from being preserved. That could either be environmental, with the harsh environment not sustaining bigger organisms, or (much more likely) a filtering mechanism that has prevented them from being preserved or us from finding them. The latter is favoured by scientists, as they believe that smaller fossils may have been blown/washed into a large body of water, then concentrated by gyres, and finally deposited in the middle of the water body. In the following pages, we have provided stats for *Cratoavis, Ludodactylus, Tetrapodophis*, *Tupandactylus,* and "Ubirajara".

As a roleplaying environment

The Crato lake/lagoon should be an oasis of life among an otherwise hot and harsh scrubland. Lush green plants teeming with vividly coloured insects, birds, and pterosaurs should provide a chorus of colour piercing the scorching yellows and browns of the surrounding

scrublands. Temporary waterways are filled with tiny invertebrates that thrive after an annual wet season. This location makes an ideal rest stop on a long journey for both players and migrating animals, which can lead to conflict.

Small streams drain into a single massive waterbody, similar to an inland sea. The main waterbody itself persists all year around and has little-to-no drainage, so concentrates salts similar to (but not as extreme as) the dead sea. The water is not drinkable and should have a milky-white appearance with green-tinted algae-rich areas. It is populated by millions of tiny fish (1.5 - 2 inches long), but little else.

Rarely, a huge storm should roll in from distant mountains, bringing with it heavy thumping rainfall accompanied by a torrent of water that washes small creatures and objects into the water in a tropical storm event.

Stratified waters.
Water appears fresh and the first sip always is…. However, further drinking or filling up of water supplies only provides salt water.

Perfect Preservation.
Through the murky water, you can see fossilised creatures resting on the bottom.

Any creature that touches the bottom of the Crato palaeolake/lagoon while more than 20 ft. from the shoreline must succeed a DC 18 Constitution saving throw or be petrified.

Weather effects:

Blistering sun. If players travel for more than 8 hours without seeking shelter from the sun, they gain one level of exhaustion. This effect is inactive during a Rainstorm Event.

Rainstorm Event. After 1d4 days in this environment, the players are met with a sudden drastic change in weather. Over the course of an hour or less, the skies darken and a heavy storm rolls over the landscape. Hammering rain makes travel difficult. The rain lasts for 1 hour. Shortly after the rain ends, there is a distant rumbling sound followed by a torrent of knee-high flash flood water. Creatures have one round to escape the oncoming flood (i.e. climbing a tree or flying away), then must succeed a DC 13 Strength saving throw to avoid being washed away. A creature washed away moves at 40 ft. per round in the direction of the flowing water. A creature that succeeds on this Strength saving throw may wade through the water, treating it as difficult terrain if they move against the flow.

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Crato Formation Flora

The Crato Formation was an environment of extremes, with scorching dry heat and intermittent tremendous downpours. Its waters had fluctuating salinities and most plants had to be particularly hardy to survive in these dynamic conditions.

Klitzschophyllites flabellatus

Klitzschophyllites flabellatus was an aquatic plant that grew in small clusters in shallow water. As no close modern relatives of this plant persist today, little is known about its biology beyond its overall morphology. It had roundish, leathery, gland-covered leaves with spikey edges and a thick root. These glands suggest that *Klitzschophyllites flabellatus* may have been able to tolerate intermittently hypersaline water.

Optional Magical Rules

Babel Leaves. *If a single leaf is plucked from this plant and placed under the tongue of a creature with an Intelligence score of 8 or more, it is able to speak and comprehend any language for 1 minute. Once the effect wears off, the leaf shrivels and cannot be used again.*



Equisetum sp.

Equisetum sp. (horsetails) grew in and around the edges of ponds, marshes, and other quiet fresh-water, as well as in consistently moist ground. They have a distinctive banding and long thin leaves, that can give them a feather-like appearance in some species. They grew close together, forming 3-4 ft. tall dense reeds, but had relatively weak stems and could have been pushed through with ease. Adult plants were poisonous, but young stems were paler, succulent, and edible if cooked. When crushed, these plants could also be used to make green or pale-yellow dyes.



Optional Magical Rules

Toxic Maturity. *Fresh shoots of this plant are non-toxic and can be brewed into a simple, but delicious, potion that heals 1d4+1 hit points when consumed. However, mature plants are highly toxic and any creature that consumes them (or a derivative of them) is poisoned for 24 hours. A successful DC 10 Nature check is required to determine which shoots are safe to consume.*

Jaguariba wiersemaniania

Jaguariba wiersemaniania was a small aquatic plant that grew in the shallow waters of ponds and lakes. Its leaves floated on the surface and it occasionally produced flowers, in the same manner as a modern waterlily. It produced a rhizome (an underground stem), similar to a potato, which would have been edible (albeit quite soggy). The flowers it produced were likely a psychodysleptic narcotic (similar to a hallucinogenic).



Optional Magical Rules

Delicious. *The root of this plant is edible and can provide one days' ration. However, it is also particularly delicious to herbivores/omnivores. If you offer this food to a herbivorous/omnivorous beast while performing an Animal Handling check, you gain advantage on that check.*

Psychodysleptic. *If a creature consumes the flowers of this plant, it must succeed a DC 14 Constitution saving throw or be stunned for 1d4 minutes. On a successful save, it is instead frightened of all other creatures for 1d4 minutes. Whenever that creature takes damage while under either effect, it may make another DC 14 Constitution saving throw, ending the effect on a success.*

Welwitschiophyllum brasiliense

Welwitschiophyllum brasiliense was a desert-dwelling plant with long, pointed, strap-like leaves, and clusters of cones at the end of long thin stems. The fibrous leaves came to a sharp point, with edges sharp enough to cut skin. Dead, dropped leaves could have been used to make fibres for twine or as kindling for a fire. The thick central stem would have been edible, probably tasting similar to an onion.



Optional Magical Rules

Razor-leaves. *The leaves of this plant are rigid and come to a sharp point. If a Large, Medium, or Small creature falls onto, runs through, or is pushed into this plant, it takes 1d4 piercing damage.*

Edible. *This plant's stem can be carefully harvested by succeeding a DC 10 Survival check, providing four days' worth of rations for a single humanoid. Failing this check results in 1d4 piercing damage and a nasty cut.*

References

Coiffard, C., Mohr, B., and Bernardes-de-Oliveira, M.E.C. 2013. *Jaguariba wiersemana* gen. nov. et sp. nov., an Early Cretaceous member of crown group Nymphaeales (Nymphaeaceae) from northern Gondwana. *Palaeobotany*, **62(1)**, 141-151.

Ruffordia goeppertii

Ruffordia goeppertii was a drought-tolerant fern that grew as small clusters of plants in shaded areas. If crushed, it would have produced a balsam aroma similar to pine needles. Modern relatives of this plant contain essential oils that, once extracted, can be used as an antiseptic or to treat burns. In some traditional medicines (particularly in South Africa), these plants are used to prevent children's nightmares.



Optional Magical Rules

Antiseptic. *The roots of this plant have a horribly bitter taste, but also have medicinal properties. Eating them grants resistance to poison damage and immunity to the poisoned condition for 24 hours.*

Sound Sleeping. *If a creature completes a long rest within 24 hours of consuming the roots of this plant, they gain temporary hit points equal to their proficiency bonus.*

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CRATOAVIS *"KRAH-TOE-A-VIS"* (CRATO BIRD)

Among the sun-scorched branches and chirpin' of crickets, we saw a small flash of vivid colour accompanied by a wonderful chorus of squarkin'. We stopped for a moment to see whether we could identify what it was. Once we spotted it, we glimpsed the most beautiful bird I've ever seen. It was performin' some sorta strange dancin' display in the treetops, hoppin' from branch to branch. It was absolutely hypnotic to watch.

Cratoavis is an enantiornithian, a group of birds (avialans) from the Early Cretaceous that shared many similarities with modern birds, but were their own distinctive group.

Ecology

Cratoavis looks quite similar to a modern bird. It stands out from its living cousins by having small peg-like teeth and short claws on its wings, giving it a characteristic 'prehistoric' appearance. Enantiornithians occupied a variety of ecological niches, but *Cratoavis* was likely an insectivore feeding on small insects it caught in trees or on the ground. It may have also opportunistically fed on fruits, berries, or even carrion, but peg/needle-like teeth are usually associated with eating insects.

Cratoavis had modified tail feathers that formed a twinned set of elongate feather vanes. These were undoubtedly a signalling device and were probably used in elaborate mating displays.

Behaviour

Cratoavis bears such a strong similarity to modern birds that it is reasonable to expect it to behave in a similar fashion. Given its small size, it was likely a relatively vulnerable animal and would have been extremely wary of being approached by potential predators. We recommend that *Cratoavis* retreat when approached but possess curiosity about anything novel in its environment. Parties are highly unlikely to be attacked by *Cratoavis* unless they knowingly or unknowingly damage their nests.

Exceptional Preservation

When people think of fossils, they frequently think of large complete skeletons, isolated bones or partial fragments. Soft tissue like muscles, skin, feathers etc. are assumed to have degraded long before fossilisation can occur, yet there are numerous cases of exceptionally well-preserved fossils showing soft tissues. *Cratoavis*' fossil is one such example. Not only is the specimen fully articulated (joints still connected) and almost entirely complete, it also preserves exquisite impressions of its feathers and other soft tissues.

CRATOAVIS

Tiny Beast (Theropod, Enantiornithian), unaligned

Armour Class: 13 (Feathers)
Hit Points: 3 (1d4 +1)
Speed: 20 ft., fly 40 ft.

STR	DEX	CON	INT	WIS	CHA
3 (-4)	**16** (+3)	**3** (-4)	**4** (-3)	**10** (+0)	**20** (+5)

Saving Throws: Dex +5, Cha +7
Skills: Perception +6, Survival +2
Senses: passive Perception 18
CR: 1/8 (25 XP) **Proficiency Bonus:** +2

Charming Display (2/day). *Cratoavis can cast the spell Charm Person with a spell save DC of 15. A charmed humanoid must attempt to provide food to Cratoavis.*

Swooping Flight. *So long as Cratoavis is flying and it moved last turn, its AC is increased by 3 and it does not provoke attacks of opportunity when it moves out of reach from an enemy.*

Actions

Toothed Peck. *Melee Weapon Attack: +2, reach 5 ft, one target. Hit: 2 (1d2 + 1) piercing damage.*

Phylogeny

Cratoavis belongs to the group Enantiornithes. This is a group of feathered theropods that looked very similar to modern birds, but retained primitive features like teeth and wing claws. They were an extremely successful group originating in the Early Cretaceous, with 80 species spread across every continent, bar Antartica, before dying out at the end-Cretaceous extinction. Despite their success, we are still a bit uncertain as to their relationships. While they are universally placed in Avialae (the group including

modern birds and their closest relatives such as *Archaeopteryx* or *Balaur* (**page 84**)), others go further and identify them as primitive members of the "true birds" Aves.

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Zhang, F., Kearns, S.L., Orr, P.J., Benton, M.J., Zhou, Z., Johnson, D., Xu, X. and Wang, X., 2010. Fossilized melanosomes and the colour of Cretaceous dinosaurs and birds. *Nature*, **463(7284)**, 1075-1078.

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Cratoavis' CR.

Global Adventurer. *If Cratoavis successfully charms a member of the party, it will then begin to follow the party if able, keeping a reasonable distance from them (>50 ft.) for most of the time.*

Unless it is regularly fed, once per day it will attempt to perform a Charming Display to either a party member or another humanoid it encounters.

Perfect Preservation. *If Cratoavis is slain, its body does not decay or deteriorate in any way, and it instead enters a state of preservational stasis. While in this state, it is unconscious and can be revived by receiving any healing from a magical source.*

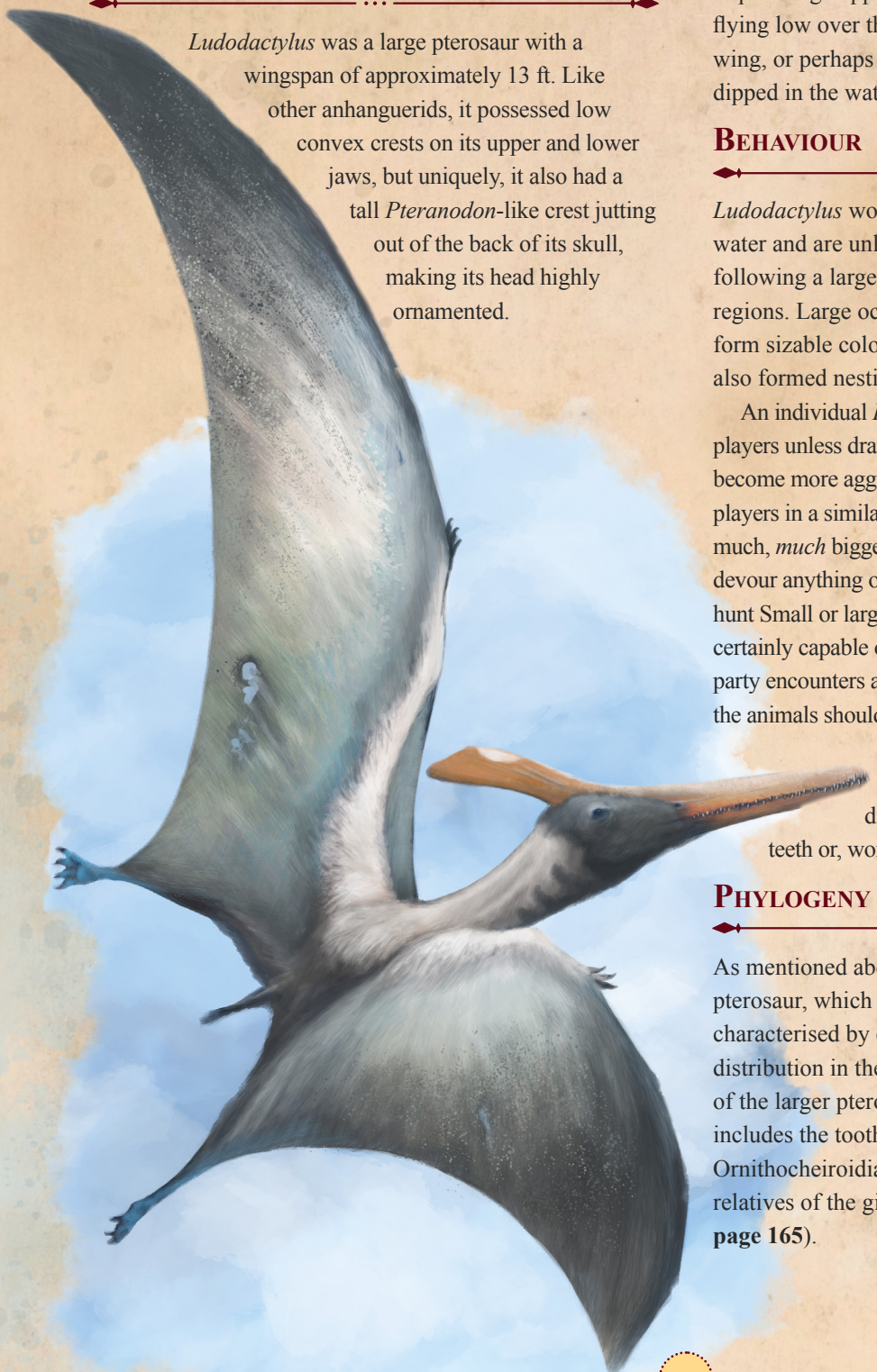
LUDODACTYLUS *"LOO-DOH-DACK-TAL-US"* **(PLAY FINGER)**

We finally had a chance to take a decent rest near the lakeside. It was a beautiful day, so I took me pencil'n'pad out to sketch the view and some of the dartin' pterosaurs. They were soaring just above the water, dippin' their heads in as they go to snatch up fish. Those long pointed teeth look like the perfect fit for it. I was half-way through me sketch when a few of 'em took interest. One of the blighters snatched the pencil right out of my hands! Flew off and dropped it in the lake when it realised it couldn't eat it, the bastard. Good thing I always keep spares.

Ludodactylus is a relatively large anhanguerid pterosaur, slightly bigger than *Tupandactylus* (**page 109**).

Ecology

Ludodactylus was a large pterosaur with a wingspan of approximately 13 ft. Like other anhanguerids, it possessed low convex crests on its upper and lower jaws, but uniquely, it also had a tall *Pteranodon*-like crest jutting out of the back of its skull, making its head highly ornamented.



Anhanguerids are well known to be piscivorous (fish-eating), and *Ludodactylus* had elongate teeth that formed a "fish trap" cage at the end of its snout, an adaptation to trap fleeing slippery prey. It would likely have hunted by flying low over the water's surface, plucking fish on the wing, or perhaps wading through shallows with its snout dipped in the water, waiting for fish to come too close.

Behaviour

Ludodactylus would have primarily been associated with water and are unlikely to have travelled far inland, unless following a large river system or migrating to new coastal regions. Large oceanic pterosaurs have been known to form sizable colonies and it is possible that *Ludodactylus* also formed nesting colonies.

An individual *Ludodactylus* should be hesitant to approach players unless drawn by food, in which case it is likely to become more aggressive. Groups of *Ludodactylus* may mob players in a similar manner to modern herring gulls (albeit much, *much* bigger). They lacked the tools to hunt and devour anything other than Tiny prey, so would not try to hunt Small or larger party members. Nevertheless, they were certainly capable of delivering an extremely nasty bite. If a party encounters a colony, particularly one that is nesting, the animals should be much more aggressive. They would threaten intruders with raucous calls and displays before attacking, with individuals dive-bombing enemies from above with teeth or, worse, vomit and faeces.

Phylogeny

As mentioned above, *Ludodactylus* is an anhanguerid pterosaur, which are a group that are typically characterised by crests on their snouts and had a global distribution in the Early-Late Cretaceous. They are part of the larger pterosaur family Ornithocheiroidia, which includes the toothless Pteranodonia (like *Pteranodon*). Ornithocheiroidia (like *Ornithocheirus*) are distant relatives of the giant azhdarchids (such as *Quetzalcoatlus,* **page 165**).

Moments in time

We usually develop our interpretations of the lives of extinct animals by examining and interpreting their fossils. These interpretations can vary depending on current evidence or researchers' differing opinions. However, sometimes we find "smoking gun" evidence, where exceptional fossils preserve an interaction irrefutably. *Ludodactylus* shows one such "smoking gun", with the original specimen fossilised with a frayed yucca tree leaf protruding through its jaws. This animal clearly died from this injury, as the leaf pierced through its mouth, preventing it from feeding and likely causing an infection. The frayed edge indicates that the animal tried to dislodge the leaf by scraping it against the ground. It probably snatched the leaf out of the water thinking it was a fish, a misjudgement that modern seabirds still make today.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Ludodactylus' CR to 4 and increase its XP to 1100 accordingly.

Bred for War. *Ludodactylus have been specially bred for combat. It can be equipped with heavy armour, increasing their AC to 18, but its fly speed is reduced to 35 ft. Ludodactylus takes on a heavily armoured appearance.*

Ludodactylus can also be mounted by any small humanoid. If it is mounted by an NPC, they are armed with a lance and Ludodactylus can use its bonus action to make one of the following attacks:

Mounted Lance. *Melee Weapon Attack: +7, reach 10 ft., one target. Hit: 11 (1d12 + 5) piercing damage.*

Lancing Projectile. *Ranged Weapon Attack: +7, range 30 ft., one target. Hit: 10 (3d4 + 3) force damage.*

Ludoactylus

Medium Beast (Pterosaur), unaligned

Armour Class: 13 (Downy Leathery Skin)
Hit Points: 42 (8d8 + 10)
Speed: 20 ft., fly 45 ft.

STR	DEX	CON	INT	WIS	CHA
11 (+0)	**17** (+3)	**11** (+0)	**4** (-3)	**12** (+1)	**10** (-0)

Saving Throws: Dex +6
Skills: Acrobatics +8, Athletics +3, Intimidation +2, Perception +5, Stealth +4, Survival +4
Senses: passive Perception 15
CR: 3 (700 XP) **Proficiency Bonus:** +3

Death by Yucca. *Any creatures composed of or based on plants have advantage on attacks against Ludodactylus.*

Piscivorous Snatch Feeder. *Ludodactylus has advantage on attacks against creatures fully or partially submerged in water. If Ludodactylus is flying, it does not provoke attacks of opportunity when it moves out of an enemy's reach.*

Quad Launch (Ludodactylus). *If not already flying, as a bonus action, Ludodactylus can launch itself into the air. Every other creature within 5 ft. of Ludodactylus must succeed a DC 13 Strength saving throw or be knocked prone. Ludodactylus then begins to fly and must fly 15 ft. in a straight line (either horizontally, or vertically up).*

Ludodactylus can only begin flying by using this ability, or if it is falling.

Actions

Multiattack. *When Ludodactylus selects the attack action, it may make two attacks with its Toothed-Beak Bite and one Projectile Vomit attack.*

Toothed-Beak Bite. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 10 (4d4) piercing damage.*

Projectile Vomit. *Ranged Weapon Attack: +6, range 15 ft., one target. Hit: 6 (1d6 + 3) acid damage.*

Snatch. *As an action, so long as it is flying, Ludodactylus may attempt to snatch an item being held by a creature or it may attempt to snatch a small item attached to a player's belt (i.e. a potion or small bag). The target creature must succeed a DC 11 Strength saving throw or Ludodactylus plucks the item from them and holds it in its beak.*

TETRAPODOPHIS *"TEH-TRA-POD-OH-FIS"* **(FOUR-FOOTED SNAKE)**

We were wadin' through some shallow water, searchin' for edible aquatic shoots to supplement our rations. Seemed like a good idea at the time, since we were gunna be headin' into the desert soon. Turns out stickin' ya hands where you can't see ain't always a great idea. One of our party got bit by some squiggle lil' thin'. I only caught a glimpse of it, but it seemed to be more like a long lizard than a snake. We had our hearts in our throats for a few minutes after that, waitin' to see whether it had been venomous.

Tetrapodophis (literally four-footed snake) is a snake-like Early Cretaceous squamate (the group containing lizards, snakes, and mosasaurs), but is not a true snake.

Ecology

Tetrapodophis was a small reptile measuring about 8 inches in length. It had an extremely elongated snake-like body but retained four small, although fully functional, legs. Originally, *Tetrapodophis* was suggested to be a burrowing animal as the short tail and squat head were thought to match burrowing lizards and snakes. It was also argued that it was unlikely to be an aquatic animal as it lacks a paddle-like tail or dense bones. However, within a year of the original description of *Tetrapodophis*, a second research team examined the fossils and found that the morphology of its legs were comparable to some aquatic lizards and this, among other things, identified the animal as being well-adapted for an aquatic lifestyle. This makes it much more probable that *Tetrapodophis* was at least semi-aquatic and would have lived or hunted along the shores of the Crato Formation waters.

Behaviour

Tetrapodophis was a carnivore and fed on fish, insects, and small reptiles (and possibly unguarded eggs), as demonstrated by the small bones found in its stomach. When playing *Tetrapodophis*, it should be a largely skittish animal, fleeing into water if disturbed. If a party member catches one and attempts to manhandle it, it should be quick to bite to make its captor drop it, then flee.

Phylogeny

When it was initially described, scientists argued that *Tetrapodophis* was the oldest member of the snake family and that its small legs showed it to be a transitional animal in the evolution of snake leg loss. However, later researchers re-examined the fossil and argued it belonged in the group Dolichosauridae. This is the sibling group (closest relatives) to snakes, largely consisting of small aquatic lizards that may have had similar lifestyles to modern sea snakes. While this identification is currently the most widely accepted, it's important to remember that science is constantly being tested and revised. This means that further research into *Tetrapodophis* may reveal new unsuspected details about its phylogeny.

TETRAPODOPHIS

Miniscule Beast (Dolichosaur), unaligned

Armour Class: 14 (Wriggling Body)
Hit Points: 1 (1d2)
Speed: 5 ft., swim 10 ft.

STR	DEX	CON	INT	WIS	CHA
2 (-4)	**18** (+4)	**2** (-4)	**3** (-4)	**12** (+1)	**8** (-1)

Saving Throws: Cha +0
Skills: Perception +2, Stealth +5, Survival +3
Senses: passive Perception 8
CR: 0 (10 XP) **Proficiency Bonus:** +1

Tiny Squiggly Wriggly. *So long as Tetrapodophis is in water, attacks against it are made at disadvantage, it has advantage on Dexterity saving throws, and if it would take half damage after succeeding a Dexterity saving throw it instead takes none.*

Re-interpretation. *You may opt for Tetrapodophis to have a burrowing speed of 10 ft. instead of a swim speed.*

Actions

Vicious Tiny Nip. *Melee Weapon Attack: +1, reach 5 ft., one target. Hit: 1 (1) piercing damage.*

The Legality of Fossil Research

The original *Tetrapodophis* material is suspected to have been illegally exported from Brazil. Unlike "Ubirajara" (**page 110**), however, there has been no commitment to return *Tetrapodophis* and the original work has not been redacted. Scientists are required

to conduct ethical research, but they, in turn, also expect museums to ethically source and legally house specimens in the first place. Nevertheless, all research teams that examined this specimen after the first have included Brazilian palaeontologists, which is a requirement to study Brazilian vertebrate fossils under Brazilian law.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Tetrapodophis' CR to 1/2 and increase its XP to 100 accordingly.

Deadly Snake-like Venom. *Tetrapodophis is brightly coloured with stripes or other patterns warning of its venomous nature. Any creature hit by Tetrapodophis' Vicious Tiny Nip attack must succeed a DC 14 Constitution saving throw or take an additional 1d6 + 1 poison damage, gain one level of exhaustion, and become poisoned for 24 hours. On a successful save, they take no additional poison damage, but still gain a level of exhaustion and become poisoned.*

A creature cannot exceed more than four levels of exhaustion from this ability.



TUPANDACTYLUS *"TOO-PAN-DACK-TAL-US"* **(TUPAN FINGER)**

Some of the bigger pterosaurs were nestin' just up from the water's edge. Seemed to be mostly out of harms way, but still pretty exposed. That didn't seem to phase 'em though, since they had numbers on their side. They also had these huge intimidatin' crests, nearly as big as me, and were prancin' about, swayin' their heads from side to side. They were so engrossed in their display, that they didn't even notice us pass by.

Tupandactylus was a medium-to-large sized tapejarid pterosaur with a wingspan of between 10 to 13 ft.

Ecology

Tupandactylus' most distinctive trait was its large vertical sail-like crest. This was exceptionally large on some individuals, raising the question of the function of such an elaborate structure. While it has been suggested to be some sort of steering aid, a crest that size would have likely made flight more difficult. Instead, it is much more likely that the crest developed as a means of sexual selection, with only the healthiest individuals able to grow a large cumbersome crest while maintaining the ability to fly well. It would have also been a means for both males and females to communicate through visual displays.

Like most Cretaceous pterosaurs, *Tupandactylus* was toothless, however it also had a relatively short jaw. This has led to a great deal of debate as to the most likely diet of this animal. It now appears that *Tupandactylus* was herbivorous, specifically frugivorous (fruit eating) much like modern toucans. The Crato Formation was laid down in a lagoonal/lake environment with freshwater influence and *Tupandactylus* would likely have been a transitional member of the fauna, primarily living and feeding in woodland areas where it foraged for food, perhaps coming to the water to drink and socialise.

Behaviour

Tupandactylus was likely a primarily ground forager, moving through the undergrowth in search of food, as its huge crest would have hindered it feeding in trees. Flight would likely have been a means of moving between foraging spots or escaping predators. We recommend that *Tupandactylus* be played as a somewhat skittish animal foraging alone or in small flocks of a handful of individuals. They should be on the watch for potential threats and likely to take flight when threatened. They could be played more aggressive if they are nesting or defending a particularly fruitful feeding patch.

Phylogeny

Tupandactylus is one of the largest members of the Tapejarine. This is a group of Cretaceous pterosaurs found across the world and is most well-known for including members with large sail-like crests like *Tapejara* and, of course, *Tupandactylus*. Tapejarines were also close relatives of the giant azdarchid pterosaurs.



Pycnofibres

Since the 1950s, evidence of a fuzzy coat has been found on some pterosaurs, called pycnofibres. Several pterosaur fossils have a full-body covering of these hair-like filaments. The relationship between pycnofibres and feathers has been a topic of much debate, but a recently discovered *Tupandactylus* specimen preserves pycnofibre pigment that is extremely similar to those found in feathers, strongly suggesting that pycnofibres are a structure derived from feathers. This has profound implications for when feathers arose and just how many animals in our past may have been feathered.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Tupandactylus' CR to 3 and increase its XP to 700 accordingly.

Tupi Thunder God. *Tupandactylus takes its name from the Tupi Thunder God. Tupandactylus is immune to thunder damage and its Beak-Slash attack deals an additional 1d6 thunder damage.*

Thundering Display (Recharge 3-6). *As an action, Tupandactylus can channel the power of thunder, generating a shockwave by suddenly vibrating its wings.*

All other creatures within 15 ft. must succeed a DC 12 Constitution saving throw or take 3d6 thunder damage and attack with disadvantage until the end of their next turn. On a successful save they take half as much damage and are otherwise unaffected.

TUPANDACTYLUS

Medium Beast (Pterosaur), unaligned

Armour Class: 13 (Downy Leathery Skin)
Hit Points: 33 (5d8 + 13)
Speed: 15 ft., fly 50 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**16** (+3)	**12** (+1)	**4** (-3)	**14** (+2)	**16** (+3)

Saving Throws: Dex +6
Skills: Acrobatics +6, Athletics +3, Intimidation +5, Perception +6, Survival +3
Senses: passive Perception 15
Resistances: lightning and thunder damage
CR: 2 (450 XP) **Proficiency Bonus:** +3

Storm Flyer. *Tupandactylus has resistance to lightning and thunder damage (included above).*

Focused on Flirting. *If Tupandactylus performed a Dazzling Display or Thundering Display, it has disadvantage on Perception checks for the next 1 minute.*

Quad Launch (Tupandactylus). *If not already flying, as a bonus action, Tupandactylus can launch itself into the air. Every other creature within 5 ft. of it must succeed a DC 12 Strength saving throw or be knocked prone. Tupandactylus then begins to fly and must fly 20 ft. in a straight line (either horizontally, or vertically up).*

Tupandactylus can only begin flying by using this ability, or if it is falling.

Actions

Multiattack. *If Tupandactylus chooses the attack action, it may make two attacks with its Beak-Slash attack.*

Beak-Slash. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 8 (1d10 + 3) slashing damage.*

Dazzling Display. *As an action, Tupandactylus can perform a Dazzling Display. Performing the display gives Tupandactylus advantage on all Charisma saving throws and checks for the next 1 minute.*

Additionally, any creature within 20 ft. and line of sight of Tupandactylus must try and avert their gaze. They must succeed a DC 12 Dexterity saving throw or have disadvantage on all Charisma saving throws and checks for the next 1 minute.

"UBIRAJARA" *"OOH-BI-RAH-JAR-AH"* (LORD OF THE SPEAR)

Skirtin' around the edge of the woods to bypass the thickest undergrowth, we spotted somethin' particularly bizarre. There was this lil' fuzzy theropod dinosaur, screechin' at the top of its lungs and bouncin' around a fallen log. It had a few massive quills projectin' from its shoulders that look like you wouldn't want 'em stuck in your arm. I think it was performin' some kind of matin' dance, but whatever it was doin', we gave it a wide berth.

This compsognathid dinosaur from Brazil was described in 2020, with the name "Ubirajara", however as discussed below, controversy regarding the exporting of the fossil to Germany led to the manuscript being pulled. This means that the name "Ubirajara" is invalid, but following the recommendation of a study published in 2023, we will refer to the animal as "Ubirajara" informally with the name in inverted commas without italics until a formal name is assigned.

Ecology

"Ubirajara" was a relatively medium sized compsognathid, at about 3 ft. long. This group of small theropods are usually conservative in their morphology, that is they have three fingered arms, walk on hind legs, gracile bodies, long tails, and a 'generic theropod' appearance. This conservative morphology is indicative of a generalist predator/scavenger lifestyle (feeding on insects, small reptiles, mammals, fish, etc.), as it shows no feeding specialisations beyond predation.

"Ubirajara" is exceptional in that it had a dense mane of feathers, which likely would have given the animal quite a fluffy appearance. This was accompanied by a pair of long filaments on each shoulder, jutting out like rods. The function of these structures is not known but it has been suggested they may have had some role in sexual display.

Behaviour

Small carnivores tend to be curious, but skittish, creatures (e.g., foxes and mongooses). We suggest playing "Ubirajara" as a quick and alert animal, curious about parties but maintaining its distance. Medium and larger sized creatures/humanoids should be considered too big to hunt under normal circumstances, but weak/sickly Small sized creatures/humanoids could be seen as a potential prey. "Ubirajara" did not have the tools to pin down and wrestle prey, so we suggest that it nips and claws at prey, wearing it down before moving in for the kill.

Alternatively, given "Ubirajara"'s elaborate filamentous coat, it could also be played like a bird of paradise – leaping and dancing around while fluttering its display feathers. Territorial control could then be its primary concern.

"UBIRAJARA"

Small Beast (Theropod), unaligned

Armour Class: 12 (Filamentous Mane)
Hit Points: 15 (4d6 + 3)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
6 (-2)	**14** (+2)	**7** (-2)	**4** (-3)	**15** (+2)	**16** (+3)

Saving Throws: Dex +3, Wis +4, Cha +4
Skills: Intimidation +5, Stealth +4, Survival +4
Senses: darkvision 30 ft., passive Perception 15
CR: 1/2 (100 XP) **Proficiency Bonus:** +1

Filamentous Integument Mane. *"Ubirajara" has advantage on Stealth checks while in foliage and, when hit by an attack, can use its reaction to reduce any bludgeoning or piercing damage it would take from that attack by half. "Ubirajara" also gains a +5 bonus to Intimidation checks (included above).*

Actions

Multiattack. *If "Ubirajara" chooses the attack action, it may make three Gnashing Nip attacks.*

Gnashing Nip. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

The Legality of Fossil Exportation

Many countries have strict laws about fossil exportation. Brazil prohibits most fossil exportation, but fossils from Brazil are nevertheless available in numerous fossil shops and even museums. This shows an industrial-scale illegal exportation operation and a thriving black market for Brazilian fossils. "Ubirajara" became the cornerstone for the discussion of this issue after the fossil was held in Karlsruhe, Germany after evidence arose that it was illegally

exported. Within days of the research being published, it became the focal point of social media backlash, eventually leading to the paper being withdrawn and (2 years later) the agreement to repatriate the fossil to Brazil.

This is an *extremely* complex political subject and there are competing views as to the validity of national laws on the international stage, the de-colonisation of science, the impact on scientific publication and funding, the impact on local tourism, the classification of fossils as georesources, the infrastructure required to safely store type specimens, and, of course, the morality of the issue. We fully support the repatriation of "Ubirajara" and other culturally significant fossils to their country of origin.

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[Redacted]



Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change "Ubirajara"'s CR.

Lord of Spears. *"Ubirajara" can alternatively make a single ranged attack whereby it fires spears of filamentous integument at a creature with the following profile:*

Filamentous Spear. *Ranged Weapon Attack: +5, range 30 ft., one target. Hit: 8 (1d10 + 3) piercing damage.*

Return Home (1/day). *As an action, "Ubirajara" can attempt to return back to its home. It opens an interplanar portal 10 ft. in front of itself. The portal leads to a destination that it considers to be home anywhere in the multiverse and remains open for 1 minute or until "Ubirajara" falls unconscious. The portal is big enough to allow creatures up to a size of Large through it.*

THE REST OF THE ALPHABET





ARIZONASAURUS *"AR-RAH-ZONE-AH-SORE-US"* (ARIZONA REPTILE)

Occasionally, the doldrum of the scrub'n'dry rock was broken by large, fanned sails dottin' the horizon. We learnt pretty quickly to give these a wide berth, as the beasties that they was attached to were vicious predators. Although sluggish at first, these thin's could dash right up and deliver some really nasty bites. If you gotta pass em, do it in the early mornin' when they're baskin' to warm 'emselves.

Arizonasaurus is a Middle Triassic (243 million years ago) reptile from the Moenkopi Formation in Arizona, which was once an ancient floodplain. As a member of the Archosauria, it is a distant relative of modern crocodiles and the large Triassic predator *Postosuchus*. One of its distinguishing features was a large sail running down its back.

Ecology

Arizonasaurus was a quadrupedal (walking on all four legs) archosaur with hyper-elongated vertebral spines, extending up to 2 ft. above the animal's back, forming a sail-like structure similar to that seen in animals like *Dimetrodon* or *Spinosaurus* (**page 75**). It was a robust, powerful animal, with an estimated length of 10 ft. and height of 1.5 ft. (excluding the sail). Unlike many early reptiles, the limbs of *Arizonasaurus* were held beneath its body, giving it an erect posture.

Arizonasaurus was carnivorous, with a mouth full of blade-like teeth, and was one of the larger predators of the Middle Triassic (although smaller than several other members of its group). It would probably have predated upon pretty much anything smaller than itself that it could catch.

The function of *Arizonasaurus*' sail has been debated for many years and suggested uses include sexual display, threat display, and thermal regulation. The latter is plausible, given the hot climate of the Middle Triassic, and *Arizonasaurus* could have flushed blood into its sail to cool itself or orientated it perpendicular to the sun to warm itself in the early mornings.

ARIZONASAURUS

Medium Beast (Pseudosuchid), unaligned

Armour Class: 11 (Scales)
Hit Points: 29 (5d8 + 9)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**14** (+2)	**14** (+2)	**3** (-4)	**8** (-1)	**8** (-1)

Saving Throws: Str +3, Con +3
Skills: Intimidation +3, Perception +2, Survival +0
Senses: darkvision 30 ft., passive Perception 11
Resistances: [see below]
CR: 1 (200 XP) **Proficiency Bonus:** +1

Dorsal Sail. *As a bonus action, Arizonasaurus can flush its sail with blood, giving it advantage on Intimidation checks for 1 minute*

Sail Reliant Reptilian Metabolism. *During the day, Arizonasaurus is resistant to cold damage. During the night, Arizonasaurus is resistant to fire damage.*

Actions

Bite and Shake. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 8 (1d8 + 4) piercing damage. A creature hit by this attack must succeed a DC 14 Strength saving throw or take an additional 1d6 slashing damage and, if they are Medium or smaller, are grappled until the start of Arizonasaurus' next turn.*

Behaviour

As a large predator for its day, *Arizonasaurus* likely spent much of its time conserving energy and resting. When hunting, it probably ambushed prey with a burst of speed, but likely also consumed carrion when available. *Arizonasaurus* shared its environment with other larger carnivores and would have been cautious about lingering near a carcass for too long.

We suggest playing *Arizonasaurus* as a patient predator, willing to rest for extended periods. This can give the impression that it is a sedate animal, but an attack could come at any moment. Smaller party members should be more at risk, as they are seen as easier prey.

Phylogeny

Arizonasaurus is a member of Poposauroidea, the cosmopolitan group that includes the huge *Postosuchus*. These animals were the dominant terrestrial predators in the Triassic, before the rise of the dinosaurs. Sails were a common feature of a subgroup of poposaurs called ctenosauriscids, of which *Arizonasaurus* is a member.

As the earliest member of Poposauroidea, its occurrence in the Middle Triassic pushes the divergence of crocodiles and dinosaurs from Archosauria back by millions of years.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Arizonasaurus' CR to 2 and increase its XP to 450 accordingly.

Arizona Heat. *Arizonasaurus radiates incredible heat. Any creature that starts its turn within or comes within 20 ft. of Arizonasaurus immediately suffers 1d6 fire damage. This is increased to 2d6 if they are within 5 ft. of Arizonasaurus. Additionally, Arizonasaurus is immune to fire damage.*

If there are multiple Arizonasaurus persisting in a region with this ability, that region will experience a prolonged drought.

This confirms an Early Triassic split of these groups and makes *Arizonasaurus* an important species for understanding the evolution of both crocodiles and dinosaurs.

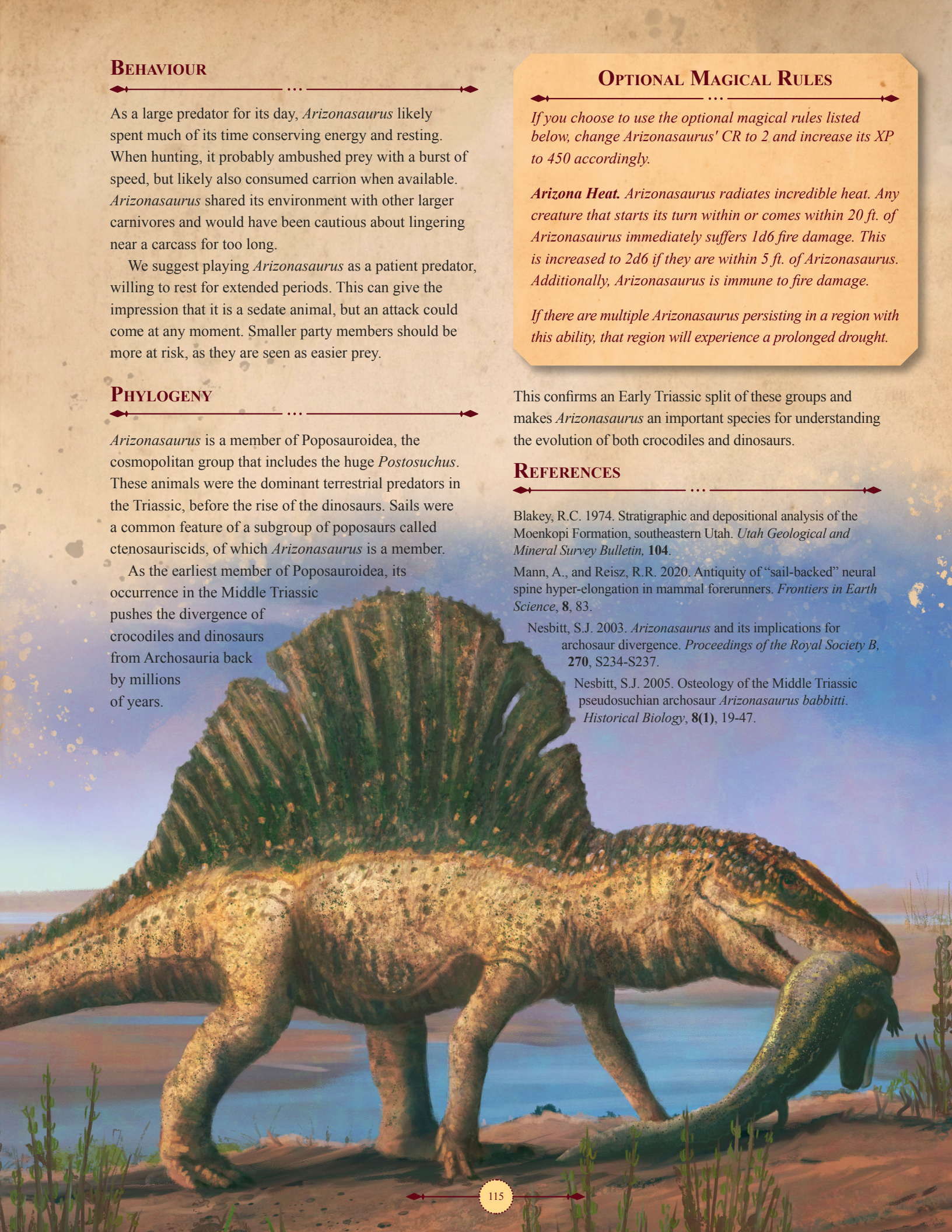
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CENTROSAURUS *"SENT-TROW-SORE-US"* **(POINTED REPTILE)**

Some herbivores are much more aggressive than others. We had setup a small, fixed camp on the edges of a large forest, hoping to eventually establish a permanent settlement later. The area was perfect – clear flat shrubland with a small stream for fresh water. After a week of work, one afternoon we were alerted to an approachin' herd of ceratops. They were bearin' down on us at speed, hootin' and honkin'. Within moments, a bull had charged through our camp, trampling four tents and injurin' two labourers. Evidently, this was their clearin' and they weren't happy to share.

Centrosaurus is a member of the horned dinosaurs (Ceratopsidae) from the Late Cretaceous (75 million years ago) of Canada and a smaller relative of the famous *Triceratops*. Its fossils have been discovered in colossal numbers within the Dinosaur Park Formation.

Ecology

Centrosaurus was a medium sized ceratopsid, measuring approximately 18 ft. long and weighing up to 2.5 tonnes. Its most distinctive feature was its skull, which bore the typical ceratopsian parrot-like beak and broad neck frill. This frill was ringed by small bones along its edge (epioccipitals) and the highest four were curved into crescent moon shapes. It had three horns, with two being small brow horns, and the third an enormous nasal horn. These horns were covered in a keratinous sheath that may have ended in a sharp point.

Centrosaurus, like all horned dinosaurs, had a fundamentally herbivorous diet. With a powerful beak and a shearing bite, it was well suited for snipping off tough plant material, browsing on ferns or stripping branches of their leaves. *Centrosaurus* lived in the temperate forests surrounding the swampland of the Dinosaur Park Formation of Cretaceous North America, browsing the shrubbery alongside a wide variety of other dinosaurs including ankylosaurs, other ceratopsians, many small theropods, and large tyrannosaurs.

Behaviour

Centrosaurus lived in sizable herds and may have taken part in large seasonal migrations. Living in herds would have provided protection and increased the availability of reproductive partners. Like many other ceratopsians, while the horns would have been excellent defensive weapons they were also used for display and intraspecific (same species) squabbles. Like many ceratopsids (excluding *Triceratops*), *Centrosaurus*' frill was relatively thin and would not have provided defence against the powerful bite of a tyrannosaur and was primarily for display.

CENTROSAURUS

Large Beast (Marginocephalian), unaligned

Armour Class: 13 (Tough Scales)
Hit Points: 72 (8d10 + 32)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**9** (-1)	**15** (+2)	**3** (-4)	**12** (+1)	**9** (-1)

Saving Throws: Str +6, Con +5, Wis +2, Cha +1
Skills: Intimidation +2, Survival +3
Senses: passive Perception 12
CR: 3 (700 XP) **Proficiency Bonus:** +2

Frill Shield. *If Centrosaurus is facing the direction that an attack originated from, increase Centrosaurus' AC by 2 against that attack.*

Dazzling Display. *As a bonus action, Centrosaurus may flood its frill with blood, creating a bright colourful display. All enemy creatures within 30 ft. of Centrosaurus that can see it must succeed a DC 10 Charisma saving throw or have disadvantage on saving throws for the next 1 minute.*

Tenacious Herbivore. *Centrosaurus has advantage on Wisdom saving throws.*

Actions

Horn Swipe. *Melee Weapon Attack: +5, reach 5 ft., up to two targets. Hit: 8 (1d6 + 5) slashing damage.*

Horn Charge. *Melee Weapon Attack: +8, reach 5 ft., one target. Hit: 18 (3d6 + 8) piercing damage.*

Centrosaurus may only use this attack if it moved at least 20 ft. in a straight line before reaching the target on this turn.

We suggest that *Centrosaurus* be played as a social animal, moving in groups. They should be hostile to an approaching party, but should not immediately attack. Instead, threat displays and false charges should be made to attempt to drive intruders away before a fight begins.

Phylogeny

Centrosaurus is a member of the Ceratopsidae, one of the most successful groups of Cretaceous dinosaurs and well-known for their impressive horns and large frills. Originating in Asia, this group spread throughout Asia and North America with a couple of fragments reported from Europe. Broadly speaking, the group has been divided along the lines of their frill and horn morphology (although there are exceptions). Animals with short frills, short brow horns and long nose horns belong to the Centrosaurinae (e.g., *Centrosaurus*) and those with long frills, long brow horns and short nose horns were in Chasmosaurinae (e.g., *Triceratops*).

Ceratopsids horns and frills can have a lot of variation within a single genus, sometimes leading scientists to misinterpret a variant as a different genus or species. *Centrosaurus* was part of a famous taxonomic (naming) debate, whereby some scientists proposed that its fossils were actually from a genus erected in the 1800s called *Monoclonius*, and did not warrant their own genus name (called a junior synonym). Eventually a consensus emerged, that the two were indeed the same genus, however the original material used to describe *Monoclonius* was insufficient, rendering the name invalid. We now exclusively use *Centrosaurus* to describe this animal.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Centrosaurus' CR to 4 and increase its XP to 1100 accordingly.

Mirror Image: *Monoclonius (1/day). As a bonus action, Centrosaurus can cast Mirror Image at 2nd level without requiring components or a spell slot. Each of the illusions is of an extremely similar, perhaps identical, dinosaur called Monoclonius and persist for 24 hours (rather than 1 minute).*

When approaching a herd of Centrosaurus, at least one will already have this spell active.

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CONCAVENATOR *"CON-CAH-VEN-AH-TOR"* **(CONCAVE HUNTER)**

It took us forty minutes to realise that we were bein' hunted. By that point, an encounter was inevitable. We setup a defensive position to stand our ground and braced ourselves for battle. Before long, we were bein' circled by three meat-eatin' dinosaurs. Although your typical theropods with wicked claws and sharp teeth, these ones also had a strange lil' hump over their hips. Didn't have the time to ponder what those might be for though, as moments after I spotted 'em, they charged to attack all at once.

Concavenator is a small carcharodontosaurid from the Early Cretaceous (130 million years old) Las Hoyas fossil site in Spain and is a relative of the African giant *Carcharodontosaurus* (**page 69**).

Ecology

Concavenator was relatively small for a carcharodontosaurid, at most 20 ft. long and weighing about 700 lb. It had elongate three clawed forelimbs, a robust but elongate skull, and a distinctive "hump" situated above its pelvis. This hump is created by elongated vertebral spines, creating a tall concave structure. While similar structures are seen in *Spinosaurus* (**page 75**) and some other carcharodontosaurids, they form large sails made of numerous vertebrae. *Concavenator* is unique in that it utilises only two vertebrae to create a small hump and its function remains uncertain. It has been suggested to be a form of display, a method of heat regulation, and even analogous to a camel hump. Of these, a display structure seems the most plausible.

When the fossil was first discovered, the authors noticed a series of strange knobs on its forearm. They suggested that these were anchoring points for quills, similar to the tail of *Psittacosaurus* (**page 53**). However, further analysis revealed that the bone was deformed by taphonomy (the processes of fossilisation) and these were actually normal muscle attachment points.

Concavenator was a carnivorous dinosaur and while less massive than its relatives, is still the largest theropod known from the Las Hoyas site. This site formed around a lake which would have been a water source for many species including iguanodontians, other smaller theropods, mammals and reptiles, and *Concavenator* was the arch-predator of this locality.



CONCAVENATOR

Large Beast (Theropod), unaligned

Armour Class: 14 (Scaly Skin)
Hit Points: 56 (6d10 + 26)
Speed: 40 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**14** (+2)	**14** (+2)	**4** (-3)	**11** (+0)	**14** (+2)

Saving Throws: Int -2, Cha +3
Skills: Athletics +3, Intimidation +3, Stealth +3
Senses: passive Perception 12
CR: 3 (700 XP) **Proficiency Bonus:** +2

Mysterious Hump: Micro-thermoregulation. When hit by an attack or when failing a saving throw, Concavenator can use its reaction to gain resistance to fire or cold damage until the end of the turn.

Mysterious Hump: Display. *Concavenator has advantage on Charisma checks.*

Mysterious Hump: Fatty Storage. *Concavenator only needs to drink once per month.*

Muscular Forearms. *Concavenator has advantage on any Strength checks to avoid being grappled.*

Actions

Combined Claw and Bite. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 9 (2d6 + 2) slashing damage plus 9 (2d6 + 2) piercing damage.*

Behaviour

Concavenator would have been a light, agile predator capable of running down prey. Like other carcharodontosaurids, it may have lived in small groups and used the hump on its back as a means of signaling to other *Concavenator*. This might be sexual signaling, warnings of danger, or even intimidation displays.

We recommend that *Concavenator* be played as a large social carnivore – similar to a lion, resting long hours, highly communicative, and very agile when hunting. It should see all humanoids up to Large in size as prey and might be drawn to settlements to hunt livestock or pick off unwary travelers.

Phylogeny

While carchodontosaurids are best known for being giants, many of the earlier animals were much smaller. These smaller animals are known from Europe and South America and likely evolved reduced sizes to survive on much smaller prey. This would allow them to occupy a different niche to larger predators, avoiding direct competition.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Concavenator's CR to 4 and increase its XP to 1100 accordingly.

Landshark. *Concavenator gains a tremorsense of 30 ft. and a burrowing speed of 30 ft., but cannot burrow through solid stone. While burrowing, it gains resistance to non-magical bludgeoning, piercing, and slashing damage, and is heavily obscured (although its general location is revealed by its protruding hump, which glides along the ground).*

Burrowing Dive. *As an action, Concavenator may burrow downwards to go deeper underground, preparing to strike its next target. While burrowing deeper underground, it is entirely obscured and cannot attack or be attacked, except when attacking/attacked by another burrowing creature.*

On its next turn, Concavenator can burst upwards, unearthing itself and ending its burrowing. If it does so, it has advantage on attack rolls until the end of its turn, but cannot use the Burrowing Dive ability again until the start of its next turn.

DEINOCHEIRUS *"DYE-NO-KEIR-RUS"* **(HORRIBLE HAND)**

In the fetid swamp, we had the misfortune of havin' to wade through some pretty foul water. This was made all the more unpleasant by a huge oily, fuzzy, hump-backed theropod dinosaur that waded through the water. Thankfully, it was a herbivore, so there didn't appear to be any immediate danger of becomin' lunch. That said, it had some very mighty lookin' claws and could no doubt rend a person in two fairly easily. For that reason, and the smell, we kept our distance.

Deinocheirus is a giant ornithomimosaur from the Late Cretaceous (70 million years old) Nemegt Formation of Mongolia. A relative of *Gallimimus*, *Ornithomimus,* and *Struthiomimus*, it is both the largest and most bizarre member of its family.

Ecology

Deinocheirus was an enormous ornithomimosaur, a group of otherwise ostrich-like theropods. It was at least 36 ft. long and weighed up to 5 tonnes when fully grown, putting it in the same size category as giant carnivorous theropods like *Carcharodontosaurus* (**page 69**) or *Tyrannosaurus* (**page 195**). Its arms were long with extremely large, but blunt, hooked claws. The vertebrae in the centre of its back had fused spines that stuck up, giving the animal a highly distinctive hump or sail (though much smaller than animals like *Spinosaurus* (**page 75**)). Its face was long and narrow with a toothless snout that flared sideways at the tip, giving its jaws a shovel like appearance. Like other ornithomimosaurs, it likely had a full body covering of feathers, and possibly a broad fan of feathers on the end of its tail.

While a theropod, *Deinocheirus* was not the stereotypical carnivore. Its blunt hooked claws were well adapted for digging or grasping, allowing it to pull at plants or excavate soil while looking for invertebrates. Its stomach contained gastroliths (stones used to crush plants), as well as fish scales. Its jaw possessed anchor points for a powerful tongue that may have been long and possibly quite mobile. The Nemegt Formation of Mongolia is constituted of mudstone and sandstone sediments from a mixture of fluvial (river), alluvial (floodplain), paludal (marsh), and lacustrine (lake) settings. This unusual morphology, diet, and habitat leads us to think that *Deinocheirus* was a specialist wader, moving through wet or swampy environments, browsing on soft water plants and snapping up unwary fish.

Behaviour

Deinocheirus' brain was relatively small and less complex than other ornithomimosaurs, suggesting a more sedate and less involved lifestyle. It may have been a

DEINOCHEIRUS

Huge Beast (Theropod), unaligned

Armour Class: 12 (Downy Feathers)
Hit Points: 128 (10d12 + 68)
Speed: 30 ft., swim 20 ft.

STR	DEX	CON	INT	WIS	CHA
22 (+6)	**8** (-1)	**16** (+3)	**3** (-4)	**14** (+2)	**12** (+1)

Saving Throws: Dex +0, Con +5, Wis +4
Skills: Intimidation +3, Stealth +2, Survival +4
Senses: passive Perception 10
CR: 6 (2300 XP) **Proficiency Bonus:** +2

Wader. *Deinocheirus can move through water up to 6 ft. deep without being slowed or having to swim.*

Pennaceous Display Feathers. *Deinocheirus has advantage on Intimidation and Persuasion checks.*

Mud Raker. *If a single creature is hit by both of Deinocheirus' Terrible Claw attacks in a single turn, they suffer an additional 1d6 poison damage, as the dregged mud from its claws coats their wounds.*

Grasping Tongue. *As a bonus action, Deinocheirus may pick up and wield an item (up to 20 lb.) with its tongue. If that item is a weapon and does not require ammunition, it may make an attack with it as a bonus action on its subsequent turns, although it is not proficient with it.*

Actions

Multiattack. *When selecting the attack action, Deinocheirus may make two Terrible Claw attacks.*

Terrible Claw. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 22 (3d12 + 3) slashing damage.*

A creature hit by this attack must succeed a DC 16 Strength saving throw or drop an item they are wielding.

solitary giant, feeding in wetland environments. An adult *Deinocheirus* would have been slow and would have had to stand its ground if attacked. Large predators like *Tarbosaurus* stalked the same regions and, while very large itself, these comparably sized animals may have predated upon *Deinocheirus*. While its claws were blunt, they were also powerful and a potent defensive weapon. We suggest that *Deinocheirus* be played as a slow-moving oblivious herbivore, wading through wetlands or lumbering through forests. It should be placid if ignored but extremely hostile if threatened, butchering threats within reach, although rarely pursuing fleeing targets. Yet, if treated with caution, *Deinocheirus* might be an easily appeased animal and excellent wetland mount.

Phylogeny

Deinocheirus was first described in 1970 by Osmólska and Roniewicz, after a giant pair of forelimbs and shoulder girdle were discovered in Cretaceous sediments from Mongolia. These huge forelimbs were suspected to be from a massive predatory theropod dinosaur, given their vicious claws. However, the rest of the animal remained a mystery for 44 years and in that time various hypotheses were presented, including the suggestion that it was a giant tree-climbing animal. It wasn't until 2014, when most of the rest of the holotype and several other specimens were discovered, that the truly bizarre nature of this dinosaur was revealed.

Ornithomimosauria was a diverse group of medium to huge sized ostrich-like theropods. They were very distinct from other theropods, as they were toothless, had long arms, long necks, long legs, and feet with short claws. They are an exclusively Cretaceous group, but were quite successful, occurring throughout Lauraisa (North America, Europe, and Asia) and survived until the end-Cretaceous extinction.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Deinocheirus' CR to 8 and increase its XP to 3900 accordingly.

Swamp Lord. *Deinocheirus gains resistance to cold and poison damage.*

Swampy Vomit (Recharge 5-6). *As an action, Deinocheirus vomits swampy water in a 40 ft. line that is 5 ft. wide. Each creature in that line must succeed a DC 15 Dexterity saving throw or take 4d8 poison damage and 4d8 bludgeoning damage. On a success they take half as much damage.*

DEINOSUCHUS *"DIE-NO-SOO-CUS"* (TERRIBLE CROCODILE)

Most of us who adventure are familiar with crocs, big'uns too. But this… this one was somethin' else. A gargantuan croc, far bigger than any other I've ever seen. Thankfully, we came upon it while it was baskin', rather than huntin'. It was so big that it was barely interested in us. I reckon it could take down even the biggest of dinosaurs with ease. Certainly wouldn't want to be on the receiving end of a bite from it. The heaviest plate armour wouldn't even make a difference.

Deinosuchus is from the Late Cretaceous (82 million years ago) of North America and is a giant relative of modern alligators. It was a highly successful animal that occurred on both sides of the Western Interior Sea.

Ecology

Deinosuchus is thought to have reached a maximum size of approximately 33 ft. and weighed around 2.5 tonnes, although some may have been larger. Aside from its size, it was very similar to a modern alligator, albeit with a slightly more bulbous snout. Like its modern relatives, *Deinosuchus* had extremely powerful jaws which are estimated to have had a bite similar in strength to *Tyrannosaurus* (**see page 195**). The estimated strength of this bite varies hugely between different studies, from as low as 2 tonnes and as high as 20 tonnes in force but, even at the low end this would be devastating against most animals.

Deinosuchus is known from multiple fossil localities along both sides of the Western Interior Sea. This was a huge inland sea that formed in the Cretaceous and divided what would become North America in two. Like modern alligators, *Deinosuchus* was a semi-aquatic ambush predator, slowly moving in muddy water before striking suddenly at unsuspecting prey. Based on bite marks in numerous fossils, we know that it fed on a range of prey from turtles to large dinosaurs.

Behaviour

The similarities *Deinosuchus* shares with modern alligators suggests that it behaved similarly. Alligators are powerful, patient predators who can live alone or in large groups. When in groups, they regularly fight with each other. Given its size, *Deinosuchus* probably only formed groups of a dozen or so individuals at maximum. Many likely suffered horrific injuries from their fights that would have been debilitating for other animals, but *Deinosuchus'* remarkable resilience and exceptional immune system would have allowed them to continue largely unphased.

