

CAMP

CRETACEOUS

Adventure Roleplaying for Children and Adults



ZOZER

Uses the Cepheus Engine Rules

Creator Paul Elliott
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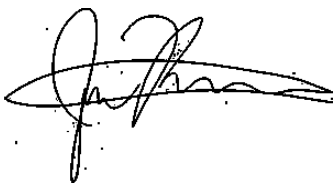
Dear Student,

Congratulations! Your enrolment on the University of Berkeley's Camp Cretaceous Project has been completed. You are now officially one of the team!

As you know the project uses amazing time travel technology, developed at the university, to send small groups of researchers and scientists back in time to the Cretaceous period. There they study dinosaurs up close, making Camp Cretaceous the ultimate wildlife expedition. Each season we accept high school students from across the world who help us with the fieldwork and gain valuable first-hand experience.

Please take time to study the kit list (enclosed) and ensure that you have a parent or guardian sign the permission and insurance waiver form. In addition, your doctor will need to sign off the medical form we have included. The date of your field trip will be sent out to you shortly. Watch the mail!

Yours sincerely,



Angela Hardybrooke
Assistant Site Director and Youth Mentor

Camp Cretaceous Project

enclosed: kit list, permission form, insurance waiver, medical registration



INTRODUCTION

Camp Cretaceous is a game designed specifically to be played with children. It takes characters back into the Cretaceous period where they carry out perilous missions in their attempts to study dinosaurs in their natural environment. Players not only have to overcome natural obstacles, hungry dinosaurs, puzzles and problems, but must do so in an environment without the comforting presence of weaponry. The aim is to challenge the players and give them problems to solve that do not rely on violence. To use this book you will also need the rulebook called the **Cepheus Engine** (see Chapter 7 - Game Resources)

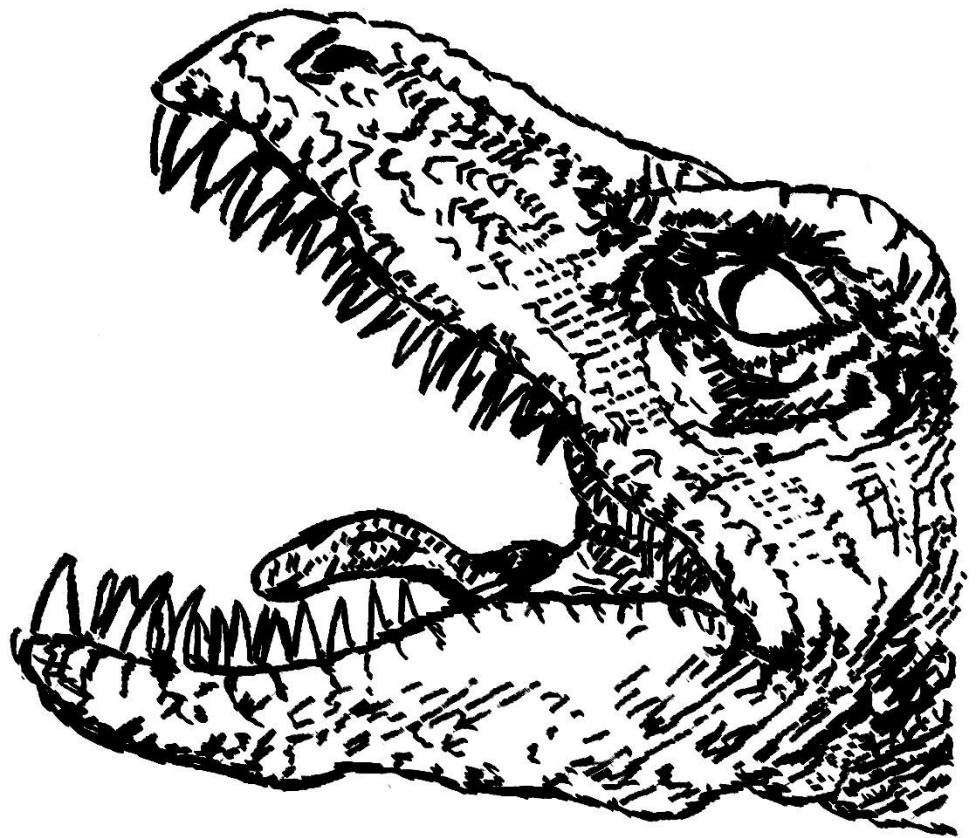
Whilst working in a primary school I have run Camp Cretaceous many times for small groups of children aged between 9 and 13. But I've also run games for adults. Challenges like collecting a pteranodon egg, weighing a triceratops, or filming a T-Rex attack at night, provide fantastic entertainment for children and adults alike. Let's face it, dinosaurs and children are a perfect mix, and from a roleplaying perspective they provide all of the action, energy and tension you require in a game without having to wave gun-toting bad guys around. In addition the scenarios are active - player characters must achieve a goal and by setting them within the prehistoric era, the resources and assistance that they can call on is next to nothing. Isolated and alone, with a task to perform, with dangerous animals all around and an environment that is very unfriendly, the players are placed into a perfect roleplaying situation.

For those referees who have never roleplayed with children I offer advice based on over ten years of experience. There have been plenty of great games played over the years, but also several disasters! Each set-back taught me a great deal about the differences between adult and child players. Camp Cretaceous can be played with a single child, groups of 3, 4 or 5 or even much large roleplaying groups- if you feel brave enough.



With some modification of the traditional table-top format I have run RPG sessions with 16 children simultaneously – and the games worked out surprisingly well!

Children love props and so a number of resources, and plenty of suggestions, are included with this game in order to maximise the players' immersion. You can start by using the letter you've just read as the official invitation to your game session ...



1

HOW TO TRAVEL IN TIME

Ten years ago, Anton Kubary and his team of physicists at Berkeley, University of California, built a time machine, known in academic circles as the Kubary Graviton Trap. In essence they had constructed a stabilised wormhole that could be attenuated; while not transferring people and materiel the wormhole is reduced in diameter to barely a few microns. At levels of maximum energy output, however, the wormhole can be widened to a diameter of up to 2500cm for periods of up to an hour.

Kubary's discovery was sensational and has rocked the world of science. Periods of testing and evaluation indicated that the other end of the Kubary wormhole seemed to thrash around distant prehistory, ranging from 200 to 35 million years ago. Within a year the team had managed to stabilise the wormhole, anchoring it with ground-breaking graviton wave oscillation techniques. They settled on a date of 1 January 98,648,340 BCE, slap bang in the middle of the Cretaceous period, when Earth was populated by dinosaurs and human beings were still millions of years down the evolutionary line.

Immediately there were global concerns about the possible catastrophic repercussions that might ensue should humans travel through to the Cretaceous period. A study into the Cretaceous period at the end of the Kubary wormhole could not determine whether indeed it was 'our' Cretaceous age, or the Cretaceous period from some alternate timeline. Following the findings of the international Keiller Committee, it was decided to allow only limited human exploration of the Cretaceous timeline. There would be no permanent construction, no refuse or dumping of materials, no tourism and no extraction of raw materials that were not sustainable.



THE FACILITY

The Kubary wormhole machinery is installed within the Einstein-Rosen building on Centennial Drive up in the hills above Berkeley. It is in good company - a host of advanced science projects are also based in the area. The Einstein-Rosen facility, known to everyone connected with Camp Cretaceous as simply 'The Facility', has expanded in size five-fold in the past ten years. Beginning life as a modest physics laboratory, the Facility now includes suite of offices, a dormitory, a garage, a warehouse, medical centre, workshop, data processing centre, assembly areas and additional labs. Scientists invited to participate in field work and the associated research bring with them funding from abroad, but nevertheless the incredible cost of maintaining the Camp Cretaceous facility is met mostly by the US government.

A note on terminology used by Berkeley staff might be helpful at this point. The wormhole itself is known as either just 'the wormhole' or the Kubary Graviton Trap. The machine that generates the wormhole is referred to as the MGB, or Modulated Graviton Beam-generator. The MGB is held inside the Facility, also called the Einstein-Rosen building. Camp Cretaceous is the actual base of operations that has been established in the Cretaceous period, although the entire operation, covering everything from recruitment to logistics, research to training, is also known as the Camp Cretaceous Project.

Surrounded by its ancillary warehouses, rooms and other facilities, the actual MGB is housed in a bomb-proof and earthquake proof vault, complete with two pairs of metre-thick doors that operate on an airlock system. Prospective time travellers are always underwhelmed by the appearance of the MGB, most expecting some glorious light-show straight out of 2001 - A Space Odyssey. In fact, once the inner vault door is opened the travellers are faced with a 20m long concrete corridor, surrounded on all sides by pipework and complex bundles of wiring, the corridor ends abruptly at another set of airlock doors. Once everyone and everything is inside the vault, the countdown commences and the whine of electro-magnetic field generators can be heard. Within only a few



minutes the sudden pressure differences cause vapour clouds to form within the corridor, sometimes referred to as the 'mists of time', although this is a known atmospheric phenomenon. The fog thickens until the travellers can see almost nothing beyond their own hands. Ionisation can be felt, and most travellers observe dancing lights on their retinas. A number also report suffering from mild tunnel vision. As the deafening whine of the generators fades the travellers will hear new sounds, of wind or rainfall, and the distant cry of some animal. The mist then clears rapidly and the burning Cretaceous sun will be felt on uncovered skin.



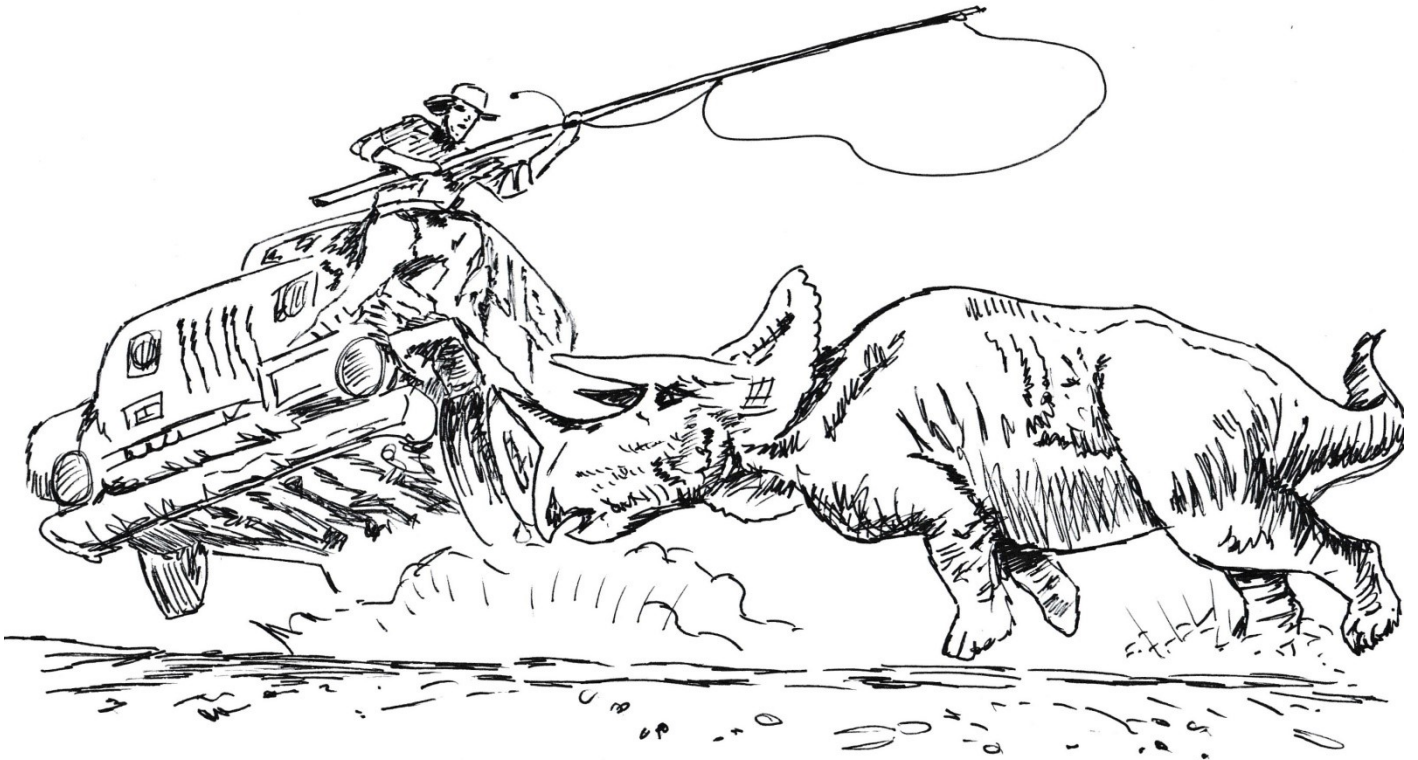
THE TRENCH

Time travel has been achieved. Where are the travellers now? There is no duplicate Modulated Graviton Beam-generator on the prehistoric side of the time stream, instead they will find themselves in a concrete trench built to the exact dimensions of the one inside the Berkeley facility. This acts as a placeholder ('stand here') and space marked out in concrete that indicates the precise location of this end of the wormhole once it is widened and powered up to its fullest extent. There are concrete ramps at either end, allowing vehicles to drive either out or in. Close to one side of the Trench are a set of floodlights as well as a battery of scientific instruments that record all aspects of a wormhole for study at this end. In addition, alarms sound and lights flash at predetermined times before a wormhole is brought into existence. Although nearly all of the wormholes are scheduled, the use of an alarm system alerts staff at Camp Cretaceous to an unscheduled wormhole activation.