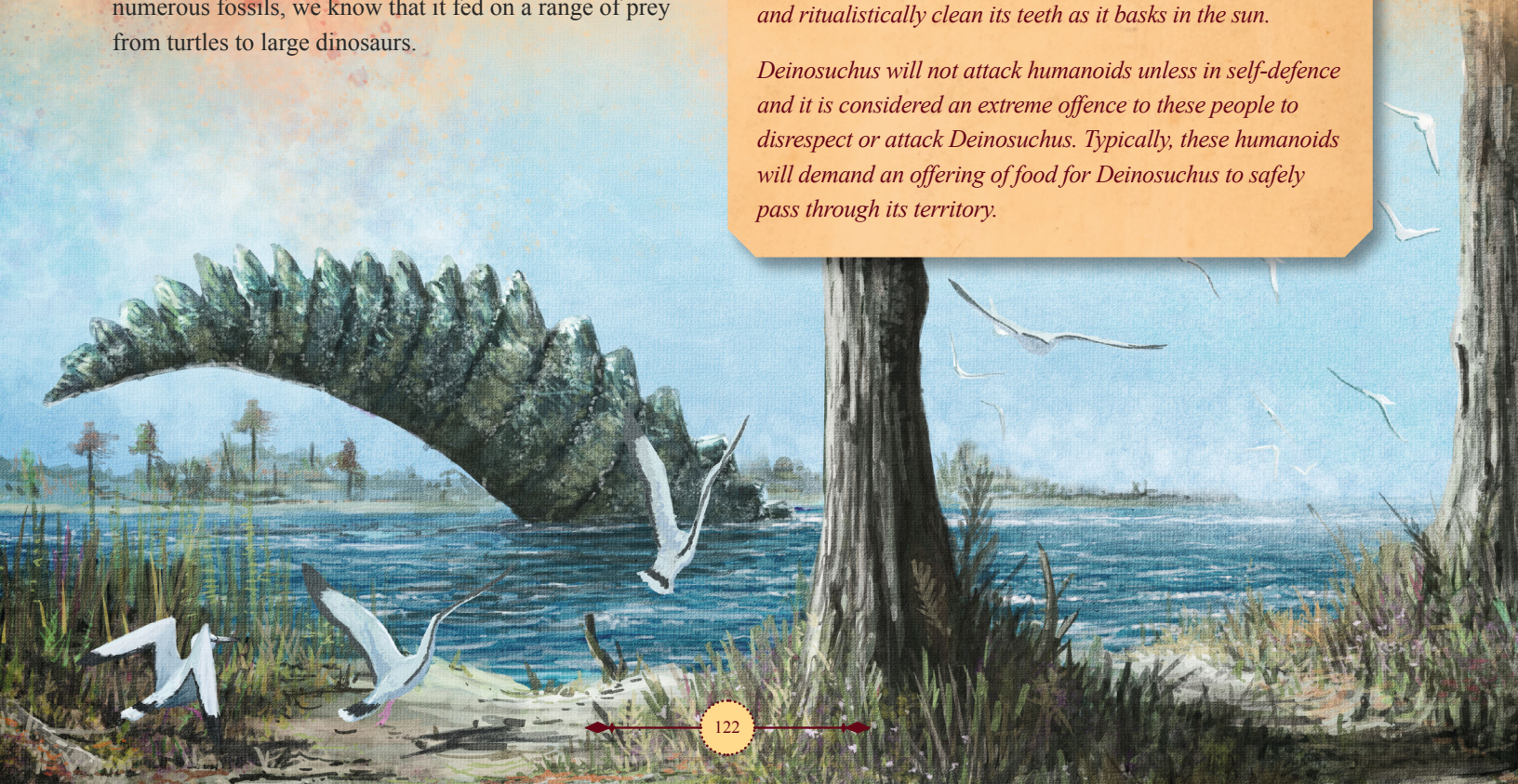
We suggest that *Deinosuchus* be played as an animal that rarely moves and prefers to either bask in the sun or lie motionless in water, with just its nostrils and eyes peeking out.

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Deinosuchus' CR.

Regional Demigod. *Deinosuchus is worshiped by local humanoids as the embodiment of primal power and is accompanied by an entourage of humanoids that adorn it with giant flower rings, vividly coloured paints, and fine silks, and ritualistically clean its teeth as it basks in the sun.*

Deinosuchus will not attack humanoids unless in self-defence and it is considered an extreme offence to these people to disrespect or attack Deinosuchus. Typically, these humanoids will demand an offering of food for Deinosuchus to safely pass through its territory.



They should also have no fear of attacking anything that comes within striking range (excluding monsters like the Tarrasque or Ancient Dragons). We suggest that this power and resilience could cause *Deinosuchus* to be worshiped as a deity by pre-industrial cultures.

Phylogeny

Deinosuchus was one of the early members of Crocodilia, the only surviving group of crocodylomorphs today. Crocodiles, gharials and alligators are frequently called "living fossils" as they have changed little over many millions of years. However, they represent just a fraction of the various crocodylomorph species that existed. Appearing in the Late Triassic, the group included a huge variety of animals from dinosaur-like small predators, to oceanic animals that had lost the ability to come on land, and even armoured herbivores.

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Deinosuchus

Huge Beast (Crocodylomorph), unaligned

Armour Class: 18 (Colossal Scutes)
Hit Points: 155 (11d12 + 89)
Speed: 20 ft., swim 40 ft.

STR	DEX	CON	INT	WIS	CHA
28 (+9)	**8** (-1)	**26** (+8)	**3** (-4)	**14** (+2)	**8** (-1)

Saving Throws: Con +10, Wis +5
Skills: Intimidation +5, Survival +4
Senses: passive Perception 14
Resistances: all damage
Condition Immunities: poisoned
CR: 11 (7200 XP) **Proficiency Bonus:** +4

Hyper Resilience. *Deinosuchus' remarkable immune system and colossal bulk render it resistant to all damage and it is immune to the poisoned condition (included above).*

Devourer of Giants. *Any creature with a size of Large or larger makes saving throws at disadvantage against Deinosuchus' Bone-Crushing Bite.*

Aquatic Ambush Predator. *Deinosuchus can hold its breath for up to 1 hour and has advantage on Stealth checks while submerged in water.*

Actions

Bone-Crushing Bite. *Deinosuchus may attempt a Bone-Crushing Bite against one creature within 10 ft. of it. This bite is so powerful that armour is essentially useless. The target creature must succeed a DC 14 Dexterity saving throw or take 56 (8d10 + 12) piercing damage, be grappled, and restrained (escape DC 20). Deinosuchus then cannot select a different target for Bone-Crushing Bite until the grapple ends.*

Legendary Actions

*Deinosuchus can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Deinosuchus regains spent legendary actions at the start of its turn.*

Legendary Action: Thrash. *Deinosuchus may thrash around wildly. All creatures within 10 ft. of it must succeed a DC 12 Dexterity saving throw or take 21 (2d20) bludgeoning damage. A creature grappled by Deinosuchus may not attempt to save against this damage.*

Legendary Action: Deathroll. *If Deinosuchus is grappling another creature that is Large or larger, it may perform a Deathroll. The grappled creature must succeed a DC 21 Strength saving throw or take 39 (6d12) force damage. On a success they take half as much damage. Deinosuchus cannot use Deathroll next round.*

ERYTHROSUCHUS *"ERR-EAT-THROW-SOO-CUS"* **(RED CROCODILE)**

Travelin' through the desert, we had had three nights of restless campin'. The sounds of huge bellowin' creatures filled every night, making sleep difficult and worrisome. On the dawn of the fourth day, we had the misfortune to bein' awoken by one of the beasts tryin' to drag away our paladin. She, weirdly, sleeps in her armour and we had mocked her for it before. That night it likely saved her though. The thin' was huge and bizarre lookin'. It had a gigantic head with a fearsome bite, but smaller body – almost comical. As we struck at it, it thrashed from side to side, and opened its maw to bare its teeth – thankfully droppin' our friend.

Erythrosuchus was a giant erythrosuchid from the Middle Triassic (245 million years ago) of South Africa (Beaufort Group). A close relative of *Garjainia* (**see page 129**), it was the largest and most powerful predator in its ecosystem.

Ecology

Erythrosuchus was, unsurprisingly, an erythrosuchid, a group of four-legged land predators, and was the largest of the group at about 16 ft. long. Its skull was enormous relative to its body, with extremely robust jaws and teeth. Its neck was short and powerful, meaning it could both bite very hard and forcibly thrash prey. Its body was typical of reptiles for the time, with robust limbs and a short tail. Like later archosaurs (the ancestors of dinosaurs), its pelvis allowed for an erect stance, so it stood upright rather than sprawling like many other reptiles.

Erythrosuchus was the largest carnivore in the Beaufort group, which was laid down in a semi-arid environment with seasonal rains. It is thought to have been the arch-predator of this area, feeding on a wide variety of prey such as early synapsids (mammal-like reptiles), amphibians, and reptiles. It likely specialised in tackling medium-large sized dicynodonts, the squat herbivorous synapsids that were extremely abundant at the time.

Behaviour

Very little information is known about the behaviour of erythrosuchids, with little to no research into their likely interactions or hunting strategies. As they were almost certainly arch predators, we suggest they would have behaved similarly to modern carnivores. This meant that much of the day was spent resting to avoid wasting energy. *Erythrosuchus* was too bulky to run down prey and likely ambushed it instead, wrestling anything it caught with its powerful jaws.

We recommend *Erythrosuchus* be played as a slow but persistent predator that is highly dangerous if close, but otherwise lazy if resting or given a safe margin by a party. Like many animals in an arid environment, it should be most active in the evening, night, and dawn to avoid the blistering midday heat. This makes it the ideal creature to ambush a resting party.



Phylogeny

Erythrosuchids were members of the Archosauriformes, the group which gave rise to the true archosaurs like pterosaurs, crocodiles, and dinosaurs. Like many archosaurs, they had an erect gait and rapid growth, suggesting that they were warm-blooded (endothermic). If this is true, this, along with other evidence from early archosaurs, suggests that being warm-blooded was a basal (primitive) condition for archosauriformes.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Erythrosuchus' CR to 9 and increase its XP to 5000 accordingly.

Maw of Madness. *Any creature hit by Erythrosuchus' Monstrous Jaw attack must succeed a DC 12 Wisdom saving throw or have their Intelligence score temporarily reduced to 3 for 1 minute. During this time, they may only act on instincts, their proficiency bonus is 0, and they cannot speak, read, write, or understand language.*

Erythrosuchus

Large Beast (Erythrosuchid), unaligned

Armour Class: 16 (Tough Scaly Hide)
Hit Points: 136 (14d10 + 66)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
19 (+4)	**12** (+1)	**14** (+2)	**3** (-4)	**8** (-1)	**6** (-2)

Saving Throws: Con +5, Wis +2
Skills: Perception +3, Stealth +2, Survival +3
Senses: darkvision 20 ft., passive Perception 14
CR: 8 (3900 XP) **Proficiency Bonus:** +3

Top Triassic Predator. *Erythrosuchus was the top predator of its time, but only predated upon animals a similar size or smaller than itself. Erythrosuchus has advantage on attacks against Medium and Large creatures, but disadvantage on attacks against creatures of any other size category.*

Semi-arid Inhabitant. *Erythrosuchus only needs to drink water once every few weeks.*

Unknown Predatory Style. *If Erythrosuchus chooses the dash action, it may still make a single attack with its Monstrous Jaw as a bonus action.*

Legendary Resistance (1/day). *If Erythrosuchus fails a saving throw, it can choose to succeed instead.*

Actions

Multiattack. *If Erythrosuchus chooses the attack action, it may make two Monstrous Jaw attacks.*

Monstrous Jaw. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 15 (2d10 + 4) piercing damage.*

A creature hit by this attack is grappled (escape DC 16). While Erythrosuchus is grappling a creature, it can only target that creature with its attacks.

Legendary Actions

Erythrosuchus can take 1 ***legendary action****, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Erythrosuchus regains spent legendary actions at the start of its turn.*

Legendary Action: Ripping Thrash. *Erythrosuchus thrashes from side to side. If it is currently grappling a creature in its jaws, that creature must succeed a DC 16 Strength saving throw or take 4d6 slashing damage. On a success, they take half as much damage.*

Legendary Action: Drag Away. *Erythrosuchus may move up to 20 ft., dragging a grappled creature along with it. Any creature grappled by Erythrosuchus is moved with it.*

FALCATAKELY *"FAL-KAH-TAKE-LEE"* (SMALL SCYTHE)

The mornin' chorus in this region was much more vibrant than most areas. It didn't take long for us to find out why, since the culprit was such a beautiful beastie. A stunnin', vividly-patterned bird with a long curved beak. Friendly thin' – seemed to have a fondness of fruits if I recall.

Falcatakely was a bird-like theropod from the Cretaceous (65-70 million years ago) of Madagascar. It was a relative of *Cratoavis* (**see page 102**) and was about the size of a raven. It possessed an unusual beak and appears to be another example of a specialised animal evolving on an isolated island.

Ecology

Falcatakely was a small animal with a wingspan of about 3 ft. that was outwardly very similar to a modern bird, albeit with clawed fingers and a toothed beak. It had a large beak-like snout, similar to a toucan, with small teeth in the front of its mouth (premaxilla). This toucan-like appearance has led scientists to hypothesise that *Falcatakely* shared a similar fruit-eating (frugivorous) lifestyle, while perhaps also eating insects and small vertebrate prey.

Falcatakely is from the Maevarano Formation, which was laid down in a seasonally wet/arid environment with shallow rivers and abundant flood plains in northern Madagascar. By this point in time Madagascar was already isolated from the mainland and *Falcatakely* may be an example of specialised adaptations in this island isolation.

Behaviour

Little is known about *Falcatakely*'s behaviour, but it is reasonable to presume that it shared similarities to toucans. It may have been social, forming breeding pairs that roosted within hollows in trees. We recommend that *Falcatakely* be played in much the same manner as you would a normal bird, meaning it will be skittish of players who disturb it, but loyal if tamed or hand-reared.

FALCATAKELY

Tiny Beast (Theropod, Avialan), unaligned

Armour Class: 12 (Feathers)
Hit Points: 2 (1d4)
Speed: 5 ft., fly 40 ft.

STR	DEX	CON	INT	WIS	CHA
2 (-4)	**14** (+2)	**2** (-4)	**5** (-3)	**14** (+2)	**16** (+3)

Saving Throws: Dex +3
Skills: Acrobatics +5, Perception +6, Stealth +3, Survival +4
Senses: passive Perception 16
CR: 0 (10 XP) **Proficiency Bonus:** +1

Fruitbringer. *When Falcatakely is first encountered, it will always carry a berry or fruit in its mouth. If players approach it, it will fly to a nearby tree or bush, revealing an abundance of delicious fruits/berries that can provide rations for four people for up to two days.*

Morning Chorus. *As dawn breaks, Falcatakely makes loud chirping noises that can be heard for up to 300 ft.*

Island Isolation. *Falcatakely found on an island will be different colours from, and produce a different chorus to, those found on the mainland.*

Actions

Recurved Peck. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 1 (1d2) piercing damage.*



Phylogeny

Enantiornitheans have a complicated phylogeny and there is still debate over whether they are true birds. This is a common problem in the wider Avialae, the theropod group leading to birds, as much of them share the presence of complex feathers, wings, and beaks. Currently, there isn't a consensus on which features can be considered truly "bird"-like, and so *Falcatakely's* position in the tree of life is unlikely to be resolved until further analyses are complete.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Falcatakely's CR.

Bountiful Harvest. *Falcatakely radiate druidic energies and their presence increases the yield of all surrounding plants. If Falcatakely is present in an environment for more than a week, all plants in the local region double the amount of fruit, berries, and flowers they produce. This effect diminishes and productivity returns to normal over the course of a week if Falcatakely leaves the area.*

Islands inhabited by colonies of many Falcatakely are usually tropical paradises.

Familiar. *Falcatakely may be used as a familiar via the Find Familiar spell or any similar effect. If you do so, we recommend that its Fruitbringer ability only activates each time it is summoned in a new area.*



GARJAINIA *"GAR-JAR-NEE-AH"* **(SWIFT ROAR?)**

When we first saw these lil' blighters, we thought they'd be unbothersome. But don't let their size fool ya. They've got a mean bite. Our Ranger approached one of 'em and before we knew it, it was latched onto his arm. Can't much fire a bow with one hand now. Funny at first, then we saw three more scurrying out of the brush to join the frenzy. Wouldn't be long before they'd disarm all of us!

Garjainia is an early erythrosuchid, a group of quadrupedal carnivores from the Early Triassic (249-237 million years ago) of Russia and Africa. It walked with a raised gait and had an enormous head, making it an unusual looking animal.

Ecology

Garjainia was a medium sized predator for the Triassic, measuring approximately 8 ft. long. It had a reptilian body structure that was typical for the era, except for two key features. Its legs were beneath its body giving it an erect gait, rather than a sprawling one, and its head was enormous, making up about a quarter of its total body length. Its skull was huge with a long and robust jaws, and a characteristic notch towards the front of the upper jaw, similar to *Spinosaurus* (**page 75**). Its teeth were long, fang-like, and partially fused to the jaw. Usually vertebrate teeth are either fused (ankylothedocont) or unfused (thecodont), and so *Garjainia* represents an unusual middle-ground.

Originally thought to have been semi-aquatic due to their dense bones, recent studies indicate that *Garjainia* was a capable terrestrial animal and its bone density was a result of its short robust stature. Its strong jaws and robust teeth indicate that it was capable of overpowering large struggling prey. It shared its environment with a wide variety of other animals including amphibians, a variety of synapsids (mammal-like reptiles), and other erythrosuchids, many of which were larger than itself. Although able to tackle large animals, it may have been hunted by bigger erythrosuchids like *Erythrosuchus* (**page 126**).



Behaviour

Erythrosuchid behaviour is poorly understood, but we know that they grew relatively fast and may have been endothermic (warm-blooded). *Garjainia* was clearly built for strength, rather than speed and was probably an ambush predator, lying in wait until prey was close enough for a rapid strike. Some species possessed bony bumps on the side of their heads, which may have been used for display or fights for dominance rights.

We suggest that *Garjainia* be played similar to a Komodo Dragon; a powerful animal that slowly stalks the undergrowth and occasionally charges large prey. It may aggregate in groups, simultaneously attacking to bring down huge prey, essentially forming a swarm. While a single *Garjainia* may be a reasonable threat, a swarm is a significant one, able to mob and disable party members.

Phylogeny

As an erythrosuchid, *Garjainia* is part of the Archosauriformes, placing it in the sibling group to crocodiles, dinosaurs, and pterosaurs. The Erythrosuchidae were unusual high-gait lizard-like animals that ranged from dog- to cow-sized. They are known from Europe, Africa, India, and China, where they were major predators in their ecosystems.



GARJAINIA

Small Beast (Erythrosuchid), unaligned

Armour Class: 11 (Scaly Hide)
Hit Points: 38 (7d6 + 17)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**11** (+0)	**10** (+0)	**3** (-4)	**10** (+0)	**8** (-1)

Saving Throws: Str +3, Dex +2, Con +1
Skills: Stealth +2, Survival +2
Senses: passive Perception 11
CR: 1 (200 XP) **Proficiency Bonus:** +1

Lock Jaw. *If Garjainia hits a creature with its Over-Sized Bite attack, it can opt to grasp onto it. While grasping, if either Garjainia or the hit creature attempts to move, they must make contested Strength checks. Whichever creature loses the contested Strength check has its speed reduced to 0 until its next turn. If Garjainia or the grasped creature moves, the other moves with it (without using any of its own movement) and is considered to be occupying the same space as it.*

As an action, the hit creature may make a DC 14 Strength saving throw to remove Garjainia, ending this effect and pushing Garjainia 5 ft. directly away from it on a success. Alternatively, Garjainia may choose to end this effect at any time.

High-Gait Scramble (Recharge 4-6). *Garjainia can dash as a bonus action.*

Actions

Over-Sized Bite. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 7 (1d8 + 3) piercing damage.*

When a creature is hit by this attack, roll a d3 and consult the list below, applying the effect to the hit creature so long as Garjainia is grasping it (see Lock Jaw).

1. Bitten body. The creature suffers an additional 4 (1d4 + 2) piercing damage at the start of its turn.
2. Bitten arm. Melee, ranged, and spell attacks made by the creature are at disadvantage.
3. Bitten leg. Halve the current speed of the creature.
Garjainia can only cause one of these effects at a time.

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Garjainia's or Garjainia (Swarm)'s CR.

Piranha-like Swarm. *If you wish, you may treat a group of 4-5 Garjainia as a CR 6 swarm (see the Garjainia (Swarm) stat block).*

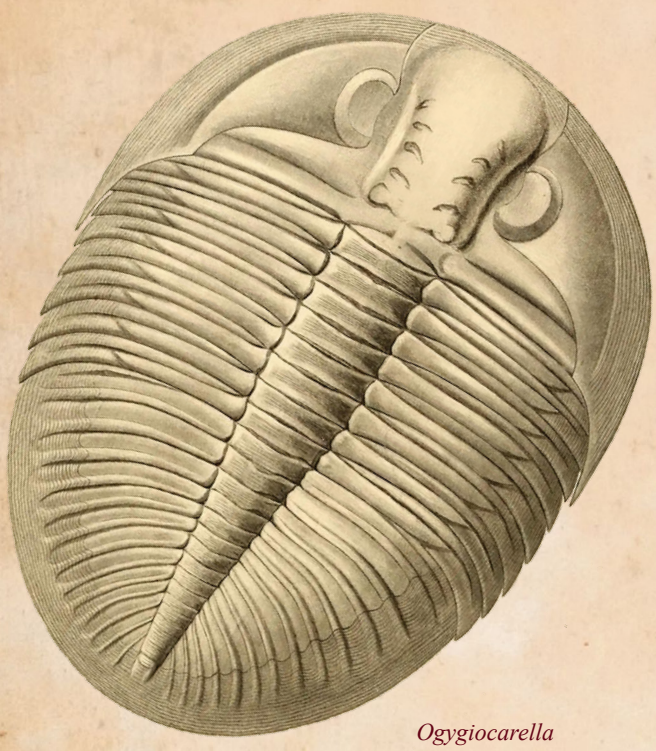
Power Syphon. *Each time a creature is hit by Over-Sized Bite attack, roll a d20. On a roll of 1-10, nothing happens. On a roll of 11-20, the hit creature expends one unused spell slot (determined at random).*

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Ogygiocarella

GARJAINIA (SWARM)

Medium Swarm of Small Beasts (Erythrosuchid), unaligned

Armour Class: 11 (Scaly Hide)
Hit Points: 190 (38d6 + 76)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**11** (+0)	**10** (+0)	**3** (-4)	**10** (+0)	**8** (-1)

Saving Throws: Str +3, Dex +2, Con +1
Skills: Stealth +2, Survival +2
Senses: passive Perception 11
Condition Immunities: charmed, frightened, grappled, paralyzed, petrified, prone, restrained, and stunned.
CR: 6 (2300 XP) **Proficiency Bonus:** +1

Swarm. *The swarm can occupy another creature's space and vice versa, and the swarm can move through any opening large enough for a Small beast. The swarm can't regain hit points or gain temporary hit points.*

The swarm is immune to being charmed, frightened, grappled, paralyzed, petrified, prone, restrained, and stunned (included above).

High-Gait Scramble (Recharge 4-6). *Garjainia (Swarm) can dash as a bonus action.*

Actions

Multiattack. *If Garjainia (Swarm) chooses the attack action, it may make four Over-Sized Bite attacks.*

Over-Sized Bite. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 7 (1d8 + 3) piercing damage.*

A creature hit by this attack must succeed a DC 14 Strength saving throw or take an additional 1d4 + 2 piercing damage and be grappled (escape DC 14).

GIRAFFATITAN *"GI-RAF-AH-TIE-TAN"* **(GIRAFFE GIANT)**

The heat had been gettin' to us pretty bad and we'd start'd to run low on water. Headin' down to the coast seemed like a good idea at the time. There, we could boil some of the salt water and condense out somethin' fresh to drink. At first, we couldn't make out the gigantic forms on the horizon. The blarin' sun hazin' our view. When we got a bit closer, we saw em—towerin' sauropods traipsin' through the waves to keep cool and scavengin' what few plants grew on the coast. Aproachin' was a bad decision. They was pretty defensive of their feedin' patch and boy, those things can't half give ya a whack when they wanna.

Giraffatitan is a giant brachiosaurid sauropod from the Late Jurassic (145 million years ago) Tendaguru Formation of Tanzania. A larger relative of the American *Brachiosaurus*, it was considered the biggest land animal until fossils of the giant titanosaurs, like *Paralititan* (**see page 71**), were discovered.

Ecology

Giraffatitan is known from incomplete remains, leading to several estimations of its size. The most recent analyses suggest it was around 85 ft. long and weighed 45 tonnes. This may seem exceptionally heavy, but is much less than another animal of the same size would be. This is because sauropods had weight reduction adaptations, such as hollow air sac-filled bones (pneumatisation). It had a very tall shoulders, elevating the front of its body and sloping its back. Its tail was relatively short for a sauropod, but its neck was very long, held erect and tipped by a blunt snouted skull that had a tall bony arch on its forehead.

Giraffatitan was a herbivorous animal with peg-like teeth that it used to strip tall conifer trees of leaves. It was not a permanent resident of the Tendaguru Formation, which was a tidal flat environment, as its upright posture meant it was a high browser. Instead, it must have lived in a forested area and may have visited the tidal flats in times of drought or while migrating elsewhere.

Behaviour

Due to its size, *Giraffatitan* would have been a slow-moving animal, travelling in groups from place to place, stripping the greenery from the tallest trees. An adult *Giraffatitan* would have been safe from all but the largest of predators, although young *Giraffatitan* may have been quite vulnerable. Currently, there is no evidence of any predators in the Tendaguru Formation large enough to threaten an adult *Giraffatitan*. However, its biggest threat was probably other *Giraffatitan* as it may have undertaken intraspecific (same species) fighting.

We recommend *Giraffatitan* be largely dismissive of most smaller animals, so long as they are not perceived as a threat to their young. Parties should be able to get relatively close to adults without disturbing them, as they slowly travel across the landscape looking for food. *Giraffatitan* are too slow to chase or charge opponents and will instead stand their ground, crushing enemies within reach.

Phylogeny

Brachiosaurids were among the largest dinosaurs ever to live. They arose in the Late Jurassic (160 million years ago) and survived into the Late Cretaceous (93 million years ago). Initially very successful, they spread to every continent bar Antarctica and Australia before becoming restricted to North America in the Early Cretaceous.

Periscope Up

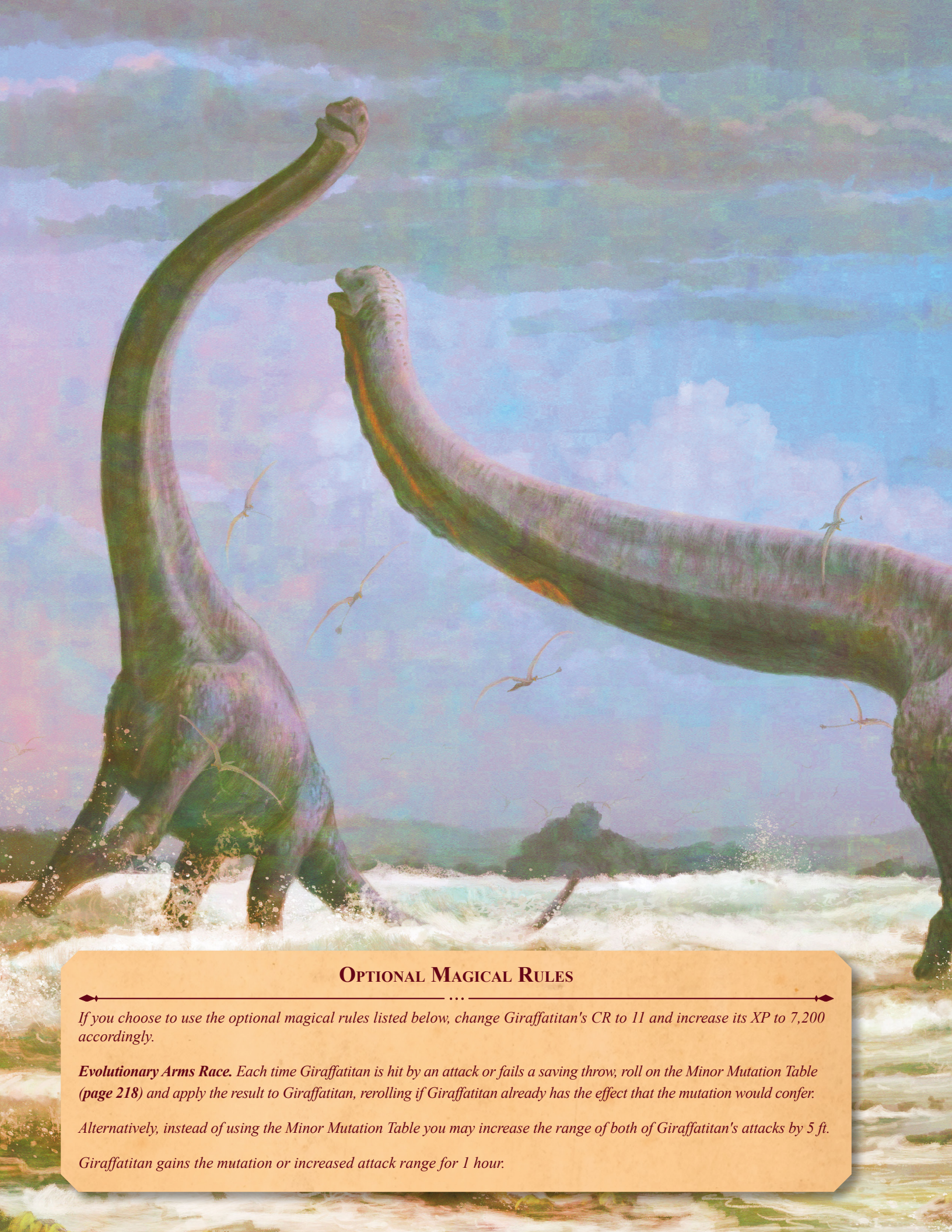
Sauropods were such massive animals that early palaeontologists wondered how they could possibly support their massive weight on land. Most fossils were found in sites that represented wetlands, coasts, and riverbeds and some palaeontologists argued that they must have been semi-aquatic. They suggested that their long necks and tall forelimbs were adaptations to wading in deep water, keeping their heads at the surface like a giant snorkel. This hypothesis has now been extensively disproven, as pressure at that depth would have collapsed their lungs, and their hollow bones would have made them very buoyant, causing them to float and then topple over. We now know that they were terrestrial animals of the forests and plains, and their abundance in watery environments in the fossil record is a preservational bias.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Giraffatitan's CR to 11 and increase its XP to 7,200 accordingly.

Evolutionary Arms Race. *Each time Giraffatitan is hit by an attack or fails a saving throw, roll on the Minor Mutation Table (**page 218**) and apply the result to Giraffatitan, rerolling if Giraffatitan already has the effect that the mutation would confer.*

Alternatively, instead of using the Minor Mutation Table you may increase the range of both of Giraffatitan's attacks by 5 ft.

Giraffatitan gains the mutation or increased attack range for 1 hour.



GIRAFFATITAN

Gargantuan or Colossal Beast (Sauropod), unaligned

Armour Class: 12 (Scales and Skin)
Hit Points: 246 (11d20 + 136)
Speed: 15 ft.

STR	DEX	CON	INT	WIS	CHA
25 (+7)	**3** (-4)	**23** (+6)	**3** (-4)	**10** (+0)	**10** (+0)

Saving Throws: Str +8, Con +8, Wis +3
Skills: Intimidation +4, Perception +2, Survival +2
Senses: passive Perception 14
Resistances: non-magical bludgeoning, piercing, and slashing damage
CR: 9 (5000 XP) **Proficiency Bonus:** +3

Overview. *Giraffatitan has advantage on Perception checks that involve sight.*

Enormous. *Giraffatitan has resistance to non-magical bludgeoning, piercing, and slashing damage (included above). Giraffatitan has advantage on saving throws to resist being knocked prone and paralyzed, but automatically fails any Dexterity saving throw.*

Actions

Multiattack. *If Giraffatitan chooses the attack action, it may make one Neck Sweep attack and one Chomp attack.*

Neck Sweep. *Melee Weapon Attack: +10, reach 15 ft., up to three targets. Hit: 21 (2d10 + 10) bludgeoning damage.*

A creature hit by this attack must succeed a DC 18 Strength saving throw or be knocked prone.

Chomp. *Melee Weapon Attack: +10, reach 15 ft., one target. Hit: 13 (2d6 + 6) piercing damage.*

IGUANODON *"IG-WAN-OH-DON"* (IGUANA TOOTH)

One of the more common dinosaurs we encountered was those large ornithopods, Iguanodon. Easily recognisable by their large thumb spikes and grumpy attitude, they were a staple prey for all of the big predators in this area but rarely moved alone. If you wanted to pick a fight with one, you'd usually end up outnumbered. Fine if you're a big predatory dinosaur, less fine if you're a lil' adventurer. Despite their moderate size compared to other dinosaurs, these thin's were still pretty dangerous when they heft their weight around.

Iguanodon is an iguanodontian ornithischian dinosaur from the Early Cretaceous (126-120 million years ago) of Europe. The second dinosaur to be described and named; it is the most famous example of how our understanding of dinosaurs has changed over time.

Ecology

Iguanodon was a large ornithopod, measuring up to 36 ft. long and weighing 4-5 tonnes. Like hadrosaurs, it had long robust hindlimbs and shorter forelimbs. It was capable of running on two legs but spent most of its time on all fours. One of its most distinctive features was a thumb-like spike modified from the first digit on each forelimb. When first discovered in 1830, this thumb spike was mistakenly assumed to be a nasal horn. That interpretation was ubiquitous and was even incorporated into the life-sized sculptures of *Iguanodon* at Crystal Palace, which still stand today. Since its identification as a thumb spike, the function of this structure has been debated. Most researchers now agree that it was used for combat, probably more often against other *Iguanodon* rather than predators.

Iguanodon takes its namesake from its teeth, which are superficially similar to modern iguanas. Its head was large, elongated, and tipped with a well-developed beak. Its slightly broad snout suggests that it may have been a generalist herbivore and, like *Bolong* (**page 48**), was capable of chewing. Its diet may have included conifers, ferns, cycads, and early flowering plants, and it could effectively process tough plant material by chewing it.

Behaviour

Iguanodon has been found in mass mortality assemblages (bones of many individuals found in one spot). It's thought that these assemblages were formed either during a flash flood or while a group was crossing a river. In any case, these indicate that *Iguanodon* moved in large herds, similar to bison or zebra.

We suggest that *Iguanodon* be played as a highly social animal, moving in large herds constantly courting, squabbling, and vocalising. When disturbed or threatened,

IGUANODON

Huge Beast (Ornithopod), unaligned

Armour Class: 12 (Scaly Skin)
Hit Points: 86 (11d12 + 20)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**9** (-1)	**14** (+2)	**3** (-4)	**14** (+2)	**10** (+0)

Saving Throws: Str +4, Con +4, Wis +6
Skills: Athletics +6, Perception +6, Survival +4
Senses: passive Perception 16
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Bipedal Shift. *If Iguanodon chooses the Dash action, its base speed is increased to 40 ft. until the start of its next turn (dashing up to 80 ft.).*

Bellow Cheeks. *As a bonus action, Iguanodon may inflate its cheeks and create a loud bellowing sound. If it does, all other Iguanodon within 500 ft. become aware that it is in danger and will either flock to help, or flee the area.*

Ossified Tendons: *Iguanodon has advantage on Strength saving throws.*

Actions

Multiattack. *If Iguanodon chooses the attack action, it may make two Thumb Gore attacks and one Bulk Throw attack.*

Thumb Gore. *Melee Weapon Attack: +8, reach 5 ft., one target. Hit: 6 (1d4 + 4) piercing damage.*

Bulk Throw. *Melee Weapon Attack: +10, reach 5 ft., one target. Hit: 15 (2d10 + 4) bludgeoning damage.*

Iguanodon throws its weight around. A creature hit by this attack must succeed a DC 12 Strength saving throw or be knocked prone. If Iguanodon misses with this attack, it must succeed a DC 10 Dexterity saving throw or be knocked prone.

a herd should stampede away, running on two legs. Only individuals who end up isolated or those who can't keep up should turn to fight their attackers. The stampeding mass of *Iguanodon* should be a danger in and of itself, trampling smaller creatures. We also suggest that *Iguanodon* migrates in these herds, following a well-established route and even possibly grouping with other species. These mass migrations can be followed by predators that will pick off weaker animals.

Phylogeny

Iguanodon has a complex phylogenetic history. Traditionally, it was considered a member of the Iguanodontidae, a group of iguanodontians which were the sister group to the hadrosaurs. However, that became a 'wastebasket group', meaning that similar animals with poorly known phylogenetic relationships were 'dumped' in there without much evidence.

A series of reviews starting in the 2000s argued that many animals thought to belong to this family were part of the Hadrosauroidea (hadrosaurs and their relatives). Currently, Iguanodontidae is not a well-supported group and researchers are not in agreement if it exists or if *Iguanodon* should simply be seen as a basal iguanodontian, related to but outside of Hadrosauroidea.

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Iguanodon's CR.

Crystal Palace Horned History. *You may choose for Iguanodon to have a much more lizard-like appearance and a large, pointed horn on its snout instead of clawed thumbs. If you do, replace all instances of "Thumb Gore" in its stat block with "Horn Gore".*

The Bone Wars. *One of two greedy palaeontologists (Marsh or Cope) refuse to allow anyone to study Iguanodon's remains and have hidden explosives on every member of this species. If Iguanodon is slain, do not end combat. A loud ticking sound can be heard emanating from its remains and, after 2 rounds, they detonate with a large explosion.*

Each creature within a 15 ft. radius of Iguanodon's remains must succeed a DC 12 Dexterity saving throw or take 3d6 fire damage and 3d6 bludgeoning damage. On a success they take half as much damage. Iguanodon's remains are then completely destroyed and irrecoverable.

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JURAVENATOR *"JUR-RAH-VEN-AH-TOR"* (JURA MOUNTAINS HUNTER)

The third night that we camped along the riverbank, I was on first watch. After a few hours, I could feel myself noddin' off, so wandered down to the river's edge to splash myself with some water. It were deathly quiet, bar the chirpin' of crickets. As I crouched down into the water, I saw the shine of a tiny pair of eyes off in the reeds a few feet ahead. It was some kind of small theropod pluckin' minnows out of the water. I took a step forward to try and get a closer look, but the slosh of me foot spooked it, and it darted off into the night.

Juravenator was a very small theropod dinosaur from the Late Jurassic Francoinian Jura (151 million years ago) of Germany. The holotype (diagnostic specimen) is based on a juvenile, meaning that we have a limited understanding of its adult form.

Ecology

The only fossil of *Juravenator* is an exceptionally well-preserved tiny immature individual at just 30 inches long. It was a bipedal theropod with unusually large eyes. These could suggest that it was nocturnal but might also simply be a result of its immaturity, as many young animals have relatively large eyes (neoteny). *Juravenator* had a mouth full of sharp teeth and almost certainly fed on small animals like insects, fish, and other smaller vertebrates. Alternatively, an adult may have fed it.

Juravenator was first interpreted as a scaly animal, as a patch of preserved skin on the tail appeared featherless with scales. However, further research including high-resolution CT scans showed that this skin actually had a thin covering of feathers, although it may have been sparser than in other feathered theropods. Newer research also reinterpreted these scales as a by-product of fat decay, suggesting that the animal had a fatty skin layer. Another recent study argued instead that these were indeed scales and were similar to the sensory scales of crocodiles, suggesting a semi-aquatic wading lifestyle (although this is not well supported by the rest of the anatomy). Ultimately, research is ongoing and many questions still remain unanswered about *Juravenator*.

Behaviour

The limited information available for *Juravenator* and the myriad interpretations of its fossil leave a lot of room for speculation about how this animal behaved. Here we take a mixed approach, including several elements from the studies mentioned above.

We suggest playing a baby *Juravenator* as a highly skittish creature that is largely non-hostile and prefers to flee from danger. It may be attracted to the light of a campfire or the smell of food, and could be relatively easy to befriend if fed. The behaviour of an adult *Juravenator* is unknown, but perhaps it could be a more aggressive predator.

JURAVENATOR

Tiny or Small Beast (Theropod), unaligned

Armour Class: 12 (Fat and Fuzzy Feathers)
Hit Points: 4 (1d6 + 1)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
4 (-3)	**13** (+1)	**4** (-3)	**4** (-3)	**10** (+0)	**8** (-1)

Saving Throws: Dex +3, Con -1, Wis +1
Skills: Perception +4, Stealth +4, Survival +2
Senses: darkvision 120 ft., passive Perception 15
Resistances: cold damage
CR: 0 (10 XP) **Proficiency Bonus:** +2

Nocturnal. *Juravenator has darkvision 120 ft. (included above) and can see as if in bright light up to 60 ft. It is generally only active at night.*

Fatty Water-Wader. *Juravenator has resistance to cold damage (included above) and advantage on attacks against creatures submerged in water that are smaller than itself.*

Quick Reflexes. *Juravenator can dash as a bonus action and has advantage on Dexterity saving throws and checks.*

Actions

Quick Snap. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 1 (1d2) piercing damage.*

Phylogeny

As the only specimen of *Juravenator* is a juvenile, its phylogenetic placement is particularly difficult. Originally, *Juravenator* was considered a compsognathid, closely related to the small theropod *Compsognathus* from Germany. However, it has since then been re-placed multiple times, including in Maniraptora (see *Velociraptor* **page 183**) and even Megalosauroidea (see *Megalosaurus* **page 149**). The anatomy of animals usually changes as they mature, and we can only estimate what an adult *Juravenator* may have looked like, let alone firmly establish its place in the tree of life.

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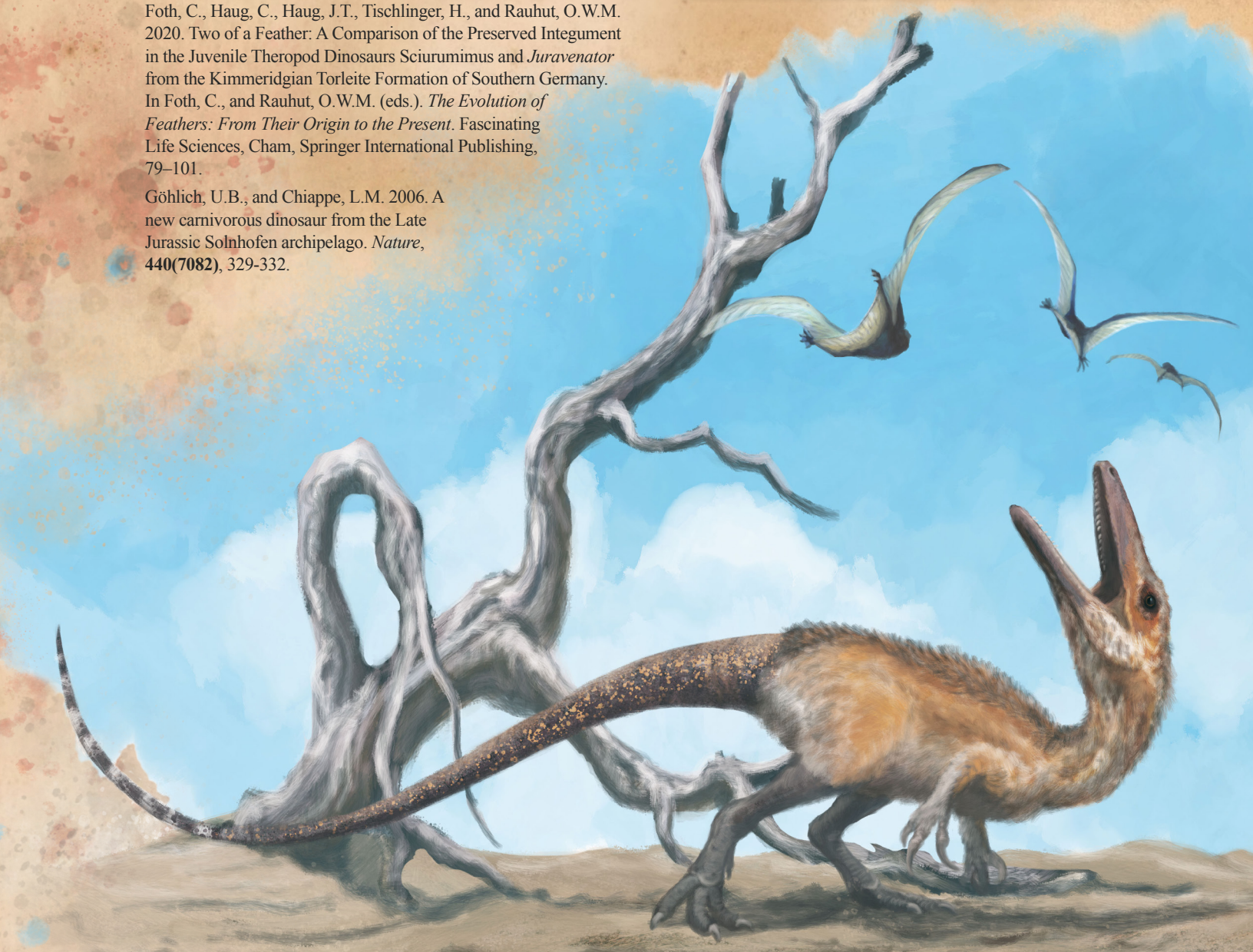
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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Juravenator's CR to 1/8 and increase its XP to 25 accordingly.

Adult Form: Borb. *Juravenator has a chubby and puffed-up feathered appearance. Double its hit points, movement speed, to-hit bonus, and its damage becomes 1d4. Juravenator gains resistance to bludgeoning damage and its size category is Small.*

Familiar. *Alternatively, you can choose to not increase Juravenator's CR and remove the Adult Form: Borb optional rule. Juravenator may then be used as a familiar via the Find Familiar spell or any similar effect. If you wish, it may still maintain the appearance described in Adult Form: Borb.*



KENTROSAURUS *"KENT-TROW-SORE-US"* **(PRICKLE REPTILE)**

Over the rollin' hills and rocky shrubland, we spied some medium-sized spikey-armoured dinosaurs. They was pretty calm 'n largely uninterested in us, but we kept our distance nonetheless. The front half of 'em was covered with broad plates standin' on end, but the back half and tail had massive bony spikes. Can't imagine a big predator would fancy chompin' on that – seems like a pretty good deterrent.

Kentrosaurus is a relatively small stegosaur from the Late Jurassic (165 million years ago) Tendaguru Formation of Tanzania. A close relative of *Gigantspinosaurus* and the famous *Stegosaurus*, it is well known for having a mix of defensive plates and spines along its back.

Ecology

Kentrosaurus was approximately 15 ft. long and weighed up to 1.5 tonnes, making it relatively small for a stegosaur. Its morphology was typical for the group with a robust body, long tail, low shoulders, tall hips, a small head with a sharp keratinous beak, and large osteoderms (bones embedded in its skin). It had a huge backwards pointing spike on each shoulder, and two parallel rows of osteoderms along its back that transition from plates to large spikes after the 7th pair, and a double pair of spikes on the end of its tail (thagomizers).

Kentrosaurus' narrow and pointed beak suggests that it was a selective herbivore, picking out lush plant growth at ground level. This would have allowed it to feed without competing with other much taller herbivores from the Tendaguru Formation, such as *Giraffatitan* (**page 133**). Some stegosaurs are known to have swallowed pebbles (gastroliths) that aided in breaking up plant material and *Kentrosaurus* probably did as well, allowing it to consume tougher stems.

Behaviour

Kentrosaurus' armaments pose many questions; were they for social display or combat, and how could animals like this mate? The latter is hypothesised to have required extremely elongate male genitalia, however, the former can be investigated mechanically. There is strong evidence that *Kentrosaurus'* tail was a functional weapon as it was powerfully muscled, could be swung rapidly, and was capable of wide motions in a 180-degree arc. This, combined with its formidable defences, suggests that these weapons were used for intraspecific (same species) fighting, and there is evidence that *Kentrosaurus* lived in herds. Nevertheless, these tails were still used to defend it from attackers, as thagomizer wounds (from a different stegosaur) have been identified in some *Allosaurus*.



We suggest *Kentrosaurus* be portrayed as a gregarious (grouping) animal, moving in small herds between feeding spots. When encountered by a party, they should be alert but not necessarily aggressive, with the dominant animal making its presence clear and visible. Once a party gets too close, the herd will probably move away, relying on their defences to protect them, and only stand and fight if continually harassed.

Phylogeny

Kentrosaurus is a member of the Stegosauridae, a family which includes *Stegosaurus* and *Gigantspinosaurus*. Stegosauridae is part of the larger group Thyreophora, which alongside stegosaurs includes the ankylosaurs such as *Zuul* (**page 188**) and other related animals like *Scelidosaurus* (**page 172**). All members are herbivores and have bony weaponry or armour embedded in their skin. The Thyreophora arose in the Early Jurassic (200 million years ago) and were highly successful, colonising every continent until the end-Cretaceous extinction.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Kentrosaurus' CR.

The Hoodening. *Channelling Kentish folklore, Kentrosaurus is able to magically disguise itself as a horse. It will appear to be a wild horse to any observer. The disguise can be discerned by a DC 15 Investigation check, or is revealed when Kentrosaurus attacks.*

While Kentrosaurus is disguised as a horse, any creature that attempts to mount or ride it suffers 2d10 piercing damage and the disguise is revealed. If a creature otherwise attempts to touch Kentrosaurus, they take 1d4 piercing damage and are made aware that something is amiss.

KENTROSAURUS

Large Beast (Thyreophoran), unaligned

Armour Class: 16 (Spiked & Plated Osteoderms)
Hit Points: 60 (7d10 + 25)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**8** (-1)	**12** (+1)	**3** (-4)	**14** (+2)	**8** (-1)

Saving Throws: Con +4, Wis +5
Skills: Intimidation +2, Perception +4, Survival +3
Senses: passive Perception 13
CR: 3 (700 XP) **Proficiency Bonus:** +2

Reactionary Strike. *When Kentrosaurus is hit by a melee attack, it can use its reaction to make a single Thagomise attack at the creature that attacked it.*

Sexually Dimorphic. *Male and female Kentrosaurus differ in appearance. In a herd of 3 or more Kentrosaurus, select 1-2 animals to be male. They are a different colour than the females.*

Vicious Defences. *A creature damaged by an attack made by Kentrosaurus using its Reactionary Strike must succeed a DC 14 Charisma saving throw or become frightened of Kentrosaurus for 1 minute. At the end of that creature's turn, it may repeat the saving throw. On a successful save it is no longer frightened of Kentrosaurus and is immune to Vicious Defences for 24 hours.*

Anterior-Facing Spikes. *A creature attacking Kentrosaurus does not gain advantage for any ability or effect that would grant them advantage on attacks for outnumbering or flanking Kentrosaurus.*

Actions

Multiattack. *When Kentrosaurus chooses the attack action, it can make two Thagomise attacks, or a single Tailsweep attack.*

Thagomise. *Melee Weapon Attack: +6, reach 10 ft., one target. Hit: 9 (1d12 + 3) piercing damage.*

Tailsweep. *Melee Weapon Attack: +6, reach 10 ft., up to three targets. Hit: 8 (1d10 + 3) piercing damage.*

A creature hit by this attack must succeed a DC 14 Strength saving throw or be knocked prone.

KLOBIODON *"CLO-BI-OH-DON"* (CAGE TOOTH)

This whole area was filled with lil' fish-snatching pterosaurs. They kept their distance from us – I guess they're used to being plucked off of the ground by small predators. Still, beautiful creatures to see flyin' and fascinatin' to observe perchin' on rocks. They fed by flyin' low over the water and quickly dippin' their heads in, nabbin' unaware fish. Nifty stuff.

Klobiodon is a Jurassic (166 million years old) European pterosaur found in the Taynton Limestone Formation.

Ecology

Klobiodon is only known from an isolated jaw, but we can make reasonable deductions about its morphology, as it is very similar to *Rhamphorynchus* (**page 168**), albeit larger with a wingspan of at least 6.5 ft. Its wings would have been long and thin with a broadly similar silhouette to a gull, and it likely had a long tail tipped by a triangular vane. *Klobiodon*'s most distinctive feature was a set of robust protruding spike-like teeth that were longer towards the tip of the jaw. These formed an interlocking cage that helped grab slippery wriggling prey (often called a "fish trap").

The Taynton Limestone Formation was laid down in a coastal environment with influence from both fresh and saltwater. This resulted in a diverse assemblage of wildlife including insects, ammonites, numerous fish, early mammals, crocodiles, dinosaurs, turtles, and, of course, pterosaurs.

Behaviour

Klobiodon was a near-shore hunter, eating fish, squid, and other surface-dwelling aquatic prey. Groups would likely congregate around the edges of seas, lagoons, and estuaries to nest or socialise. They would have been skittish if surprised but may have been willing to mob threats that entered their territory.

We recommend *Klobiodon* be played in a similar manner to modern herring gulls, albeit much larger and with a much more vicious bite. Small numbers of *Klobiodon* can be easily dispersed, but large groups may mob intruding players to drive them away from nesting grounds or to steal food. When incorporating its magical rules, parties in near-shore environments run the risk of wandering into a camouflaged flock.

Phylogeny

Klobiodon was part of the Rhamphorhynchidae group, which were an extremely successful group of pterosaurs that arose in the Middle Jurassic (160 million years ago) and survived until the Late Jurassic (148 million years ago). They spread across Laurasia (the modern Northern Hemisphere), with some additional new material recently found in South America.

KLOBIODON

Small Beast (Pterosaur), unaligned

Armour Class: 12 (Downy Skin)
Hit Points: 6 (1d6 + 3)
Speed: 5 ft., fly 30 ft.

STR	DEX	CON	INT	WIS	CHA
3 (-4)	**13** (+1)	**3** (-4)	**4** (-3)	**8** (-1)	**8** (-1)

Saving Throws: Dex +3, Wis +0
Skills: Acrobatics +6, Athletics +0, Perception +3, Stealth +3, Survival +3
Senses: passive Perception 13
CR: 1/8 (25 XP) **Proficiency Bonus:** +1

Snatch Feeder. *If Klobiodon is flying, it does not provoke attacks of opportunity when it moves out of an enemy's reach.*

Tooth Cage. *If Klobiodon hits a creature with its Toothed Gnaw attack, Klobiodon can opt to grasp onto it. Whenever that creature moves, Klobiodon moves with it (without using any of its own movement) and is considered to be occupying the same space as it. While grasping onto a creature, Klobiodon's AC is 10.*

As an action, the hit creature may make a DC 8 Strength saving throw to remove Klobiodon, ending this effect and pushing Klobiodon 5 ft. directly away from it on a success. Alternatively, Klobiodon may choose to end this effect at any time.

A creature with Klobiodon grasping onto it has its movement speed reduced by 5 ft. and takes 1d2 piercing damage at the start of its turn. These effects are cumulative if more than one Klobiodon is grasping a single creature.

Actions

Toothed Gnaw. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 2 (1d4) piercing damage.*

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Klobiodon's CR.

Hiding in Plain Sight. *Klobiodon's fossils sat unassigned to a new species for decades in a museum drawer. As long as Klobiodon is motionless, it is invisible. In the first round of combat, if Klobiodon was invisible at the start of the round, its Toothed Gnaw deals an additional 1d4 piercing damage this round.*



KULINDADROMEUS *"COO-LIN-DAH-DROME-E-US"* (KULINDA RUNNER)

One of the thin's I love most about our journeys is when we catch a glimpse of an animal and it doesn't know we're watchin' it. We get to see thin's that no one else has ever seen. We spotted one lil' group of ornithopod dinosaurs in a small forest clearin', preparin' to make nests. They were kickin' back the leaf litter and usin' their lil' beaks to pick up the remainin' leaves. Covered in soft downy fuzz, they were the cutest lil' critters you could imagine, peepin' away at each other as they squabbled for space.

Kulindadromeus is a small bipedal neornithiscian (a diverse clade of ornithiscian dinosaurs) from the Middle Jurassic (166-168 million years ago) Ukureyskaya Formation of Russia. *Kulindadromeus* is an important species as it shows the earliest evidence for filaments in a non-theropod dinosaur.

Ecology

Kulindadromeus was fairly typical for early neornithischians as it walked on two legs and had short forelimbs. It was relatively small at 3-5 ft. long and weighed about 4.5 lb. It had a toothless snout with a keratinous sheath, giving it a short beak, and a reduced number of teeth at the back of its mouth. It was herbivorous and likely fed on ferns, although may have supplemented its diet with insects. *Kulindadromeus* possessed a combination of scales on its arms, underbelly, legs and tail, and feather-like filaments across the rest of its body. These were the earliest possible feather-like structures identified in a non-theropod dinosaur.

Kulindadromeus was found in the Ukureyskaya Formation of Russia, which was deposited in a freshwater lake environment with a nearby volcano. The formation contains numerous fossils of plants and insects, but does not have a large vertebrate assemblage. Little is known about the other dinosaurs from this environment beyond sparse evidence of an unknown medium sized theropod and unidentified ornithischians.

Behaviour

Kulindadromeus would have likely behaved similarly to many small herbivores. It would have been quite skittish, constantly checking for potential predators. Little is known about how social it was, but small and medium herbivores tend to live in groups for safety.

We recommend playing *Kulindadromeus* as an alert animal that will flee if startled. If a group flees, they should scatter in different directions rather than as a unit. It may also be rather curious and, if unthreatened, may approach the edges of camps in search of discarded food.

Phylogeny

Kulindadromeus was a primitive neornithischian. This was a varied group that appeared in the Early-Middle Jurassic (166-168 million years ago) and included a variety of dinosaurs from the bipedal, tusked heterodontosaurs, to giant "duck-billed" hadrosaurs, and horned ceratopsians. The group was so successful that by the Late Cretaceous they were the most common and diverse herbivorous dinosaurs.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Kulindadromeus' CR.

Progenitor of Giants. *Kulindadromeus is among the first of the major herbivore lineage Ornithischia. All other herbivores within this lineage (Heterodontosaurs, Stegosaurs, Ankylosaurs, Iguanodontids, Hadrosaurs, etc. (e.g. Bolong (**48**), Iguanodon (**135**), Kentrosaurus (**139**), Scelidosaurus (**172**), Struthiosaurus (**93**), and Zuul (**188**) in this book)) treat Kulindadromeus as a close relative and will protect it with their lives. They will ward off any threats to Kulindadromeus and ensure that it can feed safely.*



KULINDADROMEUS

Small Beast (Neornithischian), unaligned

Armour Class: 12 (Scales and Protofeathers)
Hit Points: 7 (1d6 + 4)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
6 (-2)	**12** (+1)	**6** (-2)	**4** (-3)	**7** (-2)	**8** (-1)

Saving Throws: Dex +3, Wis +0
Skills: Perception +6, Stealth +3, Survival +6
Senses: darkvision 40 ft., passive Perception 16
CR: 1/4 (50 XP) **Proficiency Bonus:** +1

River Skulker. *Kulindadromeus has advantage on Stealth checks while in thick foliage and can attempt to hide in sparse foliage or shallow water that would normally be too exposed to hide in. It also has darkvision 40 ft. and a passive Perception of 16 (both included above).*

Protofeathered Wader. *Reduce any cold damage Kulindadromeus takes by 1d4 and it is not slowed by muddy difficult terrain.*

Actions

Beaked Chomp. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 4 (1d4 + 2) piercing damage.*

LEPTONECTES *"LEP-TOE-NECK-TEES"* **(SLENDER SWIMMER)**

After a couple days at sea, I'd become restless in the night and decided to sit up on deck for a few hours. The calm breeze blowin' and rockin' boat was pretty soothin'. I noticed the sound of rollin' splashes starboard and decided to take a peek. The waters were dully lit by bioluminescent jellies and in the murk, I could see several large dolphin-like shapes dartin' between the shadows and occasionally snappin' up a jelly or two. They were ichthyosaurs, feedin' in the moonlight and unbothered by our presence.

Leptonectes is an ichthyosaurid from the Late Triassic to Early Jurassic (205-185 million years ago) of Europe. It was a fairly typical ichthyosaur, but is one of a handful of taxa that have specimens preserved with unborn embryos still within the mothers.

Ecology

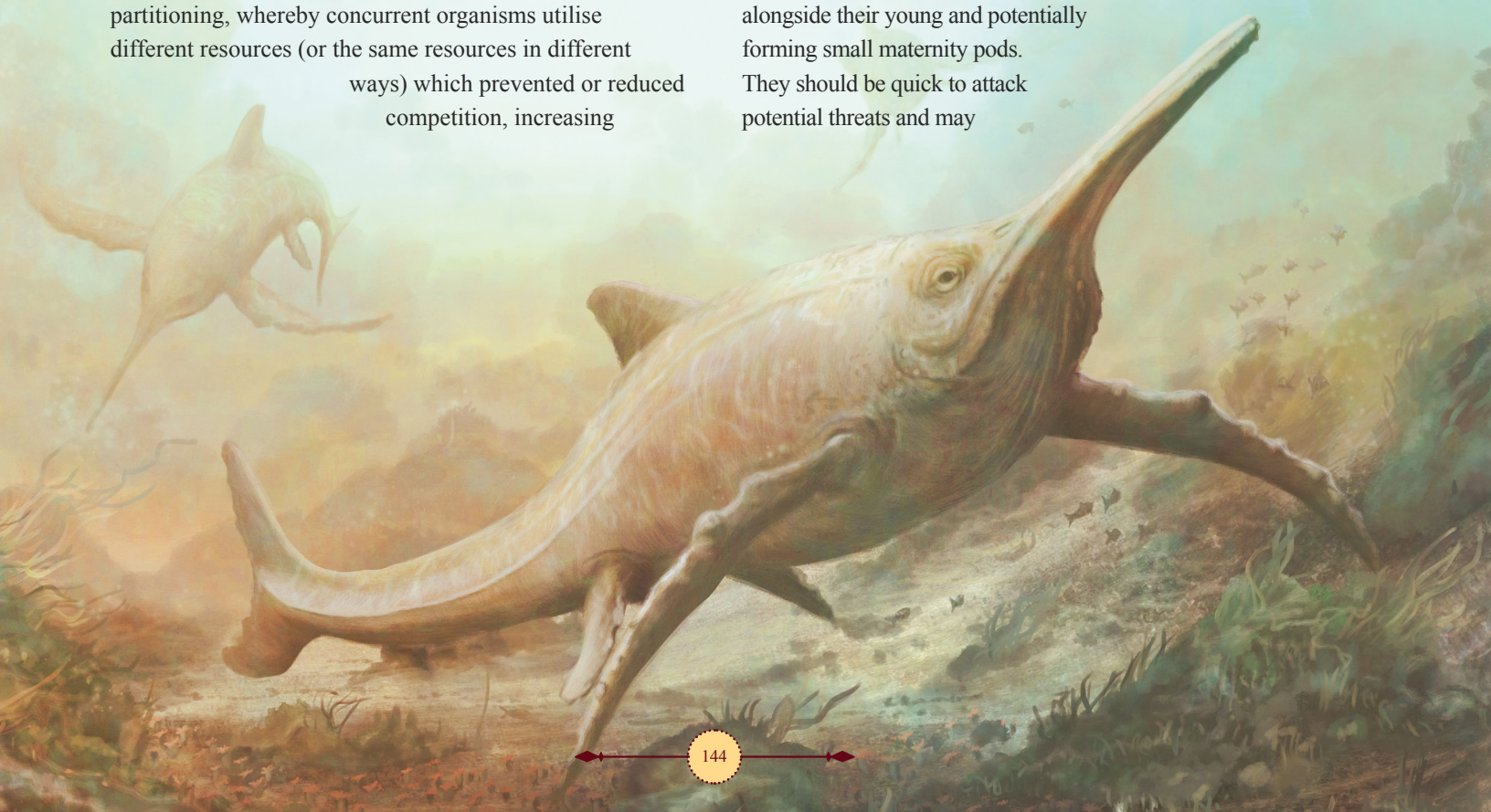
Leptonectes was a medium to large sized (10-20 ft. in length) ichthyosaur, which are a group of fully-aquatic marine reptiles. Its morphology was typical of ichthyosaurs, with a fusiform (spindle-like) body, triangular dorsal fin, four paddle-like limbs, a crescent-shaped tail, and extremely elongated slender jaws. *Leptonectes'* jaws were lined with uniform conical pointy teeth and its mouth curved downwards at the back, which gave the animal a frowning appearance. Its highly modified forelimbs were large and broad paddles, while the hind paddles were much smaller. Its tail bent sharply downwards at the tip, forming the bottom half of a crescent shape, with the upper half formed by a soft tissue fluke. Overall, *Leptonectes* would have had a similar profile to a large dolphin or shark.

Different ichthyosaur species exploited niche partitioning, whereby concurrent organisms utilise different resources (or the same resources in different ways) which prevented or reduced competition, increasing survivability. Some fed on fish, turtles, ammonites, and possibly even birds, whereas others like *Leptonectes* may have specialised in soft bodied organisms like jellyfish and squid. This is suggested by their stomach contents and the shape of their teeth. In all cases, the ichthyosaurs were marine animals and could not leave the water.

Behaviour

If *Leptonectes* was a specialist in hunting squid, octopuses, and jellyfish, it may have been most active at night when these animals most frequently visit the upper water column to feed. Little is known about the social behaviour of ichthyosaurs, but we can make some inferences based on the number and size of their preserved unborn embryos. A specimen described in 2012 was found with two relatively large embryos, whereas other species of ichthyosaur have been found with up to ten smaller ones. Assuming that no embryos are missing, it's possible that *Leptonectes* followed a similar strategy as the Bahariyan Polycotylid **(page 66)**, investing more time into fewer infants in order to increase their individual chances of survival.

We suggest that *Leptonectes* be played as a semi-solitary animal, with females living alongside their young and potentially forming small maternity pods. They should be quick to attack potential threats and may



LEPTONECTES

Large Beast (Ichthyosaur), unaligned

Armour Class: 12 (Slick Skin)
Hit Points: 76 (12d10 + 16)
Speed: swim 60 ft.

STR	DEX	CON	INT	WIS	CHA
13 (+1)	**15** (+2)	**13** (+1)	**3** (-4)	**10** (+0)	**7** (-2)

Saving Throws: Dex +6, Con +3
Skills: Acrobatics +5, Athletics +4, Perception +4, Stealth +3, Survival +4
Senses: darkvision 60 ft., passive Perception 16
Resistances: cold and thunder damage
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Deep Diver. *Leptonectes can hold its breath for 2 hours and has resistance to cold and thunder damage (included above).*

Large Fusiform. *While in water, Leptonectes cannot be grappled by creatures smaller than itself and is immune to the spell Tidal Wave (or similar effects).*

Actions

Snout Skewer. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 7 (2d4 + 2) piercing damage.*

If Leptonectes swam at least 40 ft. in a straight line before using this attack this turn, it deals an additional 2d6 piercing damage.

Giant Paddle Slap. *Each other creature within 5 ft. of Leptonectes must succeed a DC 11 Constitution saving throw or take 1d8 bludgeoning damage and 1d8 thunder damage.*

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Leptonectes' CR to 5 and increase its XP to 1800 accordingly.

Grimace. *Leptonectes has a downturned jaw, giving it the appearance of having a permanent grimace or sneer.*

As an action, Leptonectes can draw upon this feature, radiating displeasure in a magical aura. Each other creature within 20 ft. that can see Leptonectes must succeed a DC 11 Charisma saving throw or be incapacitated until the end of their next turn.

Legendary Actions

*Leptonectes can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Leptonectes regains spent legendary actions at the start of its turn.*

Legendary Action: Sneering Swipe. *Leptonectes may swim up to 5 ft. then make a Snout Skewer attack (this attack cannot benefit from the additional damage).*

be curious if a party enters their territory on a boat. As they may be more active at night, this means players run a greater risk of unknowingly encountering them in low light. Males should be more solitary but also more sedate, only becoming dangerous if they feel their space has been invaded or their food source disturbed.

Phylogeny

Leptonectes is a member of the Ichthyosauridae. This is an exceptionally successful group of marine reptiles that arose in the Late Triassic and diversified rapidly. While the classic ichthyosaur is dolphin-like in appearance, they had a variety of forms and included the largest aquatic reptiles known. The group survived multiple extinction events and remained diverse up until the Cretaceous, where they are thought to have been pushed to extinction by rapid environmental change.

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MASTODONSAURUS *"MASS-TOE-DON-SORE-US"* (NIPPLE TOOTH REPTILE)

The swamps are a particularly dangerous place to venture. Not only are they slow to wade through, but many nasty predators hide in the murky waters. One of the scarier ones is a giant amphibian that lies in wait, fully submerged and totally indistinguishable from the mud its squalorin' in. Those who have the misfortune to step too close are met with an explosion of tusked fury – water flyin' everywhere. Ambushes like this were painfully common and we lost a few good adventurers over the course of the weeks spent there.

Mastodonsaurus is an enormous amphibian from the Middle Triassic (245 million years ago) of Europe. It was one of the largest amphibians in the fossil record and superficially looked like a cross between a frog and a crocodile.

Ecology

Mastodonsaurus was huge for an amphibian, measuring up to 20 ft. long. It had an elongate body with a powerful tail and reduced, sprawling limbs. It had a very large triangular-shaped head, measuring 5 ft. long in the largest adults. Its eyes were on the top of its skull, rather than the side, and its jaws were lined with a double row of sharp conical teeth, as well as two tusks on the lower jaw that stuck out through holes in the upper jaw.

Mastodonsaurus was a powerful aquatic carnivore and, based on the position of its eyes, likely ambushed prey from below. Given its size, it probably ate a variety of other animals, presumably anything small enough for it to swallow. This idea is supported by tooth marks on other amphibian fossils that appear to be from *Mastodonsaurus*, although these could be the result of scavenging. Bite marks on *Mastodonsaurus* itself suggest that it was predated upon by large terrestrial carnivores, perhaps while trapped in a drying-up pool.

Behaviour

Mastodonsaurus likely spent much of its time unmoving at the bottom of rivers, swamps, and pools of water, hiding in wait beneath mud. When prey came within range, it would rush forward with its mouth agape, sucking the prey towards it. *Mastodonsaurus* would then snap down, piercing the prey with its teeth and tusks. If a terrestrial animal was drinking on the waters edge, it may have slowly moved into position before rushing it and attempting to drag it back into the water. It's unlikely *Mastodonsaurus* was a social animal and they probably lived solitary lives, apart from coming together to mate. It would have spent as little time on land as possible, only leaving the water to move to new hunting grounds or find a mate.

MASTODONSAURUS

Large Beast (Amphibian), unaligned

Armour Class: 12 (Moist Skin)
Hit Points: 90 (11d10 + 35)
Speed: 10 ft., swim 30 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	**8** (-1)	**18** (+4)	**2** (-4)	**12** (+1)	**7** (-2)

Saving Throws: Wis +3
Skills: Stealth +6, Survival +3
Senses: blindsight 5 ft. or 30 ft. (in water), passive Perception 12
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Amphibious. *Mastodonsaurus can breathe in both air and water. When in water, it gains a +3 bonus to Dexterity saving throws.*

Dermal Pressure Sensors. *While in water, Mastodonsaurus has a blindsight of 30 ft. (included above).*

Perfect Ambusher. *While motionless at the bottom of a body of water, Mastodonsaurus is indistinguishable from the sediment. If it attacks from this position, it is always considered to be first in the initiative order (regardless of all other abilities, like the Alert feat), has advantage on its first attack, and that attack deals an additional 1d10 piercing damage.*

Actions

Tusked Bite. *Melee Weapon Attack: +8, reach 5 ft., one target. Hit: 17 (2d10 + 6) piercing damage.*

A creature hit by this attack is grappled (escape DC 14).

We suggest *Mastodonsaurus* be played essentially as a crocodile-like animal, willing to lie in wait for prey for hours or even days. While able to attack creatures on land, it should be cautious of leaving the water and will quickly retreat after lunging out at prey. It should be solitary, although a party may encounter multiple *Mastodonsaurus* along a given river or waterway, evenly spaced in their own territories.

Phylogeny

Mastodonsaurus is a member of the Mastodonsauridae, a group of large seemingly piscivorous (fish-feeding) amphibians, many of which had prominent tusks. They were a successful group surviving from the Middle Triassic (250 million years ago) until the border of the Jurassic (199 million years ago). Mastodonsaurids were part of a wider order of amphibians called the Temnospondyli. These were giant amphibious carnivores with a global range that appeared in the Middle Triassic (220 million years ago) and persisted for 100 million years, up until the Early Cretaceous (120 million years ago).

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Mastodonsaurus' CR to 5 and increase its XP to 1800 accordingly.

Gurgling Energies. *When a creature is hit by Tusked Bite, it must succeed a DC 14 Constitution saving throw or take 1d8 damage. Roll a d4 and consult the list below to determine the type of damage this ability deals. Additionally, Mastodonsaurus gains immunity to that damage type until its next turn.*

d4	*Type*
1	*Fire*
2	*Cold*
3	*Lightning*
4	*Force*

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MEGALOSAURUS *"MEG-AH-LOW-SORE-US"* (GREAT REPTILE)

This is a beast that I'd read lots about in the ancient libraries of my university – the first dinosaur fossil ever described by scientists. When we first sighted it, I was all giddy with excitement. But, nothin' prepared me for how magnificent and deadly it was. It attacked without warnin' and unleashed a flurry of claws, teeth, kicks, and tail swipes. We were able to fend it off with some cold steel, but our cleric had a hearty job of healin' us up afterwards.

Megalosaurus was a medium sized theropod from the Middle Jurassic (166 million years ago) Taynton Limestone and Chipping Norton formations of England. *Megalosaurus* is one of the most famous dinosaurs as it was the first taxon to be formally described.

Ecology

Megalosaurus' fossils are incomplete, but it is thought to have been approximately 30 ft. long and weighed between 1.5 – 2 tonnes. While smaller than later giant theropods, it was still one of the largest carnivorous dinosaurs of the Jurassic. Overall, it was a robust animal, with thick legs and short powerful forelimbs. It had a robust skull that was relatively low and long, filled with curved blade-like teeth.

As the biggest and heaviest carnivore known from the Middle Jurassic of England, *Megalosaurus* may have been the arch-predator of its habitat. Its heavy build suggests that it was perhaps analogous to tyrannosaurs, overpowering prey rather than engaging in fast chases. The Taynton Limestone and Chipping Norton formations were both deposited in sub-tropical lagoons, conditions that attract a variety of animals, all of which would have been potential prey for *Megalosaurus*. However, it may also have fed on fish or aquatic reptiles pulled from the lagoon.

Behaviour

Based on the shape of its jugal (cheek bone), *Megalosaurus'* eyes were probably on the sides of its head, similar to *Allosaurus* (**page 197**). This suggests that it chased prey down over relatively long distances, rather than ambushing over short distances. Ambushing requires binocular vision for bursts of speed, but chasing allows a predator to determine distance by swinging its head. Like most large carnivores, it would have also been an opportunistic scavenger, using its size to bully other carnivores away from a carcass.

We suggest *Megalosaurus* be played as a patient animal that patrols a territory. It could patrol a watering hole and take advantage of desperate, dehydrated animals trying to drink, charging them. However, large modern land predators spend most of their time resting, and *Megalosaurus* almost certainly did the same. It is more likely that a party will encounter a dozing *Megalosaurus* than an actively hunting one, although it will take the opportunity to strike if someone wanders too close.



Phylogeny

Megalosaurus was one of the largest members of the Megalosauridae. This was a group of small-medium sized theropods with relatively low but elongated skulls that are primarily known from Europe, with some occurrences in the Americas and Africa. Interestingly, within the larger group Megalosauroidea, their closest relatives appear to be the highly derived and unusual spinosaurids like Spinosaurus (**page 75**). Most megalosaurs are from Jurassic formations, although some did survive into the Late Cretaceous (93 million years ago).

The First of Many

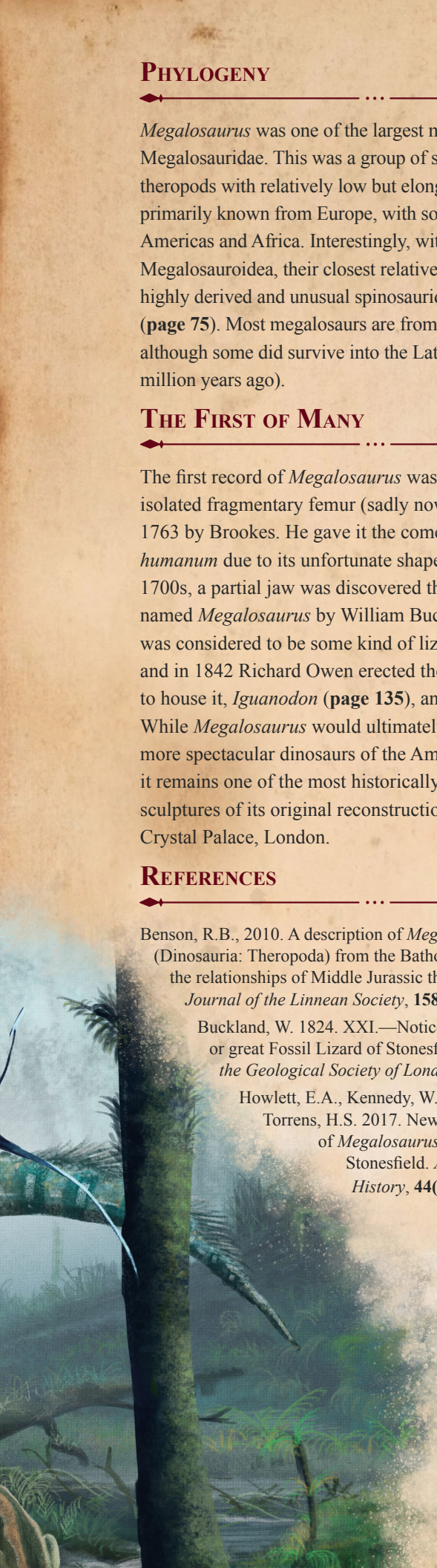
The first record of *Megalosaurus* was the end of an isolated fragmentary femur (sadly now lost) described in 1763 by Brookes. He gave it the comedic name of *Scrotum humanum* due to its unfortunate shape. Later in the 1700s, a partial jaw was discovered that was eventually named *Megalosaurus* by William Buckland in 1824. It was considered to be some kind of lizard or crocodile and in 1842 Richard Owen erected the group Dinosauria to house it, *Iguanodon* (**page 135**), and *Hylaeosaurus*. While *Megalosaurus* would ultimately be eclipsed by the more spectacular dinosaurs of the American fossil rush, it remains one of the most historically important taxa and sculptures of its original reconstruction still stand in The Crystal Palace, London.

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MEGALOSAURUS

Large Beast (Theropod), unaligned

Armour Class: 14 (Thick Scales)
Hit Points: 106 (11d10 + 46)
Speed: 40 ft.

STR	DEX	CON	INT	WIS	CHA
17 (+3)	**14** (+2)	**17** (+3)	**4** (-3)	**14** (+2)	**12** (+1)

Saving Throws: Dex +3, Wis +4
Skills: Intimidation +4, Perception +3, Stealth +3, Survival +5
Senses: passive Perception 14
CR: 4 (1100 XP) **Proficiency Bonus:** +3

King of its Time. *Megalosaurus was the arch-predator of the British Bathonian. It has advantage on attacks against creatures that are the same size category as itself.*

Scrotum humanum. *Megalosaurus takes triple damage from the cantrip Vicious Mockery.*

Actions

Combination Multiattack. *If Megalosaurus chooses the attack action, it may make two Predatory Strike attacks. However, each of those Predatory Strike attacks must choose a different damage type.*

Predatory Strike. *Melee Weapon Attack: +6, Reach 5 ft., one target. Hit: 11 (2d6 + 4) (see below) damage.*

Megalosaurus lashes out with one of its myriad attacks - headbutting, clawing, biting, or lashing with its tail. When making a Predatory Strike, you can select either bludgeoning, piercing, or slashing as the damage type.

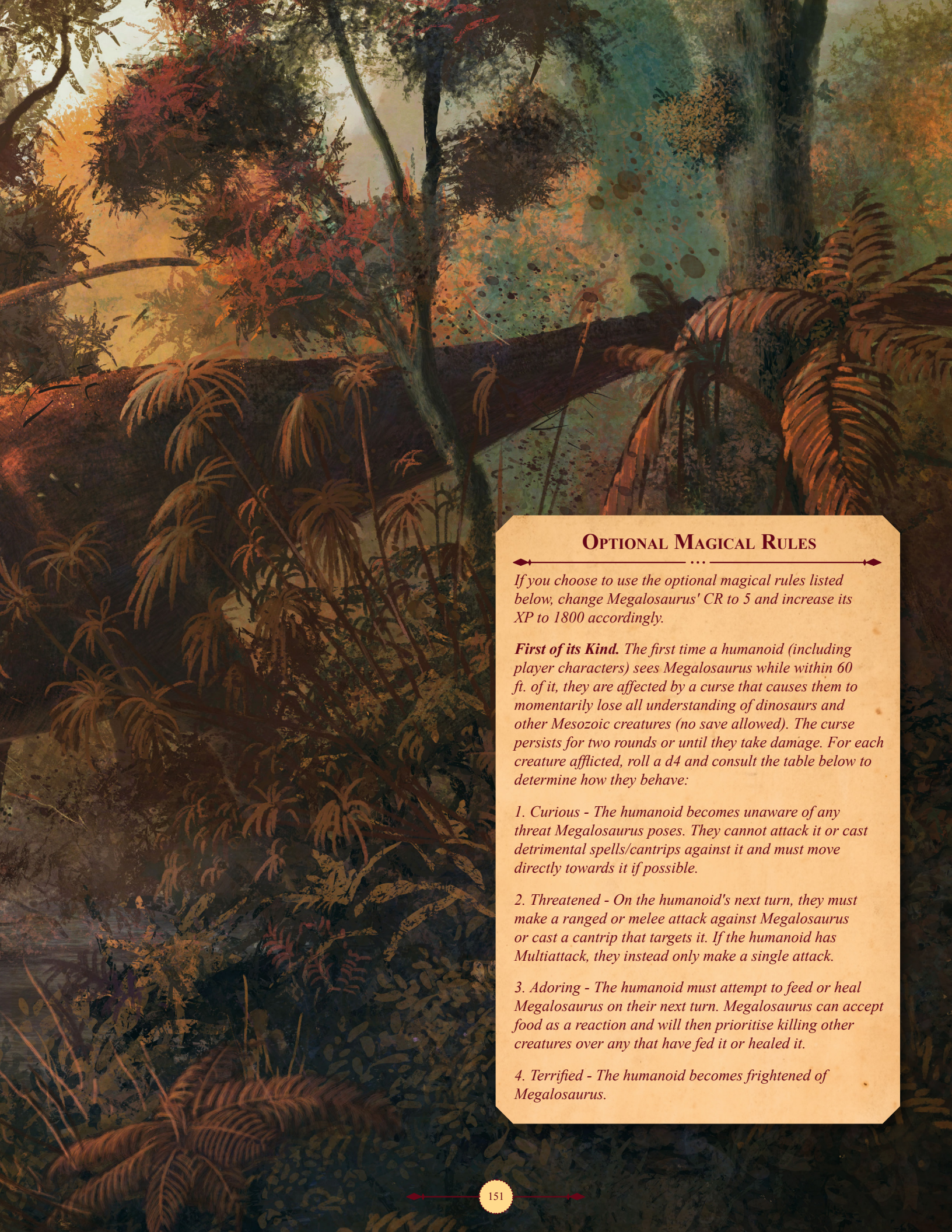
Legendary Actions

*Megalosaurus can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Megalosaurus regains spent legendary actions at the start of its turn.*

Rampant Thrashing. *Megalosaurus disengages and may move up to 10 ft.*

Predatory Gile. *Megalosaurus positions itself to take down a target. Choose a creature it can see. If its next attack hits that creature, that creature is also knocked prone.*





Optional Magical Rules

If you choose to use the optional magical rules listed below, change Megalosaurus' CR to 5 and increase its XP to 1800 accordingly.

First of its Kind. *The first time a humanoid (including player characters) sees Megalosaurus while within 60 ft. of it, they are affected by a curse that causes them to momentarily lose all understanding of dinosaurs and other Mesozoic creatures (no save allowed). The curse persists for two rounds or until they take damage. For each creature afflicted, roll a d4 and consult the table below to determine how they behave:*

1. Curious - The humanoid becomes unaware of any threat Megalosaurus poses. They cannot attack it or cast detrimental spells/cantrips against it and must move directly towards it if possible.

2. Threatened - On the humanoid's next turn, they must make a ranged or melee attack against Megalosaurus or cast a cantrip that targets it. If the humanoid has Multiattack, they instead only make a single attack.

3. Adoring - The humanoid must attempt to feed or heal Megalosaurus on their next turn. Megalosaurus can accept food as a reaction and will then prioritise killing other creatures over any that have fed it or healed it.

4. Terrified - The humanoid becomes frightened of Megalosaurus.

MNYAMAWAMTUKA *"MM-NYA-MA-WAH-MM-TOO-KA"*

(BEAST OF THE MTUKA RIVER DRAINAGE)

Among our travels we had seen myriad behaviours of various dinosaurs, includin' complex matin' rituals. None were so excitin' as these huge sauropods. They pranced around each other with uncharacteristic grace in a wonderful' ballet that had no doubt been practiced hundreds of times. When we encounter such a thin', we stay to watch but ensure never to interfere. That policy gifted us their complete matin' ritual and it was well worth our patience.

Mnyamawamtuka is an Early Cretaceous (110 million years ago) titanosaur from the Galula Formation in Tanzania. Known from a single immature specimen, it is an important fossil for understanding sauropod diversification.

Ecology

The *Mnyamawamtuka* fossil is from a relatively small sauropod, 25 ft. long and weighing about 1.5 tonnes. Like all sauropods, it had hollow bones filled with air sacs (pneumatisation) that greatly reduced its weight and gave it unidirectional breathing (air flowing through the lungs and air sacs in one direction). As the bones weren't completely fused when the animal died, it is likely it was immature. In many ways it was a typical titanosaur with large columnar limbs, shovel-like teeth, and a long neck and tail. The middle vertebrae in the tail had an unusual heart-shaped cross-section and it is speculated to have had bony osteoderms (bones embedded in the skin) dotting its hide.

Titanosaurs were all herbivores and, based on its teeth, *Mnyamawamtuka* likely had a similar diet to its relatives. This would have included ferns, conifers, cycads, and early grasses. It may have competed with other sauropods for food, as they are one of the few dinosaurs known from the Galula Formation, although their apparent abundance is likely a result of biases in this site's type of fossilisation.

Behaviour

Little is known of *Mnyamawamtuka* and its behaviour, but based on other studies we suggest it behaved in a similar fashion to its larger relatives like *Paralititan* (**page 71**), with young animals growing up separately from adults before joining a herd when large enough to avoid being trampled. As the specimen we have is from an immature animal, we can't be certain of the maximum size that this animal reached.

We suggest taking a fairly conservative approach when playing *Mnyamawamtuka* by making it relatively peaceful when unchallenged, but aggressive if threatened. Adults should roam open spaces constantly feeding, whereas juveniles should congregate in larger numbers within the safety of dense forests. Given the high diversity of early titanosaurs, feel free to alter or add behaviour based on any adaptations given to *Mnyamawamtuka*.

Phylogeny

Mnyamawamtuka is a titanosaur sauropod, one of the most successful groups of Cretaceous herbivores. The earliest member of this group (*Ninjatitan*) arose 140 million years ago in South America, and within 30 million years the group had a global population and were highly diverse. By the Late Cretaceous, they had become the last surviving sauropods and continued to thrive until the end-Cretaceous extinction event.



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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Mnyamawamtuka's CR to 6 and increase its XP to 2300 accordingly.

Heart-Shaped Soul. *Any creature hit by an attack from Mnyamawamtuka must succeed a DC 10 Charisma saving throw or be charmed by Mnyamawamtuka for 1 minutes, fetching food for it. If the charmed creature takes any damage, the effect ends. Once this charm wears off or is removed, the creature cannot be affected by this ability again for 24 hours. Mnyamawamtuka prioritises attacking non-charmed creatures.*



MNYAMAWAMTUKA

Huge or Gargantuan Beast (Sauropod), unaligned

Armour Class: 15 (Scales and Sparse Osteoderms)
Hit Points: 136 (5d20 + 86)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
24 (+7)	**6** (-2)	**22** (+6)	**3** (-4)	**10** (+0)	**12** (+1)

Saving Throws: Dex -5
Skills: Intimidation +2, Survival +2
Senses: passive Perception 12
CR: 5 (1800 XP) **Proficiency Bonus:** +2

Speciose. *Early Titanosaurs diversified rapidly. Each time the party encounters a new Mnyamawamtuka (including this one), select or roll for an adaptation on the Minor Mutation Table (**page 218**). Apply that mutation to that Mnyamawamtuka. You do not need to increase Mnyamawamtuka's CR for the mutation gained.*

Columnar Limbs. *Mnyamawamtuka's strong legs make it exceedingly difficult to topple. It has an additional +5 modifier and advantage on saving throws to avoid being knocked prone. However, Mnyamawamtuka has a further -3 modifier (total -5, included above) and disadvantage on Dexterity saving throws.*

Actions

Multiattack. *If Mnyamawamtuka chooses the attack action, it may make one Shovelling Bite attack and two Whipping Tail attacks.*

Shovelling Bite. *Melee Weapon Attack: +5, reach 15 ft., one target. Hit: 6 (1d8 + 2) piercing damage.*

Mnyamawamtuka's semi-spatulate shaped teeth pull at any target they bite. A creature hit by this attack must succeed a DC 15 Strength saving throw or drop an item it is wielding.

Whipping Tail. *Melee Weapon Attack: +5, reach 10 ft., one target. Hit: 5 (1d6 + 2) slashing damage.*

MOSASAURUS *"MOE-SAH-SORE-US"* (MEUSE RIVER REPTILE)

Sailin' on the ancient sea ain't without its dangers. All the usual monsters still haunt the deep oceans, but there's also some pretty mean reptiles that swim the surfaces too. Durin' one stormy night, we sighted a huge one breach – its slick body glistening in the moonlight. It seemed completely unphased by the bad weather and was probably scoutin' us out – figurin' out what our ship was and whether it could eat us. If someone had fallen in, I'm sure they wouldn't have stood a chance.

Mosasaurus is a large aquatic reptile from the Late Cretaceous (80 million years ago) and inhabited oceans across the world. A member of the squamates (snakes and lizards), it is one of the largest aquatic predators in the fossil record.

Ecology

Mosasaurus was undeniably huge but, due to a lack of complete specimens, our size estimates vary dramatically from 36 - 56 ft. in length, with a potential maximum weight of 11 tonnes. Its body was elongate, broader towards the front and tapered from the middle. Its tail ended in an asymmetrical fluke, with a longer lower boned fin and a smaller soft-tissue upper fin. Its skull was long and large, accounting for 1/7th of the total body length. It had large conical teeth and a second set of palatal teeth on the roof of its mouth. *Mosasaurus'* limbs were adapted into swimming paddles, although without the extreme skeletal modifications seen in plesiosaurs. Its nostrils were set on the top of the skull like a dolphin and, as with all marine reptiles, it breathed air.

Mosasaurus was carnivorous and likely had a wide diet. Based on stomach contents, we know that small mosasaurs ate fish, but bite marks and isotopic analyses demonstrate that *Mosasaurus* was an apex carnivore feeding on turtles, plesiosaurs, fish, nautiloids, and other smaller mosasaurs. It is known to have inhabited the North American Western Interior Sea, the European Tethys ocean, and waters around Antarctica.

Behaviour

Mosasaurus probably hunted close to the surface, perhaps using countershading (dark on top, light on the bottom) as camouflage before rushing prey from underneath. They likely gave birth to live young and, based on low numbers of babies birthed (k-selected), may have had some form of parenting behaviour. However, infants would have been able to swim and feed shortly after birth. While it is highly unlikely these predators lived in social groups, there is strong evidence of intraspecific (same species) combat. Several specimens have been found with bite wounds from

MOSASAURUS

Huge Beast (Mosasaur), unaligned

Armour Class: 16 (Tough Hide)
Hit Points: 198 (15d12 + 108)
Speed: swim 40 ft.

STR	DEX	CON	INT	WIS	CHA
24 (+7)	**10** (+0)	**18** (+4)	**3** (-4)	**14** (+2)	**12** (+1)

Saving Throws: Dex +4, Con +6
Skills: Perception +4, Stealth +4, Survival +4
Senses: darkvision 120 ft., passive Perception 16
Resistances: cold, lightning, and thunder damage
CR: 11 (7200 XP) **Proficiency Bonus:** +4

Diver. *Mosasaurus can hold its breath for up to 2 hours.*

Ocean Tyrant. *Mosasaurus has advantage on Mighty Jaw attacks against other creatures native to an ocean setting.*

Stormrider. *Mosasaurus has resistance to cold, lightning, and thunder damage (included above).*

Actions

Multiattack. *If Mosasaurus chooses the attack action, it may make one Mighty Jaw attack and one Concussive Splash attack.*

Mighty Jaw. *Melee Weapon Attack: +13, reach 10 ft., one target. Hit: 28 (4d8 + 10) piercing damage.*

Any target hit by this attack must succeed a DC 14 Strength saving throw or take an additional 2d8 piercing damage from Mosasaurus' palatal teeth.

Concussive Splash. *Each creature in a 20 ft. cone in front of Mosasaurus must succeed a DC 16 Constitution saving throw or take 16 (3d6 + 6) thunder damage. On a success they take half as much damage.*

other *Mosasaurus*, some of which have healed and others that were likely fatal. These may have been caused by territorial fighting or cannibalism.

We suggest that *Mosasaurus* be played as a largely solitary predator with strong territorial instincts. It will not tolerate any intruders into its territory, with the exception of its own young offspring. It should live in relatively deep waters and be most dangerous to parties in small-medium sized boats that have the same silhouette as *Mosasaurus'* prey from underneath. When hunting, its countershading will camouflage it and its presence may only be revealed by the panicked disappearance of smaller marine life. If a boat is viewed as a territorial threat, players might be warned by the sight or sound of a *Mosasaurus* slapping the surface of the water with its paddle.

Phylogeny

Mosasaurids are the last of the Mosasauroidea, a group of specialised squamate reptiles that adapted for permanent life in the water. Mosasaurids were extremely successful, appearing 100 million years ago and becoming the dominant oceanic predators in the Late Cretaceous, outcompeting ichthyosaurs and plesiosaurs. They spread throughout the world's oceans and survived up until the end-Cretaceous extinction.

There is ongoing debate about where in Squamata the mosasaurids sit, with them usually being placed as either the sister group to snakes or monitor lizards. However, there now appears to be increasing consensus that they are more closely related to snakes.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Mosasaurus' CR to 12 and increase its XP to 8400 accordingly.

Stormbringer. *As a bonus action, Mosasaurus may summon a storm. This storm persists for 1 hour.*

Rogue Wave (Recharge 4-6). *Once a storm has been summoned, as an action, Mosasaurus can cast Tidal Wave without requiring a spell slot or components. Additionally, Mosasaurus itself is immune to the effects of Tidal Wave. Mosasaurus can only use Rogue Wave up to four times per day.*

NOTHOSAURUS *"NO-TOE-OH-SORE-US"* **(FALSE REPTILE)**

The beach was a raucous place. Along the rocks and shingle there were dozens of large four-flippered reptiles baskin'. They were makin' loud low grumbles that echoed off the cliffs. I reckon they were complain' to each other about the lack of space on the best rocks and some were pushin' and shovin'. They were cumbersome on land, but the ones out at sea were rollin' with the waves with ease, usin' their protrudin' teeth to snatch fish.

Nothosaurus was a large semi-aquatic reptile from the Middle Triassic (240-210 million years ago). It was a sauropterygian, just like its distant relatives, the aquatic plesiosaurs.

Ecology

Nothosaurus was a highly successful carnivorous animal found in shallow ocean deposits in many countries, including in the Netherlands, Germany, and China. It had a low, rounded body with short limbs and an elongate neck. Its toes were elongated with webbing between them, turning its feet into pseudo-paddles. Its skull was wide and low, with long jaws full of sharp, needle-like teeth. *Nothosaurus* varied in length between 13-22 ft., meaning the largest individuals were bigger than modern great white sharks.

Nothosaurus lived in open water and so shared its environment with a wide variety of animals including fish, cephalopods, and other marine reptiles. Its teeth were sharp, circular in cross-section, and needle-like, making them excellent at grabbing slippery fish, or soft bodied animals like cephalopods and jellyfish. Given their large size, other smaller marine reptiles were also potential prey. Fossil trackways also indicate *Nothosaurus* may have swum low over sandy bottoms, stirring them up in search of hiding prey.

Behaviour

Nothosaurus was likely a near-shore predator, hunting in shallow seas and coming onto the land to rest and possibly mate. While it possessed functional legs, they were not well adapted to life out of the water and it would have been clumsy on land. While in water, it would have been a swift and dangerous predator. Like ichthyosaurs and plesiosaurs, several species of *Nothosaurus* gave birth to live young (likely in water), although the number of offspring and subsequent level of parental care is unknown.

We suggest that *Nothosaurus* should act quite differently depending on whether it is on land or in water. On land it should be defensive, making threatening calls and displays at a party that gets too close. In water it should be a much more direct threat, willing to stalk or strike without fear. Players near the surface of the water should be especially vulnerable as attacking prey from underneath is a common strategy used by aquatic predators.



Phylogeny

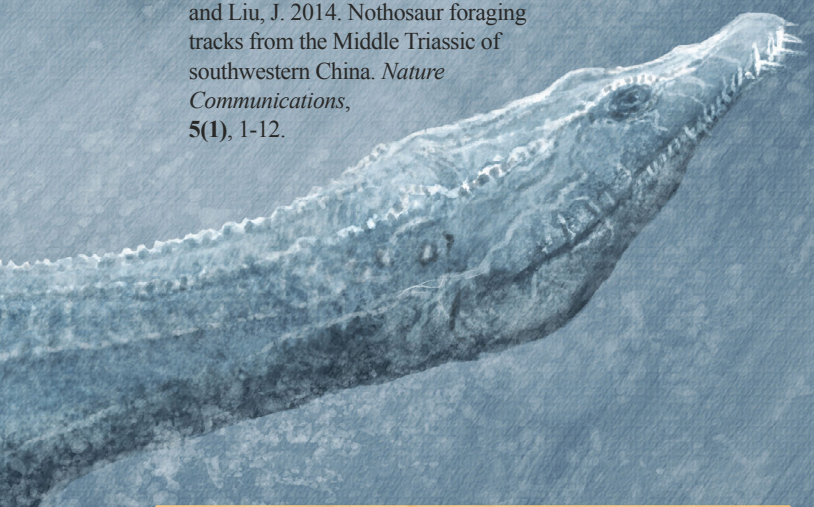
Nothosaurus was the largest member of the Nothosauridae. This group arose in the Middle Triassic (247 million years ago) and spread globally before becoming extinct in the Late Triassic (210 million years ago). The group was quite conservative in their morphology, with most members sharing similar traits. They were the sibling group to the Pachypleurosaura, which were smaller, more primitive, and less well adapted for the ocean. Together, these two groups were close relatives of the Plesiosaura, an incredibly successful group of marine reptiles that would dominate the oceanic environment of the Mesozoic. Combined, these three families were part of a larger group, the Sauropterygia.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Nothosaurus' CR to 4 and increase its XP to 1100 accordingly.

Spit Lightning. *Ranged Weapon Attack: +5, range 100 ft., one target. Hit: 14 (2d10 + 3) lightning damage.*

Charged Skin. *Nothosaurus is immune to lightning damage.*

Legendary Action: Lightning Overload (Recharge 4-6). *Each other creature within 15 ft. of Nothosaurus must succeed a DC 11 Constitution saving throw or take 13 (3d6 +3) lightning damage. On a success they take half as much damage.*

NOTHOSAURUS

Medium or Large Beast (Nothosaur), unaligned

Armour Class: 13 (Slick Skin)
Hit Points: 55 (5d10 + 30)
Speed: 10 ft., swim 35 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**12** (+1)	**12** (+1)	**3** (-4)	**12** (+1)	**8** (-1)

Saving Throws: Str +3, Dex +5, Con +3, Wis +3
Skills: Acrobatics +3, Perception +3, Survival +5
Senses: darkvision 60 ft., passive Perception 13
Resistances: cold and thunder damage
CR: 3 (700 XP) **Proficiency Bonus:** +2

Ocean Farer. *Nothosaurus has resistance to cold and thunder damage (included above).*

Diverse. *Nothosaurus come in a variety of colours with different skin patterns.*

Aquatic Reptile. *Nothosaurus can hold its breath for up to 10 minutes and has advantage on Dexterity saving throws while submerged in water.*

Basking. *If Nothosaurus spends at least 10 minutes basking in the sun on land, it gains immunity to cold damage for 1 hour.*

Actions

Multiattack. *When Nothosaurus chooses the attack action, it may make two Piercing Bite attacks and one Neck Whack attack.*

Piercing Bite. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 6 (1d6 + 3) piercing damage.*

Neck Whack. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 6 (1d6 + 3) bludgeoning damage.*

Legendary Actions

Nothosaurus can take ***1 legendary action****, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Nothosaurus regains spent legendary actions at the start of its turn.*

Legendary Action: Dive. *Nothosaurus swims up to 15 ft.*

NYCTOSAURUS *"NICK-TOE-SORE-US"* (NIGHT REPTILE)

Sometimes you see somethin' that makes you double-take. While hikin' up a cliff, we spotted a small group of pterosaurs circling below. They were using the air currents to gain altitude. It took 'em a few minutes to rise, but as they passed us, we saw that they had the strangest huge Y-shaped crests protrudin' from the backs of their heads. How the hell they could fly with such unwieldly ornamentation is beyond me, but they were!

Nyctosaurus was a medium sized pterosaur from the Late Cretaceous Niobara Formation (86-83 million years ago). It was a relative of the much larger *Pteranodon*, and had a highly distinctive crest and wing morphology.

Ecology

Nyctosaurus was medium sized with a wingspan of approximately 6.5 ft. Its wings were extremely long relative to its body size, which would have given it a very upright posture when standing on the ground. Unlike the majority of pterosaurs, it had lost almost all of its fingers, only retaining the hyper-elongated wing finger, and that was also composed of only three bones rather than the usual four. Its jaws were long and toothless, and it had an unusual head crest composed of a short base with one long bar extending upwards, and another pointing backwards. These bars were up to 3 ft. in length on some individuals and were superficially antler-like.

Nyctosaurus is found exclusively in the Niobrara Formation, which is comprised of Late Cretaceous chalky rock formed along the edge of the Western Interior Sea, a stretch of shallow water that divided North America in two. This was a highly productive shallow seaway, brimming with life. In this setting, *Nyctosaurus* is seen as an analogue to the modern albatross, spending much of its time soaring over open ocean. This, combined with the strong similarity to the piscivorous (fish-eating) *Pteranodon*, suggests that it fed on the same food, catching fish on-the-wing as it flew low over water. Alternatively, it could have had the ability to plunge into the water like a modern Gannet. *Nyctosaurus* probably ate a wide diversity of fish, but may have consumed soft bodied invertebrates like squid or jellyfish as well.

Behaviour

Nyctosaurus' extremely long wings and lack of fingers would have made it one of the more awkward and ungainly pterosaurs on land. It likely spent a short amount of its life on the ground, either when nesting or resting, and spent the majority of its time soaring. It may even have rested on-the-wing.

NYCTOSAURUS

Small Beast (Pterosaur), unaligned

Armour Class: 11 (Fluffy Skin)
Hit Points: 10 (2d6 + 4)
Speed: 10 ft., fly 50 ft.

STR	DEX	CON	INT	WIS	CHA
5 (-3)	**13** (+1)	**5** (-3)	**3** (-4)	**10** (+0)	**10** (+0)

Saving Throws: Dex +3, Cha +2
Skills: Acrobatics +3, Perception +4, Stealth +2, Survival +3
Senses: passive Perception 14
CR: 1/8 (25 XP) **Proficiency Bonus:** +1

Handless. *Nyctosaurus has only one finger on each hand, which is utilised by its wing to support the membrane. It cannot climb any surface.*

Inter-Continental Migrator. *Nyctosaurus can fly for up to a week without needing to stop. It can sleep while flying, although its fly speed is reduced to 30 ft., and it can only fly in a straight line while it does so.*

Snatch Feeder. *If Nyctosaurus is flying, it does not provoke attacks of opportunity when it moves out of an enemy's reach.*

Actions

Headcrest 'Antler' Crash. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 3 (1d6) bludgeoning damage plus 3 (1d6) piercing damage.*

Nyctosaurus may only perform this attack if it flew at least 50 ft. this turn.

When Nyctosaurus makes this attack, it lands on the ground.

Beaked Peck. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d4 + 2) piercing damage.*

We recommend that *Nyctosaurus* be played in a manner befitting modern sea birds. It should prefer to remain in the air when possible and take any opportunity to snatch an easy meal, whether this is an unwary fish or the discarded remains of a party member's dinner. It should be cautious about being approached, retreating but never truly being driven off. If defending a nesting site, several *Nyctosaurus* should mob intruders. Its crest will largely be used for communication with other *Nyctosaurus*.

Phylogeny

Nyctosaurus was the most well-known member of the small family Nyctosauridae, with only two other taxa in the group. Members of this group have been found in Africa, North America, and South America, suggesting that they were fairly widespread. Nyctosauridae were exclusively from the Late Cretaceous and were related to the more well-known Pteranodontidae.

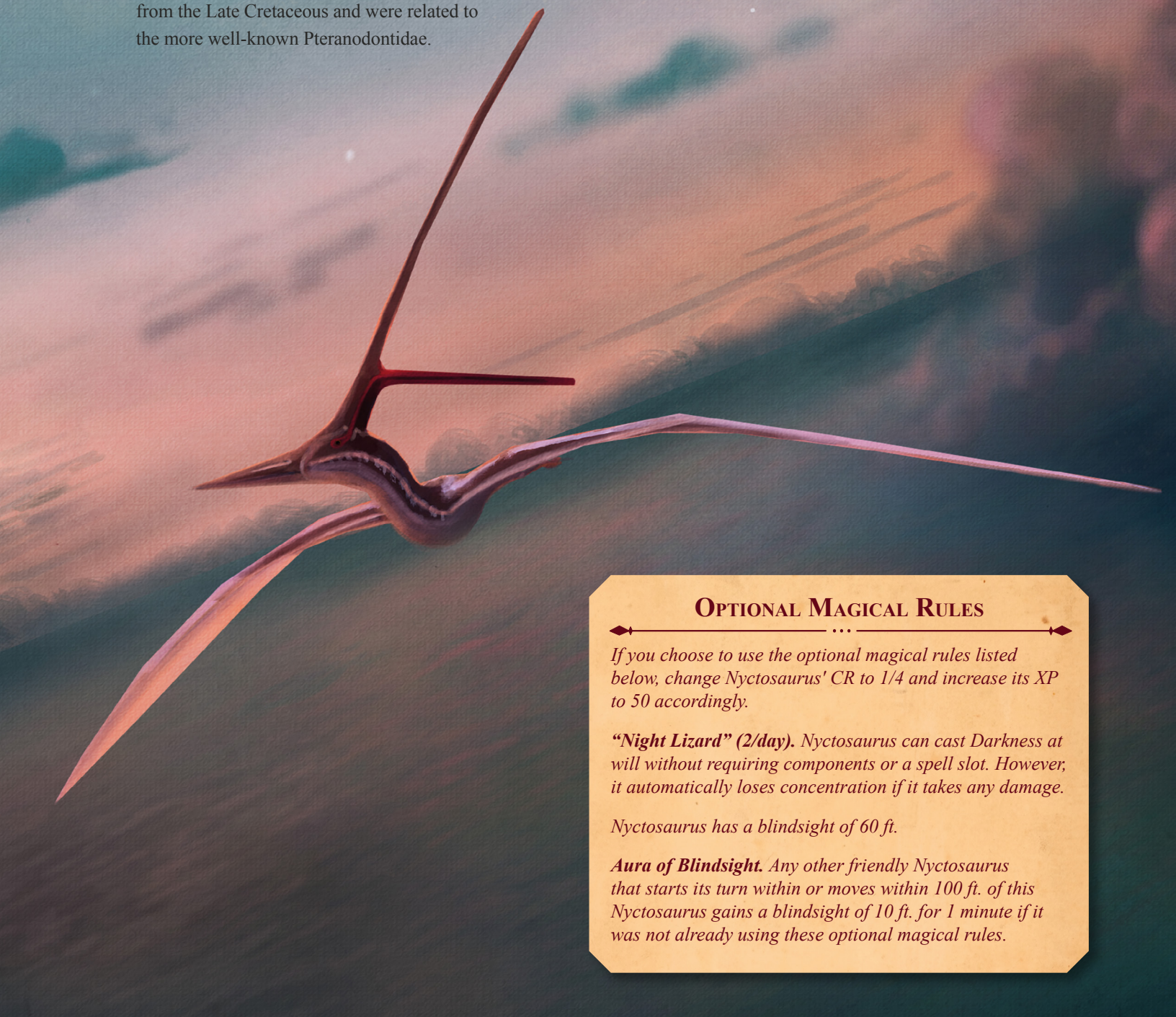
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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Nyctosaurus' CR to 1/4 and increase its XP to 50 accordingly.

"Night Lizard" (2/day). *Nyctosaurus can cast Darkness at will without requiring components or a spell slot. However, it automatically loses concentration if it takes any damage.*

Nyctosaurus has a blindsight of 60 ft.

Aura of Blindsight. *Any other friendly Nyctosaurus that starts its turn within or moves within 100 ft. of this Nyctosaurus gains a blindsight of 10 ft. for 1 minute if it was not already using these optional magical rules.*

OVIRAPTOR *"OH-VIH-RAP-TOR"* (EGG PLUNDERER)

We had started to run low on rations while trekkin' through the badlands. We had made sure we had surplus water, but food was the problem. After a few more hours of walkin' with growlin' stomachs, we encountered a series of nests guarded by honkin' squawkin' beaked gangly theropods. There was a wealth of eggs, but I knew we'd be in for a fierce fight to get 'em. Still, hunger pushes a man to do dangerous thin's.

Oviraptor is a small Late Cretaceous (75-71 million years ago) theropod from the Djadochta Formation of Mongolia and several other localities. Its egg-thieving name is the result of a misinterpretation of a remarkable fossil.

Ecology

Oviraptor was a small theropod at about 5 ft. long, with well-developed feathered plumage, a toothless beaked jaw, and a crest on the middle of its skull. Its legs and arms were quite long for its size with elongated fingers and large claws. By contrast, its tail was quite short for a theropod and ended in a pygostyle (the vertebrae were fused together), an adaptation that has been extended to the entire tail in modern birds.

Oviraptor is known from a number of formations in Mongolia which shared an arid/semi-arid environment with seasonal rains and rivers. While they do occur in wetlands, higher numbers are found in more desert-like environments. This seems to correspond with the size of other dinosaurs present, with *Oviraptor* being more common in arid formations with generally smaller dinosaurs. It is thought to have been an omnivore, hunting small prey while also feeding on low lying vegetation.

The original *Oviraptor* specimen (holotype) discovered in 1923 was a partial skeleton found lying on top of a nest of eggs. These eggs were initially misidentified as *Protoceratops* eggs and *Oviraptor*'s unusual mouth morphology led scientists to presume that it was a specialist egg feeder. This image of *Oviraptor* as an egg thief took hold in both scientific and non-scientific media as the defining aspect of the animal. Later CT scans revealed that the eggs in fact belonged to *Oviraptor*, and the fossil actually represented a protective parent shielding its nest from a colossal sandstorm.

Behaviour

Oviraptor was probably an opportunistic feeder, foraging for anything that it could devour and snatching up small prey items, rather than actively hunting. It was a protective parent that guarded its nest with its life and almost certainly formed mated pairs. Multiple pairs then probably lived in small flocks, in a similar manner to many modern social birds.

OVIRAPTOR

Small Beast (Theropod), unaligned

Armour Class: 14 (Feathers)
Hit Points: 13 (3d6 + 4)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
6 (-2)	**16** (+3)	**6** (-2)	**4** (-3)	**10** (+0)	**8** (-1)

Skills: Acrobatics +5, Perception +4, Survival +4
Senses: darkvision 60 ft., passive Perception 14
CR: 1 (200 XP) **Proficiency Bonus:** +2

Brooder. *Oviraptor are excellent parents and fiercely territorial of their nests. If Oviraptor is defending its nest, it attacks recklessly, giving it advantage on all attacks, but all attacks against it also have advantage.*

Crested Head Flush (1/day). *As a bonus action, Oviraptor can flush its crest with blood, giving it a vivid appearance. It gains advantage on Charisma checks and Charisma saving throws for the next 1 minute.*

Feathered. *When hit by an attack, Oviraptor can use its reaction to reduce any incoming bludgeoning damage by 1d4. When taking falling damage, Oviraptor can use its reaction to reduce the falling damage it takes by 2d10.*

Actions

Multiattack. *When choosing the attack action, Oviraptor may make one Snapping Beak attack and one Clawed Scratch attack.*

Snapping Beak. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 5 (1d6 + 2) piercing damage.*

Clawed Scratch. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 5 (1d4 + 3) slashing damage.*

We recommend *Oviraptor* be played as a highly social creature, with loud and expressive communication between its own species. It should readily flee from threats unless it is guarding a nest, where it should be exceptionally aggressive.

Phylogeny

Oviraptor is the most well-known member of the Oviraptoridae. These were generally small theropods with toothless jaws covered in keratin, often sporting a head crest that varied in shape from species to species. They were common in the arid environments of the Late Cretaceous, throughout what is now the Gobi Desert.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Oviraptor's CR.

Egg/Offspring Thief. *The original misinterpretation of Oviraptor as opportunistic egg thieves, when all evidence shows that they were actually attentive parents has left a bitter resentment within all Oviraptor.*

These creatures will now steal eggs and/or young of other species (including humanoids), but rather than devouring them, will instead care for them diligently and raise them as their own. Oviraptor gains proficiency in Stealth checks while stealing offspring.



PTERODAUSTRO *"TEAR-OH-DOW-STROW"* **(WING FROM THE SOUTH)**

Not all of our adventures were bombastic fights of life'n'death. Some days we really were just able to enjoy the sights. One warm evenin', while the sun was settin', we were relaxin' on a lakeside. We watched a flock of a dozen pterosaurs wadin' just off the shore. They had heads like upturned hairbrushes and were filterin' the water through their bristle-like teeth. With each slosh, they pulled small invertebrates out of the silt and gobbled 'em down. The sound of the water lappin' as they fed was so soothin', it almost put me to sleep right then and there.

Pterodaustro is a pterosaur from the Early Cretaceous (105 million years ago) Lagarcito Formation of Argentina. It has a distinctive and bizarre comb of tightly packed elongated teeth.

Ecology

Pterodaustro was a medium-sized pterosaur with a 10 ft. wingspan and weighed around 20 lbs. It had relatively robust limbs, large feet, and a long tail for its group, although much shorter than earlier long-tailed pterosaurs. *Pterodaustro*'s most distinctive feature was its head, which was very elongate, with most of that length being the curved jaws. Its lower jaw had over a thousand exceptionally thin, tall, blunt, and densely packed teeth that were 0.04 in. (1 mm) wide and 1.5 in. tall. These teeth formed a distinctive bristly comb superficially similar to the baleen of whales or the beak filaments of flamingos and are so unusual that they form the basis for interpreting *Pterodaustro*'s ecology.

Pterodaustro is considered to be a filter-feeding animal and it almost certainly gulped water, pushed it through its fine teeth, and swallowed whole any small invertebrates, fish, plankton, or plant fragments that remained. These would then be broken down in its stomach by small stones (gastroliths). Filter-feeding has been suggested for other closely related pterosaurs, but *Pterodaustro* possesses the most obvious and specialised adaptations for it.

Behaviour

Pterodaustro is usually depicted as the pterosaur analogue for modern flamingos. Its strong legs and wide feet would have allowed it to wade through shallow water comfortably or perhaps even swim. Research on *Pterodaustro*'s eggs indicate that its hatchlings were precocial (able to be independent) and probably had little parental care. This adaptation allowed *Pterodaustro* to evolve its cumbersome feeding apparatus, which would have otherwise prevented parental care in other lineages.

We suggest that *Pterodaustro* live in large flocks that settle in lakes and marshlands to feed. Each flock should

PTERODAUSTRO

Medium Beast (Pterosaur), unaligned

Armour Class: 11 (Fluffy Skin)
Hit Points: 16 (3d8 + 4)
Speed: 15 ft., fly 40 ft.

STR	DEX	CON	INT	WIS	CHA
6 (-2)	**12** (+1)	**10** (+0)	**4** (-3)	**12** (+1)	**12** (+1)

Saving Throws: Dex +3, Cha +3
Skills: Acrobatics +3, Athletics +2, Perception +5, Stealth +3, Survival +4
Senses: passive Perception 16
CR: 1/4 (50 XP) **Proficiency Bonus:** +2

Filter-Feeder. *Pterodaustro cannot be poisoned or damaged by contaminated or laced food or water.*

Quad-Launch (Pterodaustro). *If not already flying, as a bonus action, Pterodaustro can launch itself into the air. Every other creature within 5 ft. of it must succeed a DC 8 Strength saving throw or be knocked prone. Pterodaustro then begins to fly and must fly 10 ft. in a straight line (either horizontally, or vertically up).*

Pterodaustro can only begin flying by using this ability, or if it is falling.

Group Sentinel. *If three or more Pterodaustro are together, select one of them to be the Group Sentinel. That Pterodaustro has advantage on Perception checks.*

Actions

Wing-Buffet. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 5 (1d4 + 3) bludgeoning damage.*

have sentries: individuals who periodically scan the horizon for potential threats. When startled, the flock should simultaneously launch into the air, fleeing and confusing predators. As they swallow stones, *Pterodaustro* might accidentally ingest small gems washed out into lakes by local rivers. This makes them a high-value target for hunters, and *Pterodaustro* will be very wary of humanoids.

Phylogeny

Pterodaustro is a member of the Ctenochasmatoidea. This is a group of pterosaurs that arose in the Late Jurassic (152 million years ago), survived until the Early Cretaceous (105 million years ago), and includes the famous *Pterodactylus*. The group was reasonably successful, with fossils found on most continents. Basal animals like *Pterodactylus* were more generalist carnivores but the group became more specialist wading or aquatic feeders in later forms. One of the most derived subgroups, the Ctenochasmatidae (which includes *Pterodaustro*) became the most heavily specialised filter feeders.

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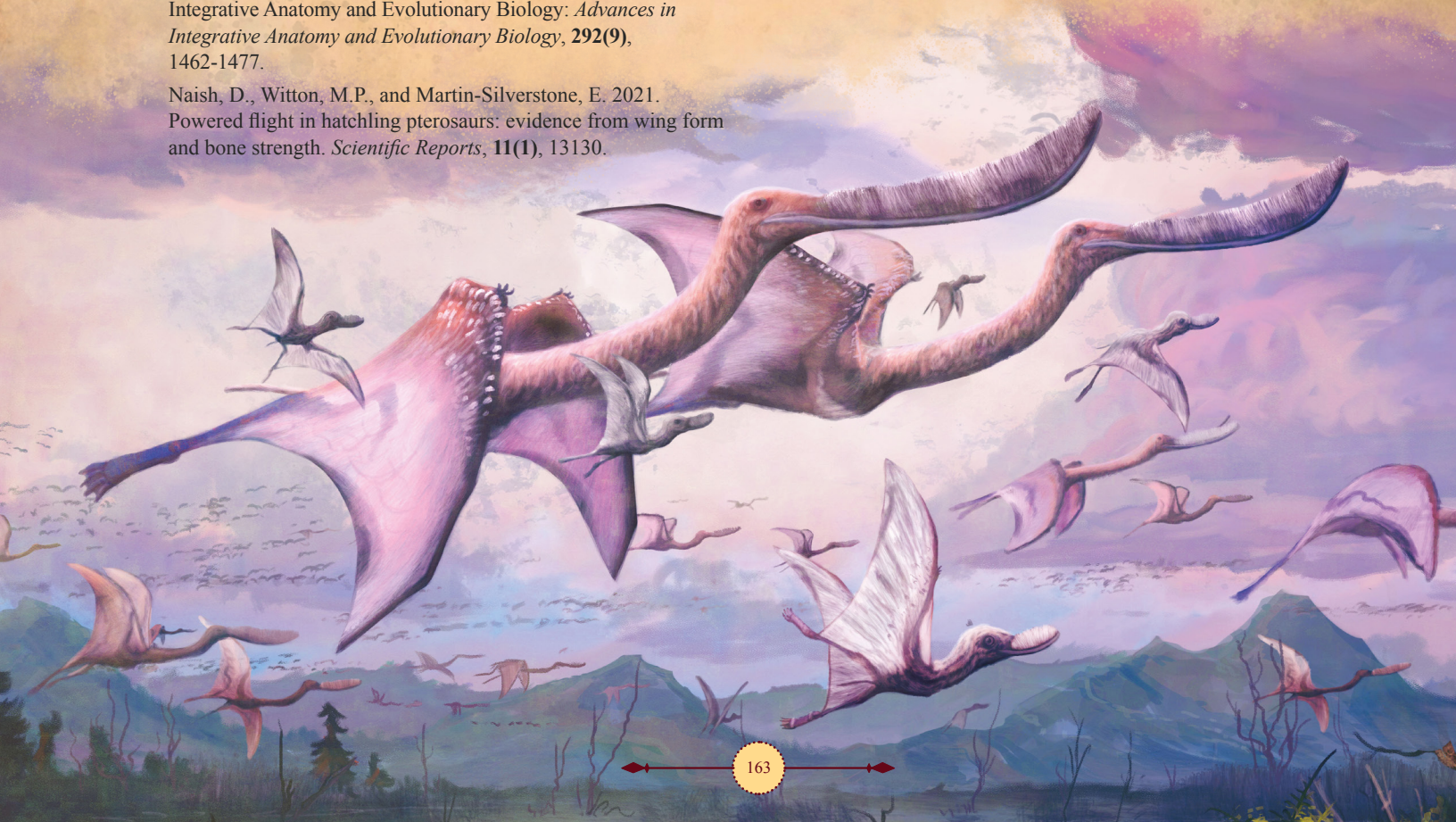
Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Pterodaustro's CR.

Swallowed Gemstone. *When encountering a group of Pterodaustro, one or more of them may be enchanted with a magical element from a gemstone they have swallowed. That Pterodaustro will glow with a soft hue and the damage type of its attacks will change to the corresponding type for that gemstone. You may roll a d10 or select from the table below to determine the gemstone swallowed, colour hue, and damage type:*

d10	Gemstone, Colour, Type
1	Ruby, Red, Fire
2	Sapphire, Sky Blue, Cold
3	Topaz, Yellow, Lightning
4	Augite, Black, Poison
5	Jade, Green, Acid
6	Tanzanite, Cerulean, Thunder
7	Citrine, Golden, Radiant
8	Amethyst, Purple, Psychic
9	Malachite, Viridian, Necrotic
10	Labradorite, Iridescent Rainbow, Force

When Pterodaustro is slain, the gemstone it swallowed is regurgitated (worth 50 gp).



QUETZALCOATLUS *"QUET-ZAL-COH-AH-TA-LUS"* **(AFTER THE AZTEC GOD QUETZACOATL)**

Few thin's compare to the monumental sight of a full-grown Quetz soarin' above. While sailin' along the coast we had the opportunity to witness their annual migration, with several spotted each day. Their huge blade-like wings let 'em glide effortlessly over the waters, as they made their way to their inland nestin' grounds. Biggest flyin' thin' I ever saw. We caught the sight of a couple more many hundreds of feet up too – tiny shapes that lost all sense of scale in the endless sky.

Quetzalcoatlus was a giant azhdarchid pterosaur from the Late Cretaceous (68-66 million years ago) of North America. Well known for being one of the largest flying animals, it stood tall enough to look a *Tyrannosaurus* in the eye.

Ecology

Quetzalcoatlus is among the tallest azdarchid pterosaurs, reaching a height of at least 10 ft. at the shoulder and 16 ft. at the head while standing. Its wings were much broader than other pterosaurs like *Nyctosaurus* (**page 158**) or *Rhamphorhynchus* (**page 168**) and, when fully outstretched, could span over 30 ft. across. Like other azdarchids, *Quetzalcoatlus* was well adapted for terrestrial movement, with sturdy legs and forearms. Its neck was very long and muscular, topped with an elongate toothless skull that had a hard keratinous beak and bony crest on the top. While not as heavily built as *Hatzegopteryx* (**page 89**), it was still one of the heaviest ever flying animals at over 400 lb. in weight.

Quetzalcoatlus is known from the Javelina Formation in Texas, North America. This Late Cretaceous Formation was deposited in a rich floodplain with nearby rivers and lakes. It is thought that these were situated far inland, with surrounding subtropical forests. *Quetzalcoatlus* was certainly capable of flying great distances and probably inhabited many environments, but would have favoured areas where there was room for it to take off and land. It did this via the 'quad-launch' method, propelling itself into the air using all four limbs, rather than taking a running start like some large birds.



Behaviour

Much of the behaviour of *Quetzalcoatlus* is still unknown, but some evidence suggests that the largest ones were solitary. It may have flown long distances to move between feeding sites, but otherwise spent most of its life walking along the ground, searching for prey. *Quetzalcoatlus* was previously thought to have been a specialised skim-feeder, but biomechanical analysis demonstrated that this was impossible. It is now thought to have hunted like a Indian hornbill, searching for smaller creatures while walking.

Quetzalcoatlus' size and proportions meant that it could not incubate its eggs by sitting on them, and instead likely buried them in warm rotting plant matter. Larger pterosaurs seem to have been less precocial than smaller ones, and hatchlings were probably fed and protected by a watchful adult.