To return to the present day, vehicles, personnel and equipment must wait inside an assembly area, a simple concrete park at one end of the trench. Once the alarms have sounded and the wormhole activates (precisely one hour later) a fine mist fills the Trench before fading away to reveal newcomers along with any vehicles and fresh supplies. Once they have driven forwards, out the other end of the Trench, the



departees drive down into the Trench. Now it is their turn. The second wormhole always appears one hour after the first, allowing plenty of time for people to get their kit together in the Trench. The mist returns and the wormhole (almost silent now, without the raucous sounds of the Facility's mega-watt generators) returns the staff and their vehicles back to the Vault within the MGB in the present day.



This co-ordinated shuffle, allowing arrivals out of the Trench first before departees can enter, is crucial. Early experiments illustrated the horrific results that ensue when living things and even inanimate objects are in the way of a materialising wormhole. There is and can never be any communication between Camp Cretaceous and the Facility. If there has been some terrible catastrophe, or a serious illness that needs immediate hospitalisation, those in need of rescue must wait for a scheduled wormhole to be generated, something that occurs once each week, on a Monday afternoon (Cretaceous time). Data can be embedded into the timing and oscillation of the wormhole with no undue effects, this data is automatically picked up and recorded by the instrument packages installed at the side of the Trench. This data includes reports, messages, briefings, personnel files for all new arrivals, an amended timetable for



wormhole generation and new research data fed back to Camp Cretaceous after analysis by scientists back in the present day. Other equipment installed within a rain shelter at the side of the Trench includes a diesel generator for the floodlights, fire extinguishers, a medical kit, landline telephone to Camp Cretaceous and emergency survival supplies.



CAMP CRETACEOUS

For the safety of those using the wormhole, the area around the Trench is surrounded by a perimeter fence. Camp Cretaceous is likewise fully fenced off and a road about a kilometre long, connects the two compounds. Again displaying plenty of caution, this connecting road is also fenced off from the Cretaceous wilderness that lies beyond. After arrival from the modern day, and driving out of the Trench, a visitor passes through a heavy security gate to reach the road. Once he has made the 1000 metre journey to the Camp, he must negotiate a second heavy security gate before he can pull up and unload his vehicle.

What kind of amenities does Camp Cretaceous offer? At the heart of the camp is the operations hut, a prefab building containing a couple of offices, two briefing rooms and a control room filled with radios and a couple of computers. The director and his assistant work from here with a permanent staff of three. Around the operations hut are scattered various ancillary buildings, (all prefabricated) they include a set of offices for scientists, dormitories (one for staff, one for students), a powerplant, a refectory, a workshop and vehicle shelter, toilet and shower block, water recycling plant, a common room and an equipment shed. In addition there are two or three storage units and a number of tents, some pitched by individuals or groups not wanting to sleep in the dorms, others that are simply open-sided rain shelters, where staff can meet and chat, or where outdoor activities can be carried out - whatever the weather.



Fencing around the roadway, the Trench and Camp Cretaceous itself is quite substantial. The fence is made up of steel bars, not chain-link, and the bars are heavily welded. Not only that, but the fence is double layered, separated by 30cm, with the inner fence bars aligned along a different axis to the outer. Steel buttresses have been sunk against the inner fence every 5m. Both fences are 15m high, and topped with a series of steel blades mounted on a free-moving roller which aims to deter dinosaurs from attempting to climb over or gain some kind of grip on the top of the fence. Twenty metre sections of the outer fence can be electrified from a control box mounted at waist height next to that section. Not enough power is available to allow the continuous electrification of the perimeter fence.

So far the defences have proved most effective, with the carnivores coming now and then to scout out the camp at night, but otherwise leaving the humans alone. With their machines, lights, generators and strange colours and smells, dinosaurs simply don't recognise humans as food. This all changes when they step out of the compound, and especially when they step out of their vehicles! The author has been on safari in Tanzania and Kenya, and noted with interest the total indifference of large predators to a jeep full of tourists ... or even half a dozen jeeps. Lions walk right in front of them, as if the vehicles did not even exist. When the author's driver struck out across country, away from the dirt track, he got the jeep stuck in a shallow ditch. A couple of hyenas were ahead, lazily sleeping under an acacia tree. When the driver got out of the jeep to let a little air out of the rear tyres, the hyenas knew instantly and both sat up and stared in the jeep's direction. One then began to trot slowly towards us ... it was as if food (the driver) suddenly emerged onto the African plain out of nowhere! It was a most thrilling and disturbing thing to watch, made all the more chilling as, at sunset that day, the author caught sight of a single lioness stalking and then bringing down a lone wildebeest.



THE GATE

To get out into the wide, wondrous world of the Cretaceous, all visitors have to pass through the Gate - the weakest spot in the perimeter fence. A standard swing gate, no matter how thick or tall, is a liability since a large and aggressive dinosaur could force it off its hinges or buckle its frame. Instead a steel box was built, a cage constructed with steel bars driven deep into the ground that provides access through the fence. On its outer face, the box is just wide enough to accept the largest of the vehicles used at Camp Cretaceous. A heavy steel gate doubles as a drawbridge, which drops forward to allow access across a concrete ditch filled with hundreds of sharpened steel spikes.

If the gate was raised, a dinosaur would have to step into the spike pit, risking serious injury, and would then have to ram the raised drawbridge which has behind it the full strength and resilience of the entire gateway box, anchored as it is into the ground by a score of steel posts. Since the box pierces the fence, the full height of the perimeter defences soars above it. The gateway is operated from a small control booth that is always manned by an armed guard. As an extra measure, the gateway area is always floodlit at night. A second set of gates, this time swinging outwards, are mounted on the inner face of the box which goes to create an 'airlock' system. A jeep drives into the box, the inner gates are closed and then the outer gate is opened. In this way the vulnerable interior of the camp is never exposed directly to the deadly ferocity of the Cretaceous.



PERSONNEL

Berkeley staff the camp with a number of administrators, service personnel and technicians. The aim is provide a safe environment where the needs of the academics are met. This is not a hotel, though, it is a research camp and so everyone pulls together and many jobs are done



by the scientists and graduate students themselves. The permanent, paid staff positions number 36:

- Director
- Assistant Director
- 2 Logistics handlers
- 2 Comms operators
- Security chief
- Six security guards
- Microlight Pilot
- Cook
- 3 Assistant cooks
- Chief Technician
- 5 Motor Mechanics
- 5 Engineers
- 3 IT Technicians
- 2 Doctors
- 2 Nurses

In addition, there is accommodation for 20 science personnel, usually a mix of tenured academics on research expeditions and graduate students assisting with that research. The camp has enough capacity (in food and services, for example) to support an additional ten people living in tents pitched within the compound (typically young students). Note that there are no drivers, cleaners or waiters etc. many of these jobs are carried out by the researchers themselves. A rota in the refectory is used to track which research team is responsible for cleaning up the dining hall and helping to serve up meals. Everyone pitches in. Likewise, another rota on the wall of the common room tells teams when it is their turn to clean up, and manage the operation of the tiny bar. Few complain about these shared jobs, everyone understands that attending Camp Cretaceous, whether academic or student, is a privilege that no one wants to lose.

Academic staff at Camp Cretaceous are of varying levels of expertise and seniority, based not just on their level of education, but on their role within a research team. The least qualified are the high school students,



between 14 and 18 years of age. These are invited by Camp Cretaceous to participate in the project, a much sought after honour and an exciting opportunity.

University undergraduates are studying for university degrees and are typically aged between 18 and 22. University students aim to achieve a bachelor's degree in a field of study known as a major. (Some can also enrol in double majors or 'minor' in another field of study.) Most undergraduates at Camp Cretaceous are in the midst of studying for a four year Bachelor of Science (B.Sc.) degree and have been invited to the project by a professor or lecturer from their own university who is conducting research at the camp.

Students wishing to pursue their degree subject further, sometimes after several years of professional work, go on to study for an M.Sc. (Master's degree), which usually takes a year or two. Little of this is class based, the student will independently research his subject. Further advanced study involves work on a Ph.D. (Doctor of Philosophy) course lasting anything from three to ten years. Again, this is independent study with a final thesis, or summary of the student's findings, this forms the body of work that will qualify him or her for their doctorate. Many PhD students also lecture during their time at a university. Several Camp Cretaceous projects are run by PhD students, who are actively working on a particular thesis or line of investigation. Some of the work is ground-breaking and may involve new theories, or scientific discoveries. The teaching faculty of a university can be broadly divided into lecturers (and senior lecturers) and professors. In most Commonwealth countries, professors are the most senior members of staff and the heads of departments. In the USA, senior lecturers are also known as professors.



VEHICLES

Camp Cretaceous is seriously restricted in the size of vehicles it operates by the maximum diameter of the wormhole. Objects no wider than 2.5m and no longer than 15m, can be safely brought through to the Cretaceous.

The current motor pool at the camp contains the following:

- 2 x Quad ATV with roll cage and trailer
- 2 x Pickup Trucks
- 1 x Microlight Aircraft
- 7 x Four Wheel Drive Utility Vehicles
- 6 x Four Wheel Drive Safari Conversions
- 2 x Dirt-bikes
- 6 x Cargo Trailers for the Four Wheel Drives
- 1 x Four Wheel Loader and Excavator
- 1 x Four Wheel Recovery Truck



CLIMATE

It's a mistake to think that the Age of the Dinosaurs was simply Earth at some point in the distant past but with lots of jungle inhabited by some very large predators. In many ways, a trip back in time to this era resembles an expedition to an alien world. Perhaps nothing typifies this more than the make-up of the atmosphere. In past decades scientists have discovered ancient air bubbles trapped inside ice that provided a sample of air from tens of thousands of years ago. More recently, though, microscopic bubbles of air have been discovered within fossilised tree resin (amber) that has survived from the Cretaceous period. These perfectly preserved bubbles indicate that there was a growing concentration of oxygen in the Cretaceous atmosphere, which rapidly declined to modern levels following the great asteroid impact known as



the K-T Event. The atmosphere of the Earth around 100 million years ago was discovered to have 50% more oxygen than modern air. Cretaceous air was supercharged with oxygen.

This, in part, explains the tremendous size of some dinosaur species - in particular the ungainly flying dinosaurs like pteranodon. The metabolisms of creatures that had evolved to live in such an atmosphere were probably radically different from ours. It also explains the remains of ancient charcoal that are often found associated with fossil remains – forest and grassland fires must have been a common occurrence, any fire started by lightning will have spread rapidly and burned more vigorously than in the 21st century.

A referee wanting to add verisimilitude to his time travel game will want to take this high oxygen content into account. With incendiary levels of oxygen present, *any* fire burns fiercely and is extremely difficult to extinguish. Even a rogue spark from equipment or vehicles can initiate an uncontrolled conflagration. Flames used for cooking require only a trickle of fuel and must be well protected and with such high levels of oxygen, almost anything can catch fire, including clothing and tents. Most clothing and equipment sent through the wormhole is made fire-resistant as much as possible and motors (not only those powering vehicles, but also generators) burn diesel which does not require a spark to initiate combustion. Smoking is prohibited, and both matches and lighters are carefully controlled items. Likewise, lightbulbs must be of the LED type rather than those using electric filaments and only 'flameless' cook boxes are allowed to be used while out in the wilderness. Read about these in the Kit List provided in the Characters chapter.