We recommend that *Quetzalcoatlus* be played as a confident predator, stalking the landscape in search of prey. It may have been indiscriminate in its attempts to eat creatures smaller than itself, similar to a pelican, or curious of novel objects. While Medium-sized party members would likely be on the upper limit of prey,



QUETZALCOATLUS

Huge Beast (Pterosaur), unaligned

Armour Class: 14 (Leathery and Downy Hide)
Hit Points: 135 (11d12 + 69)
Speed: 35 ft., fly 100 ft.

STR	DEX	CON	INT	WIS	CHA
17 (+3)	**18** (+4)	**16** (+3)	**3** (-4)	**12** (+1)	**10** (+0)

Saving Throws: Dex +8, Wis +5
Skills: Athletics +6, Perception +9, Stealth +5, Survival +5
Senses: passive Perception 18
CR: 9 (5000 XP) **Proficiency Bonus:** +4

Quad Launch (Quetzalcoatlus). *If not already flying, as a bonus action, Quetzalcoatlus can launch itself into the air. Every other creature within 10 ft. of it must succeed a DC 16 Strength saving throw or be knocked prone. Quetzalcoatlus then begins to fly and must fly 20 ft. in a straight line (either horizontally, or vertically up).*

Quetzalcoatlus can only begin flying by using this ability, or if it is falling.

Stalking Stalk, Silent Glider. *If Quetzalcoatlus is walking within a forest or is flying, it has advantage on Stealth checks.*

Vicious Descent. *If Quetzalcoatlus began the turn flying and subsequently lands before making an attack, increase the damage of its first Colossal Peck attack by 1d10 this turn.*

Eye in the Sky. *While fling, Quetzalcoatlus has advantage on Perception checks that involve sight.*

Actions

Multiattack. *When Quetzalcoatlus chooses the attack action, it may make three Colossal Peck attacks.*

Colossal Peck. *Melee Weapon Attack: +8, reach 10 ft., one target. Hit: 19 (2d10 + 8) piercing damage.*

If a creature hit by this attack is Medium or Small in size, it must succeed a DC 16 Strength saving throw or be knocked prone.

Thunderous Flap (Recharge 5-6). *Each creature within a 15 ft. radius in front of Quetzalcoatlus (a semi-circle with the centre of the flat edge positioned on Quetzalcoatlus) must succeed a DC 16 Constitution saving throw or take 17 (5d6) bludgeoning and 17 (5d6) thunder damage. On a success they take half as much damage.*

Quetzalcoatlus should still be a major predatory threat. As it was probably solitary, adult *Quetzalcoatlus* should view each other as direct competition and may prioritise fighting each other over hunting prey, so long as they aren't courting.

Phylogeny

Quetzalcoatlus is the tallest member of the Azdarchidae. This is a group of medium-to-giant sized pterosaurs that occurred globally during the Cretaceous. They are generally characterised by their strongly-elongated neckbones and their long limbs, believed to be well adapted for a walking lifestyle. They are all toothless, with some having spear-like beaks. Their closest relatives are the Chaoyangopterids, a group of smaller pterosaurs that are thought to have lived similar lifestyles.



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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Quetzalcoatlus' CR.

Low-Gravity Aura. *Quetzalcoatlus drastically reduces the weight of objects and creatures in contact with it (including itself). A real Quetzalcoatlus would usually be able to carry a maximum weight of about 80-100 lb. This ability to increases its carry weight limit to 500 lb. and any howdah or saddle attached to it are considered weightless for the purposes of its carry weight. For each 100 lb. Quetzalcoatlus is carrying, reduce its fly speed by 10 ft.*

Lift Off. *While flying, as an action, Quetzalcoatlus may pick up an object (usually) weighing up to 500 lb. and up to Large in size. While carrying this object, it's fly speed is reduced by 10 ft. for each 100 lb. the object weighs.*

Quetzalcoatlus may drop a carried object at any point during its turn. If this object is dropped on a creature, that creature must succeed a DC 16 Dexterity saving throw or take 2d10 bludgeoning damage for each 100 lb. the object weighs. If the object is dropped from 50 ft. or higher, the bludgeoning damage is doubled, but the Dexterity saving throw DC is reduced to 12.

Aircraft-Sized Animal. *Quetzalcoatlus can carry up to three Medium (or smaller) humanoids on its back, and two further Medium (or smaller) humanoids in its hind claws. For each creature carried in this way, Quetzalcoatlus' fly speed is reduced by 10 ft.*

If Quetzalcoatlus is carrying two or more creatures using this rule, it cannot use its Lift Off action.

Feathered God. *You may choose for Quetzalcoatlus to be covered in vivid feathers.*



RHAMPHORHYNCHUS *"RAM-FOR-RING-CUS"* **(BEAK SNOUT)**

These tiny lil' pterosaurs are such a pain. They're highly inquisitive and have a nasty habit of snatchin' stuff right out of your hands. I guess they're used to grabbin' food, since they sometimes swallow the stuff without even thinkin'. Reminds me of herring gulls back in our time. Difference is, herring gulls ain't armed with dozens of protrudin' teeth! The hatchlin's of this species are gregarious – they find safety in numbers and bunch up into swarms. They get pretty hungry too and anyone carryin' food tends to get mobbed pretty quick. For somethin' so small, they can be quite fearsome in numbers. Almost like lil' angry flyin' piranhas.

Rhamphorhynchus was a medium sized rhamphorhynchid pterosaur from the Late Jurassic (150 million years ago) of Germany and Britain. It is one of the most famous Jurassic pterosaurs and has been found in huge numbers from famous sites like the Solnhofen Limestone Formation.

Ecology

Rhamphorhynchus was a medium-sized pterosaur, with the largest individuals reaching a wingspan of 6 ft. It had a jaw full of large, pointed, spaced teeth that interlocked when closed, forming a "fish trap", in the same manner as *Klobiodon* (**page 140**) and *Ludodactylus* (*page 105)*. It had a very small body for its wingspan, giving it a broad profile, while also having a long thin tail that ended in a triangular vane.

Like several other rhamphorhyncids, *Rhamphorhynchus* was an oceanic predator, flying over the sea and plucking prey from the water below. This is corroborated by its abundance in the Solnhofen Limestone Formation, which was deposited in a tropical coastal environment, with some freshwater influence. It probably hunted both near- and off-shore, plucking up fish and squid that were near the surface or being pursued by marine predators from below.

Behaviour

Based on the large number of specimens found, it's likely that *Rhamphorhynchus* was common along the Late Jurassic coasts and may have congregated in groups, forming shore-line colonies. Pterosaur hatchlings were precocial, meaning they could feed and climb from the moment they hatched. In fact, unlike modern birds, it seems that hatchlings may also have been able to fly very soon after hatching. This raises the question of what, if any, parental care existed for *Rhamphorhynchus*. Perhaps adults gathered to breed, but quickly moved on once the eggs were hatched, with little direct care for their young.

We suggest playing *Rhamphorhynchus* in a similar fashion to a gull. It should be an alert animal that is willing to snatch food wherever it can. It should also be an animal quick to adjust to player interaction and may become

RHAMPHORHYNCHUS

Tiny or Small Beast (Pterosaur), unaligned

Armour Class: 12 (Downy Skin)
Hit Points: 4 (1d4 + 2)
Speed: 10 ft., fly 30 ft., swim 20 ft.

STR	DEX	CON	INT	WIS	CHA
3 (-4)	**14** (+2)	**3** (-4)	**4** (-3)	**10** (+0)	**10** (+0)

Saving Throws: Dex +3
Skills: Acrobatics +3, Survival +1
Senses: passive Perception 15
CR: 1/8 (25 XP) **Proficiency Bonus:** +1

Morbid Regurgitation. *Rhamphorhynchus vomits up its stomach contents upon death. When Rhamphorhynchus dies, one creature within 5 ft. must succeed a DC 8 Dexterity saving throw or take 1d4 acid damage.*

Swooping Evasion. *If Rhamphorhynchus is flying, it can use its reaction to increase its AC by 3 when an enemy makes an attack of opportunity against it.*

Rhamphorhynchus can use its reaction to give itself advantage on any Dexterity saving throw when forced to make one.

Growth Spurt. *Rhamphorhynchus can be found as either a juvenile (Tiny) or adult (Small) creature.*

Actions

Spike-Toothed Snap. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

relatively friendly over time, especially if routinely fed. However, entering a creche or nesting area should result in a mobbing by angry adults or a swarm of juveniles.

Phylogeny

Rhamphorhynchus is the most well-known rhamphorhynchid, which are the stereotypical long-tailed pterosaurs with large fangs, elongate jaws, long wings, and a large tail tipped by a vane. While medium-sized for Pterosauria as a whole, until the Cretaceous these were the largest flying animals, with the biggest reaching a 10 ft. wingspan. The group is known from multiple sites throughout Europe, Asia, and the Americas. They arose in the Early Jurassic (180 million years ago) and persisted until the Late Jurassic (148 million years ago), where they seem to have disappeared as part of a major faunal turnover event between the Jurassic and Cretaceous, along with several other unrelated groups.

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Rhamphorhynchus' CR.

Snatch & Swallow. *When hitting with its Spike-Toothed Snap attack, Rhamphorhynchus may opt to deal no damage and instead try to snatch and swallow a small item (trinket, potion, wand, dagger, etc.) that it can see on the hit creature. The hit creature must succeed a DC 14 Dexterity saving throw or have the item snatched and swallowed by Rhamphorhynchus.*

If the item is magical, Spike-Toothed Snap becomes a magical attack and deals a damage type appropriate to the item (i.e., a swallowed Wand of Magic Missile changes it to force damage).

If the item provides healing (i.e., a healing potion), Rhamphorhynchus gains 1d4 + 2 temporary hit points.

Any swallowed non-food or non-potion item is regurgitated upon Rhamphorhynchus' death, and potions are regurgitated as empty vials.



RHAMPHORHYNCHUS (SWARM)

Medium Swam of Tiny Beasts (Pterosaur), unaligned

Armour Class: 12 (Downy Skin)
Hit Points: 44 (20d4 + 4)
Speed: 10 ft., fly 30 ft.

STR	DEX	CON	INT	WIS	CHA
3 (-4)	**14** (+2)	**3** (-4)	**4** (-3)	**10** (+0)	**10** (+0)

Saving Throws: Dex +3
Skills: Acrobatics +3, Survival +1
Senses: passive Perception 15
Condition Immunities: charmed, frightened, grappled, paralyzed, petrified, prone, restrained, and stunned
CR: 1 (200 XP) **Proficiency Bonus:** +1

Morbid Regurgitation (Swarm). *Each time Rhamphorhynchus (Swarm) drops below the hit point thresholds of 34, 24, 14, and 4, one of its members vomits up its stomach contents. One creature within 5 ft. of Rhamphorhynchus (Swarm) must succeed a DC 12 Dexterity saving throw or take 1d4 acid damage.*

Swarming Flurry. *Melee attacks against Rhamphorhynchus (Swarm) are made at disadvantage.*

Naive Juveniles. *This swarm is composed entirely of inexperienced juvenile animals. It has disadvantage on Wisdom saving throws.*

Swarm. *The swarm can occupy another creature's space and vice versa, and the swarm can move through any opening large enough for a Tiny beast. The swarm can't regain hit points or gain temporary hit points.*

The swarm is immune to being charmed, frightened, grappled, paralyzed, petrified, prone, restrained, and stunned (included above).

Actions

Multiattack. *Whenever Rhamphorhynchus (Swarm) chooses the attack action, it can make up to five Spike-Toothed Snap attacks.*

Spike-Toothed Snap. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Rhamphorhynchus swarm's CR.

Enchanted Swarm. *Rhamphorhynchus (Swarm) has already snatched dozens of magical items and incorporated them into their attacks. Each time Rhamphorhynchus swarm makes a Spike-Toothed Snap attack, you may roll a d10 and change the damage type of the attack according to the list below:*

d10	*Damage*
1	*Fire*
2	*Cold*
3	*Lightning*
4	*Poison*
5	*Force*
6	*Psychic*
7	*Thunder*
8	*Necrotic*
9	*Acid*
10	*Radiant*



SCELIDOSAURUS *"SKI-LIE-DOH-SORE-US"* **(LIMB REPTILE)**

We'd been travellin' through that accursed forest for days, barely able to see the sky through the thick canopy. When we reached the forest edge, the burstin' blindin' sky over the ocean was quite a sight to behold. I daren't let us rest though, as some mighty big beasties roam these shores. That's when I saw the first of 'em. A livin' mass-o-blades. But they was nothin' like I thought they'd be. Gentle to the touch — so long as you ain't touchin' the wrong spot! One took a likin' to me and, after I gave her a bit of bread, followed me for three days! Heh, never thought I'd befriend a dinosaur so easily.



SCELIDOSAURUS

Medium Beast (Thyreophoran), unaligned

Armour Class: 18 (Dense Osteoderms)
Hit Points: 31 (6d8 + 7)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**8** (-1)	**14** (+2)	**2** (-4)	**11** (+0)	**10** (+0)

Saving Throws: Str +3, Dex -2, Con +3
Skills: Stealth +1, Survival +2
Senses: passive Perception 10
Resistances: non-magical bludgeoning, piercing, and slashing damage
CR: 1 (200 XP) **Proficiency Bonus:** +1

Razor Osteoderms. *Any creature that hits Scelidosaurus with a melee attack suffers 1d6 slashing damage. Scelidosaurus may use its reaction to increase this to 2d4 slashing damage.*

Scelidosaurus is resistant to non-magical bludgeoning, piercing, and slashing damage (included above).

Oblivious. *Scelidosaurus automatically fails any Intelligence saving throws.*

Actions

Serrated Tail. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 6 (1d6 + 3) slashing damage.*

Scelidosaurus is a small basal thyreophoran, the group of armoured dinosaurs that includes stegosaurs and ankylosaurs. It is known from several Early Jurassic (195 million years ago) sites across the British Isles and is currently the only described dinosaur known from Ireland.

Ecology

Scelidosaurus was small for an armoured dinosaur, measuring about 12 ft. long and weighing around 600 lbs. Originally thought to walk on four legs (quadruped), it is now thought to have been a facultative biped (it could walk on two or four legs). It had a long and squat body, long tail, a relatively short neck, and a small skull with a pointed beak. Much of its skin was covered in thick osteoderms (bones embedded in the skin), forming either plated armour or raised pointed blades. Both types were covered in keratin, which may have given them a sharp point.

Like many thyreophorans, *Scelidosaurus'* narrow jaws and beak suggest that it was a selective browser, moving through ground foliage and feeding primarily on ferns and cycads. Its heavy armour would have made it relatively slow, but well defended.

Behaviour

Little is known about *Scelidosaurus'* behaviour, but research into other thyreophorans suggest that it may have lived in small groups. Its armour helped protect it from larger predators while its bladed tail could be used as a weapon, although most probably more often to hit other offending *Scelidosaurus*.

We recommend that *Scelidosaurus* live in small herds, moving through dense foliage in search of food. They should be wary but not particularly aggressive, rather like a herd of domestic sheep. While some may respond to being approached with warning swipes of their tail, others could be placid and tempted in with food. Once domesticated, they can function as livestock, mounts, or pack animals.

Phylogeny

Scelidosaurus is a member of Thyreophora, but its exact position within that group has been the subject of debate. Initially placed as an early ankylosaur (Ankylosauria), it was later moved to lower in the Thyreophora clade, as a separate early member belonging to neither Stegosauridae or Ankylosauria. More recent studies have rearranged Thyreophora and *Scelidosaurus* may have been accompanied by stegosaurs at the base of the group, with ankylosaurs being their more derived relatives.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Scelidosaurus' CR.

Domesticatable. *Scelidosaurus is particularly trustful of Small or Medium-sized creatures, largely due to its formidable defences. It is relatively easy to domesticate, and players can befriend a Scelidosaurus by feeding it consistently for a 1d4 + 1 days. However, their Razor Osteoderms prevent Scelidosaurus from being ridden without a bespoke saddle. Nevertheless, they make for friendly travelling companions.*

SHAROVIPTERYX *"SHAR-OF-IP-TER-RIX"* **(SHAROV'S WING)**

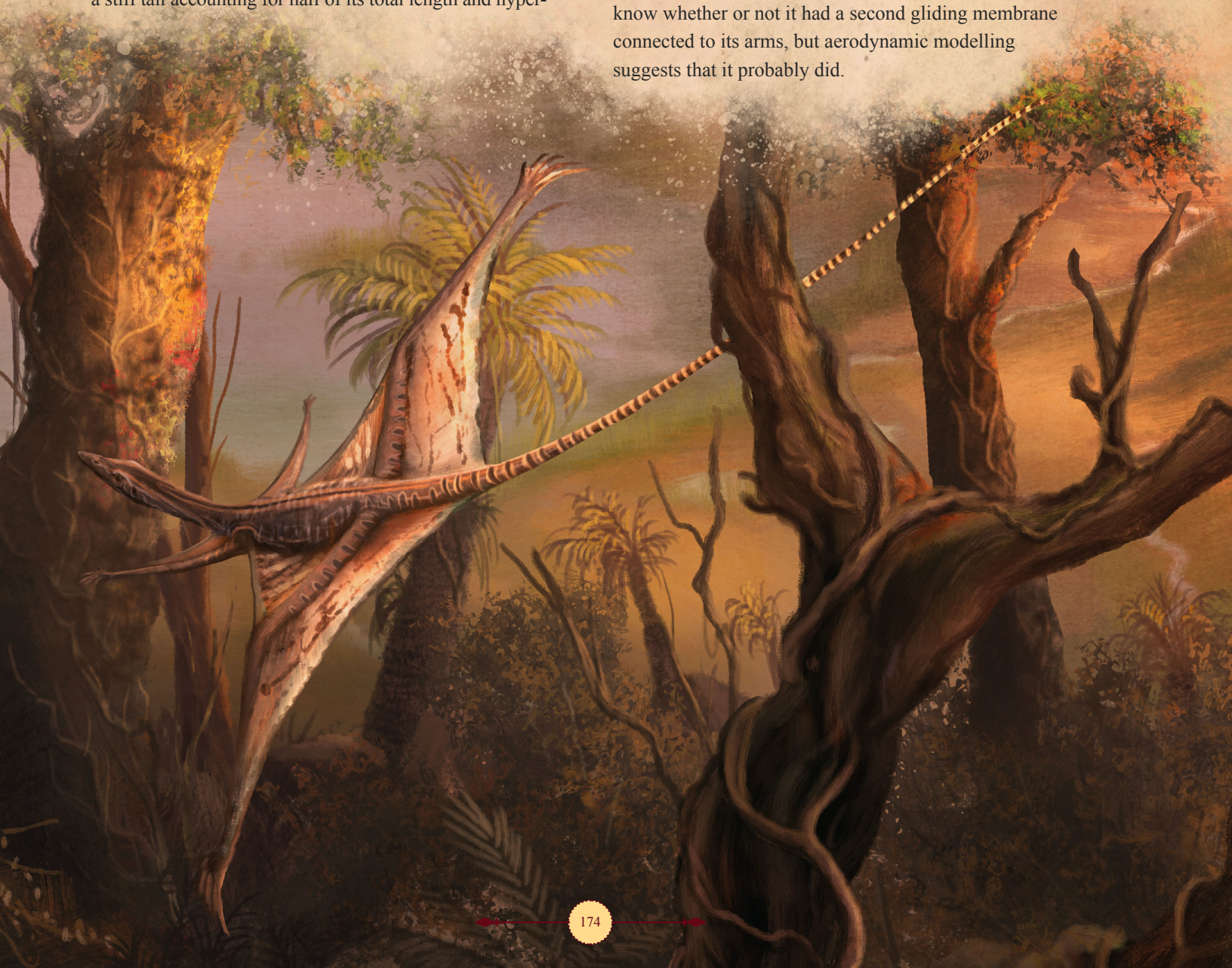
The jungle was bustlin' with life. Lizards, pterosaurs, and small dinosaurs filled the canopy above. As we walked below, I spied one particularly unusual critter soarin' between branches. It was a lil' lizard-like thing that was gliding usin' only its hind legs! Never seen anythin' like that before, how bizarre. We tried to get a closer look, but it was quite skittish and leapt from the tree whenever we went to climb up.

Sharovipteryx is a bizarre basal archosauromorph from the Middle Triassic (225 million years ago) Madygen Formation of Kyrgyzstan. It had extremely elongate hindlimbs that supported a gliding membrane.

Ecology

Sharovipteryx was a small animal at approximately 8in. long and is known from a single exceptional fossil. The front half of its body was rather unremarkable, with a simple reptilian head, sharp teeth, and short forelimbs, although some soft-tissue details may have been lost due to damage. Its hind quarters, however, were very unusual, with a stiff tail accounting for half of its total length and hyper-elongated hindlimbs with a gliding membrane. Specially adapted hips allowed the legs to be held out horizontally and the membrane stretched from the innermost toe on each foot to the tail, forming gliding wings.

Since *Sharovipteryx*'s discovery, most research has focused on its hindlimb membrane. It is unlike any other vertebrate known and there has been extensive discussion about how well it could glide. The current consensus is that it would have required a stabilising membrane on its forelimbs to help control its movement. Unfortunately, the specimen was over-prepared (too much of the rock was removed) when it was first collected, destroying soft tissue around the upper body. This means we don't know whether or not it had a second gliding membrane connected to its arms, but aerodynamic modelling suggests that it probably did.



Behaviour

Sharovipteryx almost certainly lived in wooded areas, climbing up the sides of trees and along branches. While searching for food or fleeing predators, it would have leapt into the air, extended its hindlimbs, and glided to a neighbouring tree, in a similar manner to gliding squirrels or frogs. Its size and sharp teeth suggest that it probably ate insects, snatching them up along tree trunks and branches.

We suggest that *Sharovipteryx* be played as an alert animal that is most active during the daytime. Adults should be territorial of their trees, defending them from competitors who might threaten their food supply. A party is unlikely to get close to one in the day but at night as light draws clouds of insects to a campsite, *Sharivopteryx* may descend from the trees hoping for an easy meal. *Sharivopteryx* should be skittish, but quickly accustomed to humanoids if they feed it. Once tamed, it can be a useful and stealthy companion.

Phylogeny

Sharovipteryx was originally named *Podpteryx* (foot wing) in its initial description, but it was quickly highlighted that this name had already been assigned to a genus of damselfly. It was subsequently renamed in honour of Aleksandr Grigorevich Sharov, the author who originally described it. *Sharivopteryx*'s phylogenetic relationships are still poorly understood, although it can be placed in Archosauromorpha with confidence. Beyond that, there is much uncertainty. It has previously been considered a close relative of pterosaurs, but also has been placed within its own group Sharovipteryigidae as a distant relative of true archosaurs. Ultimately, *Sharovipteryx*'s position in the tree of life is likely to change as research continues.

References

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Example damselfly: *Megaloprepus caerulatus*

SHAROVIPTERYX

Tiny Beast (Protorosaurian), unaligned

Armour Class: 12 (Membranous Skin)
Hit Points: 1 (1d4 -1)
Speed: 25 ft., climb 25 ft.

STR	DEX	CON	INT	WIS	CHA
2 (-4)	**14** (+2)	**7** (-2)	**3** (-4)	**12** (+1)	**4** (-3)

Saving Throws: Dex +4
Skills: Intimidation -2, Perception +4, Stealth +4
Senses: passive Perception 14
CR: 0 (10 XP) **Proficiency Bonus:** +2

Pelvic Membrane. *Sharovipteryx is immune to falling damage and can move up to 2 ft. horizontally for every 1 ft. it descends in the air, at no movement cost.*

While descending in the air in this manner (or while flying if you are using the optional magical rules), Sharovipteryx does not provoke attacks of opportunity when it moves out of an enemy's reach.

Actions

Gliding Snap. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 1 (1) piercing damage.*

Sharovipteryx may only use this attack while descending in the air (or while flying if you are using the optional magical rules).

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Sharovipteryx's CR.

Familiar. *Sharovipteryx may be used as a familiar via the Find Familiar spell or any similar effect.*

Podopteryx (1/day). *As an action, Sharovipteryx can take on the appearance of its original namesake, the Damselfly Podopteryx, for one minute. During this time, it gains a 40 ft. fly speed, its size becomes Miniscule, and its AC becomes 17.*

TANYSTROPHEUS *"TAN-IH-STROF-E-US"* (LONG HINGED)

We were followin' a small river upstream, searchin' for a good place to camp for the evenin'. Out of nowhere, a long neck and lil' head whipped out of the reeds and nipped one of our party members on the leg. At first, we thought it was a snake, but then it reared up several feet into the air and burst from the reeds, scurryin' into the water. As it dived, we saw the rest of its body. It was a weird lookin' beastie, with a neck twice as long as its body!

Tanystropheus is a reptile from the Middle Triassic (245 million years ago) of Europe and North America. It is well known for having one of the longest necks relative to body size of any animal.

Ecology

Tanystropheus was one of the longest basal archosauromorphs, reaching 16-20 ft. in length. Over half of that length is neck, which supported a small skull with elongate fangs. Like some pterosaurs (e.g., *Rhamphorhynchus* (**see page 168**)), these fangs interlocked to form a "fish trap" that could grasp wriggling slippery prey. Its legs were unusual, with the hindlimbs being much larger and more robust than the forelimbs.

The lifestyle of *Tanystropheus* is debated, with some authors suggesting a near-water terrestrial ecology and others asserting that it was entirely aquatic. In either case, its primary food source was probably fish. The most recent study supports a semi-aquatic lifestyle, living in either marginal marine environments (near-shore) or freshwater, swimming in a frog-like manner by kicking its hind legs. In these habitats, it may have used its long neck to dip-feed whereby it hid its body onshore and plunged its head into shallow water to snatch fish and squid.

However, some small *Tanystropheus* had very different dentition with conical teeth changing to flatter teeth towards the back of the mouth, suggesting that it crushed harder foodstuffs, perhaps small shelly organisms.

Behaviour

Tanystropheus almost certainly lived in and around water. It probably spent a significant proportion of its time swimming or wading through reedy shallows, hunting for fish, or it may also have remained stationary at the water's edge. In either case, it would have been able to flee from one medium to the other to escape predators.

We suggest that *Tanystropheus* be played with different behaviours depending on which environment it is in. On land it should be relatively static, dipping its head into the water to snap at fish. It will be passive until approached, when it will likely dive into the water to escape. However,

TANYSTROPHEUS

Medium Beast (Protorosaurian), unaligned

Armour Class: 11 (Scaly Skin)
Hit Points: 18 (3d8 + 6)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
11 (+0)	**13** (+1)	**11** (+0)	**3** (-4)	**8** (-1)	**8** (-1)

Saving Throws: Dex +2, Wis +0
Skills: Stealth +3, Survival +1
Senses: passive Perception 11
CR: 1/2 (100 XP) **Proficiency Bonus:** +1

Dip Feeder. *Tanystropheus has advantage on attacks against creatures that are submerged in water, so long as Tanystropheus' body is not also submerged in water. Tanystropheus can hold its breath for 5 minutes.*

Farstrike. *Tanystropheus often attacks from a concealed position, hiding its body while reaching out with its long neck to strike prey.*

If Tanystropheus attacks while hidden, its first attack deals an additional 1d6 piercing damage.

Actions

Multiattack. *If Tanystropheus chooses the attack action, it may make one Neck Strike attack and one Nip attack.*

Neck Strike. *Melee Weapon Attack: +4, reach 10 ft., one target. Hit: 4 (1d6 + 1) bludgeoning damage.*

A Medium or Small creature hit by this attack must succeed a DC 12 Strength or Dexterity saving throw (their choice) or be knocked prone.

Nip. *Melee Weapon Attack: +4, reach 10 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

it may be more aggressive if encountered in water, striking or snapping at those who disturb it while hiding its body among aquatic reeds. It will only leave the water if a large aquatic predator approaches it. A tamed *Tanystropheus* could be a popular companion for fishing cultures, assisting them by snatching up fish while on their boats, similar to real-world cormorant fishing.

Phylogeny

Tanystropheus is the largest member of the Tanystrophidae. This is a group of primarily long-necked archosauromorphs, related to animals like *Sharivopteryx* (**see page 175**). Exclusively Triassic, they are found on every continent and in both terrestrial and aquatic environments. The group arose around the Early Triassic (250 million years ago) and survived until the Late Triassic (201 million years ago), where they were among the many victims of the Triassic-Jurassic extinction event.

Optional Magical Rules

If you choose to use the optional magical rules listed below, change Tanystropheus' CR to 2 and increase its XP to 450 accordingly.

Basal Hydra. *Increase Tanystropheus' Hit Points to 58. Each time Tanystropheus takes damage, it grows an additional head up to a maximum of six. When Tanystropheus uses Multiattack, it may make an additional Nip attack for each head beyond the first, up to a maximum of six Nip attacks.*

Tanystropheus starts with two heads.

References

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UTAHRAPTOR *"YOU-TAH-RAP-TOR" "* **(UTAH PLUNDERER)**

Unlike their smaller cousins, these ones are truly somethin' to be feared. Boundin' out of the brush in a flurry of teeth, claws, and feathers, they'll rip all but the hardiest foes to shreds in a matter of moments. No qualms about takin' on something much bigger than themselves either. We spied five workin' their way through a clearin', takin' out a large hadrosaur in one go. Thankfully, we were way up a steep cliff, otherwise we might've been puddin'.

Utahraptor is a dromaeosaurid from the Early Cretaceous (135 million years ago) Cedar Mountain Formation of Utah, North America. It was the heaviest and possibly the largest member of the dromaeosaurid family.

Ecology

By dromaeosaur standards *Utahraptor* was enormous, measuring at over 16 ft. long and weighing more than 600 lb. It was very robust and powerfully built, with strong jaws and limbs. Like most dromaeosaurs, it had a large retractable sickle-shaped claw on each foot which would have been used to puncture and hold prey, rather than slash or cut. Its forelimb claws were also very large and robust. While there is no direct evidence of feathers in *Utahraptor*, we are confident that it was feathered, as all closely related animals are (determined through phylogenetic bracketing (see **page 13**). *Utahraptor*'s most distinctive feature, other than its size, is a slightly downturned tip of its lower jaw, splaying its lower teeth forward.

Utahraptor's fossils are found in the Cedar Mountain Formation, a series of non-marine sediments that were deposited by rivers, lakes, and floodplains over a very long time period. During this prolonged time, the surrounding environment varied with climate, from hot arid scrubland to humid forest. *Utahraptor* was one of the larger predators in its environment and is clearly built for power. It would have predated upon almost every other large animal in the Cedar Mountain Formation.

Behaviour

Some fossils preserve remarkable behaviour and there is one particularly spectacular specimen for *Utahraptor* that preserves nine individuals in a single sandstone block. These animals include adults, subadults, juveniles, and hatchlings all clustered above one iguanodont herbivore. This is hypothesised to be a "predator trap" whereby one herbivore died in quicksand and subsequently so too did many predators while trying to reach it. The age range of *Utahraptor* present



suggests that these were large family groups and that they may have been pack hunters. However, it is also possible that this association is by chance (actually representing a flash flood deposit), or that the *Utahraptor* were unrelated and drawn to the same trap one after the other.

We suggest that *Utahraptor* be played as a highly social predator, living in groups of mated adults with subadults, juveniles, and babies in close association, generally protected by the adults. Within these groups individuals should be communicative and playful with each other. While hunting, cooperation should vary with age, with the eldest *Utahraptor* leading subadults on hunts, and younger *Utahraptor* following at a distance. Young animals may hunt small prey themselves but will also scavenge from the adult's kills in a strict pecking-order.

Phylogeny

Dromaeosaurs were a highly successful group of mostly small-sized predatory theropods, but *Utahraptor* highlights that some became very large indeed. Currently only four giant dromaeosaur species are known, but these belong to different subgroups that may have had very different lifestyles, suggesting that giantism occurred independently multiple times within Dromaeosauridae.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Utahraptor's CR.

Mimicking Cry. *Utahraptor can imitate the sound of any creature or noise it has heard with accuracy, much like a parrot. It tends to use this ability while hiding to lure prey closer to it.*

If a creature uses its action to examine the sound, it can determine that it is a mimicked effect with a successful DC 14 Investigation check.

UTAHRAPTOR

Large Beast (Therapod), unaligned

Armour Class: 15 (Thick Feathery Coat)
Hit Points: 88 (9d10 + 43)
Speed: 50 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**16** (+3)	**12** (+1)	**5** (-3)	**14** (+2)	**10** (+0)

Saving Throws: Str +4, Dex +5, Int +0, Wis +2
Skills: Acrobatics +5, Athletics +5, Intimidation +4, Perception +5
Senses: darkvision 60 ft., passive Perception 15
CR: 4 (1100 XP) **Proficiency Bonus:** +3

Leaping Ambush. *If Utahraptor was hidden at the start of its turn, it's Razor-Clawed Kick gains the following benefits this turn:*

- An additional +3 to hit.

- An additional 1d8 + 3 slashing damage (as the weight of Utahraptor rends its claws down the target's body).

- Any Medium or smaller creature hit by it is knocked prone.

Athletic and Pneumatized. *Utahraptor can jump up to 30 ft. from standing and it takes half damage from falling.*

Grappling Predator. *If a creature smaller than Utahraptor is hit by Utahraptor's Razor-Clawed Kick, that creature is grappled (escape DC 17).*

If a creature the same size category as, or larger than, Utahraptor is hit by two Razor-Clawed Kick attacks in the same turn, it is grappled (escape DC 20).

Social Hunter. *If more than one Utahraptor is tracking a creature together, they all have advantage on Survival and Perception checks to track that creature."*

Actions

Multiattack. *If Utahraptor chooses the attack action, it may make one Vicious Bite attack and one Razor-Clawed Kick attack.*

Vicious Bite. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 10 (2d6 + 3) piercing damage.*

Razor-Clawed Kick. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 13 (2d8 + 4) piercing damage.*

VELOCIRAPTOR *"VEH-LOSS-IH-RAP-TOR"* **(SWIFT PLUNDERER)**

These quick lil' things really lived up to their name. Vicious as anything – two of 'em jumped me while I was takin' a wizz. Lightnin' fast attack. Thankfully, as soon as the rest of the party came runnin' to me cries for help, they scattered. Not interested in takin' on lots of prey at once it seems. The party found me all scratched up in a heap though. What an embarrassin' encounter.

Velociraptor is the most famous member of the Dromaeosauridae (popularly known as the 'raptors'). A small theropod from the Djadochta and Bayan Mandahu formations, it is one of the best-preserved dromaeosaurs with several complete specimens. Despite this, its fame has made it one of the most frequently misrepresented dinosaurs in media.

Ecology

Velociraptor was a small dromaeosaur at 2 ft. tall and 6 ft. long. It had an unusually narrow and elongate skull which gave it a distinct profile. Like most dromaeosaurs, it had long fingers ending in hooked claws and a single strongly-enlarged sickle shaped claw on each foot. While large, this claw was not suited to slashing or cutting. Instead, it was for pinning or grappling small prey. Like other dromaeosaurs, *Velociraptor* was covered in feathers with well-developed 'wings' (though it couldn't fly) and a broad tail. As with many modern birds, it is plausible that males and females had sexually dimorphic plumage (possessing different feather colours and patterns).

Velociraptor was an active predator, hunting prey by leaping onto it and pinning it with its large claws while stabilising itself with its wings. It likely killed prey by biting at their necks, causing death by blood loss. One exceptional fossil even preserves the moment a *Velociraptor* was fighting with a *Protoceratops*. Both died and were preserved by a collapsing sand dune. In addition to hunting, *Velociraptor* would have also scavenged, like most modern carnivores.

Behaviour

Velociraptor would have been an active semi-nocturnal opportunistic hunter. Alert and curious, it could have hunted alone or in pairs. Hatchlings probably stayed with their parents until they were old enough to hunt small prey themselves. *Velociraptor*'s wings may have been used for communication, with swift flicks similar to modern crows, and perhaps also used to mantle kills (extending them over a carcass while feeding to hide it from other predators).

We suggest *Velociraptor* be played as an alert predator, actively monitoring its territory. It may stalk intruding parties for a while before determining whether to attack and should not necessarily be scared off by humanoids' presence alone. Large groups may be found scavenging corpses but *Velociraptor* should not hunt in a pack. Instead, each individual or pair should function as their own unit, similar to modern birds of prey.

Phylogeny

Velociraptor was a dromaeosaurid, a very well-known family of generally small to medium sized theropods that occurred on every continent and are commonly referred to as "raptors". Within Dromaeosauridae, *Velociraptor* is part of the Velociraptorinae sub-family, which are mostly small dromaeosaurs with elongate skulls.



The Price of Fame

Velociraptor rose to fame in the late 80s and early 90s through its prominent role in the *Jurassic Park* franchise, based on Michael Crichton's books. While dramatic and popular, it was inaccurately portrayed in the franchise. This was, in part, due to science at the time considering *Velociraptor* a potential synonym of the larger *Deinonychus*, which Crichton incorporated into his writing. This resulted in *Velociraptor* being misrepresented in media as a large hyper-intelligent pack hunting animal for decades. While recent studies have suggested some large predatory dinosaurs may well have been much more intelligent than previously assumed, *Velociraptor* is not believed to have been particularly smart or prone to pack hunting. Today, incorrect depictions of animals like *Velociraptor* in the media have led to an increasingly vocal movement to find a balance between scientific accuracy and engaging science fiction – exactly what we are attempting in this book!

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Velociraptor's CR.

Vivid Familial Groups. *Each time the party encounter Velociraptor, it may be present in groups of 3-6 animals, representing a family group. Some of these animals may be hidden nearby. This group consists of an adult male, adult female, and 1-4 subadult animals.*

These animals all share a similar dazzling under-plumage that is hidden by overlying feathers (it does not hinder their ability to be stealthy) and is unique to their group.

Dazzling Reveal. *As an action, Velociraptor may unleash a dazzling array of magical display feathers. One enemy creature within 30 ft. of Velociraptor must succeed a DC 12 Dexterity saving throw or take 2d6 damage of a damage type that corresponds to their plumage colour, or psychic damage (DM's choice).*

VELOCIRAPTOR

Small Beast (Theropod), unaligned

Armour Class: 13 (Feathers)
Hit Points: 15 (4d6 + 3)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
6 (-2)	**17** (+3)	**11** (+0)	**5** (-3)	**10** (+0)	**12** (+1)

Saving Throws: Dex +6, Int +0
Skills: Perception +6, Stealth +6, Survival +6
Senses: darkvision 60 ft., passive Perception 15
CR: 1/2 (100 XP) **Proficiency Bonus:** +3

Feathered and Pneumatized. *Velociraptor can leap up to 15ft. from standing. It takes no damage from falling, unless incapacitated in which case it takes half damage instead.*

Grasping Predator. *If Velociraptor hits a creature the same size or larger than itself with its Clawed Kick, it can opt to grasp onto it. Whenever that creature moves, Velociraptor moves with it (without using any of its own movement) and is considered to be occupying the same space as it. A Small creature is grappled while Velociraptor is grasping onto it.*

As an action, the hit creature may make a DC 12 Strength saving throw to remove Velociraptor, ending this effect and pushing Velociraptor 5 ft. directly away from it on a success. Alternatively, Velociraptor may choose to end this effect at any time.

If two or more Velociraptor are grasping the same Medium or Large creature with this ability, halve its movement speed.

Silent Ambush. *Velociraptor can move without making a sound. It automatically passes any Stealth check to avoid being detected by sound while hidden. Other creature's Perception checks that would detect Velociraptor only by sound automatically fail.*

Actions

Multiattack. *If Velociraptor chooses the attack action, it may make one Sharp Bite attack and one Clawed Kick attack.*

Sharp Bite. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 8 (1d6 + 5) piercing damage.*

Clawed Kick. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 5 (1d4 + 3) piercing damage.*





YOUNG TYRANNOSAURUS *"TIE-RAN-O-SORE-US"* (TYRANT LIZARD KING)

We pushed through thick undergrowth that reeked of rotting meat, the sickly smell fillin' me nostrils. The half-devoured carcasses of various herbivores lit'ered the area, decayin' slowly. "This is rex territory" I whispered to the rest of the party. "But tis OK, we'll hear 'em comin' long befo-". My words were split by the sudden crash of bushes and trees bein' crushed beneath the thunderin' charge of a dinosaur. Far smaller than expected, but also far faster, a young Tyrannosaurus rex was barin' down on us somethin' fierce.

Tyrannosaurus is inarguably the most famous fossil animal and was the heaviest land carnivore known. Much of *Tyrannosaurus*' ecology and morphology has been studied extensively, and one area of particular interest is the stages of growth that *Tyrannosaurus* underwent. Several immature fossils of *Tyrannosaurus* demonstrate that it underwent dramatic changes throughout its life that not only altered its size and general appearance, but also its niche within an ecosystem.

Ontogeny

Ontogeny is the study of how an animal changes through life, from the fertilisation of its egg to it maturing into an adult and beyond. In addition to increasing in size, the young of many animals undergo dramatic changes as they mature. The classic extreme example of this is the metamorphosis that a tadpole undergoes when becoming a frog. In dinosaurs, ontogenetic changes include bones fusing together, jaws size ratios changing,

YOUNG TYRANNOSAURUS

Large Beast (Theropod), unaligned

Armour Class: 13 (Tough Scales)
Hit Points: 107 (9d10 + 62)
Speed: 50 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	**14** (+2)	**15** (+2)	**4** (-3)	**12** (+1)	**9** (-1)

Saving Throws: Str +5, Dex +4, Wis -3
Skills: Athletics +5, Perception +4, Stealth +3
Senses: passive Perception 16
CR: 5 (1800 XP) **Proficiency Bonus:** +3

Burst of Speed. *Young Tyrannosaurus can dash as a bonus action.*

Naive. *Young Tyrannosaurus has a -3 modifier to Wisdom saving throws (included above).*

Tailswipe. *As a bonus action, Young Tyrannosaurus may swipe at a single creature within 5 ft. with its tail. That creature must succeed a DC 15 Dexterity saving throw or take 17 (3d6 + 7) bludgeoning damage. Young Tyrannosaurus cannot target a creature with this ability that it is currently grappling.*

Actions

Snapping Bite. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 23 (4d8 + 5) piercing damage.*

A Medium or smaller creature hit by this attack is grappled (escape DC 14). Young Tyrannosaurus cannot Snapping Bite another target while grappling a creature.

developing horns or frills, growing elaborate feathers, changes in their teeth, and much more.

Tyrannosaurus has very interesting ontogeny, as juveniles were strikingly different from their parents. So different in fact that some juvenile skeletons have been described as new genera. The most famous example of this is a specimen that was initially assigned to the new genus '*Nanotyrannus'*. Young *Tyrannosaurus* was lightly built with long thin legs, making it a faster animal. Its skull was also much lighter and elongate, although still distinctly tyrannosaurian, reducing its bite strength to size ratio significantly. It retained this gracile morphology until it was at least 13 years old, at which point it underwent a rapid period of growth and bulking until the age of about 15-18 years, but continued to grow afterwards (**page 195**).

Niche Partitioning

We know that young *Tyrannosaurus* was at least semi-precocial (able to fend for itself somewhat) and probably hunted its own food. The smaller size and gracile build of juvenile *Tyrannosaurus* made it a fast predator, but one that" could not tackle large prey. It likely would have snuck within charging range, then run down prey smaller than itself. This means that the two life-stages occupied different niches, relying on different resources to avoid direct competition with one another.

Behaviour

We recommend that young *Tyrannosaurus* be played as an ambush predator, quietly stalking prey until it is close enough to charge. It can be significantly more active than its adult counterparts, since it will require lots of food to fuel its growth. Young *Tyrannosaurus* may have been less territorial than other similarly sized predators, as it was likely operating within one of its parent's territories. When challenged, it could flee to a parent, prompting them to seek out whoever upset its offspring.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Young Tyrannosaurus' CR, but keep in mind that this adds two extra CR 8 creatures to the encounter.

Cliff Scene. *When Young Tyrannosaurus is reduced to 0 hit points, it lets out a shrill cry. A few moments later, the roar of two adult Tyrannosaurus rex can be heard in the distance. After one minute, two Tyrannosaurus Rex (Basic Rules, pg. 157) appear and attack the party, focusing initially on whoever reduced the Young Tyrannosaurus to 0 hit points. If another adult Tyrannosaurus is already present, this affect does not occur.*

ZUUL *"ZOOL"* (AFTER ZUUL FROM GHOSTBUSTERS)

As we moved over the rollin' scrub, we came across somethin' remarkable. A lone dinosaur feeding on scrub, entirely oblivious to us. Few times in my life had I ever come across such an unyieldin' amount of muscle and armour. When I first saw this thing, I knew it was built for one thing and one thing only – defence. We studied it in detail. Armoured back, armoured limbs, even armoured eyelids. Unbelievable. It didn't even seem to mind us flittin' around it.

Zuul is an ankylosaur from the Late Cretaceous (75 million years ago) Judith River Formation of North America. A close relative of *Ankylosaurus* that takes its name from the Ghostbusters franchise, it has recently revealed behavioural interactions of ankylosaurs.

Ecology

Zuul was a medium sized ankylosaur that measured approximately 20 ft. long and may have weighed 2 tonnes. Its morphology is typical for the ankylosaurs, with short stout legs, a wide body, rows of spikey osteoderms (bones embedded in the skin) that form a layer of armour, a broad head, and a heavy club on the end of its tail. It had an enormous gut for its size, making it an extremely rotund animal.

Zuul was a low-grazing herbivore with broad, leaf-shaped teeth, and fed on a variety of ferns, shrubs, leaves, succulents, and fruits. It probably could not process hard woody plants like some other dinosaurs, although may have swallowed small stones (gastroliths) to help grind material in its stomach. It lived in coniferous forests among shade-dwelling plants, rather than in open fernland.

Behaviour

For many years it was assumed that ankylosaurs used their clubs exclusively to fight off predators. However, recent studies of *Zuul*'s holotype have revealed that several healed injuries were likely the result of tail-club attacks from other *Zuul*. This indicates that it engaged in intraspecific combat, although its club was undoubtedly also used as a defensive weapon. Additionally, an exceptionally preserved larynx found in *Pinacosaurus*, a small Asian ankylosaur, showed much stronger similarities to modern birds than crocodiles or reptiles. This suggests that the group produced complex high-pitched sounds and were quite vocal, perhaps even melodic, animals.

We suggest that *Zuul* be a relatively sedate animal, lumbering through the undergrowth, perhaps in small herds of 4-5 animals. A party might hear the clash of clubs against armour or a chorus of calls long before they see *Zuul*. As long as the herd isn't disturbed, *Zuul* should be

ZUUL

Large Beast (Thyreophoran), unaligned

Armour Class: 20 (Extensive Osteoderms)
Hit Points: 72 (10d10 + 22)
Speed: 20 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	**4** (-3)	**16** (+3)	**2** (-4)	**14** (+2)	**8** (-1)

Saving Throws: Con +6, Wis +4
Skills: Acrobatics -10, Athletics -8, Intimidation +4, Perception +3
Senses: passive Perception 11
Resistances: non-magical bludgeoning, slashing, and piercing damage
CR: 5 (1800 XP) **Proficiency Bonus:** +2

Ankylosaur Osteoderms. *Zuul is resistant to non-magical bludgeoning, slashing, and piercing damage, has an AC of 20, a -10 modifier to Acrobatics, and a -8 modifier to Athletics (excluding for shove and grapple checks, all included above).*

Hulking Mass. *Zuul has disadvantage on all Dexterity saving throws, but advantage on all Constitution and Strength saving throws.*

Actions

Clubbed Tail. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 19 (2d12 + 6) bludgeoning damage.*

A creature hit by this attack must succeed a DC 14 Strength saving throw or be knocked prone. Any creature knocked prone by this attack (or was already prone) must then succeed a DC 14 Constitution saving throw or suffer a "shattering blow" and have their movement speed reduced by 10 ft.

A lesser restoration spell, equivalent effect, or long rest is required to remove "shattering blow". Multiple "shattering blows" are cumulative, reducing a creatures movement speed by 10 ft. for each blow (to a minimum of 5 ft.).

non-aggressive, instead focusing on feeding and socialising. When threatened, any *Zuul* should stand its ground, making intimidating motions by swinging its heavy tail.

Phylogeny

Zuul is a member of the Ankylosauria. This group of armoured dinosaurs is divided into several subgroups, and included the relatively small animal *Struthiosaurus* (**page 93**) and the larger well-known *Ankylosaurus*. Like *Ankylosaurus, Zuul* was an ankylosaurid and the two were closely related. Ankylosaurids seem to be restricted to Laurasia (North America, Europe, and Asia), but were very successful within that geographic range, appearing in the Early Cretaceous and surviving until the end-Cretaceous extinction.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Zuul's CR to 7 and increase its XP to 2900 accordingly.

Ectoplasmic Reach. *A ghoulish jelly like substance extends the from Zuul's tail. Increase the reach of Zuul's Clubbed Tail attack to 15 ft. and change its damage type to necrotic.*

The Gatekeeper (1/day). *As an action, Zuul can attempt to open an interdimensional portal directly in front of it that ejects malicious energies. Roll a d20:*

On a 1, Zuul detonates with malicious magical energies, dealing 8d8 necrotic damage to itself and 4d8 necrotic damage to each other creature within 25 ft.

On a 2-10, an unstable portal forms for 1 minute and pulses with malicious energy. Each creature (other than Zuul) within 25 ft. of it must succeed a DC 12 Constitution saving throw or take 1d8 necrotic damage. As a bonus action, Zuul can pulse the portal, forcing this save again.

On an 11-19 a metastable portal forms for 1 minute and crackles with malicious energy. Each creature (other than Zuul) within 25 ft. of it must succeed a DC 12 Constitution saving throw or take 1d8 necrotic damage and gain vulnerability to necrotic damage for 1 minute. As a bonus action, Zuul can pulse the portal, forcing this save again.

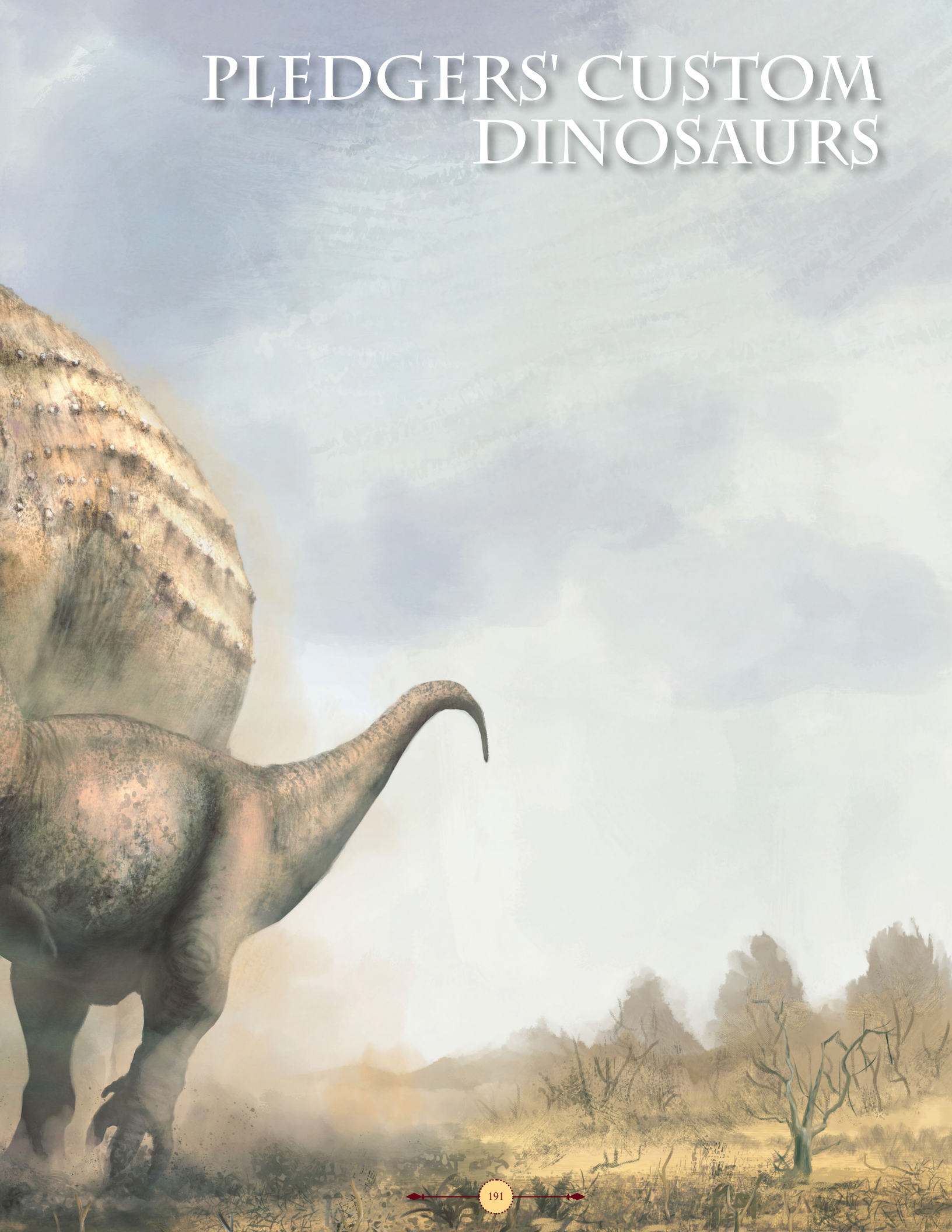
On a 20 a stable portal opens for 1 minute. Each creature (other than Zuul) that starts its turn within or moves within 25 ft. of the portal gains vulnerability to necrotic damage. At the start of their turn, any creature (other than Zuul) within 25 ft. of the portal suffers 1d8 necrotic damage.

If Zuul is slain, the portal it created either closes or stabilises to another plane of existence (DM's decision) for 1d20 minutes.





PLEDGERS' CUSTOM DINOSAURS



ANCIENT TYRANNOSAURUS

"TIE-RAN-O-SORE-US"
(TYRANT LIZARD KING)

CHOSEN BY
ROSS GRUNDLER

For a week we had been restin' at a small settlement in the Southeast of the continent, eager to explore further South. Our gracious hosts warned us not to go traipsin' through the southern forests, as it was guarded by a fearsome beast. They just kept callin' it the "Blue Death" and told hyperbolic stories of a maw so great that'd swallow a full party whole and limbs so powerful that they couldn't be stopped.

Nevertheless, our adventurin' drive was strong so we decided to push on with our plans, while takin' their warnin's to heart. We were cautious and travelled quietly. After a couple days walk, we were enterin' its territory. The first signs we got of its presence was a rumblin' that shook the very ground. A deep-bass bellow in the middle of a bright night, well-lit by a full moon. It shook our bedrolls and our campfire clanged as the pots fell from their hooks.

We just had to see this thin' before we move on. We tracked its location over the course of a few weeks, the bellows stronger every night. Once we knew we were close, me and a few of the stealthier members of our party set out in the night to sneak up on it, keepin' to the moonlight shadows as much as possible. As we approached, the rumblin' was so intense that it was hard to stand. Crouchin' in the bushes, a clearin' ahead revealed an absolutely colossal deep blue, almost black, Tyrannosaurus rex. This thin' outsized any of our other records for rex size. We could immediately see why it was called the Blue Death and imagined that it could live up to that name. All big carnivores pick up a few scars, but the Blue Death had the most any of us had ever seen. Its face 'n' belly had been shredded in the past, probably failed attempts by other big predators to kill it. They'd healed in big archin' scars. There are even some scorch marks that were probably made by dragon's breath. We wondered how the other beasties might've looked after toillin' with this thin'.

Its eyes were a piercin' as it raised its head and bellowed motionlessly in the moonlight. Our rogue asked whether it was a buck, callin' for a mate… but I'm not so sure. Truth be told, we usually rely on colour patternin' for this species, but the hyperpigmentation of this one put a stop to that and none of us was willin' to check the plumbin'. Whatever it was, I have no doubt that it sired most of the offspring in the region.

The lack of rumblin' answers back suggested that it was the dominant predator for a hundred miles or so around and it'd probably be easier to list what it didn't eat, rather than what it did. Its territory encompassed grasslands, forests, lakes, and even a small mountain range. Our ventures over the followin' weeks saw evidence of Blue Death all over. It evidently patrolled its territory constantly and it seems that no settlements could safely be founded there. I feel remorse for the foolish ones who tried in the past.



Size and Age Limits

Tyrannosaurus long held the title of largest land carnivore at 40 ft. long and weighing up to 8 tonnes. However, since the 1990s newly discovered or re-examined species like *Giganotosaurus*, *Carcharodontosaurus* (**page 69**) and *Spinosaurus* (**page 75**) have shown that many giant predators stalked the Mesozoic (though none were probably as heavy as *Tyrannosaurus*). This prompted the question: "*What really was the largest size these animals could reach?*".

It's been suggested that the largest theropod dinosaurs couldn't get much bigger than 40-50 ft. long, due to limitations in their body plan and metabolic rate. However, a 2023 presentation highlighted that only a tiny fraction of life is preserved in the fossil record, meaning that we will never find the largest individuals of any given species. Research using statistical modelling demonstrated that the largest *Tyrannosaurus* could have probably reached over 13 tonnes in weight, over 50% bigger than our largest specimen. These models also highlighted that, statistically, over 500 specimens would need to be found before we were likely to find an individual over 10 tonnes, which could take another century.

Further evidence suggests that the *Tyrannosaurus* specimens we previously considered to be adults are in fact subadults, with more growing to do. We previously calculated that it had a maximum lifespan of 28 years, but a recently discovered carcharodontosaurid named *Meraxes* has brought that into question. It died somewhere between the ages of 38 to 50, demonstrating that large predators could live for much longer than we anticipated. All of this highlights that *Tyrannosaurus* almost certainly lived for decades longer than we previously thought and reached sizes far larger than any specimen found so far. Ultimately, palaeontology is an ever-developing science and even an animal as well-studied as *Tyrannosaurus* can yield new dramatic discoveries.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Ancient Tyrannosaurus rex's CR.

Imparted Speech. *Ancient Tyrannosaurus rex can understand Archosauric and another language of your choosing (usually Common). It can speak Archosauric, albeit slowly. Increase its Intelligence score to 8.*

Wise Old Beast. *Ancient Tyrannosaurus rex has advantage on Wisdom saving throws.*





Ancient Tyrannosaurus Rex

Huge or Gargantuan Beast (Theropod), unaligned

Armour Class: 16 (Scarred Thick Scales)
Hit Points: 198 (22d12 + 66)
Speed: 35 ft.

STR	DEX	CON	INT	WIS	CHA
28 (+9)	**9** (-1)	**22** (+6)	**4** (-3)	**16** (+3)	**10** (+0)

Saving Throws: Str +13, Con +10, Wis +8
Skills: Perception +8, Stealth +3, Survival +12
Senses: darkvision 60 ft., passive Perception 13
CR: 13 (10000 XP) **Proficiency Bonus:** +4

Power Over Speed. *Ancient Tyrannosaurus rex has advantage on all Strength checks and Strength saving throws, but disadvantage on all Dexterity checks and Dexterity saving throws.*

Territorial Titan. *Ancient Tyrannosaurus rex has advantage on attacks with its Strongest Bite against creatures with a size category of Huge or Gargantuan.*

When Dinosaurs Ruled the Earth. *All non-Tyrannosaurus beasts are frightened of Ancient Tyrannosaurus rex.*

Every minute while within line of sight of Ancient Tyrannosaurus rex, or at the end of each of its turns in combat, a beast can make a DC 17 Wisdom saving throw to become immune to this ability for 24 hours. Succeeding this Wisdom saving throw does not make it immune to Ancient Tyrannosaurus rex's Iconic Bellow.

Legendary Resistance (2/day). *If Ancient Tyrannosaurus rex fails a saving throw, it may choose to succeed it instead.*

Actions

Multiattack. *If Ancient Tyrannosaurus rex chooses the attack action, it may make one Strongest Bite attack and one Crushing Tail Slam attack.*

Strongest Bite. *Melee Weapon Attack: +13, reach 10 ft., one target. Hit: 23 (3d12 + 4) piercing damage plus 23 (3d12 + 4) force damage.*

A creature hit by this attack is grappled and restrained (escape DC 21). Until this grapple ends, Ancient Tyrannosaurus rex can't Strongest Bite another target and has an additional +5 to hit the grappled creature with any Strongest Bite attack.

Crushing Tail Slam. *Each creature within 10 ft. of Ancient Tyrannosaurus rex must succeed a DC 21 Dexterity saving throw or take 28 (3d12 + 9) bludgeoning damage and be knocked prone. On a success they take half as much damage and are not knocked prone.*

A creature grappled by Strongest Bite is not affected by this attack.

Iconic Bellow. *Every non-Tyrannosaur creature within 200 ft. of Ancient Tyrannosaurus rex that can hear it must succeed a DC 20 Wisdom saving throw or take 13 (1d12 + 7) psychic damage and be frightened of Ancient Tyrannosaurus rex for 1 minute. A creature can repeat this saving throw at the end of each of its turns, ending the effect on itself on a success. If a creature's saving throw is successful, the creature is immune to the frightened condition from Ancient Tyrannosaurus rex's Iconic Bellow for the next 24 hours.*

Legendary Actions

*Ancient Tyrannosaurus rex can take **1 legendary action**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Ancient Tyrannosaurus rex regains spent legendary actions at the start of its turn.*

Legendary Action: Lunging Head Bash. *Ancient Tyrannosaurus rex may move up to 10 ft., then make the following attack:*

Lunging Head Bash *Melee Weapon Attack: +13, reach 10 ft., one target. Hit: 20 (2d10 + 9) bludgeoning damage.*

BIG AL

ALLOSAURUS *"AH-LOW-SORE-US"*
(DIFFERENT LIZARD)

CHOSEN BY
LUCIAN T. MOREMAN

More than once we came across a young injured Allosaurus. The rest of the party kept callin' it "Big Al". No idea why the name stuck, but it did. It seemed to walk with a wobbly gait, like it had hurt its toe, but still pushed on. Poor thin' never had the stomach to really attack us… it kinda just followed our group for a while, fed on scraps, left, then returned every now 'n' again. I imagine it would have given it a go if our group had been fewer in number though.

ECOLOGY

Allosaurus was a large predatory theropod dinosaur from the Late Jurassic (155-145 million years ago) of North America and Western Europe. It was a strong and robust animal with powerful limbs and was up to 28 ft. long. "Big Al" is the name given to a near-complete female sub-adult specimen from Wyoming that was approximately 22 ft. long.