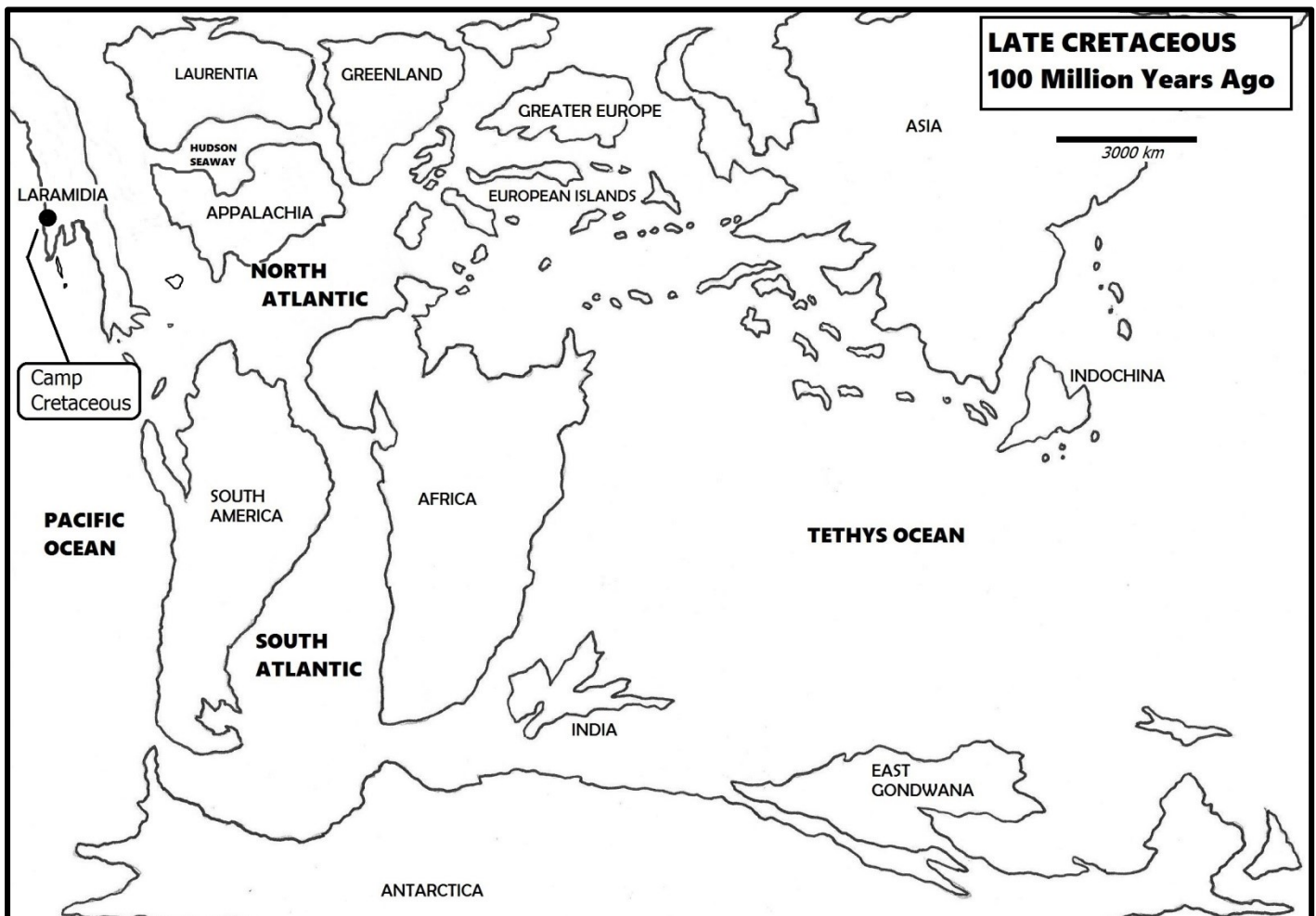
GEOGRAPHY

North America during the Cretaceous period is not a single continent, a sea (called the Western Interior Seaway) cuts the west coast and the Rocky Mountains off from the east. This wide sea connects the Gulf of Mexico in the south with the Arctic Ocean in the north. The easternmost region is known as Appalachia, while the rugged and mountainous



continent of the west is called Laramidia. It is on the west coast of Laramidia that Camp Cretaceous is located.

All of the adventures in this game will take place within 100 km of the camp because all humans are tied to this tiny patch of the 21st century by their over-riding need for food, clean water, power, medicine, safety and security. Transport is limited to four wheel drive vehicles, although the camp does maintain a microlight aircraft for search and rescue as well as animal tracking duties. Larger aircraft, such as helicopters, are too complex to operate in the harsh Cretaceous environment and would require a huge logistical and maintenance chain that the Kubary wormhole just cannot support.



The Expedition Map contains many important geographical features, all of which can serve as viable settings for a Camp Cretaceous adventure.

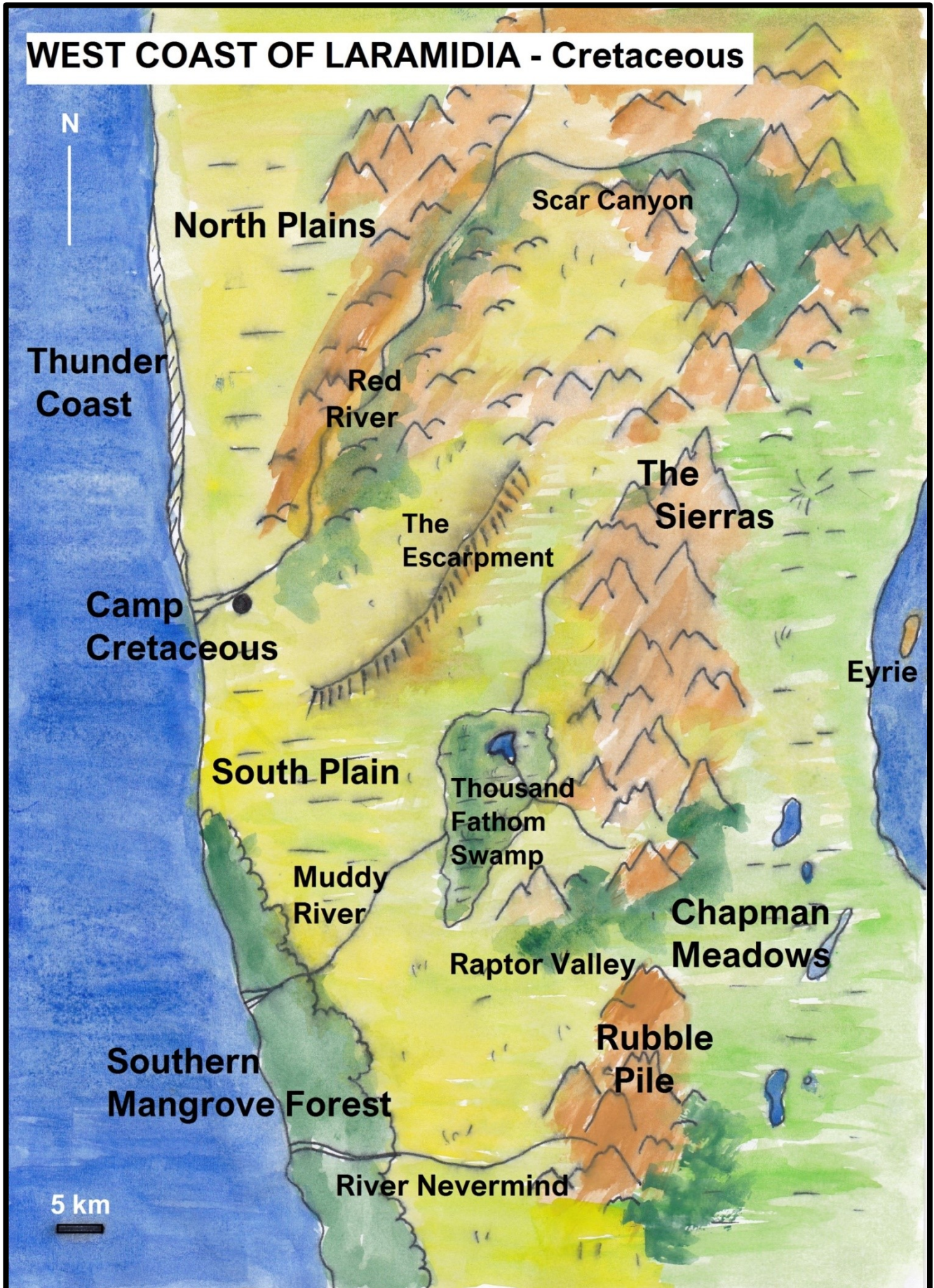
- *Camp Cretaceous* - The Camp sits on raised ground around 5 km from the south bank of the Red River.
- *Carnegie Inlet* – A wide shallow, tropical inlet of the Western Seaway, much like the Gulf of Mexico or Caribbean today. Plesiosaurs, ichthyosaurs and mosasaurs have all been seen here.
- *Chapman Meadows* – A fertile plain of grasses and moss, dotted with thick coniferous groves of monkey puzzles, cypresses and cycads. Small streams and rivers rush down from the Sierra Mountains into the Inlet. The Meadows teem with herbivores of all kinds, they migrate here through Raptor Valley from the north each year.
- *Escarpment* – A steep-sided escarpment, a 30 km-long cliff that in some places reaches 600m in height. It proves an impassable barrier for many herds, forcing them south through Raptor Valley.
- *Eyrie* – A mountainous island in the Inlet, clad in tree ferns and ginkgoes, home to pteranodons. No-one has ever explored Eyrie.
- *North Plain* – A wide plain of mosses and grasses, filled with patches of coniferous forest and stands of magnolia, beech and sassafras. Herbivores like iguanodon, styracosaurus and alamosaurus all graze here, moving south in the winter for the fertile lands of Chapman Meadows.
- *Raptor Valley* – A treacherous and rocky valley filled with pools, vegetation and crumbling crags that represent of one of the few ways in which herbivores can reach their migration lands in Chapman Meadows. As the name suggests, raptors and other predators routinely inhabit the valley and prey on the herds moving through their territory.
- *River, Muddy* – A slow-moving river, winding its way from the mountains to the sea.
- *River, Nevermind* – A river filled with rapids and waterfalls that runs from the Rubble Pile to the sea.
- *River, Red* – An important river that separates the North Plains from the South Plains, it is wide and difficult to cross, forcing herds into a



small number of 'choke points' where crossings are made en masse. In this it resembles the Mara River in Kenya, used by herds of wildebeest and zebra to cross from the Masai Mara onto the plains of the Serengeti. Crocodiles wait at these crossing points, as do vultures, hyenas and jackals, all waiting for the herd to cross. At the Red River, crocodiles also swim lazily, waiting for dinosaurs to mass at the river banks. Other predators include raptor, tyrannosaur, and albertosaurus.

- *Rubble Pile* – A broken and smashed mountain chain, filled with rubble-strewn valleys, dangerous scree slopes and winding precipitous canyons.
- *Scar Canyon* – Scar Canyon is a steep-sided river valley where the stream tumbles over rock outcrops and churns around deep pools. Much of the valley is filled with tree ferns and banks of horsetails that often cut out the sun, filling the valley with shade.
- *Sierra Mountains* – The heart of the Rocky Mountains, these peaks form a long chain running north and south.
- *Skull Island* – A remote and unexplored island covered with magnolia, cycads and ferns. It sits at the centre of the Thousand Fathom Swamp.
- *Southern Forest* – A mangrove forest of swamp cypresses, where tangled tree roots block any movement forwards, and the sea moves in and out with the tides. Lagoons and channels filled with fish often remain, even when the tide drops. Mud-banks are everywhere.
- *South Plain* – The southern part of the North Plain, filled with herbivores that are moving south or north on their migration route.
- *Thousand Fathom Swamp* – A large depression in the landscape to the west of the Sierras is the location of a wide swamp, filled with pools and reed beds, and dotted with islands of willow, cycads and elm tree. Streams from the mountains drain into these muddy wetlands, and to the west, the Muddy River flows from the swamps out to the coast. Few expeditions have been made in to this treacherous landscape.





2

CHARACTERS

There are two ways of running Camp Cretaceous, each one with its own method of creating characters. The first is the default, with children or young adults playing the game and taking the part of teenaged characters (aged between 13 and 17). The second allows players that are adults (a typical roleplaying premise) to play scientists, technicians and camp leaders, etc. If you are playing as a family, then it is easy to mix both character types together!

1 - CREATING HIGH SCHOOL STUDENTS

When roleplaying with children, character creation is usually something to be avoided. You may initially have sold the game on its exciting premise, its freedom of action and its perilous situations. But when the first precious session is filled with nothing more than form-filling, dice rolling and the arbitrary selection of points and labels with very little context, you have killed the game completely. On a couple of occasions I lost a player this way who never showed up for the game the following week.

This game gets character creation over with quickly and it differs from the normal Cepheus Engines procedure.

Characteristics: Set all the characteristics at 5, then allow each player to increase one of them by +2 and increase two other scores by +1.

Skills: Two skills are chosen from the list below. These will all be at level 0, but that terminology will certainly confuse the children and so is best left off.



CHARACTER SKILL LIST

Athletics	Performing difficult physical tasks.
Climbing	Skill in climbing rock faces, trees, etc.
Comms	Using radios and other types of electronic devices.
Computer	Using computers in the wilderness.
Dart Gun	Shooting a tranquilizer gun.
Leadership	Provides a bonus of +1 for team efforts.
Mechanics	This is a general repair skill.
Medicine	Ability to give first aid.
Navigation	Knowledge of maps, compasses and direction finding.
Survival	Wilderness crafts: making fires, tools, camps, etc.
Recon	Scouting out dangers and spotting threats.
Wheeled Vehicle	Driving jeeps.

Kit List: Next hand the players a kit list (see later in this chapter) from which they can select four objects.

Other Details: There is then some consideration of a name and what the character is wearing. Play can now begin.

The process ends up being fast and simple. However, depending on the age or the temperament of the children in your game, you may wish instead to use pregenerated characters.