PALAEOPATHOLOGY

Pathology is the science of disease and injury, and palaeopathology is the interpretation of pathology in fossils. We can use this information to identify predator/prey relationships, environmental hazards, (rarely) diseases present, and the life history of individual animals, including their susceptibilities and rates of recovery.

Big Al is the most famous case study of palaeopathology in dinosaurs, with at least 19 broken or injured bones. These include broken and damaged chest ribs, broken gastralia (belly ribs), injured vertebrae, an infected illium (hip bone), a broken vertebral arch, a punctured shoulder blade, a badly mangled right arm, and numerous injuries and infections on both feet. Many had healed, but not very well and had clear signs of infection, meaning Big Al was in a sorry state towards the end of her life. This animal was likely in pain for many years but persisted perhaps in part due to a localised immune system that prevented serious infections from spreading around the body.

In fact, despite her grievous injuries, we think that Big Al was still able to reproduce, as new evidence indicates that she likely laid eggs just before her death. We know this because of the presence of medullary bone, which is a type of bone laid down by female egg-laying animals as a calcium store for eggshell production. Not only does this

identify Big Al as female, but also provides a major insight into the extent of trauma these animals could endure while still following their reproductive instincts. Nevertheless, Big Al's injuries to her feet and arm prevented her from hunting, and she ultimately died from emaciation.

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Designers' Note

If you use Big Al as a recurring creature, eventually she should mature, losing the "Subadult" ability and the last sentence of her "Clumsy" ability (removing the below 10 hit points modifier).

Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Big Al's CR.

Big Al's Ballad. *When Big Al awakens at dawn each day or is in combat, dramatic orchestral music plays loudly centred over her location and all of Big Al's choices, thoughts, and actions are also narrated by a disembodied, stoic British voice. This music and voice can only be heard by player characters.*

Story Set in Stone. *Big Al cannot be killed by normal means. If Big Al is reduced to 0 hit points or suffers an effect that would kill her, she instead falls to 1 hit point, cannot attack, loses her Steady Healing ability, and will flee from combat.*

She can only take lethal damage from her Clumsy ability. If she does not trip while fleeing, she will wander for 24 hours, then die emaciated on the nearest riverbank. However, if Big Al is healed during this 24 hour period (excluding from a short/long rest), she regains her Steady Healing ability, is able to attack again, and may behave normally.

BIG AL

Large Beast (Theropod), unaligned

Armour Class: 13 (Emaciated Scaly Hide)
Hit Points: 90 (10d10 + 40)
Speed: 55 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**12** (+1)	**13** (+1)	**4** (-3)	**6** (-2)	**12** (+1)

Saving Throws: Str +5, Dex +2, Cha +3
Skills: Intimidation +3, Perception +5, Stealth +5, Survival +5
Senses: darkvision 60 ft., passive Perception 15
Resistances: necrotic damage
CR: 4 (1100 XP) **Proficiency Bonus:** +2

Steady Healing. *At the end of Big Al's turn, she recovers 8 hit points. Big Al is resistant to necrotic damage (included above).*

Clumsy. *Whenever Big Al begins moving, roll a d20. On the roll of a 1, Big Al instead stumbles and trips directly forward 10 ft, is knocked prone, suffers 1d4 bludgeoning damage, and cannot move for the rest of her turn.*

If Big Al is below 10 hit points, she stumbles on a roll of 1-10, rather than just 1.

Subadult. *Big Al's Wisdom stat is reduced to 6 (included above) and she cannot gain advantage on any Wisdom checks or Wisdom saving throws.*

Stalker. *The first time each day that Big Al fails a Stealth check, she may instead choose to succeed it.*

Starving. *The first time an Animal Handling check is made against Big Al each day, if that check utilises food suitable for a carnivore, it automatically succeeds.*

If Big Al is fed, she'll periodically return to whoever fed her of her own accord for more food.

Actions

Multiattack. *If Big Al chooses the attack action, she may make one Big Al's Maw attack and one Big Al's Claws attack.*

Big Al's Maw. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 10 (1d8 + 6) piercing damage.*

Big Al's Claws. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 13 (2d6 + 6) slashing damage.*

CARNOTAURUS *"CAR-NO-TORE-US"* **(MEAT-EATING BULL)**

Chosen by Ahappypsycho

Some predatory dinosaurs hunt largely by smell and carno was one such beastie. It pursued us for four days, followin' the scent trail we left. Thankfully, we were able to out manoeuvre it. More than once we crossed a river, and circled round to observe it. We watched it lose, then re-pick up our trail several times. Must have been very hungry to chase us for so long. I guess it picked up the trail of somethin' easier to track when it stopped followin' us though.

Carnotaurus is the most famous member of the unusual Abelisauridae, a group of medium-sized theropods. *Carnotaurus* is known from the La Colonia Formation (71-69 million years ago) and has distinctive brow horns, giving it a bull-like appearance.

Ecology

Carnotaurus was medium-sized for an abelisaurid, at 26 ft. long and weighing approximately 1.5-2 tonnes. It had relatively long and strong legs which would have allowed for short bursts of sprinting. It also had highly reduced arms, so much so that the elbow joint no longer worked. Its arms could be rotated at the shoulder but couldn't bend like other theropods, and it also had 4 tiny fingers which may have lacked claws. Its head was boxy, with a tall and narrow skull but shallow lower jaw, and topped with a pair of prominent keratin-covered brow horns that protruded sideways.

Carnotaurus was built for short, explosive bursts of speed, making it an excellent pursuit hunter, running down prey. It was also able to bite rapidly, allowing it to quickly snap at escaping victims. *Carnotaurus* likely hunted prey smaller than itself, but it may also have predated upon medium-sized (juvenile) sauropods, bringing them down through rapid slashing bites. It is thought to have been a woodland or open plains predator.

Behaviour

Carnotaurus would likely have stalked prey by getting within sprinting distance and then charging. It had an exceptional sense of smell, with a large olfactory lobe, but relatively low frequency hearing. It may also have hunted in pairs or small groups, meaning that prey would be charged by multiple *Carnotaurus*. Its horns were likely primarily used for intraspecific (same species) competition, displaying to, and even fighting with, other *Carnotaurus*.

We recommend that *Carnotaurus* be played as an ambush and pursuit hunter. It should track prey with its

CARNOTAURUS

Large or Huge Beast (Theropod), unaligned

Armour Class: 14 (Thick Scaly Hide)
Hit Points: 110 (9d10 + 65)
Speed: 50 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**10** (+0)	**14** (+2)	**4** (-3)	**12** (+1)	**10** (+0)

Saving Throws: Str +6, Dex +2, Wis +5
Skills: Athletics +6, Intimidation +4, Perception +2, Stealth +5, Survival +7
Senses: passive Perception 16
CR: 4 (1100 XP) **Proficiency Bonus:** +3

Olfactory Enlargement. *Carnotaurus has a +10 bonus to any Perception check that involves smell. If its sense of smell is hindered or lost, it instead has a -10 modifier and disadvantage on any Perception check that involves smell.*

Explosive Ambush! *In the first round of combat, Carnotaurus may dash as a bonus action.*

Scent of Prey. *Carnotaurus has advantage on Survival checks to pursue prey.*

Possible Pack Mentality. *All Carnotaurus treat other Carnotaurus as allies.*

Actions

Multiattack. *If Carnotaurus chooses the attack action, it may make two Slashing Bite attacks and one Brow Horn Gore attack.*

Slashing Bite. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 6 (1d6 + 3) piercing damage plus 5 (1d4 + 3) slashing damage.*

Brow Horn Gore. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 11 (1d10 + 6) bludgeoning damage.*

A creature hit by this attack must make a DC 11 Strength saving throw or be knocked prone.



Optional Magical Rules

If you choose to use the optional magical rules listed below, you do not need to change Carnotaurus' CR.

Venerated Headwear. *Local people venerate the Carnotaurus and worship them by adorning them with a variety of headdresses as they sleep. This is seen as a right-of-passage or coming-of-age ceremony by some cultures and is a test of an individual's stealth and sleight of hand. With Carnotaurus' short arms unable to reach its head, headwear may stay on one for several weeks or months. This headwear is often crafted from expensive silks or inlaid with precious gemstones and can be highly valuable (we recommend a value of 2d100 + 50 gp). This leads to Carnotaurus sometimes being targeted by bandits for raids which, more often than not, results in an easy meal for the Carnotaurus.*

Stolen headdresses are seen as contraband by their respective cultures.

A Familiar Smell. *Carnotaurus becomes accustomed to the smell of its Venerated Headwear and will instinctively follow its scent if stolen. A player or NPC harbouring stolen Venerated Headwear will be hunted by its respective Carnotaurus. That Carnotaurus automatically passes any Perception check to detect its Venerated Headwear that involves smell.*

If that Carnotaurus is alive and not incapacitated, roll a d6 whenever the harbouring player/NPC takes a long rest. On a 5 or 6, the Carnotaurus interrupts and attacks them during that long rest.

powerful sense of smell, sneak up as close as possible, then charge and pursue if the prey flees. It can be present in small groups (2 or 3 animals), socialising with each other. Like most large carnivores, *Carnotaurus* would have spent much of its time resting, so it would not be uncommon to encounter a small group sleeping together for most of the day.



Phylogeny

Abelisaurs were an unusual group of theropods, with boxy skulls adorned with horns or bosses, and highly reduced arms. *Carnotaurus* was therefore fairly typical for the group. They first appeared in the Jurassic and were reasonably successful, surviving until the end-Cretaceous extinction. They are mostly known from the Southern Hemisphere in Africa, South America, India, and Madagascar, although there is some evidence that they may have been present in Europe too.

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DILOPHOSAURUS *"DYE-LOF-OH-SORE-US"* (TWIN CRESTED REPTILE)

CHOSEN BY STEVEN LAW

We had been hackin' our way through the dense, hot swamp for several hours now. Everythin' we had encountered had been small enough to just spook away, but that was about to change. A horrible hissin' sound creeped out of the heavy foliage to me left, then a dual-crested gnarl-toothed head poked out at eye-level to me. I fell back, gaspin' in shock as the head began to rise. As it did, a large gangly theropod stepped out, towerin' over me. I thought I was a gonner for sure. It lunged towards me lightnin' fast, but our paladin threw herself between us. Its teeth made a horrid screechin' sound as they glanced across her plate. The rest of our party shortly followed, ready for the fight. Thank the gods they were.

Dilophosaurus was a large theropod from the Early Jurassic (193 million years ago) of North America. Believed for many years to be a delicate scavenger, recent research suggests it was in fact a robust and powerful arch-predator.

ECOLOGY

Dilophosaurus was one of the largest theropod dinosaurs of the Early Jurassic, measuring 23 ft. long and weighing almost half a tonne. Its skull was big for its body size, but also relatively light, and had a pair of tall dorsal arched crests that would have been covered in keratin in life. At the front of its upper jaw was a divot separating the front and back teeth, creating a distinctive notch, similar to that of *Garjainia* (**page 129**). Its jaws were well muscled, and it probably had a powerful bite. The forelimbs had four fingers, with the fourth finger being vestigial (reduced to the point of non-function). Overall, the forelimbs were quite strong but with limited forward motion. Its legs were powerfully built, with a large femur, which suggests it was a fast runner.

Dilophosaurus possessed the large, pointed teeth of a carnivore specialised in tackling big prey. The Kayenta Formation, where the first specimen was found, represents an arid environment with sparse rivers running through it that would have concentrated prey animals. *Dilophosaurus* probably stalked these watering holes, feeding on sauropodomorphs (early relatives of sauropods), early mammal-like animals, armored dinosaurs, heterodontosaurs (small bipedal dinosaurs), smaller theropods, and various reptiles. This hypothesis is supported by the presence of *Dilophosaurus* bite marks on the skeletons of sauropodomorphs.

BEHAVIOUR

Early research on *Dilophosaurus* suggested that it was a relatively delicate animal with a weak bite that would struggle to capture large prey, and it was considered a scavenger for many years. This image of *Dilophosaurus* as a weaker animal bled into its portrayal in popular media, particularly in Jurassic Park, where its size is diminished and it spits venom to compensate for its fragility (not to mention the entirely fictional frill). However, further research has revealed that *Dilophosaurus* was large, powerful, fast, and capable of overpowering struggling prey. Its flexible fingers and strong forelimbs are adapted to grasp moving targets, reducing the risk of breakage. Healed injuries found on *Dilophosaurus* also indicate that it was a hardy animal, able to shrug off serious wounds.

We suggest that *Dilophosaurus* be played as an aggressive solitary predator, willing to hunt prey larger than itself. It should sneak as close as possible, then charge its prey with open jaws. Once in range, *Dilophosaurus* should grapple prey with its robust forelimbs and bite down for the kill. It would have no qualms about hunting humanoids, even when in groups. When not hunting, it can use its crests as a means of display either to threaten a rival or attract a mate.

PHYLOGENY

Dilophosaurus has uncertain relationships and has shifted placement between the taxonomic groups Megalosauridae, Coelophysoidea, and Dilophosauridae. The latter was erected for *Dilophosaurus*, but some authors have placed the Antarctic *Cryolophosaurus* and/or the African *Dracovenator* in it as well. Recent research suggests that Dilophosauridae does not accurately represent real relationships, as it is based on highly variable traits like crests. Whether further support for Dilophosauridae can be found remains to be seen, but it is currently placed within the much larger group Neotheropoda, which includes all theropods related to both the Triassic theropod *Coelophysis* and modern birds.

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Optional Magical Rules

If you choose to use the optional magical rules listed below, change Dilophosaurus' CR to 4 and increase its XP to 1100 accordingly.

Anthesis to Spitting. *Dilophosaurus could never spit venom and it despises all suggestions that it should. This has given it an innate magical aura that protects it from similar attacks. All ranged attacks against Dilophosaurus are made at disadvantage. Additionally, Dilophosaurus is immune to poison and acid damage.*

DILOPHOSAURUS

Large Beast (Theropod), unaligned

Armour Class: 14 (Scaly Hide)
Hit Points: 78 (8d10 + 38)
Speed: 60 ft.

STR	DEX	CON	INT	WIS	CHA
15 (+2)	**16** (+3)	**14** (+2)	**4** (-3)	**10** (+0)	**12** (+1)

Saving Throws: Str +4, Dex +5, Cha +3
Skills: Acrobatics +4, Perception +5, Stealth +5
Senses: passive Perception 15
CR: 3 (700 XP) **Proficiency Bonus:** +2

Grasping Forelimbs. *Dilophosaurus can grapple as a bonus action. However, while grappling a creature, Dilophosaurus cannot use its Dextrous Claws attack.*

Dual Skull Crests. *As a bonus action, Dilophosaurus may flush its crests with blood, giving them a bold red colour. If it does so, it has advantage on Intimidation checks for 1 minute.*

Apparent Fragility. *Dilophosaurus appears to be a fragile animal, but it is in fact much hardier than it looks. The first time Dilophosaurus is reduced to 0 hit points, it is reduced to 1 hit point instead. Once this feature has been used it cannot be used again until the next dawn.*

Agile Hunter. *Dilophosaurus has advantage on Dexterity saving throws.*

Actions

Multiattack. *If Dilophosaurus chooses the attack action, it may make one Recurved Bite attack and one Dextrous Claws attack. Alternatively, it may make a single Neck Sweep attack.*

Recurved Bite. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 8 (1d10 + 3) piercing damage.*

A Medium or smaller creature hit by this attack must succeed a DC 12 Strength saving throw or drop an item they are wielding.

Dextrous Claws. *Melee Weapon Attack: +5, reach 5 ft., one target. Hit: 9 (2d4 + 4) slashing damage.*

Neck Sweep. *Each creature within a 10 ft. cone in front of Dilophosaurus must make a DC 12 Dexterity saving throw or take 6 (1d8 + 2) bludgeoning damage and be knocked prone. On a success they take half as much damage and are not knocked prone.*



WRETCHGLOW, THE LAST LIGHT

Chosen by
Lucian T. Moreman

I've done me fair share of minin' while studyin' subterranean geology. When our rogue suggested some spelunkin' to explore further into the cave systems that the locals lived in, I thought it'd be a nice break from the dangers of the forest we'd been trekkin' through for the last month – a bit of peace 'n' quiet and no giant dinos tryin' to eat us. How wrong I was…

As we moved deeper into the caves from their entrance settlements, the limestone walls grew damper with ground water. We dove for a few hours and the deeper we went, the bigger the stalactites were, undisturbed for thousands of years. Puddles of milky water would slap as we stepped into 'em, and in deeper pools tiny eyeless fish flittered away from the splashes. Occasionally, a big drip would fall onto me neck – sending a shiver down me spine. About six hours in, one of the bigger drips caused me to leap forward, slippin' on the slick stone. I dropped my torch and it sizzled 'n' died on the wet floor. After a moment of blurred vision in the dark, the walls slowly lit up with a dull bioluminescent glow. Seems torches were unnecessary from then on.

An hour or so later, the last cavern we entered opened up into a huge partly-flooded chamber. The far end of it had deep blue water, suggestin' that it was connected to the outside world. I moved up and took a knee to have a cursory taste – salty, definitely connected to the ocean. As I knelt over the water, a bright glow caught me attention. About 30 ft. in front of me and maybe 50 ft. deep there was a white glowin' orb. I beckoned the party over and the rogue commented that it could be a magical item washed in from the ocean. We stared at it for a moment as it seemed to gently pulse. That peaceful moment of curiosity was broken when two lines of smaller orbs started to light up dull blue one by one in a parrel line behind it. As they did, an enormous oily black bioluminescent monster was revealed in the murky depths. The big orb was a massive lure danglin' from its head like some mega-anglerfish, 'cept this was no fish.

Its huge bulk rose steadily through the water and I fell backwards from the shock, scurryin' away from the colossal jaws approachin'. As it breached the water, it hissed with a maw full of contorted needle-like teeth. Its inky eyes met with mine and I could see a cold intelligence. It reared then burst forward at me, lettin' loose a colossal and dazzlin' flash of light. Instinctively, a quick tuck 'n' roll saved me despite bein' blinded by the flash. Some other members of the party weren't so lucky – bein' hit by those fearsome jaws.

The fight was now on and although we were dazzled, we were ready. It swung its massive tail through the water, pushin' a wave over the party, knockin' a couple of 'em prone. The paladin stood her ground and slashed at the beast with her longsword. It didn't seem to like that and turned its gaze to her, tiltin' its head slightly as it planned its next move. As she took another swing, it started to strobe its bioluminescence, causin' her to stumble 'n' miss entirely. Thankfully, our rogue took that opportunity to plunge their daggers into its thigh. Enraged, it swung its whole body around, knockin' 'em over.

We fought for what seemed like hours, but eventually drove the beast back to the murky depths. Battered 'n' bruised from the battle, we moved back into the narrower caves so it couldn't follow. No doubt it'd be lookin' for another go once it'd licked its wounds. We definitely made an enemy that day, one that I reckon will remember our faces. We decided to name the beast appropriately. ***Wretchglow****, after its wretched glow – the last light some people see.*

Wretchglow, the Last Light is a monstrous dinosaur that was once a *Spinosaurus* (**page 75**). Twisted by magical energies, it has been combined with a variety of deep-marine organisms to create a grotesque hybrid that inhabits the deep sea and damp subterranean caves.

It is an ambush predator that attracts prey with its bioluminescence, gently pulsing light and snatching unwary animals that venture to investigate with its needle-sharp, protruding teeth. Despite this static approach to hunting, it is extremely intelligent. Perhaps the mind of whatever mad scientist created this beast is locked away within it. It harbours a malicious intent but is still subject to its animalistic hunting instincts.



Melanocetus johnsonii

WRETCHGLOW, THE LAST LIGHT

Huge Beast (Theropod), unaligned

Armour Class: 14 (Slick Oily Scales)
Hit Points: 158 (20d12 + 38)
Speed: 40 ft., swim 50 ft.

STR	DEX	CON	INT	WIS	CHA
22 (+6)	**14** (+2)	**18** (+4)	**7** (-2)	**16** (+3)	**16** (+3)

Saving Throws: Str +11, Con +9, Wis +8
Skills: Intimidation +12, Perception +8, Stealth +7, Survival +8
Senses: blindsight 10 ft. (in water), darkvision 120 ft., passive Perception 18
Resistances: cold and fire damage
CR: 10 (5900 XP) **Proficiency Bonus:** +5

Subsurface Monster. *Wretchglow, the Last Light can hold its breath for up to 10 hours and has advantage on Stealth checks while submerged in water.*

If Wretchglow, the Last Light is hidden, as a bonus action it can create an illusionary lure, following the same rules as its Bioluminescent Lure legendary action.

Bioluminescence. *Wretchglow, the Last Light can opt to emit a dull glow of any colour, creating dim light for 40 ft. around it. It can activate/deactivate this light at will at any point but, while active, it cannot hide.*

Oscillating Thermoregulation. *Wretchglow, the Last Light has resistance to fire and cold damage (included above).*

Intelligent. *Wretchglow, the Last Light is capable of planning in combat and is able to utilise its environment to help defeat foes (i.e., drowning foes or causing cave collapses).*

Rostral Dermal Pressure Sensors. *While in water, Wretchglow, the Last Light has a blindsight of 10 ft. (included above).*

Actions

Bioluminescent Flash (Recharge 5-6). *As an action, Wretchglow, the Last Light can unleash a huge flash of light. Each other creature within 40 ft. that can see it must succeed a DC 16 Dexterity saving throw or be blinded for two rounds.*

Multiattack. *If Wretchglow, the Last Light chooses the attack action, it can make one Colossal Needle-Toothed Jaws attack and one Hooked Claw attack.*

Colossal Needle-Toothed Jaws. *Melee Weapon Attack: +11, reach 10 ft., one target. Hit: 32 (6d6 + 11) piercing damage.*

A creature hit by this attack is grappled (escape DC 19). While a creature is grappled by this attack, Wretchglow, the Last Light cannot attack another target with its Colossal Needle-Toothed Jaws attack.

Hooked Claw. *Melee Weapon Attack: +11, reach 5 ft, one target. Hit: 24 (3d8 + 11) slashing damage.*

A creature hit by this attack can be moved up to 5 ft. in any direction by Wretchglow, the Last Light (no save allowed).

Legendary Actions

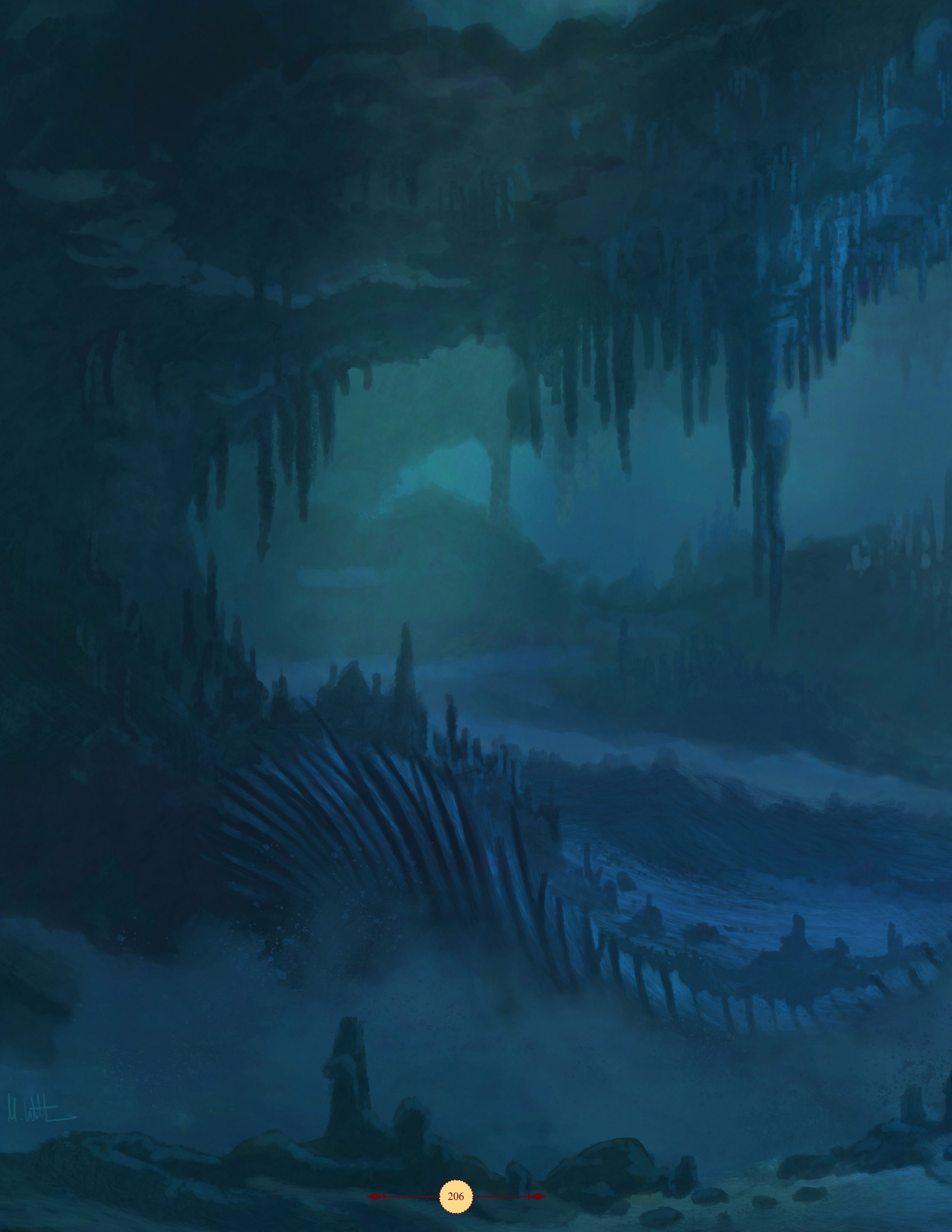
*Wretchglow, the Last Light can take **2 legendary actions**, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Wretchglow, the Last Light regains spent legendary actions at the start of its turn.*

Legendary Action: Misdirecting Strobe. *Each creature within 40 ft. of Wretchglow, the Last Light that can see it must succeed a DC 13 Dexterity saving throw or have disadvantage on attack rolls until the end of their next turn. If they roll a natural 1 on the Dexterity saving throw, they are instead stunned until the end of their next turn.*

Legendary Action: Direct Currents. *So long as Wretchglow, the Last Light is submerged in water, it may pick up to 4 creatures within 60 ft. who are also submerged in connected water and move them up to 10 ft. in any direction, so long as they remain submerged in water.*

Legendary Action: Bioluminescent Lure. *Wretchglow, the Last Light creates a visual illusion up to 10ft. in size that must be within 30 ft. of itself. The illusion ends if Wretchglow, the Last Light moves more than 30 ft. away from it, if it uses this legendary action again, or if it chooses to dismiss the illusion. Any other creature that sees the illusion must succeed a DC 16 Wisdom saving throw, or perceive the illusion as real (and generally be drawn to it).*

On its turn, a creature can determine that it is an illusion with a successful DC 16 Investigation check.





XU'THUL, THE PRISMATIC TERROR

Chosen by Mitchel Rios

It was well-known that throughout the highlands were a series of massive tarns, huge lake-like pools of water formed in the rugged glacially excavated expanse of the region's upper ranges. Flanked on all sides by sheer mountain cliffs, these formed lil' pockets of life among the otherwise sparsely vegetated rocky faces. In the western-most expanse, we came across a particularly large tarn that was surrounded by huge iridescent crystals. The mineralogy of these thin's baffled me – they were unlike any natural mineral known. We figured they must've been magical in nature and were surprised that no one had started minin' 'em for their obvious rich power.

There were signs that others had been here before, albeit a long time ago. Burnt out campfires 'n' ripped tents – destroyed by the howlin' mountain gales. We investigated them a fair bit, all while the deep hummin' of those crystals reverberated in the background. Our ranger was the first to notice somethin' amiss. He pulled a femur from one of the campsites, crushed to splinters. It suddenly dawned on us; these camps weren't abandoned, they were attacked. We gathered our thin's 'n' prepped to move along swiftly, but were rudely interrupted by the crack 'o' thunder and a bellowin' roar. The sound wasn't commin' from the sky, where thunder aught to be. No, it was emanatin' from a nearby cave – the flicker of red light suggestin' that it led to a volcanic lava chamber. We tried scramblin' to leave, but we was too slow. Out stepped a huge predatory dinosaur. Mean as anythin' and eyein' us up for supper.

It was some sort of Spinosaurus, evidently fed in the tarns, but it was warped by the magical energies of these odd minerals. Fat angular crystal shards were embedded in its hide, and more encrusted along its mouth – I thought perhaps it'd been driven to madness and been eatin' the crystals themselves. Whatever it had been doin', it wasn't too happy about it. Twitchin', it seemed to swell with power. Painfully so, as though it could hardly contain the raging energies that permeated its body.

Arcs of magical energy sparked between the crystals on its back as it lunged towards us. With every step, it seemed to surge with more power and rapidly picked up pace. There was no way we could outrun this thin', we had to fight. It shimmered with a rainbow of colour as it bit and swiped at us, deflectin' spells as though they were nothin'. Our paladin tanked three blows, which just seemed to piss it off. Its breath was heavy and, as it exhaled, shards of crystal scraped across me skin like sandpaper. In its frustration, it seemed to lose control of the power within it, tilting its head back and bellowin' to the sky. Massive bolts of energy crackled in all directions, rippin' the ground up as they discharged from the beast. It took all of us a moment to steady ourselves afterwards. Now we knew the fight was really on.

Xu'thul, the Prismatic Terror is a *Spinosaurus* (**page 75**) that has been augmented by the magical energies of the strange minerals that surround some highland tarns and deep mountain caves. Originally migrating to these waterbodies in search of alternative feeding grounds, Xu'thul became increasingly hungry as it slowly starved due to the lack of large fish in these waterbodies. Through happenstance, it ingested some of the crystals around the lake, whose magical energies began to sustain its massive bulk. Over several decades, Xu'thul's body became increasingly composed of these ingested crystals, forming crystalline structures protruding from its flesh. This was (and continues to be) a painful process, making Xu'thul particularly ill-tempered and untameable.

Xu'thul, the Prismatic Terror was given its name by a Jeholrak survivor who skulked away after an attack on a prospecting expedition. In the native tongue of Archosauric, Xu'thul translates to "horror of many colours" or "prismatic terror".



XU'THUL, THE PRISMATIC TERROR

Huge Beast (Theropod), unaligned

Armour Class: 16 (Shard-Encrusted Hide)
Hit Points: 165 (20d12 + 45)
Speed: 40 ft., swim 30 ft

STR	DEX	CON	INT	WIS	CHA
24 (+7)	**12** (+1)	**20** (+5)	**4** (-3)	**16** (+3)	**16** (+3)

Saving Throws: Con +10, Wis +8, Cha +8
Skills: Arcana +10, Intimidation +10, Perception +8, Survival +8
Senses: blindsight 10 ft. (in water), passive Perception 16
Condition Immunities: charmed and petrified
CR: 12 (8400 XP) **Proficiency Bonus:** +5

Reactionary Crystalline Regulation. *Xu'thul, the Prismatic Terror may use its reaction to gain immunity to fire, cold, lightning, thunder, acid, poison, radiant, necrotic, psychic, or force damage until its next turn. The crystals on its body visibly flicker/crackle/bubble with energies of the associated damage type.*

This immunity is in addition to any gained by its Elemental Absorb legendary action.

Surging Power. *At the start of Xu'thul, the Prismatic Terror's turn, select one of the following effects:*

1. It may make an additional Hooked Claw attack this turn.

2. It may dash as a bonus action this turn.

3. Each creature within 10 ft. of it must succeed a DC 16 Dexterity saving throw or take 2d10 lightning damage.

4. It has advantage on Strength checks and Strength saving throws until the start of its next turn.

Semi-Aquatic. *Xu'thul, the Prismatic Terror can hold its breath for up to 30 minutes.*

Rostral Dermal Pressure Sensors. *While in water (or lava), Xu'thul, the Prismatic Terror has a blindsight of 10 ft. (included above).*

Crystalline Form. *Xu'thul, the Prismatic Terror is immune to any effect that would charm or petrify it (included above).*

Actions

Unleash Energies (Recharge 5-6). *Crackling magical energies erupt from Xu'thul, the Prismatic Terror. Each other creature within 40 ft. must succeed a DC 16 Constitution saving throw or take 6d10 lightning damage and 6d6 force damage. On a success they take half as much damage.*

Multiattack. *If Xu'thul, the Prismatic Terror chooses the attack action, it may make one Shardmaw Bite attack and one Hooked Claw attack.*

Shardmaw Bite. *Melee Weapon Attack: +12, reach 10 ft., one target. Hit: 22 (3d6 + 12) piercing damage plus 5 (1d10) force damage.*

Hooked Claw. *Melee Weapon Attack: +12, reach 5 ft., one target. Hit: 25 (3d8 + 12) slashing damage.*

A creature hit by this attack can be moved up to 5 ft. in any direction by Xu'thul, the Prismatic Terror (no save allowed).

Legendary Actions

Xu'thul, the Prismatic Terror can take ***2 legendary actions****, choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Xu'thul, the Prismatic Terror regains spent legendary actions at the start of its turn.*

Legendary Action: Shard Breath (Recharge 3-6). *Ranged Weapon Attack: +6, range 10 ft. cone, up to four targets Hit: 16 (2d10 + 5) slashing damage.*

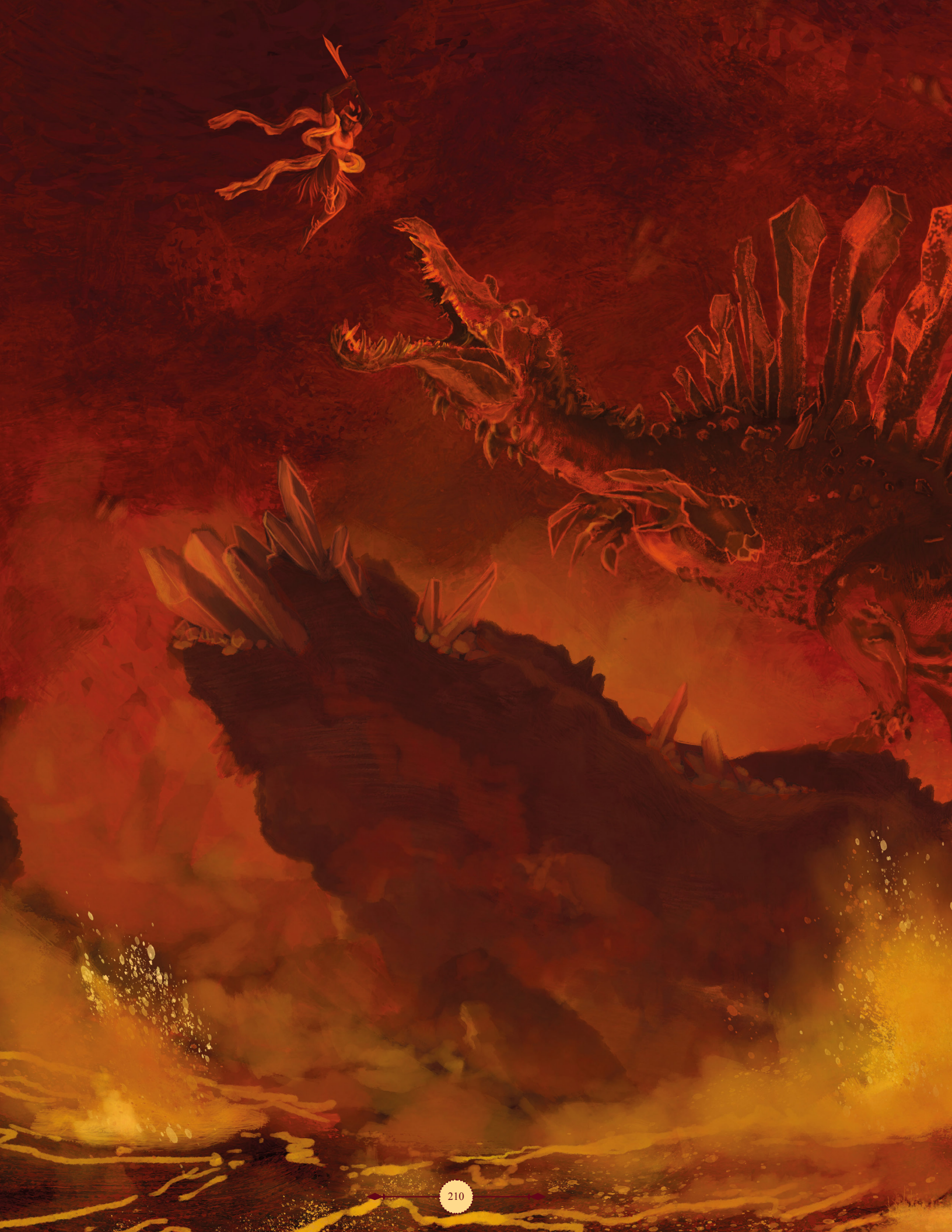
Legendary Action: Elemental Absorb. *Until its next turn, Xu'thul, the Prismatic Terror gains immunity to one damage type from the list below, however if it has already gained an immunity from this ability, it instead replaces it. Its crystals change colour to the associated colour.*

1. Fire (red)
2. Cold (blue)
3. Lightning (yellow)
4. Poison (green)

This immunity is in addition to any gained from its Reactionary Crystalline Regulation ability.

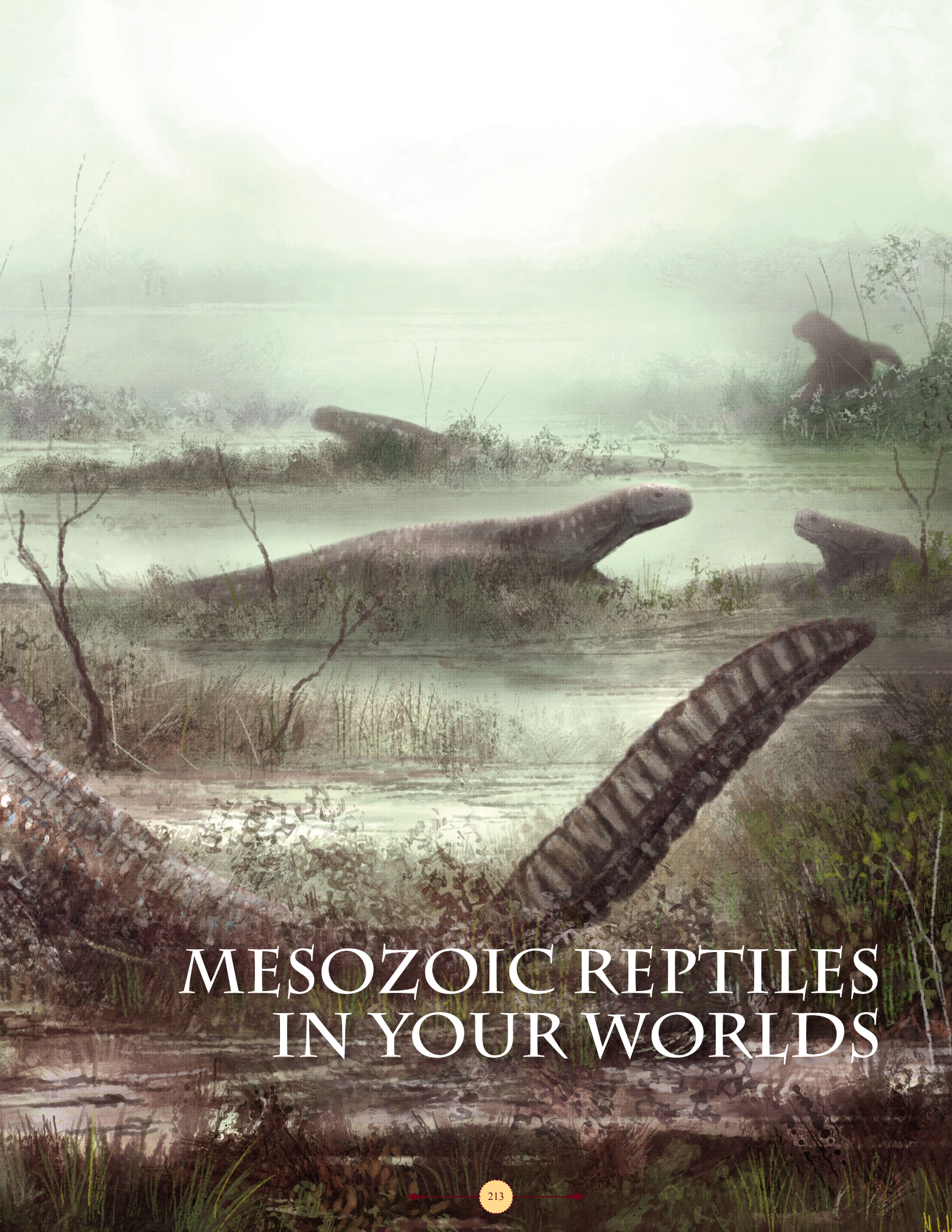
Legendary Action: Prismatic Glow. *Xu'thul, the Prismatic Terror produces a bright light, illuminating an area of up to 60 ft. with bright white light and a further 60 ft. with dim light (total 120 ft.). Each other creature within 10 ft. of it takes 1d10 radiant damage (no save allowed).*

If Xu'thul, the Prismatic Terror has used Elemental Absorb this turn, the light is that associated colour instead.









MESOZOIC REPTILES IN YOUR WORLDS

BEHAVIOUR

In fantasy games, worlds are typically populated by monstrous creatures behaving in ways that real animals don't. It's extremely rare for a real animal to attack on sight and fight to the death without ever considering fleeing, yet this is how the vast majority of roleplaying encounters play out. To better emulate realistic behaviour, you may use the tables here. These are designed to give approximations of behaviour that real dinosaurs exhibited, albeit designed in a way so that they can still be an interesting roleplaying encounter. You may roll or select the results and they may apply to an individual creature or a whole species. These tables are separated into carnivores and herbivores. If your chosen creature is an omnivore, you may pick any appropriate table.

Fleeing Creatures

Many creatures will attempt to flee when threatened. If a creature escapes the battle and the players wish to track it down, roll opposing Survival checks. Players may only attempt this once per fleeing creature.



Carnivores

Some carnivores may be largely stationary ambush predators (similar to modern crocodiles). For those creatures, we suggest you use the ambush table when putting them in your world.

d8	Small and Medium Carnivore
1-2	**Asleep** - The creature is asleep. If awoken by a failed Stealth check (with a DC equal to the sleeping creature's passive Perception), treat this result as a 4-5.
3	**Skittish** - The creature will attack for one round, then attempt to flee. If this creature is present in numbers equal to or greater than the party, or if it is larger than every party member, treat this result as an 8 instead.
4-5	**Defensively fearful** - The creature will attempt to intimidate the players and attack if provoked. If it is reduced to half health or less, it will attempt to flee.
6-7	**Aggressively territorial** - The creature attempts to intimidate the party. If they attack it, or do not leave, it will attack and fight to the death.
8	**Opportunistic feeder** - The creature attacks, attempting to kill and devour the players. It will only attempt to flee if near death.

d6	Ambush carnivore
1-3	**Waiting in ambush** - The creature uses any abilities it has to keep entirely hidden, attacking at anything (other than its own species) that comes within half of its walking speed. It will cease attacking and flee, attempting to hide again if near death.
4-5	**Basking** - The creature is conspicuously visible, basking in the sun to warm itself. It will only attack if threatened and will attempt to flee if reduced to below half health.
6	**Patrolling territory** - The creature is actively patrolling its hunting or mating grounds. It will attack and fight to the death anything it encounters but won't pursue them if they flee.

d8	Large Carnivore
1-2	**Asleep** - The creature is asleep. If awoken by a failed Stealth check (with a DC equal to the sleeping creature's passive Perception), treat this result as an 8.
3-5	**Rest and digest** - The creature is aware of the party, but cares little and has already fed. If they come within 10 ft. of it, it will attempt to intimidate them and will only attack if they touch it or attack it.
6	**Irritable** - The creature will attempt to drive the players away with an intimidating threat display. If they don't leave or if they attack, it will fight back. It will only attempt to flee if near death. If it escapes, it will recover to full strength (complete a long rest) and then actively hunt the players.
7	**Territorial challenge** - The creature perceives the party's intrudance as a challenge. It attempts to intimidate the party once, then immediately attacks if the players do not flee. It will fight to the death.
8	**Actively hunting** - The creature attacks the players, only fleeing if near death. It will focus on the weakest-looking member of the party. If the party escapes, it will continue to pursue them as long as it is able. To track the players, the creature must roll a contested Survival check vs the party member with the lowest survival modifier. Abilities that cover the party's track (such as a Ranger's Pass Without Trace) renders the creature unable to track the party.

Herbivores

The behaviour of a herbivore that can flee a predator (i.e. a Gallimimus*) and one that can't (i.e. an* Ankylosaurus*) is very different when threatened. Use your own judgement when determining whether a creature is 'fast' or 'slow', but we recommend treating any herbivore with a walking speed of 20 ft. or less as 'slow'. For very large and slow sauropods, you can roll on either the Large Herbivore or Armoured/Slow Herbivore tables.*

d8	Large Herbivore
1-2	**Oblivious** - The sheer size of this creature makes the party seem like little more than pests. It will only attack if they attack it first. Ignore this result if anything in the party is the same size category as this creature.
3-4	**Fearful** - The strangeness of the party intimidates this creature. It avoids them if possible and flees if they approach.
5-7	**Challenged** - The creature will make a threat display, attempting to intimidate the party. If approached or attacked, it will fight to the death.
8	**Rutting** - Select either oblivious or fearful and apply that result to all members of this species in this encounter, bar one or two (or more depending on population size) individuals. Those exceptions are rutting and will attack the party. They will knock players unconscious, but not purposely kill them. They will submit and cease attacking if reduced to below half hit points. If there are two or more rutting creatures of the same species, they will prioritise attacking each other first.

d6	Armoured/Slow Herbivore
1-2	**Immutable defence** - This creature trusts its defences and ignores the party. It will only attack if it is attacked first. If the attacker ceases attacking, so too will this creature.
3-4	**Stand ground** - The creature makes a show of strength, stomping and posturing. It will attack if approached or attacked. However, it will not pursue a fleeing target.
5-6	**Push back** - The creature immediately charges the party on sight, letting out an angry cry. It will attack until the opponent dies or flees, but will not pursue a fleeing target.

d6	Small and Medium Herbivore
1-3	**Skittish** - The creature will attempt to flee and only attack if trapped or immobilised.
4-5	**Frozen** - The creature will stay motionless until attacked. It will then either flee or fight, fleeing when near death.
6	**Backed into a corner** - The creature will fight to the death.



MUTATION TABLES

Below are tables outlining genetic or magical mutations that you can use to make your creatures more flavourful, interesting, or simply more challenging. These mutations could represent regional variations of species, or perhaps the experiments of a mad wizard. You may select or roll for mutations on the tables below. One or more of these could be applied to an individual creature, a group of creatures (i.e. a pack or herd), or for a creature's entire species in your world. Many of these mutations can be used to re-flavour a creature to fit in a particular environment, and we have indicated which environments match which mutation.

Many of these mutations make the creature more resilient or dangerous, sometimes by a significant amount depending on its initial stat block. We recommend increasing the CR of a mutated creature by between 0, ½, or 1 for minor mutations and 2 or 3 for major mutations, although some mutations may only increase a creature's CR under certain circumstances (e.g., #2 "Extended apnea" only poses an increased threat while fighting underwater). To ensure that these mutations scale with CR, we've included some that utilise stat bonuses and proficiency bonuses (abbreviated to "PB") to calculate save DCs, hit bonuses, and damage. Ultimately, how you balance these changes is up to your discretion, so if you find that these mutations are over/underwhelming in some situations, please do adjust them to fit your needs.

Minor Mutation table

d100	Mutation	Effect	Environment
1	Tusked – *Two bulbous teeth protrude from this creature's lower jaw.*	If this creature hits with an attack that uses its head, the hit creature must succeed a DC (8 + Strength bonus + PB) Strength saving throw or take an additional 1d6 + PB piercing damage.	
2	Extended apnea – *High-capacity lungs allow this creature to hold its breath for a prolonged period.*	This creature may hold its breath for up to an hour with no detrimental side-effects.	
3	Symbiotic – *This creature lives benevolently among another species.*	Select another non-humanoid creature. All creatures of that species treat this creature as an ally. Additionally, this creature gains proficiency in all ability checks while within 5 ft. of the selected creature.	
4	Diminutive size – *This creature is particularly small.*	Decrease the size category of this creature by one stage (to a minimum of Tiny), decrease any damage it deals by 2 (to a minimum of 1), but add +2 to its Dexterity saving throws.	
5	Rapid coagulation – *Blood oozing from wounds instantly clots when exposed to air.*	This creature cannot lose more than one third of its HP in a single turn from any combination of bludgeoning, piercing, or slashing damage.	
6	Elongate – *The limbs, tail, or muzzle of this creature are particularly long.*	Select one melee attack this creature has and increase its range by 5 ft.	
7	Vivid plumage – *Beautifully coloured feathers or fur cover this creature's body.*	This creature has advantage on any Charisma checks.	

8	Thermal vision – *Fleshy red spots on this creature's head allow it to detect heat.*	This creature can see other creatures while in any light level but struggles to distinguish them from other heat sources (such as torches).	
9	Pachycephalisation – *The skull of this creature is huge and bulbous, giving it bony nodules that it can use as a weapon.*	If this creature moves at least 20 ft. towards a creature, it can use its bonus action to make a skull bash attack. If that creature is within 5 ft., it must succeed a DC (8 + Dexterity bonus + PB) Dexterity saving throw or take 1d6 + PB bludgeoning damage.	
10	Reinforced muscle fibres – *Metallic fibres line this creature's muscles.*	This creature has advantage on Strength saving throws.	
11	Prehensile tail – *This creature can control its tail as though it were a limb, grasping or attacking with it.*	This creature can use its bonus action to attack a creature within 5/10 ft. (DM's choice). That creature must succeed a DC (8 + Dexterity bonus + PB) Dexterity saving throw or take 1d6 + PB bludgeoning damage.	
12	Alopecia – *All feathers, hair, and scales fall away from this creature, leaving only bare skin.*	This creature is vulnerable to slashing damage. Instead of increasing its CR with this mutation, reduce it.	
13	Digital pads – *Soft cat-like paw pads cover the soles of this creature's feet.*	This creature makes no sound when it moves. Once per day, the first time it fails a Stealth check, it may instead choose to pass.	
14	Hypertrophy – *Huge, bulging muscles cover this creature's body.*	This creature has advantage on Strength checks.	
15	Spinnerets – *Silk-producing glands protrude from this creature's body, allowing it to spin webs quickly.*	This creature may cast Web at 2nd level (spell save DC (8 + Dexterity bonus + PB)) without components and without requiring a spell slot.	
16	Aquatic – *This creature has webbed hands and feet, as well as gills on its neck.*	This creature gains a swim speed equal to its walking speed and may potentially breathe underwater (DM's choice).	
17	Thermal sink – *A specialised organ in this creature's chest is able to absorb heat.*	As a bonus action, all other creatures within 5 ft. must succeed a DC (8 + Constitution bonus) Constitution saving throw or take 1d4 + PB cold damage.	
18	Toxic secretions – *Poisons seep through this creature's skin or scales.*	When hit by a melee attack, this creature may use its reaction to deal 1d6 + PB poison damage to the attacking creature.	
19	Sail-backed – *A row of tall skin-covered bony protrusions line this creature's back, linking to form a sail.*	This creature gets +2 to Intimidation checks and is unaffected by temperatures as high as 40°C Celsius (104°F Fahrenheit).	

20	Bristle-backed – *Large quills or spines protrude from this creature's back.*	In addition to any other attack, this creature may make one ranged attack with the profile: **Bristle Shot**. Ranged Weapon Attack: range, 30 ft., +(Dexterity bonus + PB) to hit, one target. Hit: 1d6 + PB piercing damage.	
21	Puffable coat – *This creature can puff itself up with a thick fluffy coat of fur or feathers.*	When hit by an attack or when failing a saving throw, this creature may use its reaction to reduce incoming cold damage by 1d6 + PB. This creature is unaffected by temperatures as low as -20°C Celsius (-4°F Fahrenheit).	
22	Photosynthetic – *This creature has a vibrant green colour, as it's skin, hair, or feathers contain plant-like cells.*	This creature requires only a few hours of sunlight for a full day's nourishment. It also counts as a plant for the purposes of spells and abilities that target plants.	
23	Floral mimicry – *This creature's features look remarkably plant-like. Small frills of skin and feathers mimic leaves and flowers.*	While motionless, this creature is indistinguishable from plant life. A DC (8 + Charisma bonus + PB) Nature or Investigation check (your choice) will reveal that this is a creature.	
24	Septic saliva – *A noxious smell emanates from this creature's mouth, as it contains a horrible mixture of dangerous bacteria.*	Add 1d6 necrotic damage to any attack made by this creature that involves its mouth.	
25	Stem cell reservoir – *A specialised organ holds a cluster of blank cells that can rapidly redeploy, re-growing any damaged body part.*	Once per day as an action, this creature may recover up to one third of its hit points.	
26	Bioluminescent – *Some part, or all, of this creature's body glows beautifully with vibrant colours while in the dark.*	This creature emits a dim hue of light in a 15 ft. radius when in the dark.	
27	Club-tail – *This creature's tail ends in a bony mass that it can use to bash targets.*	As a bonus action, this creature may make one melee attack with the profile: **Club-tail**. Melee Weapon Attack: range, 5 ft., +(Strength bonus + PB) to hit, one target. Hit: 1d6 + PB bludgeoning damage.	
28	Gastric barrier – *This creature has a specialised digestive system that makes it particularly hardy.*	This creature has advantage on Constitution saving throws.	
29	Ink sacs – *By squeezing specialised sacs on this creature's neck, it can spray ink from its mouth.*	As a bonus action, this creature may squirt ink at an opponent. Select a creature within 20 ft. It must succeed a DC (8 + Dexterity bonus + PB) Dexterity saving throw or be blinded for two rounds.	

30	Nocturnal – *This creature naturally prefers the dark and has very large eyes.*	This creature gains dark vision equal to its normal vision, or increases its dark vision range by 30 ft. It is generally only active at night.	
31	Telepathic cortex – *A large bump at the back of this creature's skull houses an extra brain cortex.*	This creature is able to telepathically communicate with any other members of its species within 200 ft.	
32	Opposable claws – *One claw on each hand is bent inwards, forming a thumb.*	This creature may interact with objects that require simple or complex movements, such as opening a door or using a trinket.	
33	Interlocking scales – *Thick, tightly locked scales coat this creature's body.*	This creature gains resistance to piercing damage.	
34	Horned – *Fused scales protrude from this creature's forehead or snout, forming pointed horns.*	If this creature moves at least 20 ft. towards a creature, it can use its bonus action to make a horn attack. If that creature is within 5 ft., it must succeed a DC (8 + Dexterity bonus + PB) Dexterity save or take 1d6 + PB piercing damage.	
35	Fusiform – *This creature can tuck its arms and legs to its sides and adopt a fish-like shape.*	If this creature can swim, double its swim speed.	
36	Enhanced hepatocytes – *This creature's liver is able to filter out any poisons almost instantly.*	This creature is immune to the poisoned condition.	
37	Quick-witted – *This creature can react quickly to changing situations.*	This creature has advantage on Intelligence saving throws.	
38	Elongated snout – *The snout and nose of this creature is extended, giving it a much more powerful sense of smell.*	This creature has advantage on Perception checks that involve smell.	
39	Dermal spines – *Thick scales protrude from this creature, giving its body a spikey appearance.*	When hit by a melee attack, this creature can use its reaction to deal 1d6 + PB piercing damage to the attacking creature.	
40	Gelatinous saliva – *Thick globules of slimy saliva drip from this creature's mouth.*	Attacks from this creature that involve its mouth reduce a hit creature's movement speed by 10 ft. (to a minimum of 5 ft., non-cumulative).	
41	Tonic immobility – *This creature can feign death, falling on its back with its belly up and tongue hanging out.*	If this creature would be reduced to 0 hit points, it is instead reduced to 1. It feigns death, appearing dead unless it is inspected with a DC (8 + Wisdom bonus + PB) Investigation or Nature check (their choice). It may choose to exit this feign at any point.	

42	Fearsome roar – *Powerful lungs allow this creature to let out a gaudy and terrifying roar.*	As an action, this creature can roar. Each other creature within 30 ft. must succeed a DC (8 + Charisma bonus + PB) Wisdom saving throw or be frightened of this creature for 1 minute. They may repeat this save at the end of their turn and on a successful save are immune to the effect for 24 hours.	
43	Automimicry – *Strange patterns and growths make it difficult to determine where this creature's head is.*	If this creature would be critically hit, the attack is instead resolved as a normal hit.	
44	Sciurus tail – *This creature has a large fluffy tail that it can flick rapidly.*	This creature is unaffected by temperatures as low as -20°C Celsius (-4°F Fahrenheit) and can communicate silently with any other creatures of the same species that can see it.	
45	Serrated denticles – *The claws or teeth of this creature are jagged and saw-like.*	All melee attacks this creature makes deal an additional 1d4 slashing damage.	
46	Hereditary memory – *Ancestral memories are encoded into this creature's DNA.*	This creature has advantage on Wisdom saving throws.	
47	Antlered – *Multi-pronged antlers protrude from this creature's skull. It can swing them back and forth, slashing at foes.*	If this creature moves at least 20 ft. towards a creature, it can use its bonus action to make an antler attack. If that creature is within 5 ft., it must succeed a DC (8 + Dexterity bonus + PB) Dexterity saving throw or take 1d6 + PB slashing damage.	
48	Pneumatisation – *This creature has air sacs and chambers within its bones, making it much lighter.*	Half this creature's weight and increase its walking speed by 10 ft.	
49	Mana-infused cortex – *A pale-blue glow around this creature's head reveals it has innate magical abilities.*	Select one cantrip of your choice. This creature knows that cantrip. Its spell save DC is (8 + Wisdom Bonus + PB) and spell attack modifier is (Wisdom bonus + PB).	
50	Bombardier gland – B*ulbous sacs on this creature's body allow it to spit or secrete reactive chemicals that ignite when they mix.*	Add 1d4 fire damage to any attack made by this creature.	
51	Thin dermis – *The skin of this creature is sickly thin and its veins are visible below the surface.*	This creature is vulnerable to piercing damage. Instead of increasing its CR with this mutation, decrease it.	
52	Waxy skin – *This creature has a thick waxy coating on its skin.*	This creature is unaffected by temperatures as high as 40°C Celsius (104°F Fahrenheit). Reduce any slashing, piercing, or bludgeoning damage this creature takes by 2.	

53	Viperism – *A soft tissue frill can extend from this creature's neck, and it can spit like a viper.*	As a bonus action, this creature may make one attack with the profile: **Venom Spit**. Ranged Weapon Attack: range, 30 ft., +(Dexterity bonus + PB) to hit, one target. Hit: 1d6 + PB acid damage.	
54	Finned tail – *This creature has a large fleshy fin on the end of its tail.*	While in water, this creature has advantage on Dexterity saving throws and can dash as a bonus action.	
55	Beaked – *A keratinous beak sheathes this creature's snout, concealing its mouth below.*	This creature may add 1d6 piercing damage to any attack that involves its mouth.	
56	Bony frill – *A broad bony frill projects from the back of this creature's head, allowing it to shield its body from attacks.*	Increase the AC of this creature by 2.	
57	Strong swimmer – *This creature has powerful limbs and broad claws/paws/hands that aid it in moving through water.*	This creature gains a swim speed equal to 75% of its walking speed (rounded up to the nearest 5 ft.)	
58	Augmentative size – *This creature is much larger than you would expect*.	Increase this creature's size by one stage, and its attacks deal an additional 1d4 damage (of the same damage type that they normally deal), but -2 from any Dexterity saving throws.	
59	Hyper-bioluminescence – *Rather than glowing dimly, for a moment this creature can flash an extremely bright bioluminescent light.*	Once per day as an action, this creature may produce a flash of bright light. All other creatures within 20 ft. that can see it must succeed a DC (8 + Constitution bonus + PB) Dexterity saving throw or be blinded for 2 rounds.	
60	Complex inner-ear – *When other creatures would fall over, this creature is able to stagger and stabilise itself.*	This creature cannot be knocked prone.	
61	Thick plumage – *Particularly dense and thick feathers or fur cover this creature, giving it a puffy appearance.*	This creature gains resistance to cold damage.	
62	Xerophytic – *Specialised fleshy flaps cover this creature's nostrils, and it has waxy skin or scales.*	This creature can survive without water for up to one week.	
63	Excessive myelin – *This creature has a reinforced nervous system.*	This creature is immune to the paralyzed condition.	
64	Frail – *This creature appears thin and brittle.*	This creature has disadvantage on Strength checks and Strength saving throws. Instead of increasing its CR with this mutation, decrease it.	

65	Venomous – *Horrible green venom seeps from grooves in this creature's claws and teeth.*	Add 1d4 poison damage to any melee attack made by this creature.	
66	Agile – *This creature is slender and lean, able to move quickly on its feet.*	This creature has advantage on Dexterity saving throws.	
67	Dorsal wings – *A small pair of wings or wing-like flaps extend from this creature's back.*	This creature knows the Gust cantrip (spell save DC (8 + Wisdom bonus + PB)) and is immune to falling damage, so long as it is not incapacitated.	
68	Gripping digital pads – *This creature has rough pads on its feet that strongly grip surfaces.*	While climbing, this creature can dash as a bonus action.	
69	Sparse osteoderms – *Dense bony lumps dot this creature's back and flanks.*	This creature gains resistance to slashing damage.	
70	Symbiotic spores – *Unusual cysts cover this creature's shoulders. They can pop when disturbed, filling the air with a noxious cloud.*	At the start of this creature's turn, any other creature of a different species within 10 ft. of it must succeed a DC (8 + Constitution bonus + PB) Constitution saving throw or take 1d4 + PB necrotic damage.	
71	Rapid thermal regulation - *This creature can flush extremities with blood to rapidly cool itself.*	This creature gains resistance to fire damage.	
72	Spermaceti organ (minor) – *This creature can emit a deafeningly loud ultra-high-pitched sound.*	As a bonus action, this creature may perform a sonic attack. All other creatures of a different species within 20 ft. of it must succeed a DC (8 + Constitution bonus + PB) Wisdom saving throw or take 1d4 thunder damage and be deafened for 1 minute.	
73	Pachydermatous – *The skin and scales of this creature are noticeably thickened.*	This creature gains resistance to bludgeoning damage.	
74	Hyper-pigmentation – *This creature's skin, feathers, spines, and/or fur are jet black in colour.*	This creature gains resistance to radiant damage.	
75	Alluring pheromones – *This creature gives off a sweet, intoxicating smell.*	Once per day, this creature may cast Charm Person at 1st level (spell save DC (8 + Charisma bonus + PB)) without components and without requiring a spell slot.	
76	Arboreal – *This creature is adapted to climbing trees, with hooked claws on its hands and feet.*	This creature gains a climbing speed equal to its walking speed.	

77	Mana gland – *Specialised glands on this creature's body allow it to infuse magical energies into its attacks.*	Add 1d4 force damage to any attack made by this creature.	
78	Dazzling plates – *Large vertical plates line this creature's back that can produce sudden bright red colouration when flushed with blood.*	This creature has advantage on Intimidation checks.	
79	Chitinous – *Invertebrate-like plates cover this creature's flank.*	Increase this creature's AC by 1d4.	
80	Lithophagic – *This creature is able to ingest rocks and stones for sustenance.*	This creature can sustain itself by consuming rocks. Any attacks involving its mouth deal an additional 1d6 bludgeoning damage.	
81	Binocular vision – *Two forward-facing eyes allow this creature to easily track prey.*	This creature has advantage on Perception checks that involve sight.	
82	Hoofed – *This creature has single stub hooved/clawed feet.*	Increase this creature's walking speed by 20 ft. However, this creature is slowed to 10 ft. per round in difficult terrain (rather than speed halved).	
83	Enhanced cerebrum – *A bulbous node on this creature's skull causes its eyes to protrude a little.*	As a bonus action, another creature within 60 ft. must succeed a DC (8 + Intelligence bonus + PB) Wisdom saving throw or take 1d6 + PB psychic damage.	
84	Fossorial – *Scoop-like powerful forelimbs allow this creature to dig.*	This creature gains a burrowing speed of 15 ft.	
85	Hematophagic (minor) – *As it injures its opponent, this creature drinks their blood.*	Whenever this creature deals damage with a melee attack, it gains 1d4 temporary hit points (temporary hit points do not stack).	
86	Macropod – *With its unusually large feet, this creature is able to jump or rear up and perform a powerful stomp.*	As a bonus action, this creature may perform a Thunder-stomp. Every other creature within 5 ft. of it must succeed a DC (8 + Strength bonus + PB) Dexterity saving throw or be knocked prone.	
87	Hypermobility – *With flexible limbs and a lean body, this creature is particularly fast.*	Increase this creature's walking speed by 15 ft.	
88	Electrocytes – *Yellow domed pods of specialised cell clusters dot this creature's back, crackling with electricity.*	Add 1d4 lightning damage to any attack made by this creature.	

89	Pinnae – *Pointed wolf-like ears protrude from this creature's head.*	This creature has advantage on Perception checks that involve sound.	
90	Reverberating membranes – *Specialised flaps of skin line this creature's flanks. It can vibrate them suddenly, producing small shockwaves.*	Add 1d4 thunder damage to any attack made by this creature.	
91	Regenerative torpor – *A miniature hibernation allows this creature to recover rapidly.*	This creature may gain all the benefits from completing a long rest when it completes a short rest.	
92	Dynamic camouflage – *The scales or feathers of this creature can change colour slightly, allowing it to blend into its surroundings.*	This creature has advantage on Stealth checks.	
93	Hyena-like giggle – *The constant cackling of this creature is unnerving.*	This creature knows the Vicious Mockery cantrip (spell save DC (8 + Charisma bonus + PB)).	
94	Wader – *This creature has webbed feet and thin ankles.*	This creature is not slowed by moving through shallow or waist-deep water.	
95	Hyperdontia – *The teeth of this creature are particularly large.*	If this creature misses with an attack involving its mouth, as a reaction, it may attempt that attack again.	
96	Springy tendons – *Frog-like spring-loaded limbs allow this creature to bound forward.*	This creature can jump up to 10 ft. further than it normally could.	
97	Seismic organs – *Specialised sensory hairs and quills on this creature allow it to sense movement.*	This creature gains tremor sense 30 ft.	
98	Volplane membrane – *Broad membranes link this creature's front limbs and back limbs, allowing it to glide.*	This creature is immune to falling damage, so long as it is not incapacitated. While falling, it can move 1 ft. horizontally for every 2 ft. it descends.	
99	Chameleon-like tongue – *In a flash, this creature can fire it's long, sticky, retractable tongue.*	As an action, this creature may make a ranged attack with the profile: **Sticky Tongue**. Ranged Weapon Attack: range, 20 ft., +(Dexterity bonus + PB) to hit, one target. Hit: A creature hit by this attack is grappled (escape DC (8 + Strength bonus)) and moved 20 ft. directly towards the attacker.	
100	Echolocation – *Through high-pitched clicks, this creature can sense its surroundings.*	This creature gains a blindsight of 20 ft.	

Major Mutation table

d20	Mutation	Effect
1	Hyper-pachydermatous – *The skin and scales of this creature are extremely thick, requiring great effort to break through.*	This creature gains resistance to non-magical bludgeoning, piercing, and slashing damage.
2	Greater echolocation – *Through rapid, loud high-pitched squawks, this creature is able to picture its surroundings.*	This creature gains a blindsight of 60 ft.
3	Neurotoxins – *Dangerous toxins drip from the tips of this creature's claws or maw.*	A creature hit by a melee attack from this creature must succeed a DC (8 + Constitution bonus + PB) Constitution saving throw or take 2d6 poison damage and become poisoned.
4	Hyper-intelligence – *This creature has a veiny, bulging forehead that houses a complex brain.*	Improve this creature's intelligence by 3. It has advantage on any Intelligence check and can understand any language after hearing it for one minute, although cannot speak it.
5	Heterodonty – *Erratically organised teeth of different sizes jut out in various directions, making it difficult to escape once bitten.*	Whenever this creature deals damage with a melee attack involving its mouth, the target is also grappled (escape DC (8 + Strength bonus + PB)). This creature may also continue to attack while grappling a target, but may only use attacks that require its mouth against the grappled target.
6	Armour-plated – *Extremely thick bony plates line this creature's body.*	Increase the AC of this creature by 5 (to a maximum of 30).
7	Grasping tentacles – *Writhing tentacles protrude from this creature, trying to grasp their prey.*	As a bonus action, this creature may attempt to grapple another creature within 10 ft. of it. That creature must succeed a DC (8 + Dexterity bonus + PB) Dexterity saving throw or be grappled (escape DC (8 + Strength bonus + PB)).
8	Winged – *This creature's limbs have huge membranous or feathered wings.*	This creature gains a flying speed equal to its walking speed. If it can already fly, its flying speed is doubled.
9	Flawless organism – *Strong, fast, smart - the peak of evolution, everything is perfectly balanced.*	In addition to any other modifiers, add this creature's PB to any saving throws and ability checks.
10	Enormous size – *This creature is far larger than you would expect.*	Increase the maximum health points of this creature by 50%, increase its size category by two stages, and increase its CR by an additional 2.
11	Draconic evolution – *Bony spikes protrude backwards from the back of this creature's head, revealing its draconic nature.*	**Exhale fire (Recharge 5-6).** As an action, this creature may exhale fire in a 30 ft. cone. Any creature in the cone must succeed a DC (8 + Constitution bonus + PB) Dexterity saving throw or take 15d6 fire damage. On a success they take half as much damage.

12	Hematophagic (major) – *Every drop of spilled blood is lapped up by this voracious predator.*	Whenever this creature deals damage with a melee attack, it gains temporary hit points equal to half of that damage (rounded down). Increase its CR by an additional 2.
13	Elemental immunity – *This creature is infused with a magical element, changing its colour accordingly.*	Select one damage type from lightning, fire, cold, poison, or acid. This creature is immune to that damage type and its feather/fur/skin colour changes to yellow, red, blue, purple, or green accordingly. Its attacks also deal an additional 2d4 of that damage type.
14	Chromatic plumage – *Iridescent feathers or fur shimmer with shifting magical energies.*	At the start of this creature's turn, you can select one of the following damage types: lightning, fire, cold, poison, or acid. Until the start of its next turn, this creature gains resistance to that damage type and one of its attack's damage changes to that type.
15	Supernumerary – *Additional back-up organs allow this creature's body to replenish venom and gland stocks more quickly.*	When you roll to recharge an ability for this creature, roll an additional 1d6 and choose the highest. If this creature does not have a recharge ability, reroll this result.
16	Enhanced senses – *Extra eyes, antennae, or multiple ears allow this creature to better sense its surroundings.*	This creature has advantage on Perception checks and increase its passive Perception by 4.
17	Chameleonic skin – *Instantly shifting and changing scales perfectly mimic the colour of this creature's surroundings.*	As a bonus action, this creature can cast Invisibility at 2nd level on itself without components and without requiring a spell slot. It may do this a number of times per day equal to its proficiency bonus.
18	Macro electrocytes – *Giant protruding yellow sacs dot this creature's back, crackling with powerful electricity.*	The first time this creature deals damage with an attack each turn, add 1d10 lightning damage to that attack. This creature may also cast Lightning Bolt at 3rd level (spell save DC (8 + Wisdom bonus + PB)) without components and without requiring a spell slot. It may do this a number of times equal to its proficiency bonus per day.
19	Spermaceti organ (major) – *This creature has a huge bulbous whale-like head, housing a powerful noise-producing organ.*	**Sonic Scream (Recharge 5-6).** As an action, this creature may make a sonic attack. All other creatures within 30 ft. of it must make a DC (8 + Constitution bonus + PB) Constitution saving throw or take 4d8 thunder damage and 4d8 psychic damage. On a success, they take half as much damage.
20	Carcinisation – *Some things in evolution are inevitable.*	This creature's body takes on the overall appearance of a crab (of the same size as it was before), with two pincered front limbs, a further eight legs, and armoured chitinous flesh. Increase the AC of this creature by 3 (to a maximum of 30). It gains resistance to slashing, piercing, and cold damage, but also gains vulnerability to bludgeoning damage. The first time it deals damage with a melee attack each turn, that attack deals a further 2d6 piercing damage.

CREATURE NAMING TABLES

Just like in real life, in many fantasy settings animals are given colloquial names that differ from region to region. While we have given every animal in this book its real scientific name, you may want to use alternative names in your world. To help you come up with names, we've included a series of tables below.

These tables provide a prefix and suffix that you can combine with a verb to create compelling fantasy creature names. We suggest rolling or picking one-to-two prefixes, then a suffix, and finally a verb that combine to make a three-to-four word name. Alternatively, you can choose the words that you think best characterize particular aspects of the creature you are describing. Remember that a single species may have different colloquial names in different regions. Some example names include: Razor-clawed Slasher, Dusky-cheeked Hunter, Red Horned Crusher, or Gentle Cape Gorger.

Carnivores

d20	Prefix	Suffix	Verb
1	Razor	Clawed	Slasher
2	Sharp	Taloned	Gouger
3	Keen	Handed	Hunter
4	Serrated	Spurred	Stalker
5	Spike	Toothed	Gnasher
6	Spiny	Mawed	Snarler
7	Jagged	Mouthed	Clawer
8	Barbed	Jawed	Climber
9	Sting	Spined	Striker
10	Pointed	Tailed	Reaper
11	Hook	Toed	Slicer
12	Dire	Crested	Cutter
13	Cut	Feathered	Ripper
14	Rip	Eyed	Carver
15	Huge	Winged	Stabber
16	Thick	Beaked	Devourer
17	Fine	Hided	Gnawer
18	Blade	Scaled	Prowler
19	Edge	Backed	Raider
20	Honed	Fanged	Ravager

Herbivores

d20	Prefix	Suffix	Verb
1	Blunt	Horned	Crusher
2	Ridged	Tailed	Nosher
3	Spike	Tusked	Chewer
4	Smooth	Backed	Charger
5	Gnarl	Plated	Trampler
6	Hard	Paunched	Stomper
7	Giant	Necked	Eater
8	Huge	Hided	Roamer
9	Thick	Scaled	Sleeper
10	Soft	Spined	Beater
11	Whip	Armoured	Bellower
12	Slab	Gutted	Thumper
13	Grind	Collard	Rumbler
14	Polished	Shielded	Grazer
15	Dire	Stomached	Gnawer
16	Gentle	Bulwarked	Forager
17	Placid	Spiked	Rummager
18	Stoic	Crested	Gorger
19	Fat	Bellied	Gulper
20	Bloat	Toothed	Smasher

You can include an optional colour and hyphened extras if you so desire:

Colour Prefix (d100)							
1	Azure	26	Ebony	51	Mint	76	Rose
2	Amber	27	Emerald	52	Mocha	77	Ruby
3	Amethyst	28	Fiery	53	Mossy	78	Russet
4	Apricot	29	Flame	54	Mustard	79	Rusty
5	Aquamarine	30	Fuchsia	55	Navy	80	Saffron
6	Ash	31	Golden	56	Ochre	81	Sage
7	Beige	32	Grape	57	Olive	82	Salmon
8	Black	33	Gray	58	Onyx	83	Sapphire
9	Blue	34	Green	59	Opalescent	84	Scarlet
10	Brass	35	Granite	60	Orange	85	Sepia
11	Bronze	36	Gunmetal	61	Pale	86	Shimmering
12	Brown	37	Iron	62	Pallid	87	Silver
13	Caramel	38	Iridescent	63	Peach	88	Slaty
14	Carmine	39	Ivory	64	Pearly	89	Smokey
15	Celadon	40	Jade	65	Pewter	90	Snowy
16	Charcoal	41	Jasper	66	Pine	91	Sooty
17	Cherry	42	Jet	67	Pink	92	Steel
18	Chestnut	43	Lavender	68	Platinum	93	Tawny
19	Chocolate	44	Lilac	69	Plum	94	Turquoise
20	Cinnamon	45	Lime	70	Puce	95	Verdant
21	Copper	46	Lustrous	71	Pumpkin	96	Vermillion
22	Creamy	47	Magenta	72	Purple	97	Violet
23	Crimson	48	Mahogany	73	Rainbow	98	Viridian
24	Cyan	49	Maroon	74	Raspberry	99	White
25	Dusky	50	Mauve	75	Red	100	Yellow

Alternative Suffix (d100)							
1	Backed	26	Faced	51	Marbled	76	Screeching
2	Barred	27	Footed	52	Marsh	77	Snapping
3	Bearded	28	Flat-throated	53	Marshland	78	Southern
4	Bellied	29	Forest	54	Masked	79	Speckled
5	Bellowing	30	Fork-Tailed	55	Mottled	80	Spotted
6	Belted	31	Gilded	56	Mountain	81	Streaked
7	Breasted	32	Grassland	57	Naped	82	Striped
8	Brindled	33	Greater	58	Necked	83	Strutting
9	Bristly	34	Grizzled	59	Northern	84	Taiga
10	Buffy	35	Hooting	60	Ornate	85	Tailed
11	Cape	36	Howling	61	Painted	86	Temperate
12	Chattering	37	Imperial	62	Paradise	87	Thighed
13	Cheeked	38	Grumbling	63	Pied	88	Throated
14	Chested	39	Headed	64	Plumped	89	Tropical
15	Coastal	40	Hooded	65	Polled	90	Tufted
16	Cobbled	41	Jumping	66	Pouched	91	Tundra
17	Collared	42	Jungle	67	Prancing	92	Upland
18	Common	43	King	68	Puffed	93	Velvet
19	Crested	44	Knobbled	69	Ringed	94	Wading
20	Crowned	45	Laughing	70	Rock	95	Warbling
21	Darting	46	Legged	71	Rumped	96	Wattled
22	Eared	47	Lesser	72	Sand	97	Western
23	Eastern	48	Lined	73	Scaled	98	Whiskered
24	Elegant	49	Lowland	74	Scaly	99	Whistling
25	Eyed	50	Mangrove	75	Screaming	100	Wobbled

Designers' Note

If you use these tables to create innuendos, the consequences that follow are your own fault.

TAMING AND DOMESTICATION

In this section we outline the rules for taming wild animals, as well as worldbuilding tools to help include domesticated animals. Wild animals are difficult and often dangerous to tame. Instinct can override learned behaviour and it can take years to train an animal well. In a fantasy game setting, we want this process to be much faster and more involved, but still challenging. Below, we have outlined a process for taming wild animals. You may want to adjust these based on player power or the type of creature that is being tamed.

Taming Rules

Each creature with the Beast type has a **Taming Score**. This score is 0 unless otherwise stated by the DM. Once a creature has been subdued and is tied/chained/caged so that it cannot escape (but not restrained), a player may attempt to increase that creature's Taming Score. Unless otherwise stated, they may attempt to do this **once per day**, as the creature will be unreceptive to multiple training sessions.

In order to make this attempt, the player must have **appropriate food** in an **appropriate volume** to feed the beast, as outlined in the table below. The player then attempts to bond with the animal over the course of an hour. They must make a contested **Animal Handling** vs **Survival** check against the creature. Each success by the player increases the taming score of the creature by 1. Each failure by the player drops this score by 1 (to a minimum of 0) and the creature makes a single attack at disadvantage at the player attempting to tame it.

When that score **exceeds the creature's proficiency bonus or CR** (whichever is higher), the animal is considered tame and is loyal to the player/NPC (or team of players/NPCs) who tamed it. It will follow them unless commanded to stay.

- Charmed creatures make their Survival check at disadvantage and cannot make an attack if the player is unsuccessful.
- Dominated creatures automatically fail their Survival check.
- A player using Speak with Animals has advantage and expertise on their Animal Handling check.

Size Category	Herbivore	Carnivore	Omnivore	Piscivore
Tiny (or smaller)	A single piece of fruit, a berry, or a nut.	A scrap of meat.	A single piece of fruit, a single berry, or a scrap of meat.	A scrap of fish.
Small	1 lb. of fresh fruit/ berries or 3 lb. of leaves.	A small cut of meat, (¼ lb.) or a fresh bone (¼ lb.).	A small cut of meat, (¼ lb.) or 1 lb. of fresh berries/fruit.	A small (¼ lb.) cut of fish fillet.
Medium	5 lb. of fresh fruit/ berries or 15 lb. of leaves.	A large cut of meat (1 lb.) or fresh bones (1 lb.)	A large cut of meat (1 lb.) or 5 lb. of fresh fruit/berries	A single small 1 lb. fish
Large	50 lb. of fresh fruit/ berries or 100 lb. of leafy plant material.	An entire carcass of a small (or larger) animal, or a massive cut of meat (40 lb.)	25 lb. of fresh fruit/ berries and 20 lb. of meat.	30 lb. of fish (a single large carp-sized fish or several smaller ones)
Huge	250 lb. of leafy plant material.	Three small animal carcasses, an entire carcass of medium (or larger) size, or an assortment of meat and bones (180 lb.)	100 lb. of leafy plant material and 60 lb. of meat.	100 lb. of fish (a single giant catfish-sized fish or dozens of smaller ones)
Gargantuan (or larger)	500 lb. of leafy plant material	An entire carcass of a large animal, or an assortment of carcasses (400 lb.)	200 lb. of leafy plant material and 200 lb. of meat.	400 lb. of fish (a single enormous shark-sized fish or hundreds of smaller ones)

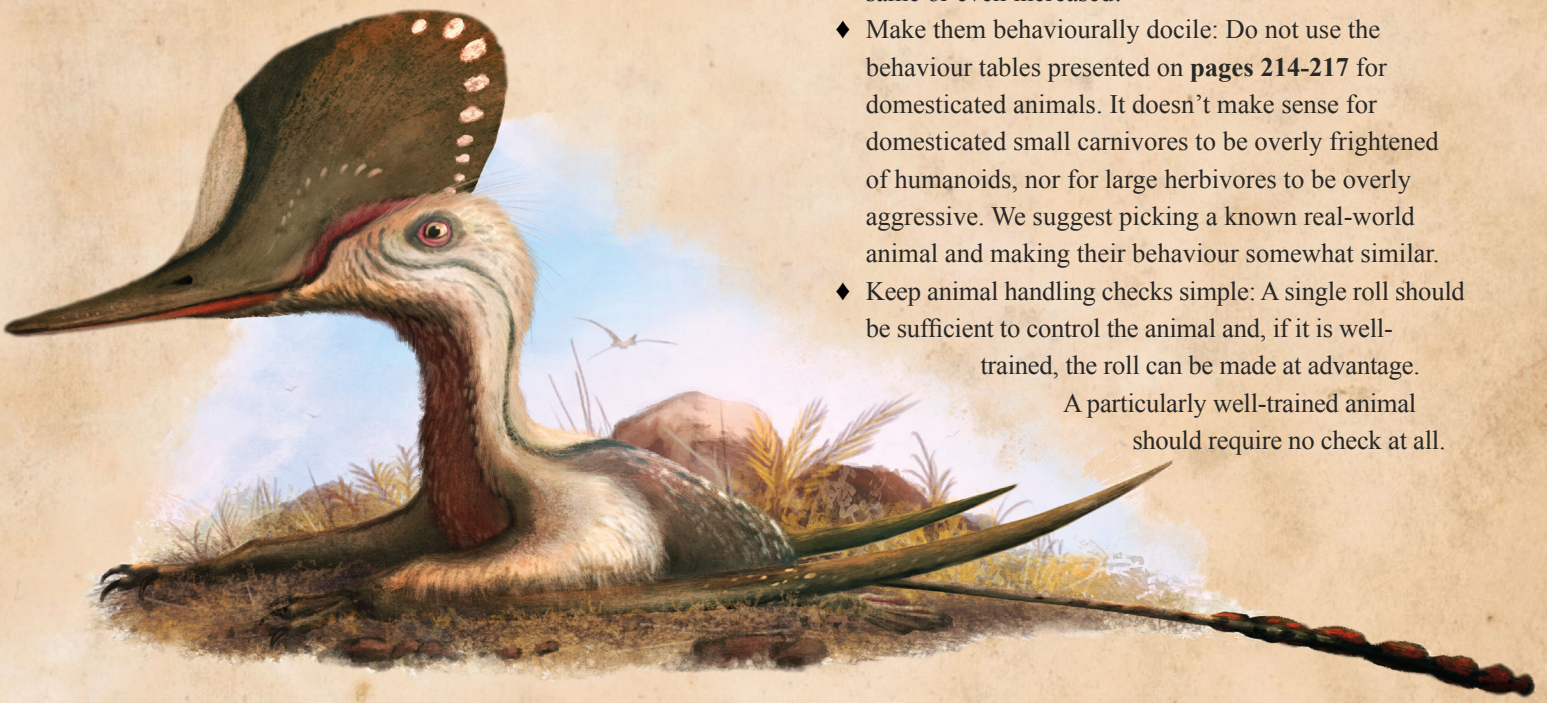
Domestic Animals



Some animal lineages undergo a process known as domestication. Domesticated animals are those that have been made more amenable for handling and are generally less dangerous to humanoids. This process takes generations – potentially hundreds or thousands of years depending on reproductive speed. Most, if not all, civilisations domesticate animals. These are rarely large predators, although that is not unheard of. In the real world, common domestic animals include companion animals (dogs, cats, bearded dragons, etc.), farm animals (cows, sheep, goats, etc.), and animals used for transport/racing (horses, camels, pigeons, etc.). We tended to domesticate animals for food, companionship, pest control, transport, assistance with hunting, warfare, or entertainment. In your fantasy world(s), different groups of people may have domesticated animals for one or all of the same reasons.

Most animals that are domesticated are done so through selective breeding, a process whereby humanoids select which animals breed to accumulate desirable traits in their offspring. In general, these are traits that make them more docile and/or reduce their capacity to cause harm, as well as traits that fit the desired role.

We also think that some animal lineages, such as domestic cats, initially underwent domestication without direct selection by humans – that is, they were instead subject to selection pressures caused by living adjacent to humans that ultimately also domesticated them.



Domestic Animals in your game world

Including domesticated animals in your world makes for a much more immersive setting. In this book, you can select animals of appropriate sizes and diets that can replace existing modern animals. For example, *Microraptor* (**page 50**) might be used by townsfolk for ratting their grain stores in the same way that cats and small dogs are, or *Paralititan* (**page 71**) might be a huge mount used for war in the same manner as an elephant. When including a domesticated animal, we recommend applying the following changes:

- Make them visually distinct: Most domesticated animals have reduced offensive capabilities – narrower jaws, shorter claws/talons, and smaller or blunter horns. We recommend also changing their colour, plumage, and/or patterning to denote that they are different from wild forms.
- Change their damage: We suggest that you half all of the damage caused by animals that aren't used for combat. Those that are used for combat can be kept the same or even increased!
- Make them behaviourally docile: Do not use the behaviour tables presented on **pages 214-217** for domesticated animals. It doesn't make sense for domesticated small carnivores to be overly frightened of humanoids, nor for large herbivores to be overly aggressive. We suggest picking a known real-world animal and making their behaviour somewhat similar.
- Keep animal handling checks simple: A single roll should be sufficient to control the animal and, if it is well-trained, the roll can be made at advantage. A particularly well-trained animal should require no check at all.

HOWDAHS

Howdahs are ornate carriages that were historically mounted on elephants or camels. They originated in the "East Indies" (a colonial term encompassing the Indo-Australian archipelago, India, and surrounding areas) but are associated with the range of *Elephas maximus*, the Asian elephant.

Generally, they were designed to be comfortable and lavish modes of transport that convey wealth and social status, commonly fitted with a canopy and adorned with expensive materials. However, armoured variants were also implemented as mobile bastions.

It is exciting to imagine the sorts of howdahs and carriages that would be constructed to fit dinosaurs. The titanic sauropods in particular offer evocative mounts that could become living fortresses.

Below is a set of loose rules to assist you in designing howdahs for Mesozoic reptiles. Generally, we envision these functioning as mobile bases of operations, allowing party members to rest while on the move and store items in a relatively safe place. The specifics of cost and how long it takes to acquire and fit a howdah will depend on your campaign's pace and economy. We've outlined some rough guidance, but feel free to alter it however you desire.

Large/Huge/Gargantuan Howdah

A standard large howdah has a maximum capacity of five humanoids and includes two hammocks with space for two bedrolls underneath, accompanied by two storage chests, and finally a saddle with reigns for controlling the mount. A creature equipped by a Howdah has its speed reduced by 5 ft., to a minimum of 5 ft.

Huge and gargantuan howdahs have the same basic set-up, but can also be augmented with additional amenities. We recommend that a huge howdah have up to two additional amenities, and a gargantuan howdah have three or four, although you may want to allow more on the largest creatures in your campaign.

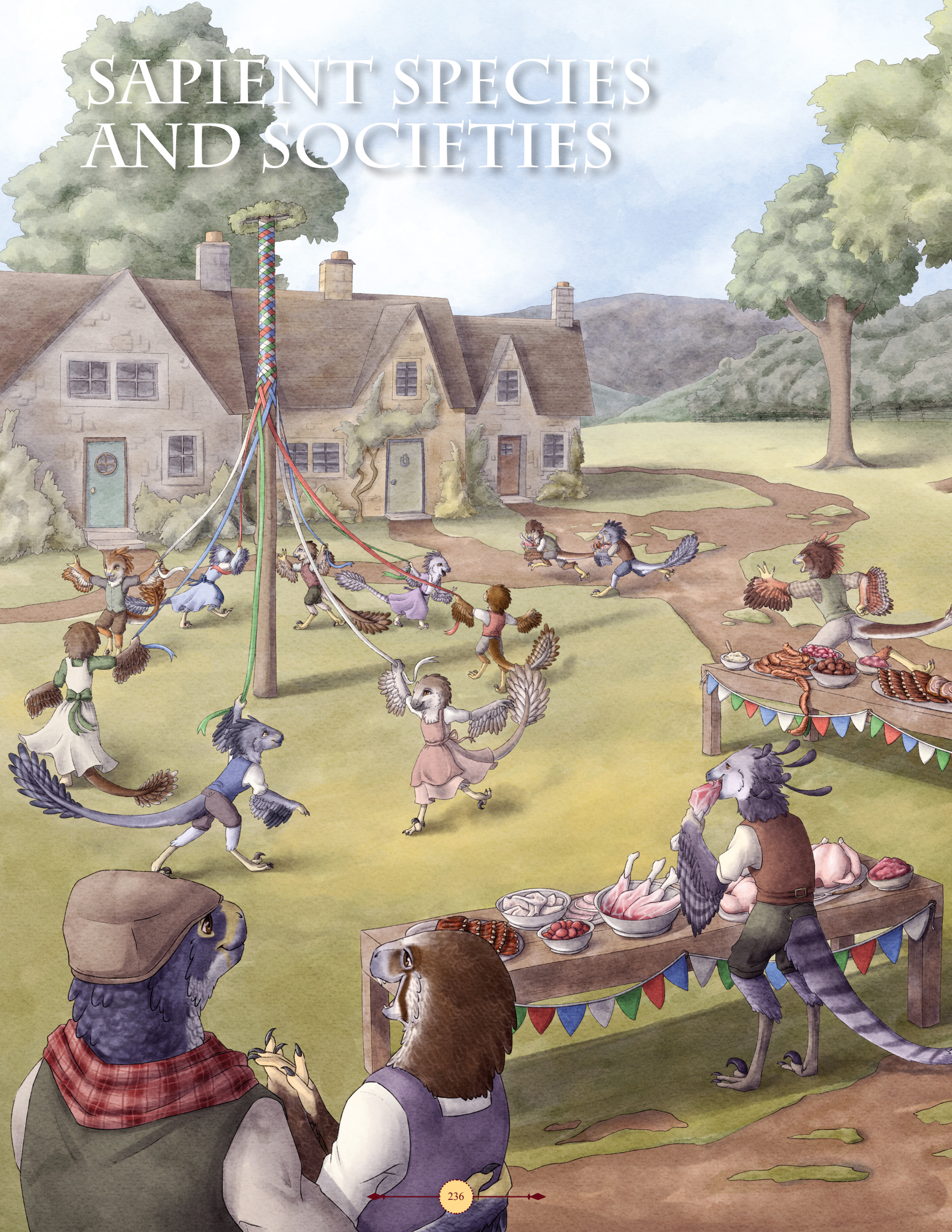
To construct a Howdah, you will generally require a team of people, including a carpenter, blacksmith, and general labourers. Alternatively, specialist components can be purchased and assembled by just general labourers (or the party). The table below outlines the recommended costs and build times. In some settings, howdahs may be commonplace and significantly cheaper.

We have also included amenities that you can augment your howdah with. Several have restrictions on the types of dinosaurs that may use them, but there should be few (or no) restrictions for their use with non-dinosaur creatures.

Size / Type	Recommended Cost	Build time (days)
Large Howdah	2000-2500 gp.	2
Huge Howdah	5000-7500 gp.	1d3 + 1
Gargantuan Howdah	7500-10000 gp.	3d4
Large Howdah (pre-built)	3000 gp.	0
Huge Howdah (pre-built)	9000 gp.	0
Gargantuan Howdah (pre-built)	15000 gp.	0
Amenity	500-2000 gp.	2
Amenity (pre-built)	1000-2500 gp.	0

Amenity	Effect
Secure Storage	A collection of lockable crates and chests that can store a large volume and weight of items/materials. The players are issued with keys for them, and we recommend that picking the locks has a DC of 20 or that the locks are otherwise magically protected.
Smithy	A full set of blacksmith's equipment, including an anvil, sharpening wheel, and a small forge. It allows for the forging and repair of equipment. If attached to a huge howdah, this reduces the mount's speed by an additional 5 ft. (to a minimum of 5 ft.)
Alchemical Workshop	A series of brewing pots, glass vials, pestles and mortars, and a case of common catalytic ingredients with instructions. These allow for the brewing of potions and poisons from harvested resources with relative ease and non-expert knowledge.
Shrine	A place of worship that can be dedicated to any single entity or pantheon. If a creature communes at the shrine with something they worship for 10 minutes, they gain the effects of the Bless spell for 1 hour. A creature can only be affected by one instance of bless from any shrine at a time.
Landing Bay	This area acts as a roost for up to 2 small/medium (or 1 large) flying creatures. It comes with a feeding trough and bedding straw, as well as storage for saddles.
Barracks	Another set of two hammocks with space for two bedrolls underneath them, accompanied by two storage chests. These effectively increase the transport capacity of the howdah, allowing four additional humanoids.
Watchtower Crown	*Sauropods only*. A seat on the head of this sauropod allows a medium or smaller humanoid to see much further (many miles) than if they were sat anywhere else on the Howdah.
Tailblade	*Non-ceratopsians only.* Allows the mount to make an additional tail attack using its bonus action: **Tailblade.** *Melee Weapon Attack, range 10 ft., to hit: Dexterity modifier (+ proficiency bonus if the creature already has a tail attack). On hit, deals 2d6 + Strength modifier slashing damage.* Alternatively, you can simply increase the damage of the creature's innate tail attack by 2d6 + Strength modifier slashing damage. This may be attached to a large howdah in addition to other sizes.
Mounted Harpoon Launcher	A humanoid manning the Harpoon Launcher can take the following actions/bonus actions: **Action**: **Harpoon launch.** *Ranged Weapon Attack, range 200 ft., +(Dexterity modifier) to hit, one target. Hit: (2d10 + Dexterity modifier) piercing damage. You may add your proficiency bonus to the hit and damage rolls of this attack if you are proficient with crossbows and firearms. Once fired, the Harpoon must be reloaded before it can be fired again.* An optional rope may be attached to the harpoon to snag a hit creature. If a creature hit by at least one of these attacks attempts to move out of range of the Harpoon Launcher, it must make a Strength saving throw with a DC of (16 + (2 * number of ropes attached)). On a failed save, its speed is reduced to 0 for 2 turns and it is knocked prone. On a successful save, all ropes break, freeing the creature. **Bonus Actions:** **Reload harpoon launcher.** The harpoon is reloaded and ready to fire again. **Reel in.** Any harpoons fired with ropes attached begin to automatically reel in at 40 ft. per round, reducing the distance in which this Strength save is triggered and dragging a prone creature closer. No further harpoons can be fired with ropes attached until this process is complete.
Portal Nexus	Allows players to communicate in the same manner as the Sending spell an unlimited number of times from this location, so long as the target has a sending stone (or similar device) to receive the message. Once per day, a portal to another portal nexus (usually located in big cities or other Howdahs) may be temporarily opened. We recommend that it requires an Evolunite shard (**page 298**) or similar resource of at least 250 gp. in value and that only up to 8 humanoids are able to use the portal before it closes.
Maw Helm	*Theropods only.* Sheets of jagged metal form a tough helmet and provide a vicious steel edge to jaw and head attacks. The mount's AC is increased by 2 and any bite or head-bash attack deals an additional 2d6 piercing damage. This may be attached to a large howdah in addition to other sizes.
Fortress Plate	*Ankylosaurs, Nodosaurs, and Ceratopsians only.* Heavy armour covers this creature's flanks. Its AC is improved by 4, but its speed is reduced by a further 5 ft. (to a minimum of 5 ft.). This may be attached to a large howdah in addition to other sizes.

SAPIENT SPECIES AND SOCIETIES

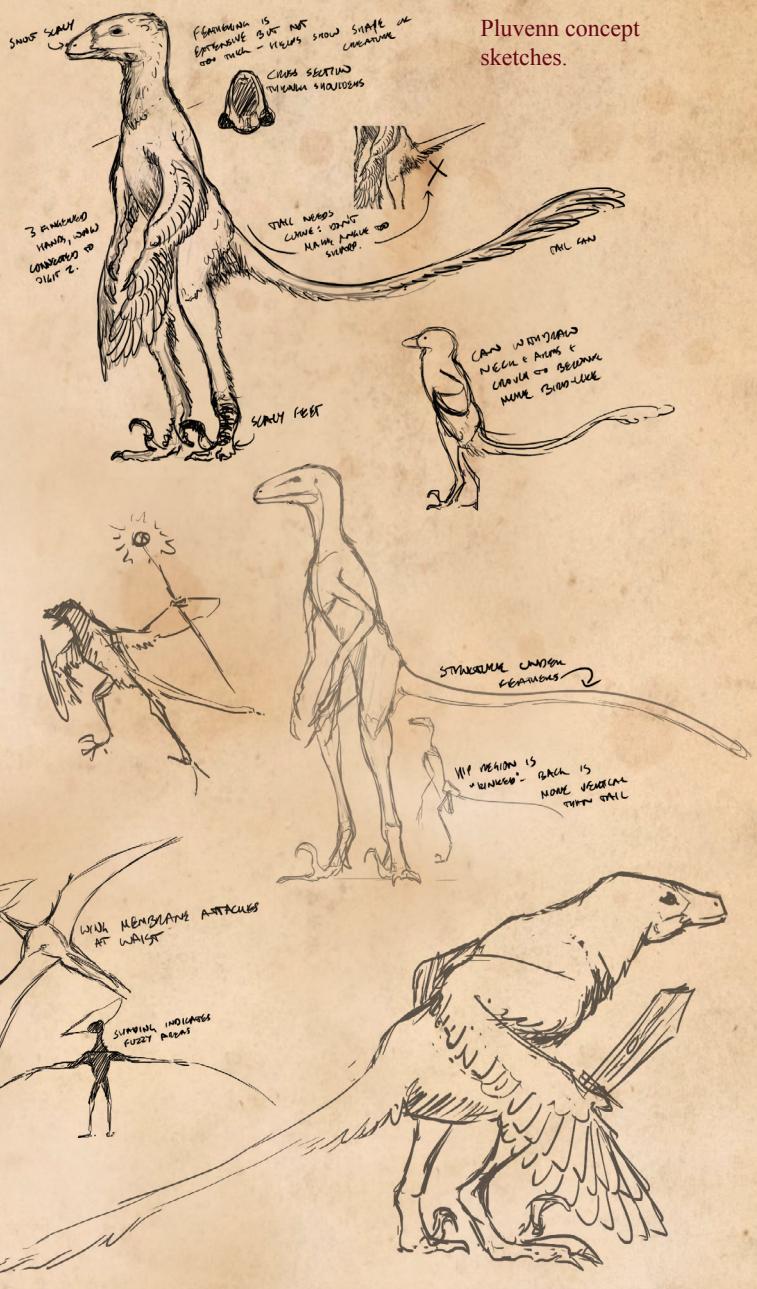




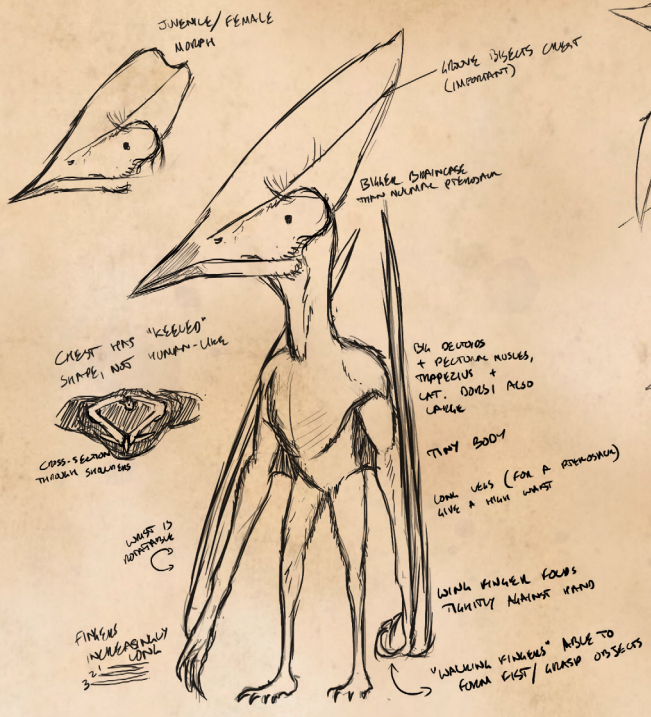
This section presents six races/species that you can use in your games as player characters (PCs) and non-player characters (NPCs). For each race, we've provided a description of an example society in which they live, along with some ideas for you to add your own flair. We have worked hard to make these races interesting and unique, and we hope you have fun using them in your games. These races are fictional, but we used a process called speculative biology to design them as if they were real. It's worth noting that humanoid-dinosaur creatures have been a topic of discussion for many years.

Humanoid Dinosaurs

Since we first learned of the creatures that existed before us, we have asked the questions "*What if the [non-avian] dinosaurs hadn't died out?*", "*What would they have evolved into?*", and "*What if dinosaurs became humanoids?*". Many people tried to imagine intelligent bipedal (walking on two legs), humanoid-like, scaly dinosaurs. This idea has persisted in human culture for centuries now, and there have been semi-serious attempts to predict what such creatures could look like. In 1982 the palaeontologist Dale Russell and artist/sculptor Ron Séguin produced a highly-detailed life-sized sculpture of their imaginary human-shaped theropod dinosaur called the Dinosauroid. This was a shocking sculpture at the time, as it drew elements from contemporary speculations of aliens. For many years, this sculpture was what came to mind for most people when discussing dinosaur humanoids. However, we now know that such a creature is highly unlikely to evolve. Reality is not so anthro-centric (centred around us). Simply put, the Dinosaroid was an inaccurate hypothesis that misunderstood many features of the dinosaurs it was exploring.



Pluvenn concept sketches.



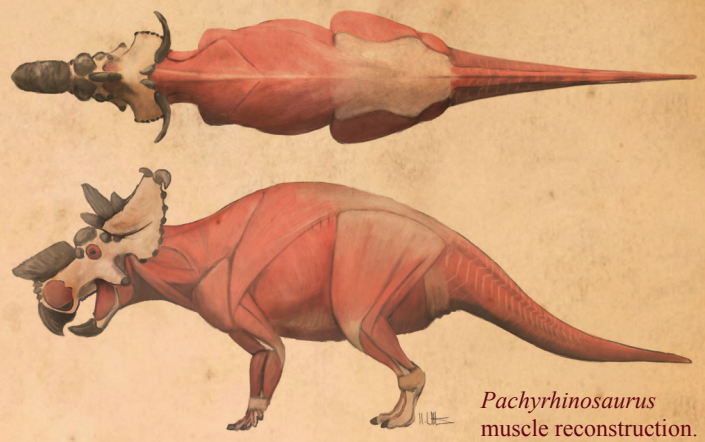
Children of Seth concept sketches.

The truth is that dinosaurs *did* survive the end-Cretaceous extinction, *did* evolve bipedality, and *did* evolve high intelligence. These lineages exist today as ostriches & penguins (non-flying bipeds), and corvids (crows, magpies, and their kin with high intelligence and tool use) respectively. Nevertheless, it is a fun and important thought experiment to imagine what might cause a species to evolve similar intelligence to our own and what that might look like.

Speculative Biology

Modern science uses a process called speculative biology to help fill gaps in the fossil record, hypothesise possible evolutionary lineages, or predict what alien life might be like. This process relies on understanding selection pressures (see **pages 16-17**). In speculative biology, known life on Earth is the starting point. We base our speculation on the limitations of characteristics that an organism has already developed. What we mean by this is that some fundamental components of an organism are difficult (but not impossible) to modify without reducing survivability. One example of this would be a crab's exoskeleton. As this hard shell is used for protection and to anchor muscles for movement, it would be difficult for that to evolve into a soft skin-like characteristic without compromising the crab's ability to move.

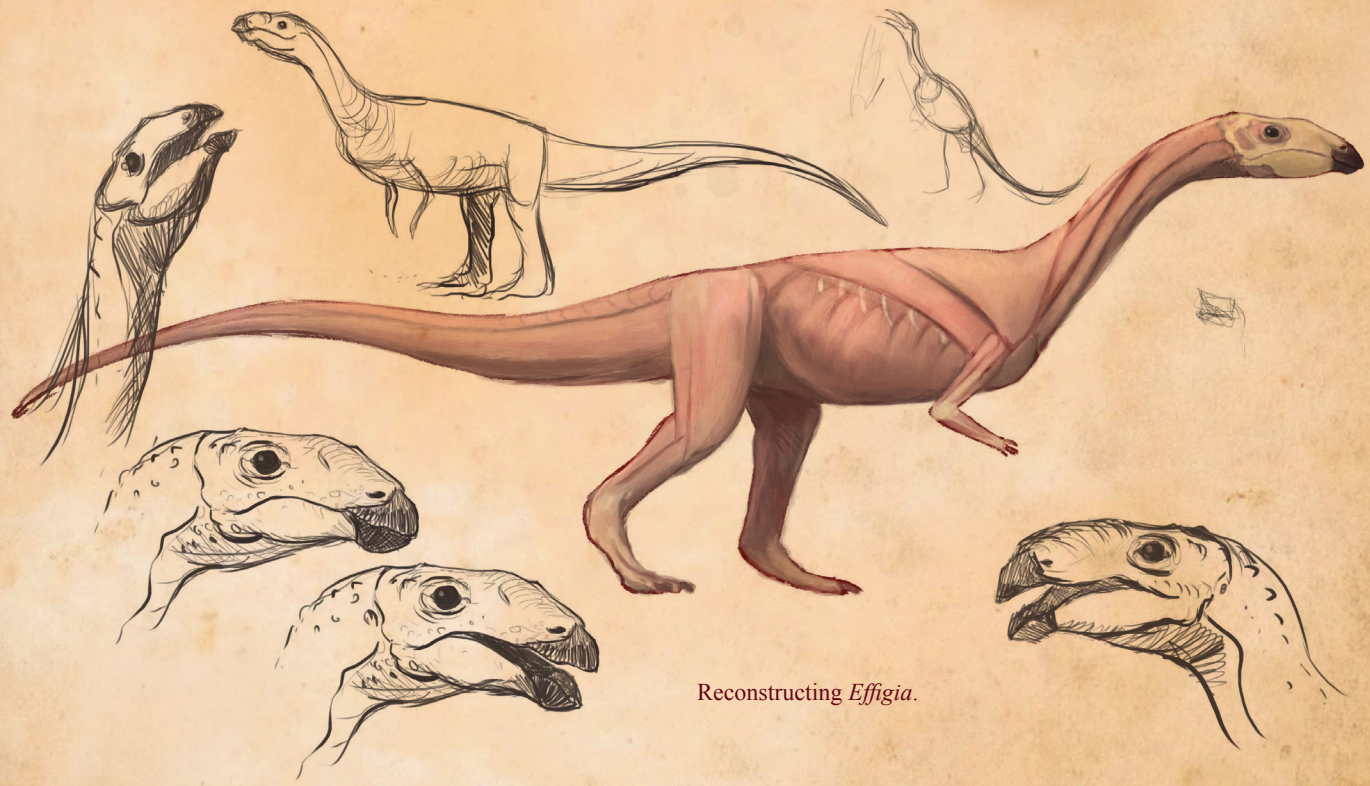
We have designed the new races with speculative biology in mind. Understanding the skeletal mechanics of the organisms that these races are hypothesised to evolve from offers an interesting challenge. How would an organism with huge, winged forelimbs develop the ability to manipulate trinkets or hold a sword and shield? How could the hips of a low-stooping herbivore change to allow it to stand upright? We have attempted to address these challenges with the species here. Each is accompanied by artwork depicting these races as a scientific proposition (albeit with a little fantasy anthropomorphism thrown in too).



Pachyrhinosaurus muscle reconstruction.

Custom Language

Accompanying these races is an additional custom language. Archosauric (or Archosauran) is the official/state language of the races described in this book and may be selected as one of your player character's languages. We envision it as the root language of fantasy dragon and bird languages, despite those languages' great differences. As such, it functionally sounds like a hybrid of the two, sharing features of both. Archosauric combines high-pitched clicks and whistles with deep guttural growls and rolling harsh syllables. The frequency and abundance of these two starkly different tones within the language are typically a result of the formality of the conversation. That is, higher pitched clicks and squarks are usually casual slang, whereas deeper tones are more formal, although there is certainly intermingling between the two in many conversations.



Reconstructing *Effigia*.

PLUVENN (*VARIOUS SPECIES, I.E. SAURORNITHOLESTES LANGSTONI*)

Physical description

The Pluvenn are a society of raptorfolk, made from a collection of different species of raptors (evolved from *Saurornitholestes langstoni, Sinornithosaurus millenii, Deinonychus antirrhopus*, etc.). This gives them a very diverse appearance, varying greatly in size, colour, plumage, and robustness. On the whole, they are lightly built and gracile bipeds, covered by a thick coat of fluffy feathers. The feathers on their forelimbs are long and sturdy, and they have long flowing feathers on their tails. Their plumage can be vivid, drab, patterned, or even camouflaged. They have long, snouted heads and a row of extremely sharp teeth. All Pluvenn have scaled bird-like feet with a large, recurved claw on the inside toe.



A Pluvenn Druid taking a long rest on an adventure.

Background

The name Pluvenn comes from the Cornish word for feather and is a fitting reference to rural English society, which the Pluvenn are inspired by. Most raptorfolk in fiction are portrayed as a savage and vicious jungle-dwelling race. We have taken a very different approach and instead envision them as a peaceful society of townsfolk that fit into the idealistic Beatrix Potter-esque rural life. They live in quiet towns and villages, busying themselves with gardening, tea drinking, cooking, artistry, and socialising. Despite this humble appearance, the Pluvenn have other characteristics that some races find disturbing, most notably their vicious, predatory nature. They are obligate carnivores and so do not bother with agriculture (other than growing herbs and spices to season their meat). They instead rear livestock and partake in gory festival hunts.

Courtship and Reproduction

Pluvenn undertake a prolonged period of courtship when seeking a mate. This usually begins as simple conversations, followed by long (sometimes chaperoned) walks, then joint attendance of social events. During this time, they will exchange gifts of wild flowers, hand-crafted trinkets, and specialist foods. Public displays of affection rarely exceed handholding. Eventually, they will ceremonially pair to publicise their relationship and this commitment is for life.

Pluvenn are an egg-laying race and lay eggs in clutches of 3-4. Incubation is carried out at home by both parents, but hatchlings are cared for in a dedicated community nursery during the day and only return home to sleep. These nurseries are run by particularly gentle and well-spoken members of the Pluvenn community and hatchlings remain there until they are about 6 months old. After this, they enter a strict schooling system where they attend almost every day and are schooled by dedicated educational staff.

Bristlebush Vale

Hidden amongst the strife and hardship of the ancient world lies Bristlebush Vale. This idyllic region is famed for its long bright summers, drizzly autumns, spring meadows full of life, and twinkling icicle winters. Aside from the hunting activities of the Pluvenn themselves, Bristlebush Vale is a peaceful and quiet setting. Between gnarled, misty forests and rolling hills lie secluded villages and hamlets. In these settlements, the Pluvenn play out their pleasant lives of socialising, gardening, farming livestock, and hunting.

Pluvenn hunts are a combination of whimsy and horror. One-to-two times a month, the Pluvenn will undertake ritualistic group hunts at dusk. Donned in their finest garb, they venture into the surrounding forests, setting traps and positioning in the shadows to ambush game. They prefer to kill ensnared prey with their jaws and claws, letting their otherwise docile nature drop away in that gory moment. In a single night, dozens of creatures are slaughtered in a bloodbath that leaves many non-Pluvenn horrified.

Slain prey are returned to the village for a night-time festival of roaring fire barbecues and butchery. Bunting and stalls decorate the village, with each stand boasting their own cooking technique or particular spices. These are considered bonding experiences and family units will often hunt together and share their stories around the firelight. In the morning, the remaining meat is prepared for consumption in later weeks. It may be stored in cool underground buildings or spiced and cured in great smoking barns. Some Pluvenn favour making specialist gravy-like meat teas that are brewed from jerky mixed with spices.

History and Religion

The Pluvenn of Bristlebush Vale have a relatively simple history of village life. Their ancestors arrived in the region centuries ago as several disparate travelling tribes, composed of different species of raptorfolk. Over time, these intermingled until a single cohesive culture was formed. Since then, they have had a docile history with no major conflicts beyond the repelling of unwanted bandits. These invaders are sometimes ritualistically devoured in a grand post-battle feast (called a “gool”).

Pluvenn religion revolves largely around ancestor worship. Their dead are buried with precious trinkets and sentimental items in sacred burial mounds and small catacombs hidden deep within nearby forests. These places are sacred to the Pluvenn and are, unfortunately, usually the targets of any intruding raids. Pluvenn may travel to these sites to ask their forebearers for guidance during the rare times of hardship or social strife.

Names

The Pluvenn favour high-pitched squawky names spoken in their ancient Archosauric tongue, such as Skree, Kek, Kareese, or Pip. They also sometimes have names spoken

in Common, such as William, Hermione, Richard, or Audrey. Typically, the naming convention of an individual village will be similar among its populace, either all having Archosauric names or all having Common names.

Traits

Creature Type You are a humanoid. You are considered a dinosaur for any prerequisite or effect that requires you to be a dinosaur.

Size Small or Medium

Speed 30 ft.

Lifespan Pluvenn live for 40-50 years and mature at the age of 11 or 12.

Racial Abilities

Razormaw Your teeth are natural weapons. You can use these to make unarmed strikes, dealing 1d4 + Dexterity modifier piercing damage, instead of the bludgeoning damage that you would normally deal for an unarmed strike.

Grappleclaws Large recurved claws on each of your feet help you to climb, as well as grapple foes. You have advantage on ability checks to grapple a creature, as well as Athletics checks for climbing. While grappling a creature, you can use your bonus action to inflict 1d4 + PB piercing damage to that creature.

Nocturnal/Diurnal You have a darkvision of 60 ft. and only require 4 hours to complete a long rest.

Pneumatised and feathered As long as you are not incapacitated, you are resistant to falling damage.

Custom Lineage

Adventurers are, by their very nature, exceptional. When playing a Pluvenn character, you may replace the Racial Abilities Razormaw, Grappleclaws, and Pneumatised and Feathered with a single feat. We advise agreeing this with your dungeon master before doing so.

Languages

You know Archosauric and Common in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Dexterity by 3. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.



Deinonychus attacking *Sauroposeidon*

THE MANYHORN (*VARIOUS SPECIES, I.E. STYRACOSAURUS ALBERTENSIS*)

Physical description

The Manyhorn is a name given to the array of ceratopsian humanoids (evolved from *Styracosaurus albertensis, Diabloceratops eatoni, Sinoceratops zhuchengensis, Protoceratops andrewsi* etc.) that have formed a cohesive society of multiple guilds. They vary greatly in size and horn shape/number, but otherwise look quite similar. They are bulky dull-coloured scaly-skinned humanoids with short, stout limbs, large, bony head crests, a beaked mouth, and horns. A handful of Manyhorn (i.e. those evolved from *Protoceratops*) do not actually possess horns, but are still considered Manyhorn nonetheless. Most Manyhorn are generally dull greens, reds, and browns in colour, but brighter variants exist.

Manyhorn prefer to dress formally, with well-fitted suits and multi-layered robes or tabards. They invariably display their guild sigil prominently on their clothing, but sometimes also have it painted or tattooed onto their crest. When armoured, their armour usually is accompanied by tabards displaying their guild's colours.

Background

We have constructed Manyhorn society to primarily operate as a series of guilds that can exist within any regional setting. The guilds protect and employ each of their members, who in turn help the guild prosper. Each guild consists of members of every species of Manyhorn who are extremely loyal to their guild. Each guild can (and does) function entirely independently of other guilds, but each guild also typically focuses on mastering a specific aspect of society. These may be tied to philosophical ideals, commercial aspirations, or political conquest of a region. The number of guilds within a region may vary, but typically range from 3 to 6.

It is exceedingly rare for a Manyhorn to leave their guild and swapping guilds is almost unheard of. Those without a guild are branded socially as 'guildless', a considerable insult within Manyhorn society.

Reproduction

Manyhorn undertake ceremonial marriages that must occur with a different guild. It is not acceptable for any Manyhorn to marry or reproduce internally within a guild as this has historically led to reduced gene pools within each guild. Members who breach this rule risk expulsion from their guild.

Manyhorn tend not to be attentive parents, and females lay between 3 and 10 eggs in a clutch (depending on species) that are then raised by communal "hatchwatchers". Offspring are cared for in large groups of 20 or more hatchlings. All eggs are the centre of a fierce custody battle between the different guilds of each parent. Even before they hatch, both guilds vie for the "right of adoption" to bolster their own numbers. Some guilds will amicably divide the eggs, others will issue a winner-takes-all challenge.

The guilds of Un Grazook

Once a small fishing port, Un Grazook was utterly transformed by the prosperity brought by the Manyhorn guilds over several centuries. The city now boasts a vast population with inhabitants from every conceivable species and every corner of the world. A metropolis of trade and culture, founded on the competing principals of five different guilds, each specialised in different areas of society:

- The Alorah – The guild of stonemasonry and land lordship, whose colours are green and gold and whose sigil is a sapling with deep roots.
- The Janth – The guild of shipbuilding and commerce, whose colours are red and black and whose sigil is a sailboat on stormy waters.
- The Orb'eth – The guild of politics and negotiation, whose colours are yellow and purple and whose sigil is a fired arrow with a ribbon attached.
- The Umalai – The guild of arts and entertainment, whose colours are orange and royal blue and whose sigil is a four-winged bird (or *Microraptor*).
- The Thyrothe – The guild of education and science, whose colours are pale blue and white and whose sigil is a torch held aloft within a circle.

The guilds compete openly for political power, but also engage in espionage to undermine each other's influence. Every year, one high-ranking member of each guild is selected as a representative to form a council that makes city-wide decisions and guides the overall rule of the region.

City districts are predominantly run by a single guild and may range from peaceful areas of reason and enlightenment to crime-ridden hubs of corruption, the former being more likely due to the self-respect of most guilds.

History and Religion

The history of Un Grazook is one wrought with strife, violence, and ultimately prosperity. When the Manyhorn first arrived at the small port, they were a disparate people of many different cultures pressed together by circumstance. Species prejudice gave rise to clans that fought in gang warfare for generations before the fallout of their battles brought the city to near destruction. This turning point caused younger members of each clan to overthrow their elders, toppling the philosophy of division. Eventually, the clans were entirely disbanded and their members distributed between ten guilds dedicated to specific tasks to restore the city both physically and culturally. Within a matter of years, the bubbling tension between different ceratopsian species was ejected entirely from their society. However, philosophical differences developed between each guild, ultimately producing a new kind of tension. Thankfully, this largely manifested as a competitive and industrious economic battle, rather than a bloody one. The five lost guilds were not slain in gory battles, but were rather slowly absorbed by larger and/or more successful guilds.

Religious worship varies dramatically between guilds. Some guilds have a strictly enforced single religion, others allow their



members to worship whoever or whatever they please, and others still outlaw religion entirely, seeing it as a distraction from loyalty to the guild. In the more restrictive guilds, most Manyhorn keep their religious beliefs private and simply project the status quo.

Names

A name is not given to a Manyhorn until its "right of adoption" has been completed. Names are then issued by a guild elder and each elder may follow a different naming convention. Some examples of different guild names are as follows:

- The Alorah – Hard guttural Archosauric names: Grulgrug, Arough-Roth, or Barr.
- The Janth – Double-barrelled names in Archosauric: Hur-Kreck, Uy-Gungg, or Farenk-Aron.
- The Orb'eth – Sharp and relatively high-pitched Archosauric names: Kreenk, Flarek, or Brekbrek.
- The Umalai – All names begin with the prefix "Un-" to honour their cultural heritage: Un-Krof, Un-Tharalla, or Un-Palapa.
- The Thyrothe – Are given names that are intended as guidance for their future careers or area of research: Astroquoth, Minerag, or Chemokruln.

Traits

Creature Type You are a humanoid. You are considered a dinosaur for any prerequisite or effect that requires you to be a dinosaur.

Size Small or Medium

Speed 30 ft.

Lifespan Manyhorn live for between 40 and 120 years, and mature between 15 and 32 years old, depending on their specific species, with larger species generally living longer.

Racial Abilities

Musclebound. You count as one size category larger than your current size for determining your carrying capacity and the weight you can manoeuvre.

Guild Connections: When entering a new city, town, or other major settlement, roll a d4. You gain the associated benefit below while you are there:

1. You can find simple overnight accommodation for yourself and your party for free.
2. Prices are 10% cheaper for you and your party.
3. Town guards will be more lenient with you and your party.
4. One NPC will share uncommon information with you and your party.

Head Crest You are proficient in Intimidation checks. You can use your bonus action to flood your crest with blood, causing it to display bright pinks and reds. If you do, you gain advantage on Intimidation checks for the next minute.

Horned Repose If an enemy fails to hit you with a melee attack while within 5 ft. of you, you may use your reaction to make a single unarmed attack back at them with your horns. You are proficient with your horns and they have the **Finesse** property. They deal 1d6 + Strength/Dexterity modifier piercing damage. From level 10 onwards, you can add your proficiency bonus to the damage as well.

Custom Lineage

Adventurers are, by their very nature, exceptional. When playing a Manyhorn character, you may replace the Racial Abilities Guild Connections and Horned Repose with a single feat. We advise agreeing this with your dungeon master before doing so.

Languages

You know Archosauric, Common, and another language of your choice in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Strength by 1, Constitution by 1, and Wisdom by 1. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.

A Manyhorn
Barbarian's last stand.

JEHOLRAK
(*JEHOLOSAURUS SHANGYUANENSIS*)

Physical description

The Jeholrak are small-statured, weedy creatures with a short, stout tail and three-clawed hands. They have a stout, beaked snout and a row of fan-shaped teeth. Their bodies are covered by soft, downy feathers that look superficially like a short layer of fur. Their feathers are typically dull greys and browns, although colourful variants do exist.

Background

The Jeholrak are based on *Jeholosaurus*, a small herbivorous ornithopod dinosaur from the Early Cretaceous Jehol biota that had a downy layer of feathers. We envision the Jeholrak as small humanoids who love to supplement their drab natural colours with spectacular dyed robes and feathers from various bird and dinosaur species. We also imagine that the Jeholrak have overcome their weak stature with specialised pheromone glands that allow them to subdue other species. This gives the Jeholrak a faint sweet aroma. The Jeholrak have several large kingdoms, spread across the multiverse. The largest city (imagined here to be from the Jehol Formation) is built into the side of a large mountain, Mount Karao'kr. Below, the society of the city of Mount Karao'kr is described.

Reproduction and Gender

The Jeholrak are an egg-laying species and typically construct a nursery within their homes. This is often an elaborate and colourfully decorated room in which hatchlings spend their first few years. Jeholrak rarely have a single offspring and will instead lay clutches of eggs, raising 3 to 5 hatchlings at a time every five years or so. Caring for hatchlings is typically undertaken by females and this is largely a pragmatic response to resource investment, as it is quite taxing to produce several eggs. Once the hatchlings are 5-6 years old and venture out of the nursery, males will assist in their care. Outside of offspring care, gender roles vary greatly among different Jeholrak societies. Some only allow one gender to be the ruling class or military force, while others have no restrictions whatsoever.