Pregenerated Characters

Like any good action movie you should hit the ground running, without preamble, long briefing sessions or character creation. One excellent way around this is to use pregenerated characters. Some adult players may hold their nose up at the use of pregen characters, but children, as my experience shows, do not do an awful lot of roleplaying (i.e. playing a 'role'). Invariably they play themselves, only with a cool skill or certain affectation, in part because they will find it difficult, but also due to restrictions of time. See the later chapter on Roleplaying With Children for more on this.



A more important reason for using pregenerated characters is the view of children that another player's character is 'better'. Fairness and equality at the start of the game is paramount, should one player make a few inspired dice rolls during character generation, then another player might deem it as unfair. I have had players sulk through a game, constantly decrying their own character as useless and refusing to participate in any meaningful way. This ruins the experience for you, the other players and of course the child who feels hard done by. If every child thinks their character is as skilled, effective and useful as everyone else, then you start the game with every player on-board. Of course the trick here is to make sure that every character really *is* as skilled, effective and useful as all the rest!

You will find a blank version of the character sheet in this chapter. The referee can fill in the skills and the equipment he wants, adding names, back-stories or anything else that will personalize the characters. Empty sections on the sheet allow the referee to choose a name and add some item of clothing or a belonging that individualises that character. You really don't need to go into any more depth than that. Camp Cretaceous is not really about building in-depth characters, with complex personalities and layers of backstory. The character is simply an avatar, a set of eyes and ears, hands and feet through which the children can experience life within the prehistoric past - try and remember to treat it in that vein.

Allocating Characters

Simply handing out characters randomly to children will not do; a choice should be offered to the players, however limited. Again, this will quash any feelings of unfairness. Describe each character to the players, and then go around the table asking each player which they would like to play, often they may trade, or suggest that one player might like a particular character. This process is usually fairly quick and rarely a problem, particularly since you will have already explained to everyone around the table that all are equal and all are useful and that each one has a crucial role to play in the upcoming adventure.



If you know your players, then you can actually assign the character sheets personally. You might even want to tell the child, as you do so, why you think he or she is suited to that character. This personalisation of the role, explaining to the player how the character is tailored to them, creates a strong bond between character and player. But you need to know a little about the children in your group for this to work.



CAMP CRETACEOUS



Character Name:
Hometown:

Player:
Age (13 -17):

STR	DEX	END	INT	EDU	SOC

SKILLS

Appearance:

GEAR



The Character Sheet

Draw the children's attention to the different sections of the character sheet:

Character Name: Write in the name of your student, it might be the child's middle name or the name of a singer or actor. Don't let players stall the game while deciding. The game can still be played with an unnamed character, everyone will simply refer to he or she by the player's name!

Player: Ask the children to write their own name here.

Hometown: Pick a town in the US or whatever country they are playing in, those struggling to think of something can put in the capital city, or their own town. Keep the session moving at all times, don't let player indecision stop the start of the game.

Age: The children can choose their player's age, any number between 13 and 17. If they really can't decide, let them roll 1D and add 11.

Description: There follows a brief description of the character, read this out to the players while they choose the character they want to play.

Characteristics: The standard six 2D6 characteristics are found in the centre of the sheet, complete with child-friendly logos. Since the children will have quite moderate characteristic values, treat all characteristic modifiers as 0.

Skills: Each student starts the game with two background skills. In Traveller terms these skills are all rated at level 0, although this terminology will definitely confuse the children! The rating is left off for this reason.

Appearance: Ask the children to think of one item of clothing, or some accessory their teenager wears. Disallow anything that wouldn't be suitable, or that was chosen to get laughs or have a shock effect.



Baseball caps, converse sneakers, a bullet belt, camo trousers, a band T-shirt, sunshades, there are lots of options and the idea is to give each character some 'shtick' that differentiates him or her from all the others, and allows all of the players to paint that character in their mind's eye.

Gear: The spaces allocated for gear on the character sheet serve a purpose, they represent the total amount of equipment or number of items that the character can carry at any one time. Each item is considered to be a typical man-portable object, anything from a sleeping bag, torch, binoculars, camera or tarpaulin. Some items may be larger than others, but stick rigidly to the 10 items per character rule if you can. Any more than 5 items will require a rucksack.

When the mission briefing begins, you can hand the player's a KIT LIST from which every player can **select four objects**. At this point they will know where they are going and be able to talk with one another about what equipment they will need to carry out their mission. There should be some active discussion at this time.



2 - CREATING SCIENTISTS

Camp Cretaceous has been designed to be played with children. However, the game is still suitable for adults! They can create grown-up academics that tear around the landscape of Camp Cretaceous in search of new data and that crucial bit of evidence that will prove their pet theory and increase their reputation. These university professors and PhD graduates will be the stars of the game. The Core rules even have a Scientist career which is perfectly suited to the university professors and PhD graduates who are the stars of the game. Create characters in the normal way. Background skills are allocated as per the Core Book, although Homeworld does not apply, instead allow Background skills to be selected only from the Primary Education List.

University

A university education is a must for any character contemplating a career in the sciences. A degree course requires one full term, and should be attended before the character enters the Scientist career.

Entry Task: Edu 8+

DM+1 if Soc 9+

DM+1 if Int 10+

Graduation Task: Int 8+. If 10+ is rolled then the student has graduated with honours.

Graduation Benefits: + 2 Education, in addition select two skills from the list below, one at level 1 and the other at level 2.

Admin, Advocate, Animals (farming or veterinary), Broker, Comms, Computers, Engineer (any), Language (any), Life Sciences, Navigation, Physical Sciences, Social Sciences.



Note that Life Sciences, Social Sciences and Physical Sciences have their own specialisations in Camp Cretaceous than in the Core Book. See below.

Characters failing to graduate still increase their Edu by +1, and are allowed to gain two skills from the list at level 0.

Becoming a Scientist

All characters should be Scientists. There are a couple of alternative occupations, but they are outnumbered by the scientists, these include Physician, Hunter and Technician.

Characters who have just graduated from university gain a +1 for Enlistment, those graduating with honours gain a +2 bonus.

Characters do not Muster Out, roll 1d for the maximum number of Terms served.

Revising the Science skills for Scientists

Use the following Science skill cascade tree when a science skill is gained by the character:

Physical Sciences

- **Astronomy** - Study of stars, planets and celestial objects.
- Chemistry - Study of matter at the molecular, macromolecular and atomic level.
- **Geography*** - Study of the Earth's surface, its form, arrangement and the processes that shape it.
- **Geology*** - Study of the physical structure, substance and processes of planet Earth.
- **Palaeoclimatology*** - Study of climatic conditions in the geologic past, using evidence found in glacial deposits, fossils, and sediments.
- **Palaeoecology*** - Study of fossils, rocks and minerals to reconstruct the ecosystems of the past.



- **Palaeontology*** - Study of life from prehistoric times, as represented by the survival of fossil plants, animals, and other organisms. Trained paleontologists are valued experts at Camp Cretaceous, since they are intimately familiar with the structure and types of plant and animal species, although only from their fossil remains.
- **Physics** - Study of the fundamental scientific forces.

Life Sciences

- **Biology** – Study of broad biological processes, including physiology, molecular biology, biochemistry and microbiology*
- **Botany*** - Study of modern plant life. The skill is of use in the Cretaceous since it helps to fill in the blanks left by the fossil record. It can shed light on prehistoric plants by comparing modern plant life with prehistoric equivalents.
- **Genetics** - Genetics is the study of characteristic transfer from generation to generation, and the variations within plant and animal species of the world. Traits are tracked through species.
- **Zoology*** - Study of modern animal life. The skill is of use in the Cretaceous since it helps to fill in the blanks left by the fossil record. It can shed light on dinosaurs by comparing modern animals with prehistoric equivalents.

Social Sciences

- **Archaeology** – Study of ancient human cultures from their physical remains, buildings and tools.
- **Economics** – Study of the production, distribution, and consumption of commodities and the human behaviour associated with these.
- **History** – Study of the human past through written records, photographs and film.
- **Linguistics** – Study of how human languages are constructed and used, both today and in the past.
- **Philosophy** – Study of the fundamental basis for knowledge, reality, and existence. Chaos theory is philosophy, and much of the



theory for time travel, including the concept of temporal paradox, is also covered by the study of philosophy.

- **Psychology** – Study of mental processes and behaviour of humans, including both individuals and groups. An important field of psychology called animal cognition has great implications for studies in the Cretaceous.

(*) Those skills marked with an asterisk are eminently suited to Camp Cretaceous scientists, characters with these skills will get a chance to use them in the field.

Belongings

Scientists can begin the game with savings amounting to 1D6 x \$3000. Of course all of this is useless in the Cretaceous but it may come into play should the referee extend the scenarios into the modern day environment as well.

When the mission briefing begins, you can hand the players a kit list from which each can **select four objects**. At this point they will know where they are going and be able to talk with one another about what equipment they will need to carry out their mission. There should be some active discussion at this time. The players might decide to pool their options and then select all objects as a group, handing them out to those who need them, and placing those that are left into the back of the team's four-wheel drive.

All scientist characters start the game with:

- Rucksack
- Torch
- Pocket Knife
- 1 litre Water Canteen
- Rain Jacket
- Smart Phone¹
- First Aid Kit²



1. Smart phones are used as cameras, diaries, calendars, hand-held libraries, improvised torches, calculators and many other digital tools. Blue tooth capability allows most smart phones to communicate with one another within several metres, or even control or connect with some computer controlled devices. Without any microwave infrastructure, however, ***they are useless as telephones***, for either voice or text communication.
2. The first aid kit contains essential items: a pressure dressing, a bandage, a shot of morphine, a shot of antihistamine, a pack of bandaids and a strip of water purification tablets. Travelers to the Cretaceous are always trained to use a victim's first aid kit on themselves, rather than dip into their own supply of medicines.



CEPHEUS ENGINE

Equipment

Blank area for equipment details.

Weapons

Name	ROF	Range	Dmg	Type	Recoil	Ammunition	Weight
_____	---	---	---	---	---	_____	---
_____	---	---	---	---	---	_____	---
_____	---	---	---	---	---	_____	---
_____	---	---	---	---	---	_____	---
_____	---	---	---	---	---	_____	---

Money

Cash on Hand

Cash in Account

Pension

Notes

Blank area for notes.



KIT LIST

PERSONAL ITEMS

Bluetooth Speaker: A cylindrical speaker, mounted in shock proof case. It can be used in camp to provide some after-hours entertainment, although scientists and students may find other uses for it. The Bluetooth speaker receives wireless transmissions directly from a smartphone or tablet from a maximum range of 10 metres. \$50. 0.5kg.

Bottles of (Your Favourite) Soda: A shrink-wrapped pack of 4 plastic bottles with screw-top caps, containing your favourite flavour of soda. They are refreshing to drink and make versatile containers when empty. Some enterprising students may find other uses for soda bottles.

Deodorant: Keeping you cool in the Cretaceous. \$5. 0.2kg.

Earphones: These in-ear phones plug into smartphones, tablets, hand radios and even radio trackers. Ideal when absolute silence in the presence of a 9-ton carnivore means the difference between life and death. \$20. Negligible weight.

Sun cream: The danger of sunburn and sunstroke is high, Factor 50 sunscreen is recommended in all Camp safety briefings. \$20. 0.2kg.

CAMPING EQUIPMENT

Cooking Kit: This cooking kit includes mess tins, cups and cutlery for six people. \$150. 3 kg.

Cooking Stove, Flameless: This revolutionary stove comes in the form of a plastic tub with its own metal liner, into which precooked food (ideally a meal from a ration pack) can be placed. A heat block is put underneath the metal tray and water poured on, which activates it. The lid is sealed and the block heats up to thoroughly warm the food – it will be piping hot within 20 minutes. There is no flame and the heat does not penetrate the



plastic box. Ration packs at Camp Cretaceous always include a couple of heat blocks with which to heat the food. \$40. 1kg.

Electric Fence: This portable electric fence is 1m high and 30m long, it is mounted on 15 plastic stakes and can be rolled up and slid into a 1m long carry bag. It comes with a rechargeable power cell that has a duration of 4 days. The charge given off acts as a mild irritant, similar to the stock fences used in agriculture, it will deter small to mid-sized dinosaurs, but larger herbivores and carnivores probably won't even notice it. \$600. 10kg.

First Aid Kit: A small medical kit carried on a pouch that fits onto a rucksack or belt. It contains basic items, bandages, antibiotics, painkillers, eye-wash, antihistamines and sticking plasters. It contains enough supplies for two treatments. \$50. 0.5kg

Floodlight: A portable LED floodlight mounted on a telescopic pole. The pole ends in four legs that can be pegged into the ground. At the base of each light is a rechargeable power cell. The floodlight has power for 8 hours of continuous operation. \$400. 8kg.



Folding Tables and Chairs: A folding camp table and six chairs. Use the table for dining, or as an equipment desk. \$100. 18kg.

Food & Water: A 24-hour ration pack provides a range of meals and snacks for one person for a single day, and includes 1 litre of additional water for cooking and making hot drinks. \$30. 3kg.