The Jeholrak of Mount Karao'kr

Mount Karao'kr is both the name of the mountain and the name of the extravagant city carved into its side. It is a mighty metropolis of stone, with grand spires piercing the sky. It houses tens of thousands of individuals of many races, but the Jeholrak make up the vast majority of its population. The city itself is patrolled by large dinosaur cavalry, kept domesticated by the intoxicating pheromones of their Jeholrak riders.

The Jeholrak of Mount Karao'kr may be small, but they have big personalities. Despite their docile, herbivorous ancestry, they have developed a complex political society of backstabbing and blackmail, with each Jeholrak trying to claw their way to the top. The hierarchy of the city is built entirely on personal gain by any means. Political sabotage, backstabbing, and bribery are commonplace and considered the norm within the city. This city is ruled by a single dictator (or occasionally a 'monarch'), usually for a very short period of time, and has a strictly tiered class system based on personal wealth. Class mobility is exceptionally high between these tiers, with individuals able to purchase or swindle their hierarchical position, often trading places with another. As mentioned above, Jeholrak typically have large numbers of offspring, so inherited wealth is quickly divided among large families. The naturally reclusive nature of the Jeholrak has allowed them to thrive within this society, although it by no means attests to the personal beliefs of every Jeholrak within the city.

Most of these Jeholrak prefer the finer things in life, and they are decadent herbivores, though they do partake in meat occasionally. They have a rich, artistic culture and produce fantastic sculptures, poems, and music. Despite their drab natural colours, the Jeholrak of Mount Karao'kr value beauty highly and they decorate themselves with brightly coloured robes, jewellery, and vivid feathers from other species. They see the value of education, and their societies house great libraries and schools, giving rise to remarkable scholarly pursuits.

Religion and ideals

A variety of religions permeate Jeholrak culture, with no one religion being permanently dominant. In Mount Karao'kr, all manner of deity-worship, cults, and churches have risen and fallen throughout the city's existence. Religions are followed passionately, and so the only uniting factor is that their Jeholrak members tend to be aggressive fanatics. It is no surprise that vast conflicts have been fought in the names of various deities, although usually by paid mercenaries, rather than by the Jeholrak themselves.

Names

Within Mount Karao'kr, a hatching Jeholrak is typically given a simple name. However, once coming of age, Jeholrak begin to bestow upon themselves ever more extravagant names with reference to (supposedly) heroic deeds they have achieved. As such, the older or more influential a Jeholrak is, the longer and more ludicrous their name becomes. Below are some examples:

Hatchling names Rassolax; Zilfor; Perfrill; Blukkar.

Adolescent names Mighty Herebra; Urgine the Quick; Jabara Blade-Touched.

Adult names Tribe-Herald Wurranii the Impeccable; Warrider Runolox, Jewel-Eater of the Throne.



A Jeholrak Wizard ponders her orb.

Official names Grand-Leader Taltor, Bringer of Dawn and Ender of Revolutions; Battlemaster Scarb the Bloodied Maw of Venomspire's Bane.

Example Elder name Arch Councillor Kukuok Blade Mind, Herald of the Five Banners, Grand Monarch of Karao'kr, Magister of the Golden Ring, Throne-taker, Slayer of Giants, Bastion of Wisdom.

Traits

Creature Type You are a humanoid. You are considered a dinosaur for any prerequisite or effect that requires you to be a dinosaur.

Size Small

Speed 30 ft.

Lifespan Jeholrak typically live up to 50 years old and mature at 16-17 years old. Although this is largely a result of the competitive nature of their society. If isolated, an individual Jeholrak could live to their late 70s or early 80s.

Racial Abilities

Power of Persuasion To the untrained eye, it appears that Jeholrak are blessed with impeccable persuasive skills. The reality is that they are able to produce hypnotic pheromones that can subdue those around them.

When you reach certain levels, you can manifest this ability in the form of the spells listed below. You can cast one of these spells once (at the spell's minimum level) without using a spell slot or requiring components, then require a long rest before you may do so again. When you cast this spell, the only indication that something is happening is a faint sweet smell. Your spellcasting ability for these spells is Charisma, Constitution, or Wisdom (your choice) and these spells are ineffective against other Jeholrak.

- Level 1: Charm Person
- Level 5: Suggestion

Cutthroat Society The Jeholrak of Mount Karao'kr can be dastardly in their backstabbing (sometimes literally) to achieve their goals.

Designers' Note

Cutthroat Society is designed for wands, daggers, hand axes, hand clubs, and other small items. It cannot be used to hide a short sword, for example.

You have advantage on Sleight of Hand checks. Additionally, as a bonus action, you may hide a small one-handed weapon or item on your person that can only be detected by a successful Investigation check, or by any magical means. The DC for this check is equal to 8 + your Dexterity modifier + your proficiency bonus

Subdue Beast You have advantage on Animal Handling checks and can cast the spell Animal Friendship a number of times equal to your proficiency bonus without using a spell slot. Your spellcasting ability for this spells is Charisma, Constitution, or Wisdom (your choice), and you regain all expended uses when you finish a long rest.

Custom Lineage

Adventurers are, by their very nature, exceptional. When playing a Jeholrak character, you may replace the Racial Abilities Power of Persuasion and Cutthroat Society listed above with a single feat of your choice. We advise agreeing this with your dungeon master before doing so.

Languages

You know Archosauric and Common in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Charisma by 2 and your Dexterity by 1. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.

ANKYLIER (*ANKYLOSAURUS MAGNIVENTRIS*)

Physical description

The Ankylier are a race of heavily armoured, herbivorous humanoids. They have a large and broad appearance, with thick, bony osteoderms covering their back, flanks, limbs, and head which are, in turn, covered in tough scutes. They are so heavily armoured that even their eyelids are reinforced. Their skin is thick, scaly, and gives them a leathery appearance. Ankylier have low brows, large, muscular limbs, bulging stomachs, and a thick tail that ends in a heavy, bony club.

Background

The Ankylier are, of course, based on the well-known dinosaur *Ankylosaurus*. They emulate its impressive bulk and defences, and play as a relatively slow and extremely durable race. We envision them as industrious, expansionist, and aggressive relative to most herbivorous creatures. This aggression stems from their inability to outrun foes, forcing them to stand and fight. The Ankylier described below are but one group of this race, and your own character could deviate from these characteristics significantly, perhaps even portraying a peaceful, gentle race.

Reproduction

Ankylier familial bonds are strong. Pairs mate for life and eggs are laid individually several years apart, with offspring cared for up until maturity before the next egg is laid. Eggs are usually carried in threaded wire baskets lined with dried plants to create a portable nest. Hatchlings and young children form close attachments with their parents, usually following in their footsteps, figuratively and literally. Children are incorporated into Ankylier society as fast as possible, working as apprentices as soon as they are able. Some other races see this attitude as akin to child labour, but the Ankylier value the safety and contribution of their children very much. While parents offer harsh criticism, they also provide great praise when deserved.

Bladestone Gully

The most well-known Ankylier society is that of Blazestone Gully. Blazestone Gully incorporates a huge expanse of land – originally a series of riverways that crossed a wide-open, hilly plane. Over centuries, shallow gorges were carved by rivers, steep valleys in an otherwise open region. These once lush ravines were ravaged by a drying climate, creating a relatively barren and rocky scrubland, quenched only by trickling waterways. These environmental conditions are important, as they shaped Ankylier society.

The erosion exposed rich iron deposits in the rusty-coloured sandy rocks that allowed the Ankylier to forge their existence. Decades of mining and smithing have produced huge, industrial iron-clad towns of punished metal where the Ankylier forge all manner of industrial goods. Their society is constructed around this commerce, relying entirely on their craft to trade for other essential goods. This lifestyle has made most Ankylier natural smiths and master metalworkers, often hammering iron with their own tails.

Their brutal appearance is conveyed in their overall culture. Although individuals vary dramatically, softer-spoken Ankylier exist in the shadows of their aggressive kin. Most are quick to anger, but value discipline and reign in their tempers just as fast. They take great pride in their own constitution, and regularly engage in tests of endurance. Competitions to see who can stomach the toughest foliage or forge the hottest steel with just their tail are common.

History and Religion

The Ankylier of Blazestone Gully have a long history of conflict and warfare. Their stern attitudes and aggressiveness often land them in hot water with other races, and their politics are no different. Harsh words and bruised egos tend to cause a backlash in smithing pricing, and if another city backs out of a large contract, the Ankylier armies will be sent to recover costs by force. Given Blazestone Gully's monopoly over the region, such conflicts are commonplace.

Blazestone Gully has an official policy on religion whereby any deity that favours honour, strength, or war should be worshiped openly, and other deities are generally not accepted. That being said, the joint worship of additional deities that embody the attributes of commerce, wisdom, honesty, philosophy, valour, or discipline are tolerated publicly. The worship of any remaining deities is considered socially taboo and akin to weakness.

An Ankylier Fighter surveys the battlefield.



Names

The Ankylier invariably give their offspring names that convey strength or power by combining two words, and are usually in their native tongue Archosauric. Names are nether gender- or sex-specific. Common names include: Boulderfist, Ruggedhide, Ironguts, and Booming-Chest. If their names are in Archosauric, to a non-speaker they would sound like: Karko-ragh, Gurrgu, Oo-tarm-ma, and Vro-fath.

Traits

Creature Type You are a humanoid. You are considered a dinosaur for any prerequisite or effect that requires you to be a dinosaur.

Size Medium.

Speed 25 ft.

Lifespan Ankylier live for between 110 and 130 years. They enter Ankylier society at about 12 years old, and fully mature at around 25 years old.

Racial Abilities

Musclebound You count as a large creature for determining your carrying capacity and the weight you can manoeuvre.

Clubbed tail When you attack, you may replace any of your attacks with a tail attack. This is a melee weapon attack that you are proficient with and uses your Strength modifier to hit, dealing 1d6 + Strength modifier bludgeoning damage. From level 10 onwards, you can add your proficiency bonus to the damage.

Metalworker You have proficiency with smith's tools and medium armour. You can create a single shield, simple weapon, martial weapon, or medium armour over the course of a long rest, provided you have access to materials and a forge. If you use this time to create an item in this manner, you only gain the benefits of a short rest.

Osteoderms You have thick, bony osteoderms in your skin. You gain +3 to your AC, but cannot add your Dexterity modifier to your AC. Alternatively, you may have an unarmoured AC of 17, but cannot add your Dexterity modifier to your AC. We suggest agreeing which of these you use with your DM.

Custom Lineage

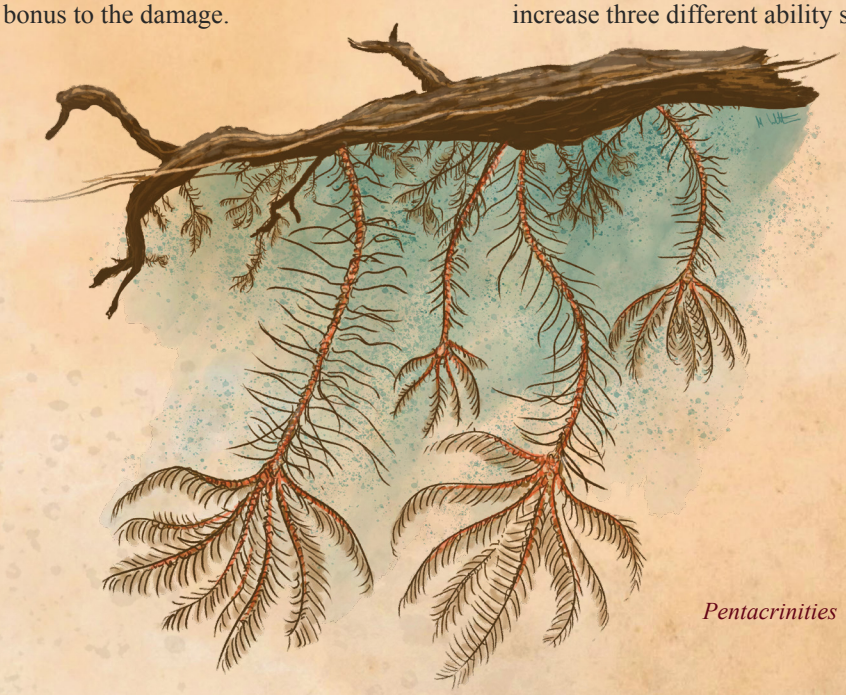
Adventurers are, by their very nature, exceptional. When playing an Ankylier character, you may replace the Racial Abilities Musclebound and Metalworker with a single feat that provides at least one tool proficiency. This could lead to a powerful character, so we strongly recommend that you agree this with your dungeon master before doing so.

Languages

You know Archosauric and Common in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Constitution by 3, or your Constitution by 2 and your Strength by 1. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.



Pentacrinities

LIMUKIN (*LIMUSAURUS INEXTRICABILIS*)



Physical description

The Limukin are a small, lean reptilian species of humanoids. They are remarkably gracile, and what they lack in strength and size, they make up for with speed. Their thin, scaly skin comes in a variety of hues, but is typically earthy in colour (greens, browns, and deep yellows). These can be mottled with dark or vivid spots, stripes, and other forms of camouflage. They have relatively short forelimbs.

Background

The Limukin are based on *Limusaurus inextricabilis*, a small Jurassic dinosaur that was an early member of Ceratosauria (the same group that contains the large predatory *Ceratosaurus*). This species' name translates to "Mud Lizard" and they underwent unusual morphological changes as they developed into adulthood, transitioning from toothed omnivores to beaked herbivores. We envision the Limukin as a race of river-, forest-, and jungle-dwelling dinosaurian creatures. They are among the most ancient of the dinosaurian races and inhabit many regions, although the bulk of them are found along the Shisux River. A description of the largest population of Limukin is given below, but many other populations exist scattered across the multiverse that differ in significant ways.

Reproduction and Gender

The Limukin are an egg laying species and will either hide their eggs in chambers within their dwellings, or carry one or two eggs in slings, pressed close to their body. Offspring are typically cared for communally and an individual Limukin will not notably recognise two others as it's parents. In general, Limukin society typically has no definitive gender identities or roles. Individuals court and may decide to pair as a couple for several years. When two individuals of the same sex couple up and choose to reproduce, one of them may opt to change sex over a period of several weeks. Also, an opposite sex couple may choose to swap sexes if it would be preferential for the male to egg-lay at any given point and they may do this

A Limukin Ranger stalks their prey.

many times throughout their relationship. Limukin offspring are omnivorous and will actively hunt small prey such as insects and small mammals, learning the basics of stealth, trapping, and fishing. As they mature, they eventually transition into a more herbivorous diet before becoming entirely herbivorous as adults.

The Shisux River Limukin

The Limukin of the Shisux Riverways typically form small-to-medium societies (kinlins) of dozens to a few hundred individuals that live in the root hollows of trees, small cave systems, or otherwise create burrows near running water. Larger kinlins are composed of multiple such dwellings over a large area, usually spread across the Shisux delta or along a large portion of the river's length.

The Limukin of the Shisux Riverways choose to pursue a fisher-gatherer society, and do not typically pursue technology. They instead try to stay in-tune with the ebb and flow of nature; fishing and foraging, supplemented with limited seasonal agriculture. This Limukin society has a hierarchical leadership, with the elder-most members guiding the younger ones. They typically have a council of elders, rather than a single ruling individual. Decision-making is slow, as simple topics may be debated for days or weeks before a consensus can be reached.

The Shisux River kinlins prefer to defend themselves using silent ranged weapons, such as slingshots and bows. They also fashion melee weapons such as daggers, spears, and short swords from the bones and teeth of larger creatures. This, combined with their naturally dextrous nature, makes them formidable guerrilla fighters, able to strike and disappear into the undergrowth. Some Limukin are able to secrete toxins that they coat their weapons with.

Religion and ideals

The Shisux River Limukin have a very close relationship to nature, which can take many forms. Some venerate great beasts, admiring their vicious, predatory behaviour, while others see the tranquillity of the forest as a divine gift that must be nurtured. In all cases, the natural world forms the basis of the Shisux River religions. The Limukin make great celebrations of harvests, building small shrines within their burrows for each event. These Limukin also see themselves as part of nature, and so celebrate their own achievements in a form of ancestry worship. For example, they will honour both a predated great Limukin as well as the beast that hunted them. Hunter and hunted are equally respected. The Shisux River Limukin have no formal religious texts and instead use a simplistic pictographic form of Archosauric to paint on the walls of their dwellings.

Names

Limukin typically have short names with two, three, and (rarely) four syllables. Their names, and language in general, include many hard ‘K’, ‘N’, and ‘I’ sounds. Typical names include: Piphi, Torsek, Nuek, Nanzaahn, Gerumal, Jam’reer, Liph’ko, Neararu.

Traits

Creature Type You are a humanoid. You are considered a dinosaur for any prerequisite or effect that requires you to be a dinosaur.

Size Small or Medium

Speed 30 ft.

Lifespan Limukin have short lifespans and mature quickly. They reach adult-size at between 6 and 8 years old, although are not fully mature until they reach 9 or 10 years old. They typically live until their early 20s. The oldest elders will be in their late 20s to early 30s.

Racial Abilities

Hunter-Gatherer You have advantage on Stealth and Survival checks while in a forest, wood, jungle, or otherwise heavily-vegetated area. If you are familiar with the vegetated habitat you are in, you can forage twice as much food as you normally would be able to (this ability stacks with other similar abilities).

Envenomed Weapons As an action, you can coat your weapon (or up to 5 ammunition) with a powerful venom you secrete, envenoming it. When a creature is damaged by an envenomed weapon or ammunition, it must succeed a Constitution saving throw or take 2d4 poison damage and be poisoned for one minute. At level 5, this poison damage is increased to 3d4. The DC for this save is equal to 10 + your proficiency bonus

The poison lasts for 1 minute on the weapon or ammunition, as it loses its potency after it dries. You can use this ability once, then require a long rest before you can do so again.

Watcher’s Eyes You have a darkvision of 60 ft.

Innate Toxicology You have resistance to poison damage and have advantage on any check or saving throw to avoid or end the poisoned condition.

Custom Lineage

Adventurers are, by their very nature, exceptional. When playing a Limukin character, you may replace the Racial Abilities Hunter-Gatherer and Envenomed Weapons with a single feat of your choice. We advise agreeing this with your dungeon master before doing so.

Languages

You know Archosauric and Common in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Dexterity by 2 and your Constitution by 1. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.

THE CHILDREN OF SETH
(*THALASSODROMEUS SETHI*)

Physical description

The Children of Seth are tall humanoids with long arms, short legs, and membranous wings connecting from an elongate finger to their lean bodies. They have a soft, downy fuzz, long pointed beaks, and a large, vividly-coloured crest atop their very large head.

Background

The Children of Seth, also known as the Dromeus, are based on *Thalassodromeus sethi*, a medium-to-large sized pterosaur from the Early Cretaceous of South America. The species name *sethi* is taken from the Egyptian god Seth. We envision them as tall, nomadic humanoids that have no definitive racial homeland. There are many different clans or tribes of the Dromeus, each with its own subtle differences. The Children of Seth described below are but one tribe, and your design could deviate from these substantially.

Reproduction and Gender

The Children of Seth birth live young after a 3-year gestation period. Their offspring are precocial, meaning that they are able to walk and fly shortly after birth, albeit slowly. This is a trait shared among many pterosaurs, and means that infants require significantly less care compared to other species. However, due to their nomadic lifestyle, the Children of Seth adopt the social traditions of whichever society they spend the most time in, including parental care approaches. Over time, these traditions will change as they move between societies. Sometimes, older members of the Children of Seth instead pick and choose their preferred traditions from different societies that they've encountered.

Tribe: Children of Seth

The Children of Seth are nomadic traders and adventurers who seek to share in the experiences of other peoples across the multiverse. They usually travel in small groups of 4-5 individuals, or on their own. Most tend to travel very light, favouring lightweight, high-value goods to trade, such as precious stones, fine silks, and magical trinkets. Those lucky enough to obtain one or more bags of holding may ferry many times their normal flight weight with them.

The Children of Seth have remarkable memories and are able to recall specific details of their long lives with ease. This aptitude for memory is one of the reasons they seek out different cultures and societies. They value experiences and knowledge above personal possessions, and greatly enjoy sharing what they know. Every few decades a clan or tribe will have a grand gathering, where each member shares stories of their travels or adventures over magnificent feasts. These are culturally significant celebrations that may last weeks or months, and are often the only opportunity for the Children of Seth to form mated pairs before departing again.

History and Religion

Due to their remarkable memories, the Children of Seth have no written records. Despite this, most can read and write multiple languages. As they do not record their own history, they have no sacred texts or religious scriptures. Instead, their religions and ideals are composed of a series of fables and tales that have, naturally, changed over time. Some contain

deep truths about their society and nature, while others are now little more than children's stories. This has led to a wide range of beliefs and religions among the Children of Seth, as they are often greatly influenced by the varied places they visit and the myriad societies they encounter.

Names

The Children of Seth names are influenced by the societies they interact with. A parent may choose to name their offspring with a human or elven name if they have spent a considerable amount of time with these societies. As such, they have a wide variety of names. Examples include: Borra, Chavazin, Guzzleguts, Vargrelly, Teaneethyn, Thricestrike or Tim.

Traits

Creature Type You are a humanoid. You are considered a dinosaur and pterosaur for any prerequisite or effect that requires you to be a dinosaur or pterosaur.

Size Medium.

Speed 30 ft.

Lifespan Children of Seth live for between 300 and 400 years. They mature at around 50 years old.

Racial Abilities

Flight You are capable of flight and have a fly speed of 30 ft. This is reduced to 20 ft. if you are wearing medium or heavy armour.

Global Migrators You have proficiency in Athletics. So long as you can see the sky, you always know which way North is.

Verbal Culture The Children of Seth have excellent memories and can recall details from years ago with relative accuracy. You have proficiency in two of the following skills: Arcana, Religion, History. Alternatively, you may have expertise in one of them instead. You remember every person you have interacted with, including their name if you learnt it.

Well-Travelled You know the value of any trade goods at a glance, so long as you have come across them before.

Custom Lineage

Adventurers are, by their very nature, exceptional. When playing a Children of Seth character, you may replace the Racial Abilities Global Migrators, Verbal Culture, and Well-Travelled with a single feat of your choice. We advise agreeing this with your dungeon master before doing so.

Languages

You know Archosauric, Common, and two other languages of your choice in addition to any other languages you know.

Ability Score Improvement

If you have not already selected ability score improvements earlier in character creation, you may increase your Wisdom by 2 and your Strength by 1. Alternatively, you may increase one ability score by 2 and another one by 1, or you may increase three different ability scores by 1.



A Children of Seth Bard plays a Song of Rest.

In this section of the book, we have created three additional NPC stat blocks for each of our playable races. These allow you to populate your world(s) with themed NPCs that are designed to embody the characteristics of each of the example cultures provided. You can, of course, always use existing stat blocks (like Commoner, *Basic Rules, pg. 163*) and just make them a member of any of these races. If you do so, consider picking appropriate abilities or attacks from our stat blocks to add more flavour to that NPC.

PLUVENN NPCS

Pluvenn Villagers

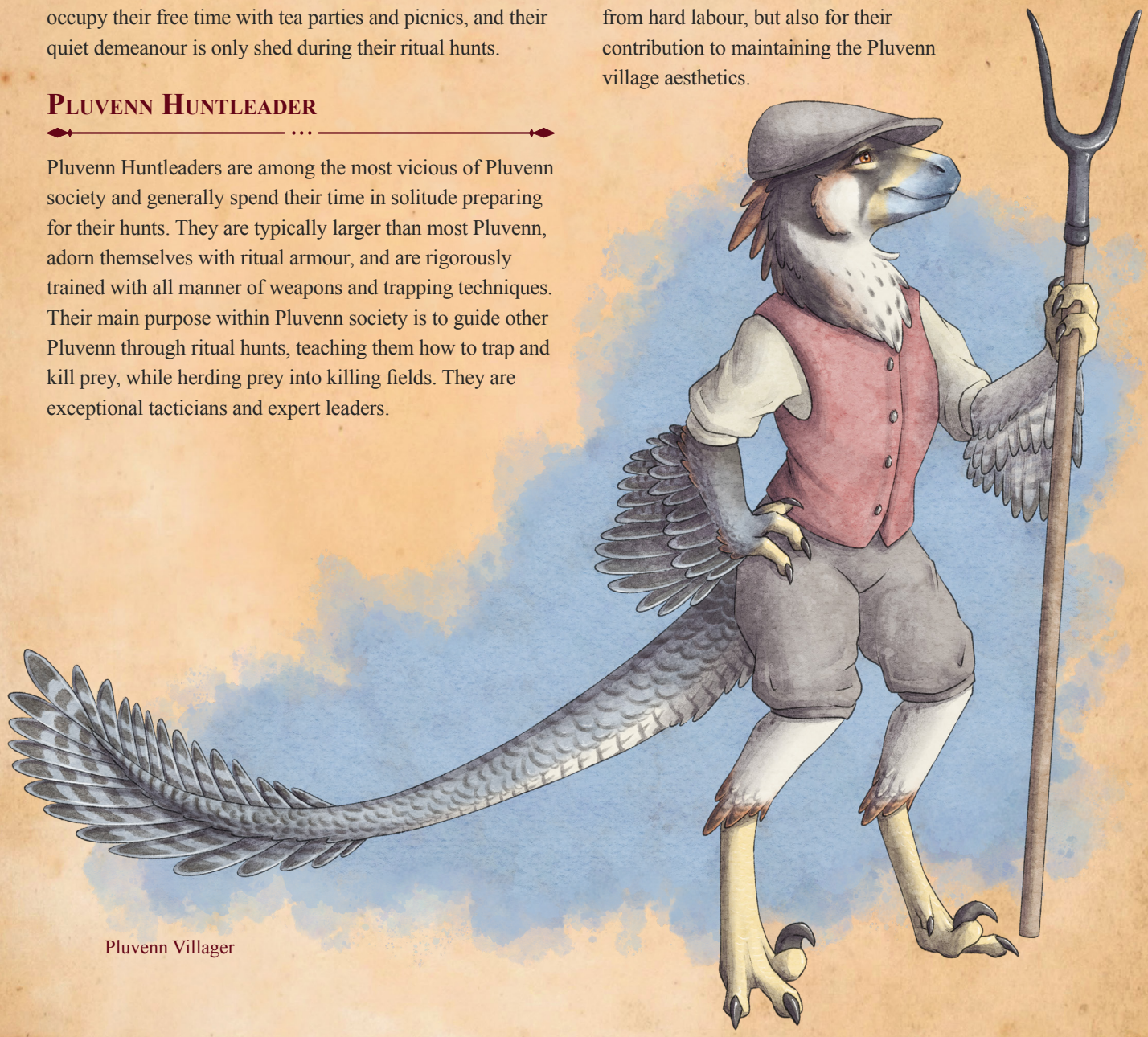
Pluvenn Villagers are the peaceful individuals that make up the bulk of Pluvenn society. They inhabit villages and hamlets scattered throughout Bristlebush Vale, tending to different aspects of their society. Every role from postman to teacher to priest is filled by a Pluvenn Villager. They occupy their free time with tea parties and picnics, and their quiet demeanour is only shed during their ritual hunts.

Pluvenn Huntleader

Pluvenn Huntleaders are among the most vicious of Pluvenn society and generally spend their time in solitude preparing for their hunts. They are typically larger than most Pluvenn, adorn themselves with ritual armour, and are rigorously trained with all manner of weapons and trapping techniques. Their main purpose within Pluvenn society is to guide other Pluvenn through ritual hunts, teaching them how to trap and kill prey, while herding prey into killing fields. They are exceptional tacticians and expert leaders.

Pluvenn Flowertender

Many years of tending gardens and decorating humble villages with flowers has allowed some Pluvenn to become particularly well-connected with botany, despite their carnivorous nature. Pluvenn Flowertenders are revered within Pluvenn society, not only for their relative strength from hard labour, but also for their contribution to maintaining the Pluvenn village aesthetics.



Pluvenn Villager

PLUVENN VILLAGER

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 11 (Simple Clothes)
Hit Points: 5 (1d8 + 1)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
8 (-1)	**12** (+1)	**10** (+0)	**10** (+0)	**10** (+0)	**12** (+1)

Skills: Acrobatics +2, Stealth +2, Survival +2
Senses: darkvision 60 ft., passive Perception 11
Languages: any one (usually Common or Archosauric)
CR: 1/8 (25 XP) **Proficiency Bonus:** +1

Pinning Grapple. *Pluvenn Villager has an additional +3 bonus to Strength checks when attempting to grapple a creature. If a creature is grappled by Pluvenn Villager, it takes 1d4 - 1 piercing damage (minimum of 1).*

Nocturnal/Diurnal. *Pluvenn Villager only requires 4 hours of sleep per day.*

Community Member. *Select one skill from the list below, this Pluvenn Villager gains a +3 bonus to any checks for that skill. Alternatively, you can select any tool (excluding Forgery Kit, Poisoner's Kit, and Thieves' Tools) and this Pluvenn Villager instead gains proficiency with that tool and an additional +2 bonus to any checks with it.*

- *Animal Handling*
- *History*
- *Medicine*
- *Nature*
- *Performance*
- *Persuasion*
- *Religion*

This Pluvenn Villager should be appropriately dressed to match their community contribution/role.

Actions

Razormaw Bite. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

PLUVENN FLOWERTENDER

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 12 (Gardening Overalls)
Hit Points: 22 (4d8 + 6)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
11 (+0)	**12** (+1)	**11** (+0)	**10** (+0)	**14** (+2)	**10** (+0)

Saving throws: Str +2, Con +2, Wis +6
Skills: Acrobatics +3, Nature +6, Stealth +3, Survival +4
Senses: darkvision 60 ft., passive Perception 14
Resistances: non-magical piercing damage
Languages: any one (usually Common or Archosauric)
CR: 1/2 (100 XP) **Proficiency Bonus:** +2

Spellcasting. *Pluvenn Flowertender's spellcasting ability is Wisdom (spell save DC 12, +4 to hit with spell attacks). It may cast the following spells.*

At will: Druidcraft, Thorn Whip.
2/day: Goodberry, Entangle.
1/day: Barkskin.

Rose Picker. *Pluvenn Flowertender has resistance to non-magical piercing damage (included above).*

Pinning Grapple. *Pluvenn Flowertender has an additional +3 bonus to Strength checks when attempting to grapple a creature. If a creature is grappled by Pluvenn Flowertender, it takes 1d4 piercing damage.*

Nocturnal/Diurnal. *Pluvenn Flowertender only requires 4 hours of sleep per day*

Actions

Weed-Pulling Razormaw. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d6 + 1) piercing damage.*

PLUVENN HUNTLEADER

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 17 (Studded Leather)
Hit Points: 65 (10d8 + 25)
Speed: 40 ft.

STR	DEX	CON	INT	WIS	CHA
17 (+3)	**20** (+5)	**12** (+1)	**14** (+2)	**17** (+3)	**8** (-1)

Saving Throws: Str +7, Dex +9, Con +5
Skills: Intimidation +3, Nature +7, Stealth +9, Survival +7
Senses: darkvision 120 ft., passive Perception 17
Languages: any three (usually Common, Archosauric, and one other language)
CR: 6 (2300 XP) **Proficiency Bonus:** +4

Pinning Grapple. *Pluvenn Huntleader has an additional +3 bonus to Strength checks when attempting to grapple a creature. If a creature is grappled by Pluvenn Huntleader, it takes 1d4 + 3 piercing damage.*

Master of the Hunt. *Pluvenn Huntleader only requires 4 hours of sleep per day, unless pursuing a marked target, in which case it only requires 2 hours of sleep per day. Pluvenn Huntleader also has advantage on Athletics checks for climbing.*

Endure Pain. *When hit by an attack, Pluvenn Huntleader can use its reaction to give itself resistance to either non-magical bludgeoning, piercing, or slashing damage until the start of its next turn.*

Actions

Mark Target. *As a bonus action, Pluvenn Huntleader can apply a magical mark to a target that it can see within 60 ft. The mark is a blood-red, dully-glowing symbol.*

The mark can only be removed via magical means (i.e. Dispel Magic or a similar effect), if the marked creature dies, or if Pluvenn Huntleader dies. Alternatively, Pluvenn Huntleader may dismiss the mark at will.

Pluvenn Huntleader has advantage on Survival checks to pursue a marked target and its attacks deal an additional 1d6 damage (of the same damage type) to the target.

Only one mark per Pluvenn Huntleader may be active at a time.

Multiattack. *If Pluvenn Huntleader chooses the attack action, it may make any combination of three attacks with any of the weapons listed below.*

Exquisite Longsword (+1). *Melee Weapon Attack: +10, reach 5 ft., one target. Hit:10 (1d8 + 6) magical slashing damage.*

Wrist Crossbow. *Ranged Weapon Attack: +9, range 60 ft., one target. Hit: 8 (1d6 + 5) piercing damage.*

Grappling Hook. *Ranged Weapon Attack: +9, range 40 ft., one target. Hit: 2 (2) piercing damage.*

A creature hit by this attack is grappled (escape DC 15). Only one creature may be grappled by this attack at a time. Pluvenn Huntleader does not gain the benefits of "Pinning Grapple" when grappling with this attack. Pluvenn Huntleader can only end the grapple from this attack as a bonus action.



Ogyginus

MANYHORN NPCS

Manyhorn Guild Brokers

Manyhorn Guild Brokers are the senior officials who draft, organise, and oversee trade negotiations between their guild and other parties. These include negotiations between other Manyhorn guilds, as well as other cities, kingdoms, or political groups. Manyhorn Guild Brokers are generally exceptionally cool-headed, especially in a crisis. They pride themselves on their ability to use logical discussion to swing any situation in their favour.

Manyhorn Guild Initiates

Guild Initiates generally include the youngest members of the guild. The rank of Initiate is usually achieved after an introductory period of schooling for a young Manyhorn. Initiates' duties include simple cleaning, cooking, and maintenance of guild facilities, along with other mundane and basic tasks. Those who show promise, or excel in one area are quickly promoted to a higher rank, but it is also not unheard of for unambitious Manyhorn to spend their entire lives as Initiates.

Manyhorn Guild Elder

Manyhorn Guild Elders are the political and spiritual leaders of their guild. Usually composed of older Manyhorn who have shown a talent for magic, they focus on the long-term philosophical health of the guild, and are far more concerned with spiritual guidance than trade. The magic practiced by Manyhorn Guild Elders tends to be subtle and focused on guiding their peoples, rather than the bombastic, explosive invocations of other spellcasters.



Manyhorn Guild Broker

MANYHORN GUILD BROKER

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 13 (Guild Studded Leather)
Hit Points: 45 (9d8 + 9)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
15 (+2)	**12** (+1)	**14** (+2)	**10** (+0)	**12** (+1)	**12** (+1)

Saving Throws: Int +2, Cha +3
Skills: Deception +5, Investigation +2, Perception +3, Persuasion +5
Senses: passive Perception 13
Condition Immunities: charmed
Languages: any three (usually Common, Archosauric, and one other)
CR: 2 (450 XP) **Proficiency Bonus:** +2

Flush Crest (2/day). *As a bonus action, Guild Broker can flush its head crest with blood, giving itself advantage on Charisma checks for the next 1 minute.*

Horned Repose. *If a creature fails to hit Guild Broker with a melee attack while within 5 ft. of it, Guild Broker may use its reaction to make a Horn Skewer attack back at that creature.*

Guild Knowledge. *Any party member known by a member of Guild Broker's guild for at least 24 hours is also known by Guild Broker. Additionally, Guild Broker knows any details that other members of its guild have learnt about them.*

Shrewd Negotiator. *Guild Broker has advantage on Persuasion checks and is immune to the charmed condition (included above).*

Hip-Shooter. *An enemy being within 5 ft. of Guild Broker does not cause it to have disadvantage when making a ranged attack with its Concealed Hand Crossbow. Guild Broker's Concealed Hand Crossbow is hidden until fired.*

Actions

Broke Peace. *As an action, Guild Broker can call for a truce. Each enemy that can hear Guild Broker and understands at least one of the languages that Guild Broker speaks must succeed a DC 11 Charisma saving throw or consider Guild Broker to no longer be an enemy and may not attack Guild Broker (or any member of Guild Broker's guild), unless it or one of its guild Members attacks first or otherwise breaks the peace. A creature that is particularly hostile to Guild Broker makes its Charisma saving throw at advantage.*

Multiattack. *If Guild Broker chooses the attack action, it may make two Concealed Hand Crossbow attacks.*

Concealed Hand Crossbow. *Ranged Weapon Attack: +3, range 30/120, one target. Hit: 4 (1d6 + 1) piercing damage.*

If the first attack made by Guild Broker in combat is with this weapon, the attack is made at advantage and deals an additional 1d6 piercing damage.

Horn Skewer. *Melee Weapon Attack: +4, Reach 5 ft., one target. Hit: 7 (1d6 + 2) damage.*



Triceratops

MANYHORN GUILD ELDER

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 18 (Guild Sigil Plate)
Hit Points: 90 (9d8 + 54)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**8** (-1)	**16** (+3)	**14** (+2)	**18** (+4)	**16** (+3)

Saving Throws: Int +5, Wis +7, Cha +6
Skills: Deception +6, History +5, Perception +7, Religion +8
Senses: passive Perception 14
Languages: any three (usually Common, Archosauric, and one other)
CR: 5 (1800 XP) **Proficiency Bonus:** +3

Spellcasting. *Manyhorn Guild Elder's spellcasting ability is Charisma (spell save DC 14, +6 to hit with spell attacks). It may cast the following spells.*

At will: Vicious Mockery, Message, Spare the Dying.
3/day: Alarm, Bless, Ceremony, Detect Magic.
2/day: Hold Person, Lesser Restoration, Command.
1/day: Haste, Spirit Guardians, Bestow Curse.

Flush Crest (3/day). *As a bonus action, Guild Elder can flush its head crest with blood, giving itself advantage on Charisma checks for the next 1 minute.*

Horned Repose. *If a creature fails to hit Guild Elder with a melee attack while within 5 ft. of it, Guild Elder may use its reaction to make a Horn Skewer attack back at that creature.*

Guild Knowledge. *Any party member known by a member of Guild Elder's guild for at least 24 hours is also known by Guild Elder. Additionally, Guild Elder knows any details that other members of its guild have learnt about them.*

Guild Master. *Any non-Guild Elder member of Guild Elder's guild will defend Guild Elder with their lives.*

Actions

Guild Command. *As a bonus action, Guild Elder can command any other non-Guild Elder member of its guild who can hear it. That creature may immediately move up to its maximum walking speed and take an action.*

Horn Skewer. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 6 (1d6 + 3) piercing damage.*

Ceremonial Guild Sword (+1). *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 7 (1d6 + 4) magical piercing damage.*

MANYHORN GUILD INITIATE

Small or Medium Humanoid (Dinosaur), any alignment

Armour Class: 9 (Guild Tabard)
Hit Points: 6 (1d8 + 2)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
14 (+2)	**8** (-1)	**14** (+2)	**10** (+0)	**8** (-1)	**8** (-1)

Saving Throws: Con +3
Skills: History +1, Intimidation +0, Perception +0
Senses: passive Perception 10
Languages: any two (usually Common and Archosauric)
CR: 1/4 (50 XP) **Proficiency Bonus:** +1

Flush Crest (1/day). *As a bonus action, Guild Initiate can flush its head crest with blood, giving itself advantage on Charisma checks for the next 1 minute.*

Horned Repose. *If a creature fails to hit Guild Initiate with a melee attack while within 5 ft. of it, Guild Initiate may use its reaction to make a Horn Skewer attack back at that creature.*

Guild Knowledge. *Any party member known by a member of Guild Initiate's guild for at least 24 hours is also known by Guild Initiate. Additionally, Guild Initiate knows any details that other members of its guild have learnt about them.*

Actions

Guild Mace. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 5 (1d6 + 2) bludgeoning damage.*

Horn Skewer. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 5 (1d6 + 2) piercing damage.*

JEHOLRAK NPCS

Jeholrak Politicians

Jeholrak Politicians are invariably devious and sneaky beings. Only the most self-interested and deceptive Jeholrak are able to swindle themselves into such positions of power. This makes Jeholrak Politicians particularly dangerous, despite their relatively weak physique. The ability to alter the narrative of a situation can be an extremely potent tool. When combined with the influencing pheromones that all Jeholrak possess, an individual Politician can garner a disturbing amount of power.

Jeholrak Defenders

Jeholrak Defenders are the rank-and-file guard of Jeholrak society. Their peacekeeping duties often see them intermingling with forces from many other species, and they tend to be well-rounded individuals, having been exposed to much of life outside of Jeholrak society. Jeholrak Defenders often utilise their pheromonal powers to enlist large and powerful beasts to help them in their guard duties. It is not uncommon to see a troop of Defenders accompanied by a single huge dinosaur when patrolling.

Jeholrak Infiltrators

Jeholrak Infiltrators are specialist members of Jeholrak society, hired by Jeholrak Politicians to eliminate other politicians. They are, in essence, master assassins whose primary purpose is to act as a wedge in the complex interplay of Jeholrak politics. The assassination of a particular politician is usually requested by another who has less influence, intending to clear space for their advancement. If an attack is suspected, the target politician may hire their own Jeholrak Infiltrator to target the attacking infiltrator. Thus, the ever-spiralling dance of subterfuge continues.



Jeholrak Politican

JEHOLRAK POLITICIAN

Small Humanoid (Dinosaur), any evil or neutral alignment

Armour Class: 14 (Stab-Proof Underleathers)
Hit Points: 46 (6d6 + 28)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
8 (-1)	**14** (+2)	**11** (+0)	**14** (+2)	**16** (+3)	**17** (+3)

Saving Throws: Int +4, Cha +5
Skills: Deception +5, Persuasion +6, Sleight of Hand +4
Senses: passive Perception 14
Languages: any four (usually Common, Archosauric, and two other languages)
CR: 2 (450 XP) **Proficiency Bonus:** +2

Demagogue. *In addition to other spells, once per day, the Jeholrak Politician may cast Mass Suggestion (at 6th level, with a spell save DC of 13) without material components. Player characters are unaffected by this spell unless they are currently charmed by Jeholrak Politician.*

Pheromonal Influence. *Jeholrak Politician may cast the following spells using Charisma as its spellcasting ability (with a spell save DC of 13).*

2/day: Charm Person, Animal Friendship.
1/day: Suggestion (also see Demagogue).

Jeholrak Politician may cast these spells without components. The only indication that anything is happening is a slightly sweet smell in the air.

Practiced Charismatic Speaker. *Jeholrak Politician has advantage on Charisma checks and Charisma saving throws.*

Actions

Feeble Strike. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 4 (1d4 + 2) bludgeoning damage.*

Command Defend. *As an action, Jeholrak Politician may select a friendly non-Jeholrak Politician creature within 30 ft. of it. That creature may move up to its maximum walking speed and take an action.*

JEHOLRAK DEFENDER

Small Humanoid (Dinosaur), any lawful alignment

Armour Class: 14 (Ringed Dinosaur Scale Armour)
Hit Points: 26 (6d6 + 8)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**12** (+1)	**14** (+2)	**8** (-1)	**10** (+0)	**10** (+0)

Saving Throws: Str +4, Dex +2, Con +3
Skills: Intimidation +2, Persuasion +2, Stealth -1
Senses: passive Perception 11
Languages: any two (usually Common and Archosauric)
CR: 1 (200 XP) **Proficiency Bonus:** +1

Various Equipment. *Jeholrak Defender may be equipped with one of the three options below. They may only use the attack associated with each equipment set:*

- Sleek Short Sword and Shield (also increase AC by 2).
- Two-handed Glaive.
- Medium Crossbow.

Calming Pheromones (1/day). *Jeholrak Defender may cast Animal Friendship with a spell save DC of 11.*

Actions

Multiattack. *If Jeholrak Defender chooses the attack action, it may make two attacks with whichever weapon it is equipped with.*

Sleek Short Sword. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 6 (1d6 + 3) piercing damage.*

Two-handed Glaive. *Melee Weapon Attack: +4, reach 10 ft., one target. Hit: 8 (1d10 + 3) slashing damage.*

Medium Crossbow. *Ranged Weapon Attack: +2, range 60/100 ft., one target. Hit: 5 (1d8 + 1) piercing damage.*

Conscript (1/day). *As an action, Jeholrak Defender may call a citizen to assist it. Choose another non-player character humanoid within 50 ft. of it that can see and hear Jeholrak Defender.*

Jeholrak Defender makes a Persuasion check with a DC equal to the target humanoid's Charisma score. If that humanoid has a lawful alignment, then Jeholrak Defender makes this Persuasion check at advantage. If successful, the humanoid must assist Jeholrak Defender however they can for 1 minute, but will not harm an ally of theirs.

JEHOLRAK INFILTRATOR

Small Humanoid (Dinosaur), any alignment

Armour Class: 16 (Dinosaur Scaled Leather)
Hit Points: 65 (13d6 + 26)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
8 (-1)	**18** (+4)	**12** (+1)	**14** (+2)	**14** (+2)	**14** (+2)

Saving Throws: Dex +7
Skills: Deception +5, Sleight of Hand +7, Stealth +10
Senses: passive Perception 15
Languages: any two languages (usually Common and Archosauric) and Thieves' cant
CR: 6 (2300 XP) **Proficiency Bonus:** +3

Pheromonal Influence. *Jeholrak Infiltrator may cast the following spells using Charisma as its spellcasting ability (with a spell save DC of 13).*

2/day each: Charm Person, Animal Friendship.
1/day: Suggestion.

Jeholrak Infiltrator may cast these spells without components (even while appearing as a Jeholrak Politician). The only indication that anything is happening is a slightly sweet smell in the air.

In Plain Sight. *When first encountered, the Jeholrak Infiltrator will be disguised as an unarmed Jeholrak Politician. A passive Perception of 18 will reveal that they are in fact an assassin. Alternatively, a Perception check of 15 or higher will reveal them if a player is actively looking.*

The Jeholrak Infiltrator may choose to take on the disguise of a Jeholrak Politician instead of hiding when succeeding a Stealth check.

When Jeholrak Infiltrator attacks while disguised as a Jeholrak Politician, they attack with advantage and, if their first attack hits, it scores a critical hit. The disguise is then lost at the end of Jeholrak Infiltrator's turn.

Flee The Scene! *Jeholrak Infiltrator may dash, disengage, or hide as a bonus action.*

Actions

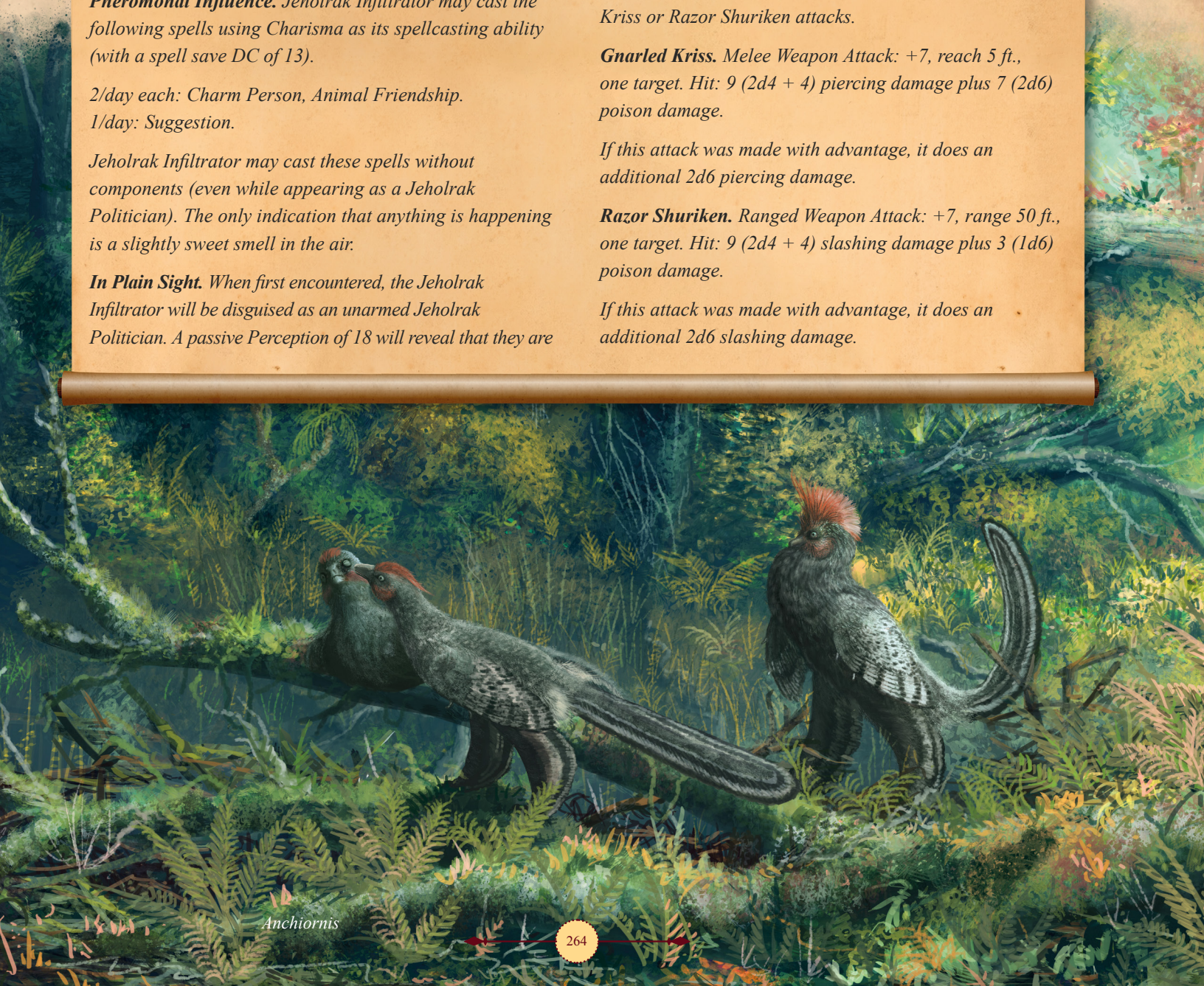
Multiattack. *If Jeholrak Infiltrator chooses the attack action, it may make any two combinations of Gnarled Kriss or Razor Shuriken attacks.*

Gnarled Kriss. *Melee Weapon Attack: +7, reach 5 ft., one target. Hit: 9 (2d4 + 4) piercing damage plus 7 (2d6) poison damage.*

If this attack was made with advantage, it does an additional 2d6 piercing damage.

Razor Shuriken. *Ranged Weapon Attack: +7, range 50 ft., one target. Hit: 9 (2d4 + 4) slashing damage plus 3 (1d6) poison damage.*

If this attack was made with advantage, it does an additional 2d6 slashing damage.



Anchiornis

ANKYLIER NPCS

Ankylier Forgemaster

Ankylier Forgemasters are among the highest-ranking members of Ankylier society. Through years of hard work, they have built the reputation and strength required to run multiple forges with minimal help. This makes them fearsomely strong and remarkably influential. They are seen as both economic and social leaders, with great spheres of political influence, and it is not unheard-of for Forgemasters to orchestrate conflicts for economic gain. With the ability to forge whatever equipment they desire, they make for formidable opponents on the battlefield.

Ankylier Enchanter

Ankylier Enchanters utilise their magical skills to add further value to the merchandise that the Ankylier forges produce. By commercialising their knowledge, they are able to imbue mystical energies into a piece of armour or weapon, granting it magical properties. Despite their magical abilities, Ankylier Enchanters are not generally turned to for guidance or wisdom. Instead, they are seen as just another functioning member of Ankylier society who can levy a particular skill.

Ankylier Karl

Ankylier Karls are the lowest members of Ankylier society, fulfilling menial tasks and hard labour. Karls are not generally treated with much respect, but are paid appropriately for their efforts by their Ankylier bosses. This allows for wealth to not necessarily be a reflection of social status within Ankylier society. Through an exceptional work ethic or extensive experience, Karls will be promoted to higher positions, often taking a reduction in pay for their reduced workload. All Ankylier begin their lives within this society as Karls, and so they are typically younger individuals.



Ankylier Forgemaster

ANKYLIER FORGEMASTER

Medium Humanoid (Dinosaur), any alignment

Armour Class: 21 (Full Plate)
Hit Points: 136 (10d8 + 56)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
20 (+5)	**8** (-1)	**18** (+4)	**10** (+0)	**16** (+3)	**12** (+1)

Saving Throws: Str +9, Con +8, Wis +7
Skills: Athletics +9, Insight +7, Intimidation +5, Persuasion +5, Survival +7
Senses: passive Perception 13
Resistances: fire damage
Languages: any two (usually Common and Archosauric)
CR: 9 (5000 XP) **Proficiency Bonus:** +4

Osteoderms. *Ankylier Forgemaster's AC is increased by 3 (included above), but it cannot benefit from its Dexterity modifier to improve its AC.*

Rippling Muscles. *Ankylier Forgemaster has advantage on Strength checks, Strength saving throws, and Intimidation checks.*

Forge Master. *Ankylier Forgemaster is an expert blacksmith, has expertise with Smith's Tools, and resistance to fire damage (included above).*

Forge Armament. *Ankylier Forgemaster can create a metal +1 weapon or armour during a long rest, so long as it has the raw materials and an anvil.*

Actions

Multiattack. *If Ankylier Forgemaster chooses the attack action, it can make two Forge Greatmaul attacks.*

Forge Greatmaul (+1). *Melee Weapon Attack: +10, reach 5 ft., one target. Hit: 11 (1d10 + 6) magical bludgeoning damage plus 9 (3d6) fire damage.*

Legendary Actions

Ankylier Forgemaster can take **2 legendary actions,** *choosing from the options below. Only one legendary option can be used at a time and only at the end of another creature's turn. Ankylier Forgemaster regains spent legendary actions at the start of its turn.*

Legendary Action: Clubbed Tail. *Melee Weapon Attack: +9, reach 5 ft., one target. Hit: 8 (1d6 + 5) bludgeoning damage.*

A creature hit by this attack must succeed a DC 17 Strength saving throw or be knocked prone.

Legendary Action: Give Order. *Ankylier Forgemaster can give a verbal command to an Ankylier Karl within 60 ft. that can hear it. That Ankylier Karl may then immediately move up to 25 ft. and perform an action.*

ANKYLIER KARL

Medium Humanoid (Dinosaur), any alignment

Armour Class: 14 (Simple Leathers)
Hit Points: 8 (1d8 + 4)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
13 (+1)	**6** (-2)	**14** (+2)	**10** (+0)	**10** (+0)	**7** (-2)

Saving Throws: Con +4
Skills: Intimidation +0, Perception +1, Religion +1
Senses: passive Perception 12
Languages: any one (usually Common or Archosauric)
CR: 1/4 (50 XP) **Proficiency Bonus:** +2

Osteoderms. *Ankylier Karl's AC is increased by 3 (included above), but it cannot benefit from its Dexterity modifier to improve its AC.*

Show of Strength (1/day). *As a bonus action, for the next 1 minute Ankylier Karl may give itself advantage on its next Strength check or Strength saving throw, but if it does, it has disadvantage on its next Dexterity check or Dexterity saving throw.*

Impressive Physique. *Ankylier Karl has advantage on Intimidation checks.*

Actions

Smith's Hammer. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d6 + 1) bludgeoning damage.*

Clubbed Tail. *Melee Weapon Attack: +2, reach 5 ft., one target. Hit: 4 (1d6 + 1) bludgeoning damage.*

ANKYLIER ENCHANTER

Medium Humanoid (Dinosaur), any alignment

Armour Class: 15 (Ritual Leathers)
Hit Points: 52 (7d8 + 24)
Speed: 25 ft.

STR	DEX	CON	INT	WIS	CHA
16 (+3)	**8** (+1)	**14** (+2)	**12** (+1)	**18** (+4)	**10** (+0)

Saving Throws: Str +6, Con +5, Wis +7
Skills: Arcana +7, History +5, Insight +7, Persuasion +3, Religion +7
Senses: passive Perception 17
Languages: any two (usually Common and Archosauric)
CR: 3 (700 XP) **Proficiency Bonus:** +3

Osteoderms. *Ankylier Enchanter's AC is increased by 3 (included above), but it cannot benefit from its Dexterity modifier to improve its AC.*

Spellcasting. *Ankylier Enchanter's spellcasting ability is Wisdom (spell save DC 15, +7 to hit with spell attacks). It may cast the following spells.*

At will: Mending, Guidance
2/day each: Bless, Identify, Detect Magic
1/day each: Aid, Enhance Ability

Industrial Enchanter. *When performing the Enchant Weapon or Enchant Armour action, Ankylier Enchanter may choose to spend an hour doing this instead of a single action. If it does so, the enchantment becomes permanent until replaced by a similar effect and is not lost when another weapon/armour is enchanted.*

Arcane Intuition. *Ankylier Enchanter has advantage on saving throws to prevent it from being charmed or cursed.*

Actions

Enchant Weapon. *Select a weapon that Ankylier Enchanter can see and is within 40 ft. of it. For the next 1 minute, that weapon deals an additional 1d6 damage of any type of your choosing.*

If that weapon already had this effect (or a similar effect) applied to it, the new effect temporarily overrides it. Only one weapon may be enchanted by this ability at a time and if a new weapon is enchanted, the effect ends on the previous one.

Enchant Armour. *Select a set of armour that Ankylier Enchanter can see and is within 40 ft. of it. For the next 1 minute, that armour provides the wearer with resistance to one damage type of your choosing.*

If that armour already had this effect (or a similar effect) applied to it, the new effect temporarily overrides it. Only one armour may be enchanted by this ability at a time and if a new armour is enchanted, the effect ends on the previous one.

Blessing Rod. *Melee Weapon Attack: +6, reach 5 ft., one target. Hit: 7 (1d8 + 3) bludgeoning damage plus 7 (2d6) force damage.*



Hylaeosaurus

LIMUKIN NPCS

Limukin Champion

Despite their docile and herbivorous, adult nature some Limukin adhere to a strict training regimen to maintain their hunting prowess and strength. This is so that they can operate as defenders of their territory, and the mightiest of these Limukin are dubbed Champions. Limukin Champions are formidable foes in battle. Their decades of training result in immense strength, despite their small stature, and their specialised grappling weapons allow them to tackle both airborne foes and those much bigger than themselves.

Limukin Worldshaper

Many Limukin are deeply in touch with the natural world around them. For some, this manifests as magical control over their surroundings. Limukin who show this trait often use it to help their kin shape their environment to better suit their needs, without fundamentally altering it. They craft burrows and redirect rivers but maintain a strict code of minimal harm to the environment. Limukin who can do this are referred to as Worldshapers.

Limukin Young Hunter

The youngest Limukin are omnivorous and possess natural hunting skills. This makes them remarkably crafty and formidable compared to other humanoids of a similar age. Their innate predatory tendencies inspire them to construct traps and snares, as well as craft simple weapons such as slingshots. With these tools, they hunt small prey, but can easily use them to defend their kinlin's territory. Limukin tend to grow out of this predatory phase by around the age of 8-15 years old.



Limukin Champion

LIMUKIN CHAMPION

Small Humanoid (Dinosaur), any alignment

Armour Class: 18 (Dinosaur Bone Armour)
Hit Points: 120 (18d6 + 66)
Speed: 40 ft., climb 30 ft.

STR	DEX	CON	INT	WIS	CHA
20 (+5)	**14** (+2)	**18** (+4)	**10** (+0)	**12** (+1)	**11** (+0)

Saving Throws: Str +9, Con +8
Skills: Acrobatics +6, Athletics +9, Intimidation +9, Survival +5
Senses: darkvision 60 ft., passive Perception 15
Resistances: non-magical bludgeoning, piercing, and slashing damage while in combat
Languages: any two (usually Common and Archosauric)
Immunities: poison damage
CR: 10 (5900 XP) **Proficiency Bonus:** +4

Parrying Guard. *When hit by a melee or ranged attack, as a reaction, Limukin Champion may attempt to deflect that attack with its Dinosaur-bone Greatsword. The damage of that incoming attack is reduced by 1d10.*

Venomous Miasma. *A faint purple mist emanates from between Limukin Champion's armour plates. Each non-Limukin creature that starts its turn within or comes within 10 ft. of Limukin Champion must succeed a DC 16 Constitution saving throw or become poisoned for 1 minute. Limukin Champion is also immune to poison damage (included above). and has disadvantage on stealth checks.*

Grapple Wire. *Limukin Champion can use a grappling rope to scale trees and traverse canopies with ease. It has a climbing speed of 30 ft. (included above) and can jump up to 25 ft. from standing still. This Grapple can also be used to snare and pull at enemies.*

Raging. *While in combat, Limukin Champion has resistance to non-magical bludgeoning, piercing, and slashing damage (included above).*

Actions

Multiattack. *If Limukin Champion chooses the attack action, it may make three attacks with its Dinosaur-bone Greatsword.*

Dinosaur-bone Greatsword. *Melee Weapon Attack: +9, reach 5 ft., one target. Hit: 12 (2d6 + 5) slashing damage plus 5 (1d10) poison damage.*

Grapple Wire. *Ranged Weapon Attack: +6, range 60 ft., one target. Hit 5 (1d6 + 2) slashing damage.*

A Small or Medium creature hit by this attack is grappled until the end of its next turn (escape DC 14) and is pulled 10 ft. closer to Limukin Champion. If that creature was flying, it is pulled to the ground, but does not take falling damage.



Australovenator

LIMUKIN WORLDSHAPER

Small Humanoid (Dinosaur), any alignment

Armour Class: 13 (Ceremonial Leathers)
Hit Points: 66 (14d6 + 24)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**14** (+2)	**12** (+1)	**16** (+3)	**16** (+3)	**11** (+0)

Saving Throws: Int +6, Wis +6
Skills: Arcana +6, Insight +6, Medicine +6, Nature +6
Senses: darkvision 60 ft., passive Perception 16
Resistances: poison damage
Languages: any two (usually Common and Archosauric) and Primordial
CR: 4 (1100 XP) **Proficiency Bonus:** +3

Spellcasting. *Limukin Worldshaper's spellcasting ability is Wisdom (spell save DC 14, +6 to hit with spell attacks). It may cast the following spells.*

At will: Poison Spray, Ray of Frost, Light, Mold Earth, Shape Water

3/day each: Earth Tremor, Thunderwave.
2/day each: Dust Devil, Gust of Wind, Earthbind.
1/day each: Daylight, Erupting Earth.