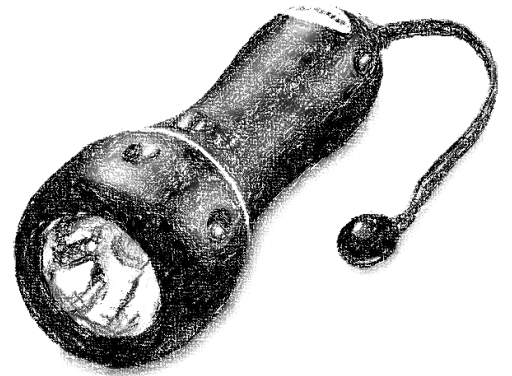
Hammock with Insect Net: Hammocks are the preferred method of sleeping in tropical environments where giant poisonous centipedes roam freely over the damp forest floor. Includes bungee cord and insect net which is suspended over the hammock. \$42. 1kg.

Lantern: Folding lantern for illumination of a camp site. It comes with a 7 hour power cell and has a wire handle for carrying or hanging from a branch or tent pole. \$30. 1.5kg.

LED Flashlight: Powerful LED flashlight, providing illumination out to 50m. It is provided with rechargeable batteries (4 hours of continuous operation) and an impact resistant case. \$100. 1kg.

LED Headlamp: This LED headlamp provides hands-free illumination out to 10m and its rechargeable battery has a life of 4 hours. \$20. 0.5kg.

Portable Generator: A portable power unit can be invaluable in a timeline without electricity. This 7000 watt generator can fit in the back of a four-wheel drive, it provides continuous electricity for 7 hours and includes a charging adaptor for most types of power cell. It runs on diesel, requiring 20 litres for a full tank and has an electric starter. Be warned that the generator is a diesel engine and makes a lot of noise. \$4500. 170kg (with full tank).



Sleeping Bag: A warm and compact sleeping bag. \$35. 1.5kg.

Tarpaulin and Guy Ropes: A 3m² plastic sheet that can be strung up between tree trunks in order to form a shelter. \$50. 1kg.

Tent, 2-man: A dome tent, with integral insect net and steel pegs. Tents are hot, sweaty and stuffy places, and not too popular amongst Camp



Cretaceous staff, who seem to prefer hammocks, strung up in the open. \$150. 2kg.

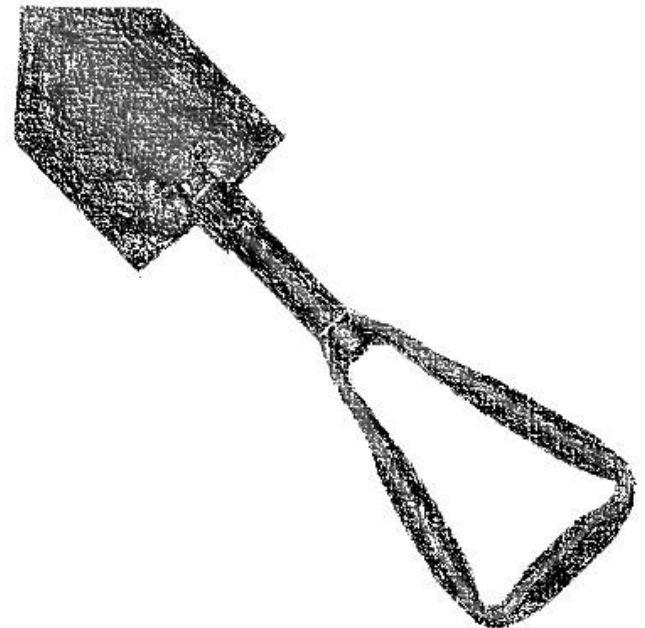
WILDERNESS EQUIPMENT

Binoculars: These 16x50 wide-angle binoculars are popularly used by hunters and wildlife experts. They include an impact resistant outer coating (mild shocks only). \$50. 1kg.

Camouflage Netting: This camouflage netting has a tropical leaf pattern, useful for hiding four-wheel drives, tents, equipment ... or traps. It is 4m x 4m in size. \$50. 2kg.

Climbing Kit: This kit includes two 50m ropes used for climbing or rappelling; it also comes with harnesses, helmets and sets of gloves for four people. The kit fits into a waterproof rucksack (included). \$450. 7kg.

Fishing and Snare Kit: Contains various fishing lines, hooks, floats and weights as well as several wire snares, all packed into a small pouch. \$10. 0.2kg.



Folding Spade: A folding military shovel, that packs down to the size of a baseball glove and fits into a snug protective case. One edge of the blade is serrated, allowing it to be used as a crude saw. This is an extremely useful piece of equipment. \$30. 1.5kg.

Hand-Radio: Four hand radios, complete with a charging unit. Each radio comes with a belt clip and has range of up to 8km (although this varies with terrain; roll for signal range on 1d6 + 2 km, when two people try to radio one another). Includes a vibrate feature when the sound of an



incoming message might cause alarm. The radios can be used on and off for 24 hours before requiring a recharge. \$200. 4 x 0.5kg.

Light-Intensifying Goggles: Permits the user to see normally in the darkest situations by magnifying ambient light. \$500. 1kg.

Machete: A blade used to chop wood out in the wilderness, it resembles a short, slightly curved sword with a singled sharp edge. The machete is carried in a scabbard. \$30. 1kg.

Rope Ladder: A 5m rope ladder fitted with wooden rungs and two metal hooks at the top. \$20. 2kg.

Signaling Mirror: A small survival mirror that can be used to attract the attention of distant rescuers. \$10. Negligible weight.

Smoke Canisters: Scientists wanted a smoke grenade that would scare away predators or provide cover while they made their escape. US Army M18 smoke grenades were not suitable since they often caused fires when thrown into dry vegetation. Instead a low-heat smoke canister was created specifically for Camp Cretaceous. It can be thrown 30 metres and typically produces an expanding cloud of white smoke that is initially 5m wide, growing and spreading downwind 5m each round. After six rounds the canister stops producing smoke. \$20. 0.5kg.

Solar Charger: A charging station with fold-out solar panel petals that is able to charge a variety of electrical items simultaneously. \$160. 2.5kg.

Tear Gas Canister: Functioning much like a smoke canister (above), the tear gas canister releases a cloud of chlorobenzylidene malononitrile (CS) which is normally used in riot control. The gas causes an overwhelming burning sensation in eyes, nose and throat, with coughing, difficulty in breathing and disorientation. Humans instinctively escape a cloud of tear gas; scientists have discovered that some species of dinosaurs react in a similar fashion, with varying degrees of intensity. Characters will have to



experiment with the canisters to determine their usefulness. Tear gas is treated as a poison, see TMB p.74.

Poison	DM	Damage
CS 'Tear' Gas	0	Forced to flee the area for 1d6 rounds

Canisters come in bandoliers of four, and are supplied with a single gas mask. \$150. 2kg (+ 1kg gas mask).

Trauma Kit: A comprehensive medical bag, used by a paramedic or doctor to deal with serious injuries. The immediate responder trauma and first aid backpack is a complete system. The kit was originally designed for company safety personnel, first aid departments, disaster preparation and emergency response teams that would need to get to injured people and provide care on the scene. The high-vis, red backpack is organized into separate sections covering everything from burns to fractures, anaphylaxis to choking injuries and many others. Contains enough supplies for six treatments. \$350. 6kg.

SCIENTIFIC EQUIPMENT

Bait Box: A basic battery-powered chiller box used to keep bait that might be used to reward or entice dinosaurs. Such bait often takes the form of fresh eggs, small lizards and mammals, and chunks of dinosaur flesh. \$30. 3kg (includes 6 'servings').

Capture Net, Small: A tough net, 4 sq. metres in size, used to catch small animals. It has other uses, too. \$50. 2kg.

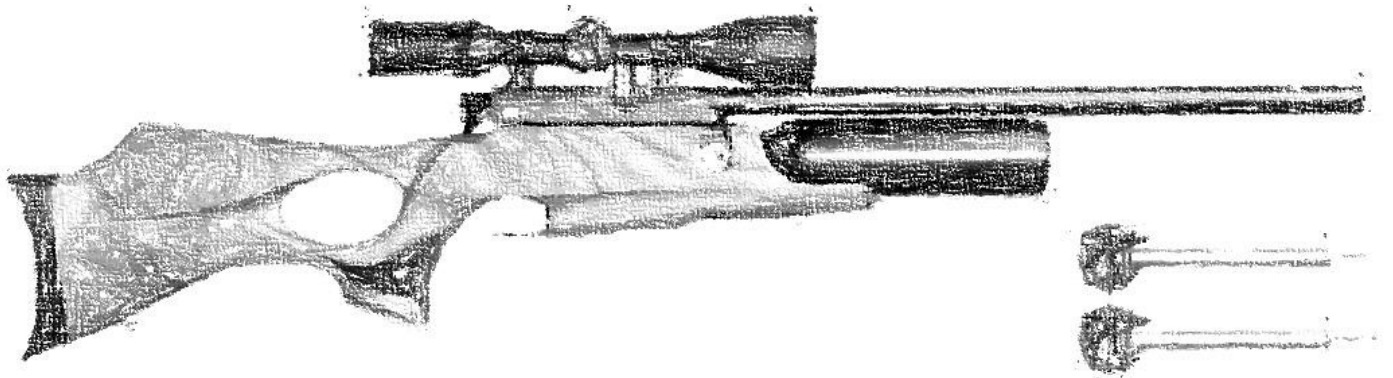
Capture Net, Large: A tough net, 8 sq. metres in size, used to catch small animals. It has other uses, too. \$120. 4kg.

Dart Gun: The dart gun resembles a modern sports rifle, but instead of firing bullets, the dart gun propels dart syringes out to a range of 80m with some accuracy. Each dart is loaded into the rear of the weapon (the



breech) prior to firing and discharges with a barely audible 'click'. The dart gun comes with a zippered rifle case and is fitted with a telescopic sight as standard. A companion shoulder bag is filled with a three spare CO2 cartridges, a dozen syringes, a dozen needles and a set of tools for filling and assembling the darts. Various animal anesthetics are packed into a separate compartment within the bag.

Weapon	Range	Dmg	Auto	Recoil	Mass	Magazine	Cost	Ammo Bag Cost
Dart Gun	Ranged (Rifle)	Special	No	0	3.5kg	1	\$1900	\$200



Assume that the user shoots at an unarmoured location on the target dinosaur and that if he or she hits, the dart will penetrate. The CO2 canister typically has enough pressure to power 6 shots, but in tense situations things don't always go as planned. After a new canister has been fitted the first shot always works, but on subsequent shots the referee should roll 1d6 and note that on a '1' the canister has suddenly lost all of its pressure. Dart guns in Real Life are more reliable than this ... but in Camp Cretaceous running out of 'ammo' is just another opportunity for terror and tension. \$2000. 3.5kg. (+ 1kg bag).

Dinosaur Weight Pad: Originally developed in Germany to determine the pressure produced by an elephant's foot, these re-engineered weighing pads have been used successfully at Camp Cretaceous (though you need a little luck to get a dinosaur to stand on one of the things!). \$200. 4kg



Drone: Sophisticated VTOL drone with swivel-mounted HD digital camera. Requires at least 30 minutes of training to be able to be used effectively. The hand-held controller is included in the price. Maximum duration of a flight is 20 minutes, maximum distance from the controller is 600m. The drone requires 5 hours to be fully recharged. \$6000. 4.2kg.

Dye Pellets: When a specific dinosaur within a herd needs to be monitored, it is helpful to 'tag' it with a dye that everyone can see and identify. Dye pellets come in a variety of colours and are shot from the Dart Gun, a piece of equipment found elsewhere in this Kit List. The colours are faintly fluorescent at night, allowing scientists to keep track of the animal in the dark. Dye pellets come in boxes of 20. \$10. 0.5kg.



Inertial Navigation System: The Cretaceous has no satellite technology and no GPS. INS stands in, however. The Inertial Navigation System is a hand-held unit which uses in-built accelerometers to accurately track its own movement. When laid over an onboard map of the area, the user can plot his own location. It is not as reliable as GPS. Maps are input from Camp Cretaceous, several have been drawn up of the surrounding area. \$1000. 1.5kg.

Motion Sensor Kit: This kit is composed of four motion sensors mounted on 1m telescopic poles. Should anything move in front of one of the sensors (out to a range of 5m) it sends a signal to a belt-mounted alarm. Each sensor produces a different tone, alerting a scientist to the direction of movement. Motion sensors are ideal for providing security around a wilderness camp site. \$40. 3kg.

Net Gun: This bulky gun is designed to launch small capture nets out to a range of 10m and is used to capture small, moving creatures. The net takes around 5 minutes to repack into its launch canister. It comes with 4 pre-packed net canisters. When firing the gun using the combat rules in the Core Book, however ignore the (-1) penalty for a target that is dodging. \$900. 6kg. (loaded)

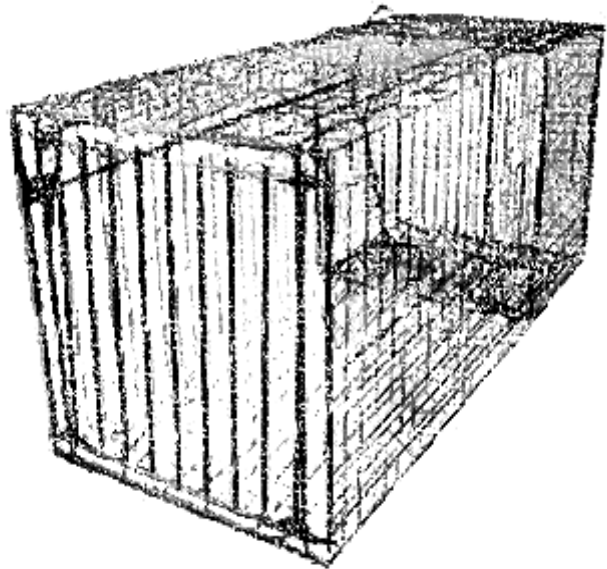


Weapon	Range	Dmg	ROF	Recoil	Mass	Magazine	Cost	Ammo Cost
Net Gun	Ranged (Pistol)	Special	1	Yes	6kg	1	\$900	\$50

Tablet Computer. A touchscreen mobile computer, with inbuilt camera and a host of digital information features. Wifi data connection is only available at the Camp Cretaceous site. The tablet has an 8 hour charge and is protected by a rugged, shock-proof case. \$650. 0.5kg.

Trap Cage (Small): A small metal cage for trapping and transporting very small dinosaurs. This cage is a cube, 1 metre across, that collapses down for ease of transport. When assembled it will slide easily into the back of a four-wheel drive. \$50. 4kg.

Trap Cage (Medium): A large metal cage for trapping and transporting small dinosaurs. This cage is a cuboid, 1.5m wide, 2m tall and 2m long that collapses down for ease of transport. When assembled it will slide easily onto the back of a pick-up truck, although metal ramps and the truck's own winch will be needed to get the caged dinosaur onto the back of the vehicle. \$300. 40kg (+15kg ramps).



VHF Subdermal Transmitter. A tiny radio beacon no bigger than a thumbnail that can be inserted under the skin of a passive or subdued dinosaur, it enables a scientist to track the movements of the animal using a VHF receiver. Comes with a single-use hyposyringe for administering the implant. Range is up to 10km and the battery will last for around 100 days. \$120. Negligible weight.



VHF Collar: A radio collar that can be fastened around the neck of some smaller dinosaurs, enabling a scientist to track the movements of the animal using a VHF receiver. Range is up to 40km and the battery will last for around 3 years. Tracking the movements of dinosaurs is done manually, by searching for signals on specific radio transmitter frequencies using a receiver and a Yagi antenna. See also the VHF Subdermal Transmitter. \$450. 0.5kg

VHF Receiver: A belt mounted unit that processes the VHF signals from subdermal transmitters or radio collars. Users can switch between different frequencies in order to track a specific animal. It records all signals digitally, for later analysis of range and distance, and is able to detect whether the host dinosaur is dead, and how long ago it died. A hand-held Yagi antenna must be plugged into the unit, although this antenna can be clipped onto the roof of any vehicle if the scientist is travelling in a four-wheel drive. The antenna is fitted with a pistol grip for comfort and folds up into a waterproof case when not needed. \$900. 2kg (+2kg antenna).

Video Camera: A professional high definition video camera with a 50x zoom lens. It is capable of night-vision work and includes an in-built motion sensor that triggers the camera when a creature moves within 10m of the lens. The integral power cell lasts for 5 hours before requiring a recharge. A folding tripod is included. \$2000. 2.5kg (+ 1kg tripod).

TRANQUILIZER DARTS – THE STRAIGHT DOPE

What the heck is in a tranquilizer dart, or put another way, how do you knock out a T-Rex? Today drugs called opioids are often used to bring down large mammals in Africa, in particular, an agent called etorphine (or M99), which is 10,000 times as powerful as morphine. Fentanyl, carfentanyl, and thiafentanyl are also sometimes used, but etorphine can be reversed with an antidote (usually naltrexone). Of course opioids are seriously lethal to humans in even the tiniest dose. The drug chosen as the tranquilizing agent is often mixed with other drugs to create some additional effect; hyaluronidase, for example breaks down collagen in the thick skins of rhinos and elephants, allowing the knock-out drug to enter



the bloodstream more effectively. For carnivores, it is common to use ketamine along with a sedative like midazolam or diazepam. These cannot be reversed, though, so carnivore sedation can often last a long time, leading to long, dull periods in the field waiting for that lion or hyena to wake up and get on its way.

What do you use to tranquilize an elephant, the largest land animal on Earth at the moment? Adult African elephants have been rendered unconscious in the wild using azaperone and etorphine in combination, administered from a dart gun. The drug takes between 5 and 30 minutes to take effect and renders the elephant unconscious for up to an hour (varying with dosage and size of animal etc.). Some elephants have died during sedation, a few have suffered fractures or nerve damage and a number have exhibited 'pink foam syndrome', caused by capillary bleeding which causes pink froth to come from the trunk. Similar problems may be experienced during the sedation of dinosaurs.

While drugs like etorphine, azaperone and ketamine may work on the small and medium-sized dinosaurs (a triceratops, after all, is around the size of an African elephant), the large carnivorous theropods and the even larger sauropods, like alamosaurus, are many times larger. Michael Crichton, in his novel *The Lost World*, suggested the use of venom from the modern sea-going cone snail. This venom, containing conotoxin, is a potent natural anesthetic that is deadly to humans, causing muscle paralysis and asphyxiation. Conotoxin may be used by scientists at Camp Cretaceous in order to subdue these huge dinosaurs. Perhaps the toxin could be mixed with hyaluronidase to break through the tough collagen that is known to make up dinosaur skin. The sheer mass of the animal would suggest that the conotoxin, however efficient, would require time to act. The rules provided for tranquilizers (below) assume that conotoxin is the main anesthetic, that it is many times stronger than azaperone or etorphine, but that the dosage will still have to be carefully calculated, and mixed with other agents from time to time.



Effectiveness of Darts

Anaesthetics present in the knock out darts are poisons and follow the rules in the Core Book. A target, once hit by a dart, must make an Endurance roll.

- If unsuccessful, then it is rendered unconscious 8 minutes later (minus the amount the task roll was missed by). Referees might want to extend this time by adding on the dinosaur's armour point protection. An Exceptional Failure (missing the task roll by 6 or more points) results in an Exceptional Effect.
- If successful, then the dinosaur is still awake, although still affected by the large amount of anesthetic in its system. Lower the creature's Endurance by the amount listed, which may lower its immunity to further doses and lowers its overall stamina.

<i>Poison</i>	<i>DM</i>	<i>End Failed</i>	<i>Roll Succeeded</i>	<i>End Roll</i>	<i>Exceptional Effect</i>
M20 Ketamine	-3	Knock Out	-1 End		3D6 damage
M99 Etomorphine	-1D6	Knock Out	-1 End		4D6 damage
M128 Conotoxin	-2D6	Knock Out	-1d6 End		Death

Example: Lucas fires a dart filled with conotoxin into a T-Rex, which has Armour 4, Str 28, Dex 5 and End 28 (providing a characteristic modifier of +7). The T-Rex must make an Endurance roll, adding his +7 bonus, but subtracting the 2D6 penalty (we roll a '7') provided by the conotoxin. That makes it a straight 8+ roll for the T-Rex and the referee rolls a 6: a roll failed by 2 points. The referee might let the toxin work immediately as the needs of the plot dictate, but following the additional rules above he would add the armour value (4) to the default knock out time of 8 minutes, then subtract the amount the T-Rex missed the roll by (2). Using this method the dinosaur drops to the ground 10 minutes later



after a great deal of staggering around and attempts to find a place of safe retreat.

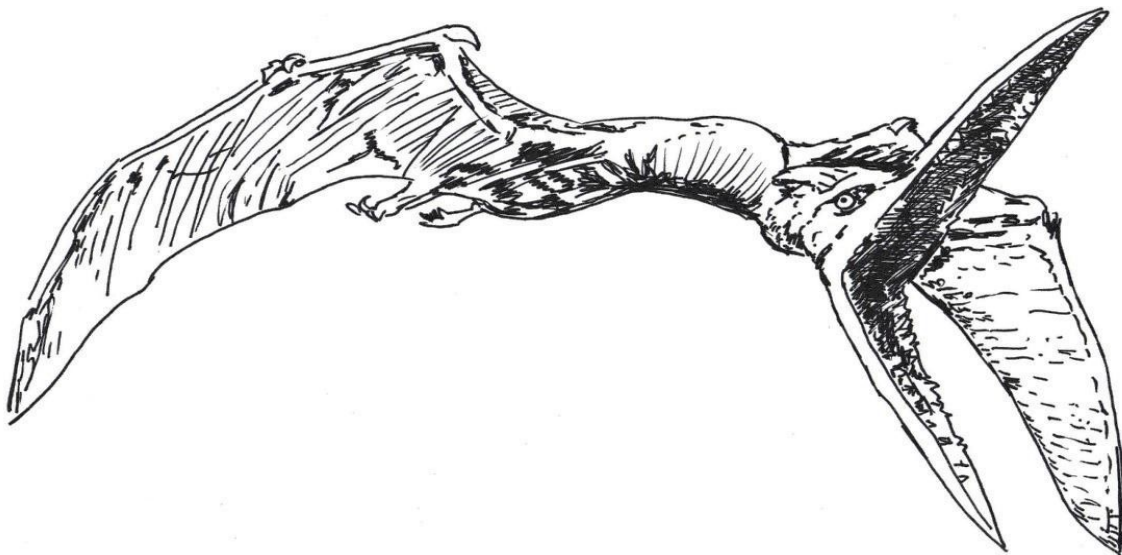
Problems to consider: Will the dinosaur feel the dart hit? What will the characters do if it runs away before the drug takes effect. What happens if a scavenger turns up to eat the sleeping dinosaur?



3

TASK RESOLUTION

Roleplaying is essentially a conversation and turning that into an easily understood sequence of events in the Camp Cretaceous world requires the use of action 'rounds'. A round is basically one pass around the players, with each participant explaining their action for the next ten seconds or so. As a rule of thumb, each action round will equate to **ten seconds** in the game. Use these action rounds when needed, as events and incidents come fast and furious, and where people are and what they are doing, is crucial to the outcome of a situation.



CHARACTERISTIC ROLLS

In Cepheus Engine and other 2D6-based SF games, a roll that focusses on Strength, Intelligence or some other characteristic is conducted using the task resolution system, rolling 8+ and adding a modifier based on the characteristic. However, running a session with children is probably best without these modifiers (which are an extra 'tier' of numbers). Instead characteristic rolls can be conducted simply by rolling 2D6. Success is



achieved if the result is ***equal or less than*** the player character's characteristic score. Examples:

- *To lift a fallen branch:* Strength
- *To balance on the edge of a cliff:* Dexterity
- *To ignore pain from a wound:* Endurance
- *To roughly calculate the weight of a styracosaur:* Intelligence
- *To remember a fact about a dinosaur species:* Education
- *To convince a professor of your idea:* Social Standing

WOUNDS AND INJURIES

In the Cepheus Engine implementation of the Traveller rules, damage to characters is treated in the following manner:

Each weapon lists the damage it inflicts as a number of D6. Add the Effect of the attack roll to this damage. The first time a character takes damage, it is applied to the target's Endurance. If a target is reduced to Endurance 0, then further damage is subtracted from the target's Strength or Dexterity (of the character's choice). If either Strength or Dexterity is reduced to 0, the character is unconscious and any further damage is subtracted from the remaining physical characteristic. If all three physical characteristics are reduced to 0, the character is killed. Once a character has taken damage, any damage from subsequent attacks is allocated to any of the three physical characteristics as the character so chooses.

Characteristic Damage	Result
At least 1 characteristic is damaged	Character is wounded
All 3 characteristics are damaged	Character is seriously wounded
2 characteristics are at Zero	Character is unconscious
3 characteristics are at Zero	Character is dead

New Rule - Stun and Shock: When a characteristic is reduced to zero, the character will be knocked down and stunned for 1D6 rounds.



RUNNING AND CHASING

Characters might chase a small dinosaur, or might themselves be chased by a creature! For a short chase, using a burst of speed used to evade a pursuer or to dodge into cover, the character must make a Dexterity roll (roll Dexterity or less on 2D6). Add a DM to Dexterity based on the Move rating of the dinosaur involved: Slow (+4), Medium (+2) or Fast (0).

Long chases, where the character is not simply evading or dodging, involve a **'best of three'** series of rolls.

Example: Lucas climbs out of a four wheel drive that a styracosaur (Move = Medium+2) has just charged and tipped over. Now it turns on Lucas, he spots a ginkgo tree 30m away and sprints for it hoping to climb out of the dinosaur's reach (and sight). He must roll his Dexterity (which is 7) three times to beat $7 (+2) = 9$ and win two of those rolls. He rolls $4+2 = 6$ (win!), $5+5 = 10$ (lose!) and $6+4 = 10$ (lose!) and wins only one of the rolls. He has failed to outrun the styracosaur. The referee does not have the dinosaur pound Lucas into the ground, instead he rules that the boy trips, falls, crawls under a bush then is forced to race back to the upturned vehicle, clambering up on top out of the dinosaur's reach.