Venom Unbound. *When Limukin Worldshaper is reduced to 0 hit points, each non-Limukin creature within 20 ft. of it must succeed a DC 16 Constitution saving throw or take 6d6 poison damage and become poisoned for 24 hours. On a success they take half as much damage and are not poisoned. Limukin Worldshaper is also resistant to poison damage (included above).*

Defender of the World. *Limukin Worldshaper has advantage on Wisdom saving throws and may attack with its Maelstrom Rod as a bonus action.*

Actions

Maelstrom Rod. *Ranged Weapon Attack: +6, range 60 ft., one target. Hit: 10 (2d6 + 3) [see below] damage.*

Roll a d6 and consult the list below to determine the damage type of this attack.

1. Cold	*3. Lightning*	*5. Acid*
2. Fire	*4. Thunder*	*6. Force*

LIMUKIN YOUNG HUNTER

Small Humanoid (Dinosaur), any alignment

Armour Class: 13 (Leather Bindings)
Hit Points: 22 (4d6 + 8)
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
12 (+1)	**14** (+2)	**11** (+0)	**8** (-1)	**9** (-1)	**8** (-1)

Saving Throws: Dex +3, Con +1
Skills: Nature +3, Perception +3, Stealth +3, Survival +3
Senses: darkvision 60 ft., passive Perception 14
Resistances: poison damage
Languages: any one (usually Common or Archosauric)
CR: 2 1/2 (100 XP) **Proficiency Bonus:** +1

Toxic Secretion. *Any creature that hits Limukin Young Hunter with a melee attack suffers 1d4 poison damage.*

Limukin Young Hunter also has resistance to poison damage (included above).

Young and Naive. *Limukin Young Hunter has disadvantage on Intelligence and Wisdom saving throws.*

Natural Hunter. *Limukin Young Hunter can use its Dexterity modifier for Nature, Perception, and Survival checks (included above).*

Actions

Toxin-Coated Slingshot. *Ranged Weapon Attack: +3, range 30 ft., one target. Hit: 5 (1d6 + 2) bludgeoning damage plus 2 (1d4) poison damage.*

Skinning Knife. *Melee Weapon Attack: +3, reach 5 ft., one target. Hit: 4 (1d4 + 2) piercing damage.*

Vinerope Net. *As an action. Limukin Young Hunter may throw a hooked and weighted net over a creature within 20 ft. That creature must succeed a DC 11 Dexterity saving throw or be restrained (escape DC 11 Strength check).*

CHILDREN OF SETH (OR DROMEUS) NPCS

Dromeus Trader

Traders from the Children of Seth (sometimes called the Dromeus) are well-known for their friendly demeanours and warm personalities. They are talkative individuals, fascinated by other cultures, but are also shrewd tradesfolk, and drive a hard bargain where they can. They travel from settlement to settlement on the wing, often following coastlines and frequenting port cities. These traders favour low-weight, high-value goods, such as fine silks or precious gems, for the obvious ease of transport while flying.

Dromeus Emissary

The myriad travels of the Children of Seth, combined with their passion for exploring other cultures, sometimes leads to them becoming embroiled in the disputes of other species. While the Children of Seth do not readily enter conflicts, they will frequently use their understanding of various cultures to help diffuse these disputes. An Emissary is a member of the Children of Seth who has seen through one of these disputes and boasts an array of diplomatic skills (magical or otherwise) that assist them in the negotiation of trade or peace.

Dromeus Memory-Keeper

With an entirely verbal culture, the Children of Seth rely on elder members of their species to maintain some coherence of their history, ensuring that its realities aren't lost to hyperbole. These elders are the Children of Seth Memory-Keepers. They are revered and provide guidance in the form of parables or short stories, recounting key historical moments for the Children of Seth. They are also potent magic users, able to manipulate an individual's perception of the world around them.



A Dromeus Trader from the Children of Seth

DROMEUS TRADER (CHILDREN OF SETH)

Medium Humanoid (Pterosaur), any alignment

Armour Class: 10 (Robes)
Hit Points: 8 (1d8 + 4)
Speed: 30 ft., fly 30 ft.

STR	DEX	CON	INT	WIS	CHA
10 (+0)	**11** (+0)	**8** (-1)	**10** (+0)	**12** (+1)	**14** (+2)

Saving Throws: Dex +1, Wis +2
Skills: Athletics +1, Perception +2, Persuasion +3
Senses: passive Perception 11
Languages: any four (usually Common, Archosauric, and two other languages)
CR: 1/8 (25 XP) **Proficiency Bonus:** +1

Haggle. *Dromeus Trader has advantage on Persuasion checks while negotiating prices.*

Uncommon Wares. *You may select one common or uncommon magic item for Dromeus Trader to have (DM's choice). It may use that item and can be convinced to sell it.*

Global Trader. *Dromeus Trader has proficiency in Athletics (included above) and may remove a level of exhaustion after completing a short rest.*

Actions

Bag'o'Coins. *Melee Weapon Attack: +1, reach 5 ft., one target. Hit: 2 (1d4) bludgeoning damage.*

When a creature is hit by this attack 1d6 coins are scattered on the ground. Roll 1d4 and consult the list below to determine the type of coins:

1. Copper

2. Silver

3. Gold

4. Mysterious

DROMEUS EMISSARY (CHILDREN OF SETH)

Medium Humanoid (Pterosaur), any alignment

Armour Class: 14 (Exquisite Leathers)
Hit Points: 40 (6d8 + 16)
Speed: 30 ft., fly 30 ft.

STR	DEX	CON	INT	WIS	CHA
8 (-1)	**12** (+1)	**8** (-1)	**10** (+0)	**16** (+3)	**12** (+1)

Saving Throws: Int +3, Cha +4
Skills: Athletics +2, Deception +4, History +3, Persuasion +4, Religion +3
Senses: passive Perception 12
Condition Immunities: charmed
Languages: any five (usually Common, Archosauric, and three other languages)
CR: 1/2 (100 XP) **Proficiency Bonus:** +3

Spellcasting. *Dromeus Emissary's spellcasting ability is Charisma (spell save DC 12, +4 to hit with spell attacks). It may cast the following spells.*

At will: Calm Emotions, Sending.
2/day: Aid, Detect Evil and Good, Suggestion.
1/day: Silence, Zone of Truth.

Diplomatic Immunity. *Dromeus Emissary is always considered to be friendly to law enforcement - guards of any kind will defend it if able. Dromeus Emissary is also immune to charm effects.*

Global Migrator. *Dromeus Emissary has proficiency in Athletics (included above).*

Actions

Letter Opener. *Melee Weapon Attack: +4, reach 5 ft., one target. Hit: 3 (1d4 + 1) piercing damage.*

DROMEUS MEMORY-KEEPER (CHILDREN OF SETH)

Medium Humanoid (Pterosaur), any alignment

Armour Class: 11 (Ceremonial Robes)
Hit Points: 78 (16d8 + 14)
Speed: 30 ft., fly 30 ft.

STR	DEX	CON	INT	WIS	CHA
8 (-1)	**12** (+1)	**12** (+1)	**14** (+2)	**18** (+4)	**18** (+4)

Saving Throws: Dex +5, Int +6, Wis +8
Skills: Arcana +6, Athletics +3, Insight +8, Perception +8, Persuasion +8
Senses: passive Perception 18
Languages: any four (usually Common, Archosauric, and two other languages)
CR: 4 (1100 XP) **Proficiency Bonus:** +4

Spellcasting. *Dromeus Memory-Keeper's spellcasting ability is Wisdom (spell save DC 16, +8 to hit with spell attacks). It may cast the following spells.*

At will: Minor Illusion, Guidance, Comprehend Languages.
2/day: Fear, Hypnotic Pattern, See Invisibility, Phantasmal Force, Detect Thoughts.
1/day: Hallucinatory Terrain, Greater Invisibility.

Mind's Eye. *Dromeus Memory-Keeper is able to glimpse into the thoughts of nearby creatures, so long as they are focused on it. Melee attacks against Dromeus Memory-Keeper are made at disadvantage and Dromeus Memory-Keeper has advantage on Intelligence saving throws.*

Split Focus. *Dromeus Memory-Keeper may make an attack with its Ceremonial Memory-Channelling Staff as a bonus action.*

Global Migrator. *Dromeus Memory-Keeper has proficiency in Athletics (included above).*

Actions

Ceremonial Memory-Channelling Staff. *Ranged Weapon Attack: +8, range 50 ft., one target. Hit 5 (1d10) psychic damage.*

A creature hit by this attack must succeed a DC 12 Intelligence saving throw or take an additional 1d10 psychic damage.



Thalassodromeus sethi





PLAYER CHARACTER CUSTOMISATION

SUBCLASSES

Many campaigns using this supplement may heavily focus on elements of deep-time or include a large number of encounters with huge beasts. To allow players to specialise their characters around these elements, we have included three custom sub-classes; one that utilises deep-time, one that harvests the remains of large creatures, and one that specialises in hunting large prey.

Ranger Subclass: Big Game Hunter

The Big Game Hunter is an individual who has honed their tracking and ranged attack skills to become a fierce monster slayer. Rather than specialising in slaying particular types of creatures, they instead focus on how to levy a creature's size against it – the bigger they are, the harder they fall.



"A Tiefling Big Game Hunter poses with his kill, proud as always."

At 3rd level:

Ranged Specialist: You gain proficiency with all ranged weapons (including thrown weapons and firearms), however you lose proficiency with all melee weapons. If a weapon can be used as both melee and ranged, you are only proficient when using it for a ranged attack (even when in melee range). If you selected Duelling as your Fighting Style, it is now applicable to dual wielded, single-handed ranged weapons (such as throwing knives, thrown hand axes, hand crossbows, etc.), but not melee weapons, or you can re-select a different Fighting Style. Additionally, you may use a ranged weapon while an enemy is within 5 ft. of you without disadvantage.

Game Hunter: You replace your Favoured Enemy type with Favoured Enemy (Large Creatures). At 6th level, instead of selecting another Favoured Enemy, you gain Favoured Enemy (Huge Creatures). At 14th level, instead of selecting another Favoured Enemy, you also gain Favoured Enemy (Gargantuan Creatures). At each of these intervals, you may learn one language associated with a creature of that size that you have slain (if it has languages).

Bolas: When making a ranged attack against a target creature of size Large or larger, on a hit, you may wrap a bolas around the creature, reducing its speed to 0 instead of dealing damage. On its turn, the creature may attempt to break the bolas using its bonus action. To do so, it must succeed a Strength check with a DC equal to 8 + your Dexterity modifier + your proficiency bonus. You may remove the bolas as an action if you are within 5 ft. of the creature. You may use this ability a number of times equal to your proficiency bonus, then require a short or long rest to regain all expended uses.

At 5th level:

Special Shot: You have a number of charges of Special Shot equal to your proficiency bonus and regain all spent charges after you complete a long rest. When you make a ranged attack, you may use a charge of Special Shot to apply one of the following effects:

- Drill Shot: This attack receives an additional +5 to the hit roll.
- Trick Shot: If you know approximately where a creature is (through sound, blindsight, or knowledge of their location etc.), they are in range, and your ammunition can reach them in an uninterrupted path, then they do not gain the benefits for half and three-quarter cover, and full cover instead provides them with a +5 to their AC.
- Power shot: Do not roll damage for this attack. Instead you cause the maximum damage you could roll on a successful hit. If you critically hit the creature, you still roll the additional damage dice.

At 7th level:

The Hunt Continues: After killing a Favoured Enemy, you gain temporary hit points equal to twice your proficiency bonus. These temporary hit points are lost after completing a long rest.

Improved Bolas: You may double your proficiency bonus to the DC required of the Strength check to break your bolas.

At 11th level:

Extra Attack: You can attack three times, rather than twice, whenever you take the Attack action on your turn.

Special Shot: You have a number of charges of Special Shot equal to twice your proficiency bonus, rather than just equal to your proficiency bonus.

At 15th Level:

Apex Predator: You have advantage on attacks against a Favoured Enemy. At a glance you know how many hit points a Favoured Enemy has remaining. Additionally, while your Hunter's Mark is active on a living target and you are pursuing that target, you do not need to sleep or eat.

At 17th Level:

Finish the Hunt: As an action, you can declare that you are attempting to finish a target off. Select a creature that you can see, is within 60 ft., unobscured, and your Favoured Enemy. You make a single ranged attack against the creature that automatically hits so long as your character (and you) say a quip or one-liner, such as "*This one's mine!*", "*I've got you now…*", or "*Hasta la vista.*". If you do not provide a quip or one-liner, **the attack misses**.

If a creature hit by this attack has less than 100 hit points remaining, it dies instantly. If it has 100 or more hit points, it instead takes 10d10 + 30 piercing damage. Once you use this ability, you can't do so again until you finish a long rest.

Artificer Compatible Subclass: Bonesculptor

This gory reimagining of a blacksmith makes armour, weapons, and trinkets from the carcasses of slain great creatures. Through a combination of runic enhancements and harnessing the life essence of the slain beast, they are able to imbue their designs with potent magical energies.

At 3rd level:

Grim Harvest: You can harvest resources from slain creatures that you may use to craft items. The table below outlines suggestions for managing the resources harvested from a creature and how long it takes to harvest from that creature. When harvesting, the DM may decide (or roll) how much, if any, of that resource you can harvest within the appropriate range of values, These are just guidelines, and we recommend that you discuss this with your DM when the moment arises.

Your allies may assist you in harvesting. If at least two other humanoids assist you in harvesting, you may halve the harvest time taken for each creature you harvest from.

Melder of Flesh and Bone: You gain proficiency in Heavy Armour, Leatherworker's tools, and Smith's tools if you did not have them already. You can craft armour, shields, and weapons from the parts of slain creatures. The table opposite outlines suggestions for the resource requirements for crafting these items and you must use Leatherworker's tools and Smith's tools to do so. These are just guidelines, and we recommend that you discuss this with your DM when the moment arises.

You can craft a single item during a long rest. During this time, you may apply any other improvements to that item that your class would allow.

Body Knowledge: You have advantage on Medicine checks, and you know the cantrip *Spare the Dying* in addition to your other cantrips.

Bonescuplor Spells: You always have certain spells prepared after you reach particular levels in this subclass, as shown in the Bonesculptor Spells list below. These spells don't count against the number of spells you can prepare.

Spells:

3rd Cause Fear*, Inflict Wounds, Speak with Animals

5th Wither and Bloom*, Gentle Repose

9th Animate Dead, Speak with Dead

13th Death Ward*

17th Raise Dead, Commune with Nature, Danse Macabre*

**These spells are found in additional official releases.*

At 4th level:

Butcher: You gain proficiency in one weapon type of your choosing. When making an attack roll, if you are attacking with a weapon that you crafted, you may use your Intelligence modifier instead of Strength or Dexterity for both the bonuses to hit and to damage.

Creature Harvest Table

Creature Size	Resources Harvested				Time Taken
	Hide or Skin	Bone or Chitin	Horn, Feathers, or Scales (if applicable)	Fangs, Claws, or Mandibles (if applicable)	
Tiny	0-1	Not suitable for harvesting.			3 minutes
Small	1-2	0-1	0-1	0-1	6 minutes
Medium	1-2	1-2	1-2	0-1	15 minutes
Large	3-4	3-4	2-3	1-2	A short rest
Huge	5-7	5-7	4-5	3-5	A long rest
Gargantuan	10-12	10-12	8-10	8-10	One day

Suggested Crafting Table		
Item Type	**Example Item**	**Suggested Resources**
Simple Medium Armour	Hide Armour or Scale Mail	4 Hide or Skin 1 Feathers or Scales
Complex Medium Armour	Breastplate or Half Plate	4 Hide or Skin 1 Bone or Chitin 2 Feathers or Scales
Simple Heavy Armour	Ring Mail or Chainmail	4 Bone or Chitin
Complex Heavy Armour	Splint or Full Plate	6 Bone or Chitin 2 Hide or Scales
Small Weapon	Dagger, Handaxe, Dart, etc.	1 Bone or Chitin OR 1 Horn, Fangs, Claws, or Mandibles
Medium Weapon	Shortsword, Mace, Crossbow, Axe, etc.	2 Bone or Chitin 1 Hide or Skin OR 1 Bone or Chitin 1 Horn, Fangs, Claws, or Mandibles
Large Weapon	Longsword, Warhammer, Quarterstaff, Longbow, etc.	3 Bone or Chitin 2 Hide or Skin OR 2 Bone or Chitin 2 Horn, Fangs, Claws, or Mandibles
Huge Weapon	Greataxe, Halberd, Lance, etc.	2 Hide or Skin 5 Bone or Chitin OR 3 Horn, Fangs, Claws, or Mandibles 3 Bone or Chitin
Shield	Shield	3 Hide or Skin 1 Bone or Chitin OR 3 Bone or Chitin
Trinket	Necklace, Ring, Dice, etc.	1 Horn, Fangs, Claws, or Mandibles 1 Hide or Skin

At 5th level:

Improved Crafting: You better understand the creation of items from flesh and bone. The items you craft using your Melder of Flesh and Bone ability become +1 items of their respective type.

Construct of Flesh: During a long rest, you may craft a Construct of Flesh instead of an item. This requires 4 hide/skin, 4 bone/chitin, and any combination of 4 horns, feathers, scales, fangs, claws, or mandibles.

The Construct of Flesh is a friendly undead companion that obeys your commands. It is a Medium creature with the appearance of your choice (although usually fairly gruesome) and the statistics outlined in the Construct of Flesh stat block. You may only have a single Construct of Flesh at a time. If you create a second one, the first collapses into the components you used to create it.

Construct of Flesh

Medium Undead (Amalgamation), your alignment

Armour Class: 15 (Natural Armour)
Hit Points: 30 + 2*Your Level
Speed: 30 ft.

STR	DEX	CON	INT	WIS	CHA
18 (+4)	**16** (+3)	**14** (+2)	**2** (-4)	**12** (+1)	**4** (-3)

Resistances: poison damage
Immunities: necrotic damage
Condition Immunities: charmed, exhaustion, frightened, and poisoned
Sense: passive Perception 11 + PB
CR: 3 **Proficiency Bonus:** Yours.

Constructed. *When a Construct of Flesh is created, the creator chooses one of the abilities listed below and one of the attacks. Construct of Flesh then loses all abilities and attacks, excluding the chosen two.*

Arboreal. *Construct of Flesh gains a climb speed of 30 ft. and has advantage on Athletics and Acrobatics checks.*

Volant. *Construct of Flesh gains a fly speed of 30 ft.*

Nocturnal. *Construct of Flesh gains Darkvision (120 ft.) and has advantage on Stealth and Perception checks.*

Robust. *Construct of Flesh's AC is increased to 17 and its maximum hit points are increased to 50 + 2*Your Level.*

Nimble. *Construct of Flesh's speed is increased to 45 ft. and its Dexterity ability score is increased by 2. If it succeeds a Dexterity saving throw to avoid half incoming damage, it instead avoids all of that damage.*

Actions

Vicious Bite. *Melee Weapon Attack: +(4 + PB), reach 5 ft., one target. Hit: 2d6 + PB piercing damage plus 3 (1d6) necrotic damage.*

A creature hit by this attack must succeed a Constitution saving throw against your spell save DC or take 2d4 poison damage.

Mighty Gore. *Melee Weapon Attack: +(4 + PB), reach 5 ft., one target. Hit: 2d6 + PB bludgeoning damage plus 3 (1d6) necrotic damage.*

A creature hit by this attack must succeed a Strength saving throw against your spell save DC or be knocked prone.

Noxious Spit. *Ranged Weapon Attack: +(4 + PB), range 60 ft., one target. Hit: 2d6 + PB acid damage plus 3 (1d6) necrotic damage.*

Gruesome Claw. *Melee Weapon Attack: +(4 + PB), reach 5 ft., one target. Hit: 2d6 + PB slashing damage plus 3 (1d6) necrotic damage.*

A creature hit by this attack must succeed a Wisdom saving throw against your spell save DC or be frightened of Construct of Flesh until the end of their next turn.

In combat, the Construct of Flesh takes its turn immediately after yours. On your turn you may use bonus action to command it to attack, otherwise it may only move and Dodge on its turn. It may still use its reaction regardless of whether you commanded it to attack or not.

At 9th level:

Artisan Crafter: Your knowledge of your craft deepens to that of an experienced crafter. The items you craft using your Melder of Flesh and Bone ability become +2 items of their respective type.

Improved Butcher: You gain proficiency in another weapon type of your choosing.

Improved Construct of Flesh: You may select a second ability for your Construct of Flesh from its initial list of abilities. The selected ability cannot be the same as the first one you picked. The Construct of Flesh also gains Multiattack, allowing two attacks.

At 15th Level:

Master Crafter: Your creations are only rivalled by the works of master smiths.The items you craft using your Melder of Flesh and Bone ability become +3 items of their respective type.

Body Modification: Over the course of a long rest, you can incorporate one set of your crafted armour and up to

two of your crafted weapons into your own flesh. They become a part of you and can only be removed if you choose to remove them over the course of a long rest. The weapons can be concealed within your body, and you may use a bonus action to draw them out.

"Some Artificers sculpt wood, others sculpt metal… This one chooses a more grizzly material."

Minion Master: The maximum hit points of your Construct of Flesh is increased by a further 60 hit points and its AC is increased by 2 (cumulative with the Robust ability if you selected it). You may select a second attack for your Construct of Flesh from its initial list of attacks. The selected attack cannot be the same as the first one you picked. All attacks made by your Construct of Flesh deal an additional 2d6 necrotic damage.



Druid Subclass: Circle of Cycles

A druidic circle whom venerate the passage of time itself. They read the sun, moon, stars, and seasons to glimpse into the future and delve into the past. They wish to see the aeons pass with their own eyes and value longevity above all else.

Circle Spells:

You know the *Guidance* cantrip in addition to any other cantrips you know. At 3rd, 5th, 9th, 13th, and 17th levels you gain access to the listed circle spells. These are always prepared and do not count against the number of spells you can prepare each day. These spells are considered druid spells for you.

Spells:

3rd Augury, Evolution/Devolution (see opposite)

5th Clairvoyance, Tongues

9th Legend Lore, Contact Other Plane

13th Find the Path, Contingency, Flesh to Stone, Investiture of Stone

17th Foresight, Glibness, Time Ravage*

**These spells are found in additional official releases.*

At 2nd level:

Adaptive Wild Shape: Whenever you Wild Shape, you may choose to add one of the following additional characteristics to whatever you Wild Shape into:

- You gain a climb speed of 30 ft., or it increases by 20 ft.
- You gain a flight speed of 15 ft., or it increases by 10 ft. (optional rule at the DMs discretion, we suggest limiting this to Tiny and Small creatures you wild shape into until level 8).
- You can breathe underwater and gain a swim speed of 30 ft., or it increases by 20 ft.
- You gain darkvision (60 ft.) or increase your darkvision by an additional 30 ft.
- You may change the type of damage one of your attacks deals to poison or acid damage.



From level 8 you may instead select two additional characteristics, and from level 14 you may instead select three additional characteristics. These Adaptive Wild Shapes override the limitations of the standard Wild Shape feature.

Touch of Time: Whenever you deal damage with a melee attack, you may select one of the dice you rolled and change its damage type to necrotic.

Old Soul: You age at half the normal rate – effectively doubling your lifespan. This increase stacks with Timeless Body when you reach level 18 (increasing your lifespan twenty-fold).

At 3rd level:

You learn the following spell and it is always prepared. It does not count towards the number of druid spells you can prepare each day:

Evolution/Devolution

2nd level transmutation spell

Casting time: 1 action

Range: Touch

Components: V, S, M (a pinch of dirt)

Duration: Concentration, up to 10 minutes

By touching a creature, you can cause it to take on attributes of its ancestors or descendants. A creature may accept these changes willingly or must make a Wisdom saving throw. On a failed save, you may pick one of the following changes and apply it to the creature's stat block for as long as you maintain concentration.

1 - Increase or decrease the damage of all of the creature's attacks by 1d4.

2 - Increase or decrease the creature's movement speed by 20 ft.

3 - The creature gains a climbing speed equal to half its movement, or its climbing speed is reduced by 30 ft (it can be reduced to 0).

4 - The creature gains a flying speed equal to half its movement, or its flying speed is reduced by 30 ft (it can be reduced to 0).

5 - Select one of the creature's attacks that cause slashing, piercing, or bludgeoning damage and change that damage type to poison, acid, fire, cold, or lightning, or select one of the creature's attacks that deal poison, acid, fire, cold, or lightning damage and change that damage type to slashing, piercing, or bludgeoning damage.

6 - The creature gains darkvision 60 ft., or reduces its darkvision (if it has it) by 60 ft. (it can be reduced to 0). If this creature does not have darkvision, you may reduce it's maximum normal vision range to 60 ft.

7 - Increase the creature's maximum hit points by 1d4 + 4, or reduce its maximum hit points by 1d4 + 4 (to a minimum of 1).

At Higher Levels: When you cast this spell using a spell slot of 3rd level or higher, you may pick another trait to change for each slot above 2nd level. You cannot pick the same trait more than once.

At 5th level:

Celestial Alignment:

You have the ability to mimic celestial events to a limited degree. As an action, you may enact one of the following events, then must complete a long rest before you can do so again:

- **Partial Eclipse:** You may shroud an outside area of up to 10 miles in diameter in non-magical darkness for 10 minutes.
- **Full Lunar Phase:** You may illuminate an outside area of up to 10 miles in diameter in natural light for 10 minutes.
- **Constellation of the Warrior:** For the next minute, you and any allies within 15 ft. of you can reroll any melee attack roll of a natural 1 once per turn.
- **Constellation of the Sage:** For the next minute, you and any allies within 15 ft. of you can reroll any spell attack roll of a natural 1 once per turn.
- **Constellation of the Outlaw:** For the next minute, you and any allies within 15 ft. of you can reroll any ranged attack roll of a natural 1 once per turn.
- **Planetary Alignment:** For the next minute, you and any allies within 15 ft. of you gain proficiency in all saving throws.

At 6th level:

Deep Hibernation: You gain the ability to go into a deep hibernation at will. This hibernation lasts for a minimum of 24 hours, but has no maximum length. While in this state, you do not age, do not need to eat, drink or sleep. After the minimum 24 hours has passed, you become aware of your surroundings and can wake at any point you choose. When you wake up from your hibernation, you gain the benefits of a long rest, gain temporary hit points equal to twice your level, and can permanently change how old you appear to be.

Glimpse Future: You have advantage on Dexterity saving throws. When an ally that you can see makes a Dexterity saving throw, you may use your reaction to give them advantage on that Dexterity saving throw, so long as they can hear and understand you.

At 10th level:

Commune with Past: During hibernation, you can learn details about your world's past. These can be details that were long forgotten and have no written history, but must have been common knowledge at some point in time. This can include things such as ancient legends, tribal rivalries, and noticeable differences between the past and the current time.

Commune with Future: During hibernation, you can learn details about your world's possible future. These details must be common knowledge for people of the time explored and are what would occur if your party were to be absent for the rest of their lifetimes. This can include things such as legends, civilisation rivalries, and noticeable differences between the current time and the future.

At 14th level:

Guided Evolution: When casting Evolution/Devolution, if you concentrate on this spell for the full 10 minutes, the changes become permanent until Evolution/Devolution is cast on this creature again or until that creature completes a long rest.

At 17th level:

Future Sight: So long as you are not incapacitated or blinded, you have advantage on all attacks and all attacks against you have disadvantage.



Earth during the Hadean eon.



BACKGROUNDS

In this section we have provided three additional backgrounds that you can use in character creation. These are themed around time travel, geology, and palaeontology respectively. For each, we have also provided recommended first level feats and ability score improvements, in case you are generating those from your background.

Time-Lost

The time-lost are those unfortunate individuals who have been propelled through time, either by accident or against their will. They find themselves in a strange land, surrounded by unfamiliar cultures and creatures.

Skill proficiencies: Survival and Nature.

Tool proficiencies: Leatherworker's tools and Survivalist's Kit.

Languages: Archosauric.

Equipment: a bone-dagger, club, simple loin cloth, herbalism kit, a gold necklace worth 30 gp., and a pair of gold bracelets worth 7 gp. each.

If you use your background to determine your ability score increases and provide a starting feat, we recommend the following:

Feat: Alert or Naturalist (**page 292**).

Ability Scores: +2 Constitution, +1 Wisdom or Strength.

Features

Way of the Wild: While in an environment that is the same type as your origin, you are not slowed by difficult terrain generated by that environment.

Environmental Origin

In your previous time, you inhabited a particular environment and are most familiar with that terrain type. Roll a d8 and consult the table below or choose whichever you find most appealing.

Suggested Tools

Survivalist's Kit: *COMMON, 1 gp., 9 lb.* This kit is used to carefully extract resources and medicines from plants and animals. It consists of a small flint-knapped blade, wooden tweezers, water-proof pouches, and adhesives. The kit provides expertise with Medicine checks, so long as you are in an environment with abundant plants/animals/fungi.

d8	Environment Origin	Personality Quirk
1	Jungle	You are unbothered by trekking through thick undergrowth.
2	Forest	You have a fondness of foraging for wild berries in forests.
3	Desert	The desert sun feels wonderful on your face and you like to bask in it.
4	Tundra	Getting chilly outside makes for a warmer, more welcoming, hearth at home.
5	Mountainous	You enjoy taking the difficult route, so long as it gives the best view.
6	Riverside	Catching fish is one of your favourite pastimes and is second nature to you.
7	Seafaring	You love diving and collect exotic shells you find on the seafloor.
8	Plains	You always enjoy the calming breeze blowing across the plains.

Characteristics

The time-lost come from many different periods of time, environments, and cultures. However, they all share a lack of knowledge of the modern world. How they respond to that lack of knowledge differs – they may find things frightening, exciting, or uninteresting.

d8	Personality Trait
1	I'm fearful of new technologies.
2	I love to collect beautiful feathers and adorn my clothes/armour with them.
3	Gold is commonplace to me, and I find it boring.
4	I find slaying certain creatures reprehensible.
5	I venerate creatures of great power.
6	Every new piece of technology is extremely interesting to me, but also confusing.
7	The sounds of a city keep me awake at night.
8	I keep the teeth of monsters I slay on a necklace or bracelet.

d6	Bonds
1	I must find a way to return to my time.
2	My ancestors are out there somewhere. I must find them and reunite.
3	This new world is so strange, I'd like to explore what it has become.
4	There's a bounty of wealth that I never could have imagined, I'd like to sample it.
5	I'm the last of my kin. I must re-establish my clan/tribe.
6	I left without settling a score. I must find out whether my old enemy was destroyed.

d6	Ideals
1	I see myself as nature's protector. I want to bond with and protect the modern wilds.
2	I see myself as an explorer and there are so many new things to discover!
3	I'm an expert hunter. I want to find this time's most dangerous beast, and hunt it!
4	I'd like to return home. I need to learn about time travel and how I got here.
5	I seek to gain as much power and prominence as I can in this new time.
6	I miss the good ol' days. I want to change this world to be more like my time.

d6	Flaws
1	In my savage world, those who fell behind were left behind. I keep to this code.
2	I'm fearful of technology, it seems like evil magic to me.
3	I'm from a violent time, I act quickly and violently, worrying about consequences later.
4	I'm naive about the dangers of this world.
5	I think these modern comforts make people weak.
6	I'm gluttonous with the bounty of all this exotic food!

Designers' Note

The new tools suggested with these backgrounds can be used by anyone who is proficient with them, and we have provided them here as they fit particularly well with these backgrounds.

Geologist

Geologists are those who have dedicated a portion of their lives to the study of rocks and earthly processes. They are able to see beyond the immediately obvious and interpret the landscape around them, providing valuable field knowledge.

Skill proficiencies: History and Nature.

Tool proficiencies: Mason's tools, Cartographer's tools, Excavator's tools, and Analysis Tools.

Languages: Primordial.

Equipment: a shovel, a miner's pick, a hammer and chisel, a reinforced backpack that increases your carry weight by 20 lb., gemstones worth 25 gp., and an additional 10 gp. in coins.

If you use your background to determine your ability score increases and provide a starting feat, we recommend the following:

Feat: Tough or Miner (**page 292**).

Ability Scores: +2 Constitution or Strength, +1 Intelligence.

Features

Eye for Faults: Years of studying geology allows you to easily select weak points in rock, allowing you to break it and tunnel with ease. You have a tunnelling speed of 5 ft.

Rock knowledge: You can identify any rocks or gemstones at a glance, and know their value.

Rock Specialism

Your previous work as a geologist has given you a type of rock that you're particularly passionate about. Roll a d8 and consult the table below or choose whichever you find most appealing.

Suggested Tools

Excavator's Tools: *COMMON, 5 gp., 8 lb.* These tools are used to carefully extract fossils or minerals from rock/mud/dirt. They cause your harvested gemstones to be 10% more valuable and harvested fossils to be 100% more valuable.

Analysis Tools: *COMMON, 10 gp., 1 lb.* These tools provide a +2 to any skill check where you are examining an object small enough to fit into your hand, regardless of the skill you are using.

d8	Rock Type	Personality Quirk
1	Fluvial	You love the sediments of rivers and streams and relish the opportunity to spend time wading in them. You're aware of the dangers of flooding.
2	Volcanic	The dramatic power of volcanoes excites you. You love to explore volcanic settings, but are wary of their dangers.
3	Calcareous	You love delving into natural caves, particularly those hollowed out by groundwater, but are very observant of potential cave-ins.
4	Shale	Deepwater sediments are your speciality. You jump at the opportunity to deep-dive into water, particularly in the ocean, and are a great swimmer.
5	Plutonic	You greatly enjoy walking on rolling hills, moors, and tors, and will favour taking longer routes if they take you over this terrain.
6	Metamorphic	You are particularly excited by sharp jagged metamorphosed rocks and can navigate them with ease.
7	Seams	You have a fixation on rare minerals and gemstones that can be found within rich rock seams. You will go out of your way to acquire rare gemstones.
8	Orogenous	You love mountains and mountain-climbing, and are very good at it. You always want to climb to the very top, if you can.

Characteristics

Geologists come in many varieties. Below are some suggestions for traits, ideals, bonds, and flaws that a geologist may have.

d8	Personality Trait
1	Exploration is everything, I have to get out there and find new things.
2	I fancy myself as an adventurer, but I'm not as surefooted as I think I am.
3	I'm more of a bookworm, reading about other people's work and adventures.
4	Given the option between taking a tunnel and climbing a mountain, I'll always take the tunnel!
5	If it's in the ground, it's anyone's fair game!
6	I find anything geology related interesting and pick up little rocks everywhere I go.
7	I don't like clean-nosed, stuck-up scientists of other fields.
8	We dig rocks, then we drink lots!

d6	Bonds
1	My parent was a famous geologist – I'm following in their footsteps.
2	Our world is sacred, both in the present and past.
3	My mentor expects big things from me, I don't want to disappoint.
4	I want to see firsthand the most impressive geological events - eruptions, earthquakes, and landslides!
5	If I can find the biggest, most precious gem, perhaps I can finally impress the person of my dreams.
6	The ancient past has mesmerised me, ever since I was a child.

d6	Ideals
1	I'm an academic at heart, I want to know everything there is about the deep past.
2	I'm a naturalist at heart. Look at the beauty of our world – isn't it remarkable?!
3	I love spelunking. There're treasures beyond measure down in the depths.
4	I only work as a contractor. I've got to get the job done, everything else is secondary.
5	I'm on the run as a lawbreaker. They'll never find me if I'm deep underground.
6	I'm going to find the riches of a lifetime – there's gold in them-there mountains, I can feel it.

d6	Flaws
1	I can only sleep in total darkness, usually with my head buried under something.
2	I can't resist expensive gemstones. They must be mine!
3	I get overly obsessed with tunnelling, always wanting to dig deeper.
4	I'm surprisingly destructive – getting to the rocks is what matters, things in the way be damned!
5	I have no regard for the laws of the land when it comes to my research.
6	My only loyalty is to whoever is paying me for my work.

Palaeontologist

Palaeontologists are those who have dedicated a portion of their lives to the study of ancient organisms and environments. They are able to interpret how creatures may behave, based on their morphology.

Skill proficiencies: Animal Handling and Nature.

Tool proficiencies: Mason's tools, Cartographer's tools, and Research Scrolls.

Languages: One language of your choice.

Equipment: a shovel, a miner's pick, a brush, plaster of Paris with medical bandages, a fist-sized fossil (bone fragment, claw, skull, ammonite, or trilobite), a traveller's backpack, a tankard, and 20 gp. in coins.

If you use your background to determine your ability score increases and provide a starting feat, we recommend the following:

Feat: Naturalist (**page 292**) or Miner (**page 292**).

Ability Scores: +1 Wisdom, +1 Intelligence, +1 Constitution.

Features

Natural Historian: You have advantage on History checks that involve animals or the natural world.

Hazard Training: You are acutely aware of geological hazards and have proficiency on saving throws against geological hazards (i.e. falling from cliffs, escaping landslides, cave-ins, etc.).

Palaeontological Specialism

In addition to being a general palaeontologist, you also specialise in one particular area of palaeontology. Roll a d6 and consult the table below or choose whichever you find most appealing.

Suggested Tools

Research Scrolls: *UNCOMMON, 50 gp., 2 lb.* A collection of research scrolls on your chosen topic. When using these scrolls, select one skill from History, Arcana, Nature, or Religion. If you spend 10 minutes studying the scrolls, you gain temporary proficiency in the selected skill (or expertise if you are already proficient) for the next 6 hours. If you already have expertise in that skill, these do not provide any benefit.

d6	Specialisation	Personality Quirk
1	Theropoda	You can instantly recognise if a beast is carnivorous and likely to be hostile to you if you approach it further.
2	Cladistics	You can tell if a beast has been unnaturally altered or is not behaving of its own accord.
3	Ornithischia	Years of studying herbivores has given you insight into their behaviour. You can tell if they're likely to be hostile when approached.
4	Palaeobotany	You are able to recognise if a plant or plant-based creature may be dangerous.
5	Arthropoda	You can tell if large arthropods (i.e. giant spiders, giant scorpions, giant crabs etc.) inhabit an area.
6	Taphonomy	When encountering a carcass, you can easily tell how long the creature has been dead for.

Characteristics

Palaeontologists come in many varieties. Below are some suggestions for traits, ideals, bonds, and flaws that a palaeontologist may have.

d8	Personality Traits
1	I talk about fossils all the time, much to the annoyance of my friends.
2	I like to watch modern animal behaviour to learn how ancient animals behaved.
3	I'm always looking at the ground in front of me, just in case I spot a fossil.
4	I sometimes find myself staring into the distance, imagining what this area may have looked like millions of years ago.
5	Whenever we visit a city, the museum is the first place I want to go.
6	I love to doodle sketches of dinosaurs.
7	I keep fossils as jewellery and wear them all the time.
8	Whenever I meet a new creature, I'm always trying to figure out its place in the tree of life.

d6	Ideals
1	I see myself as a 'Gentleman Scientist'. Studying these ancient creatures is a pastime that should be reserved for the academic elite.
2	Anyone with a trowel and the right attitude can do it! Let's get in the dirt.
3	There are wonders in our past that few people know about – I want to show them to everyone!
4	I'm a big fossil fan. Big teeth and big claws are what matter to me.
5	I want to be the name behind an awesome dinosaur.
6	I'm a fossil dealer. These fossils have great value, and I can make my living selling them, even if it has to be done shadily.

d6	Bonds
1	Theropoda. Sharp-toothed predatory dinosaurs excite you the most.
2	Sauropoda. Giant long-necked dinosaurs excite you the most.
3	Thyreophora. Heavily armoured dinosaurs excite you the most.
4	Marginocephalian. Crested and horned dinosaurs excite you the most.
5	Pterosauria. Flying reptiles excite you the most.
6	Sauropterygia. Marine reptiles excite you the most.

d6	Flaws
1	I'm a Splitter. Whenever I meet a non-humanoid creature, I always assume it's a new species and am wary of new abilities and behaviours it might have.
2	I'm a Lumper. I often assume that groups of similar beasts will all behave in the same way.
3	I'm overly experimental, setting up little vials of acid with rocks sizzling in them wherever I rest.
4	I have a clumsy swing. I'm prone to hurting myself when trying to smash rocks.
5	I'm a bit vacant. My head is so stuck in the past that I often lose interest in conversation and daydream about ancient worlds.
6	I'm jaded. I've seen so many bones and carcasses that the sight of a dead body doesn't bother me in the slightest.

Designers' Note

We have designed these bonds around the idea that palaeontologists have a group of organisms that they are most excited to encounter, but feel free to come up with a different bond if you prefer.

FEATS

In this section we have provided a handful of feats, largely designed around geology and palaeontology (although not exclusively so). With these, we have included a recommended level restriction (and provided feats for levels 1, 4, 8, and 12). If you do not wish for feats to be level restricted, feel free to have these available to everyone, but be aware that some are considerably more powerful than others.

Naturalist

1st-Level Feat.

Prerequisite: None.

Repeatable: No.

Taxonomist: When rolling a Survival check to identify the remains of any beast, plant, or humanoid, any roll of a 1-9 is treated as a 10.

Fieldwork: You have expertise in Survival checks when tracking a beast.

Functional Morphology: The first time you encounter a beast that you have not seen before, you are able to discern either its AC, maximum hit points, or one resistance it has (your choice).

Miner

1st-Level Feat.

Prerequisite: None.

Repeatable: No.

Portable Lamp: You possess a physical lamp that weighs 1 lb. and can produce 20 ft. of bright light and a further 20 ft. of dim light. The lamp attaches to your belt/armour and does not need to be carried.

Familiar Rumble: While underground, you have a Tremorsense of 30 ft. If you already have Tremorsense, its range is increased by 20 ft.

"Cave-in!": You have advantage on any skill check or saving throw to escape falling natural rocks (i.e. from cliffs, caves, tunnels, etc., but not from traps or buildings).

Stone-whisperer

4th-Level Feat.

Prerequisite: A Wisdom ability score of at least 12.

Repeatable: No.

Stone Whisper: You can cast the Stone Shape spell once per day without requiring material components and without using a spell slot. This is increased to three times per day at level 10, five times per day at level 15, and an unlimited number of times per day at level 20.

Whisper Back: You have a Tremorsense of 10 ft.

Behaviourist

4th-Level Feat.

Prerequisite: An Intelligence ability score of at least 12.

Repeatable: No.

Animal Behaviour Expert: You have expertise in Animal Handling checks.

Bespoke Saddles: Creatures you tame gain +1 to their AC, hit rolls, and damage.



Crocodile Wrangler

8th-Level Feat.

Prerequisite: An ability score of at least 13 in Strength and Charisma.

Repeatable: No.

Bush Wrangler: You gain +1 to your Constitution or Strength score.

"What a beauty!": You have advantage on Animal Handling checks and advantage on checks to grapple beasts.

"Crikey!": Any Large, Medium, or Small beast you are grappling cannot select you as a target for its attacks.

Volcanologist

8th-Level Feat

Prerequisite: None.

Repeatable: No.

Heat Handler: You gain resistance to fire damage.

Assess Volcano: If you can see a volcano, you may take 10 minutes to assess it. If you do, you are able to determine whether it is likely to erupt in either the next >100 years, 10 years, 1 year, 30 days, 7 days, or 24 hours. If the volcano is going to erupt in the next 7 days or less, you are able to determine the minimum safe distance from it.



Action Hero

12th-Level Feat

Prerequisite: A Strength ability score of at least 16.

Repeatable: No.

Catch Jaws: If a creature hits you with an attack that uses its mouth (i.e. a bite or maw attack), you can use your reaction to reduce any incoming damage by 1d10 + your level.

Heroic Moment: The first time you fail an Athletics check each day, you may choose to succeed it instead.

Arcane Enchanter

12th-Level Feat.

Prerequisite: You are a spellcasting class.

Repeatable: No.

Enchant: As an action, you can select an item you can see and touch, and enchant it. You may only have a single item enchanted at any given point, and when you use this action, any previous enchants you have made end. The item gains one of the following enchantments based on its type:

- **Weapon:** For the next minute that weapon deals 1d6 additional damage of any damage type that your spells can deal. At level 16, you may add your proficiency bonus to this additional damage.
- **Armour:** For the next minute that armour provides the wearer with resistance to one damage type that your spells can deal. At level 16, you may select two damage types that this armour provides resistance to.
- **Wondrous:** For the next minute, that item provides the bearer advantage on saving throws and checks to prevent or end a condition of your choice. At level 16, you may select two conditions that this item provides advantage for.

ITEMS

Armour and Apparel

Ceratopsian Plate

Armour (any plate armour), RARE (+1), VERY RARE (+2), requires attunement.

Appearance *Heavy sculpted armour with a horned helm and shoulders in the visage of a large ceratopsian.*

Rules +1 or +2 armour. If you move at least 20 ft. in a straight line towards a creature and end your movement within 5 ft. of it, you may use your bonus action to strike the creature, dealing bludgeoning damage equal to your proficiency bonus and piercing damage equal to your proficiency bonus to it.

You and the creature must then make contested Strength checks. If you win, the struck creature is also knocked prone.

Raptor Feather Leathers

Armour (any leather armour), RARE (+1), VERY RARE (+2), requires attunement.

Appearance *A thick coat of feathers lined with leather on the inside.*

Rules +1 or +2 armour. While attuned to this item, you have resistance to falling damage. When taking falling damage, you may use your reaction to instead gain immunity to falling damage until the end of your turn.

Dead Deity Robes

Wondrous item (robes), LEGENDARY, requires attunement.

Appearance *These beautiful, pristine red and black robes are the last remnants of a civilisation from millions of years in the past who worshiped a deity forgotten by all, aeons ago. They are inscribed with runes in an ancient unreadable language.*

Rules While attuned to these robes, you have an additional spell slot of whatever your current highest level spell slot is. The level of the additional spell slot is reset and replenishes after each long rest. If you aren't wearing armour, your base Armour Class becomes 13 + your Dexterity modifier.



Automimicry Cape

Wondrous item (cape), COMMON.

Appearance *This large cape is dull on the back, but the inside is patterned and coloured with two huge eyes. When held up from either side, it gives the wearer the superficial image of a huge bestial head with glaring eyes.*

Rules While wearing this cape, as a bonus action you can give yourself advantage on Intimidation checks until the end of your turn against any creature with an intelligence score of 5 or lower.

Pterosaur Wingbow

Weapon (any bow), VERY RARE, requires attunement.

Appearance *This slender bow is made from pterosaur bones and stringed with a fine muscle tendon. The tendon can magically extend into a full wing membrane, connecting and wrapping the bones to form a gliding wing.*

Rules +2 weapon. As a bonus action, the bow can be unfurled into a gliding wing, allowing the wielder to descend safely from any height, so long as they are not incapacitated. Additionally, they may glide 2 ft. in any horizontal direction for every 1 ft. they descend, without using any movement.

Kriss of Hațeg

Weapon (dagger or knife), LEGENDARY, requires attunement.

Appearance *This slender weapon has a wavy oscillating blade engraved with strange symbols.*

Rules +3 weapon. A creature hit by an attack with this weapon must succeed a DC 10 Constitution saving throw or be reduced by one size category and have the damage from its attacks reduced by 1d4 for 1 minute. While reduced in size, it cannot be reduced in size again by another attack or similar spell/ability.

The Taming Rod

Weapon (polearm or spear), UNCOMMON, requires attunement.

Appearance *A long pole with a bladed steel tip and a hooped ring of rope dangling from the end. A line of rope then runs parallel to the shaft and can be pulled to open or close the hoop.*

Rules +1 weapon. While attuned to this weapon, you may attempt to tame an animal an additional time per day (either the same animal or a different one, see **page 232**).

Razortooth Sword

Weapon (any sword), UNCOMMON, RARE (+1), VERY RARE (+2), LEGENDARY (+3), requires attunement if RARE or rarer.

Appearance *This gnarled sword is covered in sharp teeth embedded into its cutting edge.*

Rules A creature hit by an attack with this weapon gains one level of "Bleed Effect", as described below. The bonus conveyed by +1/+2/+3 versions of this weapon do not increase the damage this weapon deals when hitting, but instead add additional levels of "Bleed Effect" equal to the weapon's bonus (i.e. a +1 sword applies a total of 2 levels of Bleed Effect per hit).

Bleed Effect (cumulative):

- A creature with this affect suffers 1 slashing damage at the start of its turn in combat for each level of bleed effect it has.
- Outside of combat, a creature suffers 1 slashing damage every minute for each level of bleed effect it has, so long as it is not taking a short or long rest.
- One level of bleed effect is removed per hit point of healing received.
- All bleed effects can be simultaneously removed by completing a short or long rest, being restored to full health, or by a successful Medicine check (DC 6 + level of bleed effect, to a maximum of 15).





Barron's Blunderbuss

Weapon (musket or hunting rifle), UNCOMMON, RARE (+1), VERY RARE (+2), LEGENDARY (+3), requires attunement if RARE or rarer.

Appearance *A metal trumpet-like gun with a wide nozzle and bespoke wooden handle.*

Rules This weapon can be loaded with any type of ammunition, or alternatively pebbles, scrap, or any cluster of small items you desire. However, its range becomes 60 ft. if you do so. Additionally, a DM can alter the damage type of this weapon to match what it is loaded with (i.e. putting a large rock in could change the damage to bludgeoning, or icicles could change it to cold damage).

Trusty Rusty

Weapon (warpick), LEGENDARY, requires attunement.

Appearance *This worn pick is rusted and corroding, but still maintains a sharp point.*

Rules +3 weapon. While wielding this weapon, you gain a burrowing speed of 5 ft. Additionally, you have advantage on attacks against creatures made of rock or stone.

Protoceratops Quillbow

Weapon (any crossbow), UNCOMMON.

Appearance *This wooden crossbow's end is carved into the beaked-mouth of a* Protoceratops *and its frill forms the crossbow's sights.*

Rules This weapon's bolts detonate with tiny spines on impact. When a creature is hit by an attack made with this weapon, 1d4 piercing damage is inflicted to each creature within 5 ft. of the hit target.

Geological Hammer

Weapon (any hammer or one-handed mace), COMMON.

Appearance *This hammer has a broad flat head, and the back of the hammer is pointed into a triangular edge.*

Rules In addition to its use as a weapon, this item can be used as a tool to efficiently extract resources from rock.

Theropod Jaw

Weapon (greataxe), UNCOMMON, RARE (+1), VERY RARE (+2), requires attunement if VERY RARE.

Appearance *This huge axe is crafted from the harvested jaw of a mighty predatory dinosaur.*

Rules This weapon deals an additional 1d6 piercing damage with each successful hit.

Azdarchid beak Greatsword

Weapon (greatsword), COMMON.

Appearance *This lightweight sword is crafted from the huge beak of an Azdarchid pterosaur. It can slide through the air with ease.*

Rules When using your reaction to make an attack of opportunity with this weapon, your melee reach is increased to 10 ft. for that attack. Furthermore, attacks made with this weapon against creatures from the elemental plane of air are made at advantage.

Sauropod Femur

Weapon (Maul or Mace), COMMON.

Appearance *This bony mace is topped with a large bulbous head. Despite its size, it is remarkably light.*

Rules This weapon weighs half as much as it usually would, but is just as effective.

Wand of the Wondering Mind

Wondrous item (wand), UNCOMMON.

Appearance *A simple, wooden wand bound with twine and a small feather embedded in its tip.*

Rules This wand has 3 charges. While holding it, you can use an action to expend 1 of its charges and a beast you can see within 40 ft. of you must make a DC 12 Wisdom saving throw. On a failed save, select Behaviour Table (**pages 214-217**). You may then roll two dice for a behaviour and select whichever option of the two you prefer. The creature then behaves in that manner.

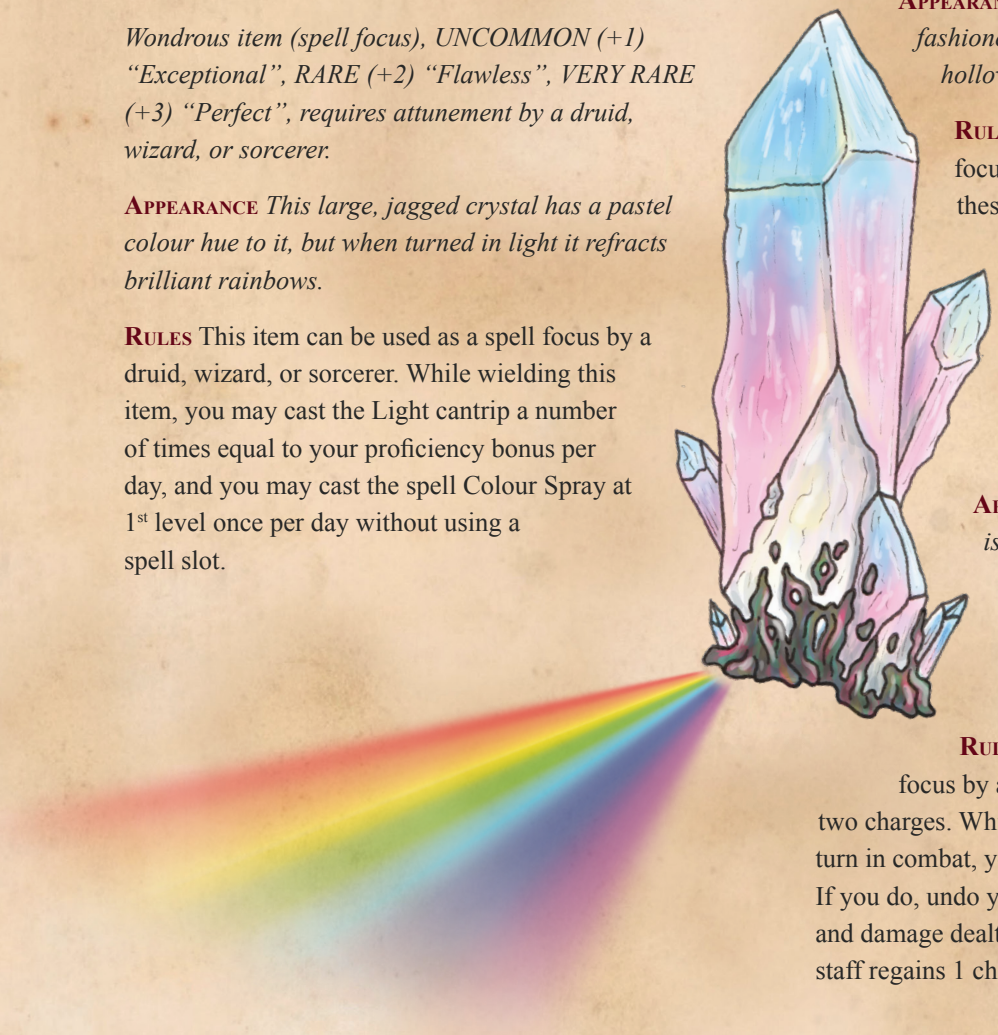
This wand regains all expended charges every day at dawn.

Exceptional/Flawless/Perfect Refractive Index Crystal

Wondrous item (spell focus), UNCOMMON (+1) "Exceptional", RARE (+2) "Flawless", VERY RARE (+3) "Perfect", requires attunement by a druid, wizard, or sorcerer.

Appearance *This large, jagged crystal has a pastel colour hue to it, but when turned in light it refracts brilliant rainbows.*

Rules This item can be used as a spell focus by a druid, wizard, or sorcerer. While wielding this item, you may cast the Light cantrip a number of times equal to your proficiency bonus per day, and you may cast the spell Colour Spray at 1st level once per day without using a spell slot.



Ancient Horn

Wondrous item (instrument), UNCOMMON.

Appearance *A curved and polished bone horn made from the skull of a large hadrosaur.*

Rules This instrument can be used as a spell focus by a bard. Once per day, as an action, the horn can be blown to alert allies. When used in this way, it cannot be heard by anyone except the bearer and their allies, who can hear it regardless of where they are in the multiverse. The sound itself does not convey specific information, and is simply a deep note.

Primal Drums

Wondrous item (instrument), COMMON.

Appearance *A small set of palm drums that are fashioned traditionally from skin stretched over hollowed wood.*

Rules This instrument can be used as a spell focus by a bard. Once per day, as an action, these drums can be used to cast the spell Bless at 1st level withoutrequiring a spell slot or components.

Staff of Time Sight

Weapon (quarterstaff), VERY RARE, requires attunement.

Appearance *This wooden and brass staff is topped by a large, spinning brass sphere. This sphere is orbited by several smaller brass spheres that are not physically connected to the staff, yet cannot be removed from their orbit.*

Rules This +2 staff can be used as a spell focus by a druid, wizard, or sorcerer. This staff has two charges. While wielding this staff, at the end of your turn in combat, you may choose to expend 1 of its charges. If you do, undo your entire turn (all actions, movement, and damage dealt/received) and re-take your turn. The staff regains 1 charge each day at dawn.

Staff of Unspared Expense

Weapon (quarterstaff), LEGENDARY, cursed, requires attunement.

Appearance This pale ivory-coloured staff is topped with a piece of polished amber that contains a large insect fossil.

Rules This +3 staff can be used as a spell focus by a druid, wizard, or sorcerer. While wielding this staff, you have advantage on all Charisma checks and Charisma saving throws.

Curse While in possession of this staff, all vendors try to sell their wares at prices 50% more expensive than normal to you. This staff is cursed and, once attuned, a player cannot unattune to it. If they were to abandon the staff, it appears among their belongings during the next short or long rest. The curse can be broken by selling the staff at 200% of its usual value (DM's choice).

Alternatively, the curse can be broken by destroying the staff by succeeding on a DC 25 Strength check. If the staff is destroyed in this manner, a blinding flash of light emits from the shattered amber, then heavy and intermittent stomping footsteps can be heard in the distance that steadily grow louder. This is the sound of a young/adult/ancient *Tyrannosaurus rex* approaching (age depends on the party level, at DM's discretion). It is hostile to the party, cannot be tamed, and will pursue them as long as it can. It will actively hunt them if the party escapes.

Wondrous

Amber Necklace

Wondrous item (necklace), COMMON.

Appearance *A simple twine necklace binding a small lump of amber, or a chain of amber beads.*

Rules While wearing this necklace, you have a +2 bonus to any roll to resist or end the poisoned condition. This effect is not cumulative with further amber items.

Ring of Primal Speaking

Wondrous item (ring), COMMON.

Appearance *This small gold ring has the visage of a toothed maw biting onto a gemstone.*

Rules While wearing this ring, you can read, speak, and understand Archosauric.

Ring of Palaeobotany

Wondrous item (ring), UNCOMMON.

Appearance *This wooden ring has a large emerald inlay. Within the emerald is a single tiny golden leaf.*

Rules While wearing this ring you are able to recognise all ancient plants (that existed before your original timeline/lifespan) and you have knowledge of their uses and dangers.

Evolunite Shard

Wondrous item (consumable), UNCOMMON.

Appearance *A tiny shard of iridescent rock that sparkles when in moonlight. When it comes into contact with a creature's integument (skin/scales/feathers/hair/etc.), it sparks and sizzles as it dissolves into them.*

Rules If this mineral touches a creature's exposed body, it is destroyed. The DM then rolls on the Minor Mutation Table (**page 218**) for that creature, and it gains the associated mutation for 1 hour. If more than five Evolunite shards are used on the same creature within 1 hour of each other, the creature is polymorphed into a tiny crab with 2 hit points for 1 hour.



Potion of Redirected Ancestry

Wondrous item (consumable), RARE.

Appearance *This ornate glass vial is inlaid with gold filigree. It contains a dully-glowing, green liquid that has tiny double helix shapes drifting within it.*

Rules Consuming this potion allows you to take on the appearance and abilities of any humanoid race/species that you share a common ancestor with. These replace your character's original racial/species abilities and appearance. This effect lasts for 1 hour, however if you drink a second Potion of Redirected Ancestry while under this effect, the change becomes permanent unless removed by a Wish spell.

Potion of Plumage

Wondrous item (consumable), COMMON.

Appearance *This simple vile is filled with feathers immersed in a strange blue liquid.*

Rules When this potion is consumed, the creature that drank it sprouts soft downy feathers all over their body and long flight feathers from their forearms for 10 minutes. While under this effect, they take no damage from falling and are able to glide 1 ft. horizontally for every 1 ft. they descend while falling.

Ethereal Egg

Wondrous item, VERY RARE.

Appearance *This football/ball sized egg is partly translucent, and wisps of coloured smoke constantly drift off of it.*

Rules If incubated (kept warm) for 2d4 days, the egg will hatch into a familiar for the player who incubated it last. This functions in the same manner as a familiar would via the Find Familiar spell, with the following exceptions:

- The familiar's appearance and stats are selected by the hatching player from a list of known familiars (we recommend one of the Mesozoic familiars from this book), and then cannot be changed.
- Once the familiar drops to 0 HP, it disappears and can be resummoned as an action.
- Once the familiar drops to 0 HP for the third time, instead of disappearing, it reverts back to its Ethereal Egg form and must be incubated for a further 2d4 days before re-hatching as the same familiar.



Shell Coin

Wondrous item, COMMON.

Appearance *This shell has been carved into a small disc. It retains many of the surface features of the shell, including ribbing and growth lines.*

Rules When entering a settlement of 100 inhabitants or more, this shell takes on the appearance of the highest value coin for that settlement. A DC 12 Arcana check can determine that the coin is magical, but an effect that dispels magic is required to reveal its illusion.



Dice of the Dinosaur

Wondrous item, RARE.

Appearance *This six-sided dice has the visages of six different large dinosaurs carved into each face. Once rolled, a strange bellowing noise can be heard in the distance.*

Rules The first time that this dice is rolled each day, it summons a dinosaur that matches the carved visage of the face it rolls to. The dinosaur is summoned somewhere within a 1 mile radius and is hostile to whoever rolled the dice, actively seeking them out. If the dinosaur is slain, it disintegrates into amber gemstones worth 100 gp. multiplied by the corresponding number below. Once that dinosaur has been slain, the corresponding facing on the dice turns blank and becomes weighted in a way that it cannot roll with that side face-up. At the next dawn, if the dinosaur is alive, it vanishes and the dice remains unchanged. The dice faces are:

1 – *Iguanodon*; 2 – *Centrosaurus*;
3 – *Utahraptor*; 4 – *Zuul*;
5 – *Giraffatitan*; 6 – *Tyrannosaurus*.





CONTRIBUTORS





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