HANDLING FIGHTS AND ANIMAL ATTACKS

All combat takes place in 6 second 'rounds' and if playing with children, should be considered practically simultaneous. Hand-to-hand combat goes first, followed by gunfire, and lastly, movement. Characters can walk 10m or run 30m per round (half that if also trying to perform some kind of action). If two characters shoot at each other and hit, they are both wounded and fall over. This improves the speed of combat or action sequences where the potential for children to get bored is very real.



Animal Attacks

Inevitably dinosaurs will occasionally want to eat or harm the player characters, though this should not be a major part of the game. There should always be a rationale behind the attack. Is the dinosaur hungry and after food? Is it scared and trying to drive away the characters? Or is it protecting its young, perhaps, or a nest site?

Dinosaurs are rated with a Move score, either Slow (+4), Medium (+2) or Fast (+0) and these ratings are used to determine not just how easily it is to run away from one of these animals, but also how easy it is to evade one of their attacks.

Here are four sample dinosaurs:

- Bambiraptor: *Fast (0), Damage 1D6-1*
- Tyrannosaurus Rex: *Fast (0), Damage 4D6+2*
- Pachycephalosaur: *Fast (0) Damage 2D6+2*
- Ankylosaur: *Slow (+4), Damage 3D6+2*

There is no skill for 'evade a dinosaur attack'.

The character must **roll 8+ to avoid being hit** by the dinosaur's main weapon, whether it is its tail club, claws or teeth. Add in the Move bonus provided by the animal itself to the dice result. If successful, the character evaded the jaws/claws/tail of the dinosaur and must try to flee (or complete whatever task her or she was trying to accomplish!). If unsuccessful, the character is badly injured and suffers damage inflicted by the dinosaur.

Example: Nico and his friends have cornered an ankylosaur at the base of a cliff, but their last tranquiliser dart failed to hit the beast and it is lodged in a nearby bush. Nico bravely volunteers to retrieve it in order to give the team another chance at knocking out the ankylosaur so that it can be tagged. Nico runs forward to grab the dart, but the ankylosaur is spooked and makes a fake charge, at the last minute bringing around its formidable tail club. Nico is in trouble. He must roll 8+, but the



ankylosaur is slow and Nico gains a +4 bonus on his dice. He needs 4+ to win this round. Nico makes his roll, but the dice are against him, he rolls 1+2 = 3 and suffers 6 points of damage from the creature's tail strike. His Endurance goes from 6 to 0 and he is wounded. The ankylosaur backs off and waits, groaning and whooshing like a cathedral pipe organ, while the other characters debate the merits of sending someone in after Nico who is now out of action for two full rounds.



4

ROLEPLAYING WITH CHILDREN

Running a roleplaying game for children can be a fantastic and immensely rewarding experience. In an age of non-stop online activity, glass screens and 24 hour TV, where thinking is not particularly required but the ability to 'consume' media is – the roleplaying game format is a refreshing and instantly appealing format. What amazes me every time I run a game for children is how absorbed they are. I always expect a hard sell, but pretty much as soon as the game begins, almost without exception, they are keen, excited and involved.

WHO AM I?

I am an author, writing history books for adults in the United Kingdom, but for the past 17 years I have also worked as a classroom assistant in local primary schools. My work there varies, for several years I was working one-to-one with a couple of boys with autism, at other times I was there to help a boy manage his anger, more recently I have been assigned to a class, and a couple of times each month I take the class of 30 children for the day. The school uses me in other ways; since I have a vast collection of fantasy 'stuff' and masses of re-enactment gear, I am asked to 'be a pirate' for year 1, 'give an eyewitness account of the Great Fire of London' for year 4, 'set up a Roman military camp on the playing field and give talks on life in the army' for year 5, and so on. I am the unofficial history guy, and get to visit all the classrooms, re-enacting, telling stories (without a book or course, it has to be from memory if it has to have an impact!) and even running archaeology afternoons.



Soon after starting the job, I began running an after school club called 'Problem Solving'. It was a roleplaying club aimed at year 5 and 6's (these are, in the UK, our 10 and 11 year olds). I decided that the term 'roleplaying' was not understood enough, likewise, although I could have called it a 'Dungeons & Dragons' club, I wasn't intending to run much fantasy. And 'problem solving' was at the heart of what I wanted my RPG sessions to be about, this is a primary school, so slaying hoards or goblins, rescuing hostages in a special ops raid or other such violent situations was not on the cards. And parents were much more likely to sign the waiver for a Problem Solving Club than a D&D Club, after all...

Before I discuss the ways in which I set up and ran these games, what the positive experiences were, and the negatives, I need to briefly explain that in 2000 my wife and I adopted a 5 year old boy and a few years later we adopted a second. As soon as was feasible, I began roleplaying with these too. It began with 'interactive' bedtime stories, where they chose the outcomes but soon extended to simple wargames using toy soldiers, until eventually (when they were teenagers) we were playing cyberpunk roleplaying games, Basic Dungeons & Dragons, Classic Traveller (lots of Traveller) and even Call of Cthulhu. Interestingly, one of those early games (circa 2001) was 'Dinosaur Safari' a couple of paragraphs of rules using a D6 that was used in conjunction with my son's plastic dinosaur collection, a few toy jeeps and some 1/72 scale plastic soldiers – a precursor to Camp Cretaceous!

I mention all of this to help set the stage, I am not theorizing or suggesting how best to roleplay with children. I have done a lot of it over the past 15 years, in all genres and with many age groups.



RECRUITMENT

If you are wanting to roleplay with your own children, then you already have a group! For anyone else, caution is required. I know my limits; I wanted to run a group of six players – MAX. I knew that the school clubs only ran for one hour a week, which was super-short compared to the 3-4 hour games I ran with my friends back home, so I needed small groups with a tight focus and no extraneous clutter. I also needed children who were going to be on task, in essence this meant that behaviour had to be a non-issue. Tantrums, arguments, silly behaviour and time wasting would wreck a session and put everyone else off. To counter this, I used a couple of strategies. First I talked to the year 6 teachers, explaining my idea and asking for suggested names. I explained that the children I was looking for would be able to share a conversation, would be interested in challenges and problems, and were able to use their imaginations. Of course I need to know that the children were 'reliable', i.e. that they would generally behave and would also turn up if they said they would. I couldn't throw the game open to all, however unfair this may seem. I had only six vacancies, and I might get up to 60 replies! I met with six children from year 6 and tried to 'sell' the game to them, before handing out copies of the school's form letters for joining after-school clubs. If I didn't receive six replies, then I went into year 5 and repeated the process. My aim was to get six solid candidates for the club, with signatures from parents.

One teacher did ask what night the club was going to be on, and when I told her, she asked me to change it. 'You will clash with the orchestra practice' she said, 'and most of the children you want will also be taking part in that. Generally, only a certain group of children attend these clubs, so you are competing with the drama, music, singing, craft and football clubs!' I took her advice and chose a day that did not clash.

I have in the past run sessions for children without unblemished records of good behaviour. In fact I ran them with the express purposes of addressing this behaviour, but the group consisted of three children at its



maximum, and the game was of a specialised nature that has little bearing on the discussion here.



As a final point, I do try and recruit the 'quiet ones', the boys and girls who are imaginative and who love creative writing, but aren't particularly outgoing, you know, the shy ones – like I was when I was at primary school. The roleplaying game is perfect for these kids, a safe place for them to unleash their imagination and intelligence, where conversation is structured enough so that everyone is listened to and every idea is a good one.



CHOOSING YOUR RULES

So we have six children and an hour. What next? Well, with those two basic criteria you can cross off nearly every published roleplaying game out there: Dungeons & Dragons, Traveller, Fantasy Flight's Star Wars, Pathfinder, D6, Savage Worlds, GURPS etc. Character generation rules alone would require two full one-hour sessions to explain and work through, and the rules for damage, movement, actions, magic and combat would slow the game down enough that an adventure would never be completed within the one-hour time slot.

It *is* possible to simplify these games to suit our purposes but you have to know what you are doing, and it takes quite a bit of work. Some games, like GURPS, do produce 'Lite' versions of their rules which helps a lot, and by using pregenerated characters, the referee can effectively 'skip' the character creation step and move straight into the story. Still, using an established RPG with all of that baggage, rules and documentation is a struggle when you are dealing with ten year-olds for such short sessions. Personally, I would recommend holding off on these published games until the players are teenagers. I did run Call of Cthulhu sessions with my sons and wife a few years later, the skill rolls and action rules are very slick in that game, and I presented each player with a pregenerated character tailor-made to their personality and preferences. Later we embraced the character creation rules of Basic D&D and Classic Traveller – but not before years of sessions using pregenerated characters. Camp Cretaceous utilises the Classic SF 2D6 rules of Traveller, but as you may already have read, it adapts some of those rules for children (abandoning modifiers and simplifying character creation, etc).

My preference is for tailor-made RPGs - simple systems driven by one or two six-sided dice. I have designed scores of these games over the years and feel quite comfortable in doing so, but for those who aren't so confident, there are hundreds of free games on the web. In essence, Camp Cretaceous was one of these fast-play 'Lite' roleplaying games, suitable for improvised games and roleplaying with children. I recommend



readers check out Chris Garrison's helpful 'Compendium of Free Role Playing Games' at <https://sillyhatbooks.com/about/games/>

Even these great games may be more than you need, however. I've found that children only need something that is both 'fair' and 'fast' and that is it. Combined with the fact that you are essentially **not** running a roleplaying game in a world that has to attend to every eventuality, but to a single short scenario set within a tight focus and setting, then you need only a few rules at your disposal. I always create rules in combination with the setting. The rules always use one or two D6 and only ever involve addition or subtraction involving digits up to 9. I am teaching problem solving, not mathematics! Because you are the adult, and they are children, what you say carries a lot of weight, you could, actually, adjudicate much of the game simply by saying what the outcome of actions and decisions will be, without recourse to dice, and the children will rarely question your decisions. Yet. Dice add that unpredictability (for you as well as them) and show the children that you are impartial. 'The Dice Decide'. Lengthy calculations and sophisticated rules modelling of realistic situations are unnecessary and unwanted. Dice are for drama only.

MIXING RULES WITH SETTING

So where will the game be set? Who will the characters be? What will they do? Even more than the type of children you recruit, or which set of rules you use, the setting for the game is by far the most crucial aspect of any RPG involving children. A good choice will pave the way for a brilliant series of sessions, a bad choice can end in tears (I know, I had tears in one of my games).

Here some of the premises I've used in the past:

- Children stranded on Mars
- Fantasy heroes
- Teenage secret agents in London
- Ice Age hunters on a quest



- Heroes in an ancient desert
- Pirates search for gold
- Children studying dinosaurs in the Cretaceous
- Ancient Greek heroes fighting King Minos
- Knights of Camelot
- Lost Roman soldiers in a forest
- Archaeologists in Egypt

The two key lessons I learned in selecting a setting and a premise was: 1) not to allow weapons and 2) not to allow total freedom. Let me explain.

I had to put a stop to three different games over the years, all due to the use of unacceptable (in my mind) violence. The first was during a game set in some ancient desert, and the players were two troubled 10 year-olds, playing the part of wandering warriors. I threw a random encounter at them, an old man riding a camel, hoping they would ask him about their quest for a mysterious desert ruin. 'I try and kill him' said one boy. I asked why. 'He might be dangerous. I go up and chop his head off' Well, I quickly had the old man turn and ride off, but his friend simply declared, 'I've got a bow, haven't I? I shoot him with an arrow'. I asked the boys about their decisions after I had (abruptly) brought the game to an end and they both seemed to shrug it off, 'we wanted to use our weapons' they said. I should have learned my lesson in later years, but the allure of classic RPG tropes blinded me to that simple, honest, comment.

I had one group take the part of pirates on a Caribbean island trying to locate a map in the harbour town, before setting off to an island full on monsters, dinosaurs and treasure (in truth it was the D&D Expert module X1, The Isle of Dread). Quite quickly they were trying to kill people in the town left right and centre who they did not like or got on their nerves. I abandoned the game after that day's session and came up with the concept of Camp Cretaceous for the week after.

The third game I had to cut short was by far the worst. The players were Arthurian knights, and we spent half of the first session coming up with



names and drawing heraldic emblems on our shields (an idea I had borrowed from Chaosium's Pendragon). The rest of the session involved the knights visiting a lord in his castle, but it was abandoned. They found the lord sleeping in his chamber alone, and one of the boys declared he was going to use his sword to kill him. The other boy started ransacking the room. I immediately stopped the game, and realised that either I had chosen the wrong players, or more likely the wrong genre. One of the other players, a 10 year-old girl burst into tears over the premature end of the game.

After that I rigidly enforced the no-weapons-to-be-used-against-humans rule. Weaponry still turned up in my games, such as the stun guns used to immobilise cyborgs in modern-day London, or the swords and axes in the fantasy game used to fight an evil wizard and his army of walking trees and skeletons, or even the shortswords carried by Roman soldiers lost in a haunted forest. Like George Lucas in the Star Wars prequels, if I had to have weaponry kicking around, I made sure that the bad guys (or even the incidentals) weren't human, but instead robots, skeletons and so forth.

But generally, I left guns and sharp blades out of my games from then on. Now I began to think of situations and settings that did not rely on armed characters to solve the problems and kick down the doors. Let the children play children, or at most teenagers that were a few years older than themselves.

The most successful setting, unsurprisingly, was Camp Cretaceous, where children study dinosaurs in prehistory. It had everything: peril, danger, problem solving, cool dinosaurs, isolation, independence, and a 'no-harming the monsters' policy. There were two other settings that ended up becoming the basis for a series of long-running and successful games. The first was an Ice Age hunter game. I incorporated craft activities into this game: we created cave paintings of bison and horses, we painted around our hands – Cave Art style – we made rattles using forked twigs, seashells and bird's feathers. It became immersive and the players were amazingly mature and imaginative, really running with the story and



getting involved ... getting into character. This was by far the most successful children's RPG I have ever run, and the work I did on the game (even creating a rules system that used two different coloured sets of beach-stones drawn out of a bag) led me to reconstruct more Ice Age artefacts at home, leading me eventually into full-blown Iron Age and Roman re-enactment.

The other memorable setting involved stranding children on Mars. The concept ran as follows: their parents had been part of a colony expedition and had sent for their children once the colony was up and running. Unfortunately, the supply ship malfunctioned and the children were jettisoned in a survival pod, coming down on some barren part of Mars, far from help. The only chance they had to survive, before a huge storm arrived, was to get to an old research station (now abandoned) where water and radio communications would be available. Off the bat I threw them into some serious danger, the life-pod was balanced on the edge of a cliff. They had gotten out successfully, but they needed valuable supplies from the pod. Their characters could go back to retrieve water, rope, torches, etc. but each time this destabilised the pod and anyone who tried risked sending the pod (and potentially the character) over the edge. This situation became the 'Growing Jeopardy Effect' rule in Chapter 5. Later the player characters encountered alien robots that had woken up after millions of years of hibernation, and they had to find a way to shut them down. But it was the physical challenges that really shone in that game. Air running out, a steep cliff descent, deep sand drifts to climb out of, the dust storm and its effects when it hit, dealing with an injured character whilst they wore a space suit, etc. It made the players work hard and THINK. It was certainly a lot of fun for everyone involved. Using detailed maps of Mars for the trek across the landscape brought the setting to life.

As I learnt quickly, children need an instant goal. The sandbox approach to gaming does not sit well with inexperienced 10 year-olds. Once given a goal they can get on and tell you how they are going to overcome all of your obstacles to achieve it. Never let them decide what they are going to



do themselves, this is a recipe for certain disaster; it is goal-orientated roleplaying, with carefully chosen situation-appropriate characters.



CHARACTERS

After playing with 10 year-olds in one hour sessions, I learnt that they do not 'play a role' – they play themselves. That helped me understand the best way to approach character creation. I kept things quick and simple, usually just three or four simple characteristics, or a handful of skills instead. None of the skills or characteristics focussed on intelligence, social skills or those aspects of a character that came under the umbrella of personality or problem solving. I wanted the players to do the thinking, and not pass that off with a simple roll of the dice.

Typically I set up situations so that the characters were either children or young adults, figuring that the 10 year-old players did not have the wherewithal and life-knowledge to effectively play an adult secret agent or starship captain. This kept everything at their own level.

Although I have used pregenerated characters many times in the past, I found that allowing the characters to have some input in the creation of their characters really hooked them in to the game and its setting. Often this was little more than selecting a name and choosing four or five skills from a list of ten, or allocating 12 points between a range of skills or characteristics. Simple things which could be dealt with quickly but still give the children a sense that this was truly their character. The personalization of the character did not have to be purely mechanical, either. In the Ice Age hunter game, I handed out facial templates onto which each player coloured in their tribe's face paint markings. I did something similar in a Celtic game. Even the 'lost on Mars' game had a version of this personalization: players were given a circle to decorate with two colours and the geometric pattern of their choice. This was to represent the back of the helmet on their spacesuit, which, in the late



21st century, were individually decorated so that astronauts and colonists could easily identify one another. I have already mentioned the preparation of heraldic shield blazons for our ill-fated Arthurian game.



TASKS, REWARDS AND PUNISHMENTS

Once the game starts, normal roleplaying, familiar to every referee, begins. There is a danger that the quieter players may clam up, particularly if there is a much louder player, or if they do not necessarily fully understand the situation and the roleplaying 'protocols'. Make an attempt to check on everyone once you present them with a situation, what does each player think, or want to do? At times the referee might want to tell the players how to organise themselves: 'why don't you come up with a plan for carrying the wounded boy over the rocks? Suggestions anyone?' Adult players generally don't need this kind of guidance, but children certainly do.



The aim is not to fox them, to mess up their plans or to frustrate them. The aim is to make the game enjoyable by enabling them to overcome challenges through ingenuity, courage and teamwork. That last factor is important. I typically ensure that every character has a unique skill that is crucial to the game - that player's time will come and no player is allowed to tell another player what to do with their skills, attributes or equipment. Choice is what separates RPGs from most other entertainment media and so every player must be able, and feel they are able, to make decisions. They must choose from different options, even if it is the referee who explicitly presents those options to a player who is unsure or nervous about voicing their opinions.

It almost goes without saying that dice rolls should generally be made quickly, without too much calculation and fuss. With such short sessions there is no time for prevarication or rules lawyering. One hour games seemed far too short to me at the start, but after one or two sessions I realised that it was perhaps the perfect length for a 10 year-old's attention span. In critical moments, or when decisions have to be made, make a point of going around the players asking for their input. But keep the game moving, keep the action snappy and avoid the 'deadwood' scenes such as shopping trips or evenings around the campfire after a day's adventuring.

The game Feng Shui pioneered for me the perfect way to structure short, action-packed RPG sessions. It suggested building a scenario from three great fight scenes, each with its own cool fight location, the plot can then be built around those scenes, linking them together for the enjoyment of the players. Obviously we aren't going to have three big fight scenes, but we can and should have key action scenes or situations. In my Martian survival game, retrieving kit from the lifepod marked my first scene, the second was the cliff descent with its attendant dangers, and the third marked by the attack of the ancient Martian robots. There is a problem to be tackled at each of these junctures and as a referee I have already thought about some possible solutions as well as a few nasty surprises I can add to increase the tension and the challenge. In my mind I had the impending dust storm that I could introduce at any time, as well as the



air running out prematurely for one of the characters. These 'cards up my sleeve' are great tools that a referee can throw at the characters if they breeze through a situation too easily or quickly, or if you find you have too much time left till the end of the session (I had to finish at 4:20 pm, dead-on, ready to get the kids to the school door by half-past, and I couldn't finish any earlier ...).

Children can often respond to in-game rewards in a way that adults may not. This can prove a blessing to the referee. In my Greek hero game, each character had a patron god and could earn a 'hero point' carrying out an action that the god would approve of. These points could be traded in for extra die rolls. Scientists could earn 'investigation points' for finding clues, while secret agents might gain a point every time they identify an enemy cyborg. To prevent feelings of jealousy or unfairness (some kids aren't going to be quick enough to get these points) they could be thrown into a pool to be used by the group as a whole.

Perhaps the biggest danger to any game is the loud player who dominates the rest of the group. If this happens more than once then you will lose players and the club will fold. Identifying that child and keeping them in check is a skill that must be acquired quickly, but it must be done with consideration. I've found that these players are just so excited that they cannot stop, cannot wait to let everyone else take a turn. They may also think their ideas are better than everyone else's. The referee must be firm with that player and tell them flat out that everyone gets to have a say and that everyone wants to make decisions. Do this in front of everyone else so that the quieter children know that you are going to back them up. A trick I learned was to let that gung-ho character split off from the rest to do his own thing. Normally this is frowned upon, you haven't got time to run two different groups doing two different things, and the game play is essentially doubled in time. Allowing a loud, pushy player to split off for a time lets you then give the rest of players the time they need without too much interruption. You then switch back to him or her for a few minutes, then back to the main party, taking care to give most of your time to the larger and quieter group. The pushy player will have much less to say about their decisions because his character is not



involved. This isn't a long term solution to a pushy player, the best thing to do is to have a chat with him or her away from the game, before the next session.

Finally we should address injury and death. Players are usually OK with their characters getting injured, especially if it's their own fault. But they are never happy if this is due to the actions of another character, particularly if done deliberately. Never allow one player character to harm or interfere with the actions of another character, ever. Should you refrain from killing a character? No. Some believe that children are emotionally scarred by having their own character killed, particularly in light of the observation we made earlier that children often just 'play themselves'. However, I have not seen this in play.

Obviously death should be rare, very rare and typically linked with the character's own stupid actions, don't let a stray gunshot or rock fall kill a character instantly, give them the opportunity to make a decision, to make a saving roll or two... but should death arrive on swift wings, then let it be. I have some gold-star stickers I use in class, and usually stick one on to the dead character's sheet. I tell the child that the character has made it into my roleplaying 'Hall of Fame' 'congratulations!' and I send the sheet home with the child so they can treasure it. Never screw up the sheet and throw it away, or worse, allow another player to throw it away. If they don't want to take it home then keep it yourself. Remember that the character sheet embodies all of the child's actions and decisions that they took in your game. We know it's just a piece of paper, but treat it as something more. A dead character could be replaced with an NPC, or if that proves impossible (such as on Mars or out in the wilds of the Cretaceous), let that player team up with another to make decisions for a single character - if that is OK with the rest of the group. Or give the player the character creation rules so that they can have another character ready by the end of the session. Or give them a blank piece of paper and ask them to draw a picture showing what happened to their character at the end! Or let them make all your dice rolls for you as an assistant referee. Just don't let them sit there being bored. They might just switch to violin club next week!



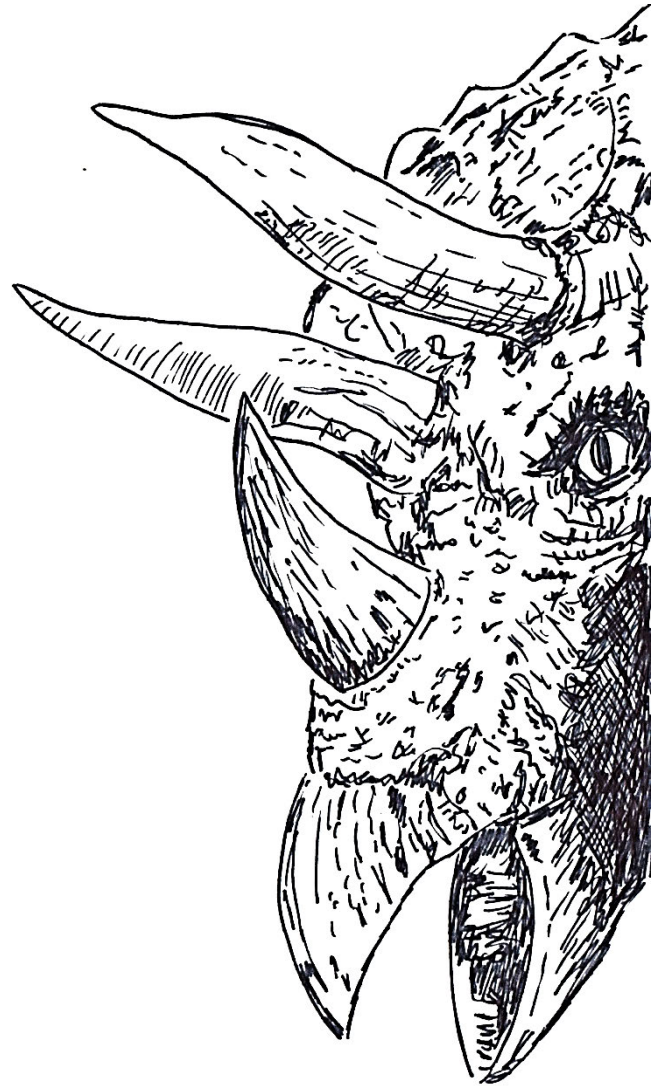
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THE FIELD TRIP

THE MISSION BRIEFING

Although there are two or three indoor briefing rooms at Camp Cretaceous, these are mainly used by operations staff or science teams planning important field work. Typically, the player characters will assemble at one of the open air meeting points straight after breakfast. Tarps rigged up provide shelter from rain or sun, and a scatter of folding chairs and a folding table make up the only furniture. Maintenance crews, scientists and students usually get together to discuss the day's work beneath these temporary briefing shelters.

The player characters will be introduced to Professor Henderson who will be assigning the students their tasks. Usually they will working in camp, analysing data, studying biological samples brought back from the field, uploading data from cameras and such. Every few days, however, they get to do their own field work. The professor will always outline the goal of the expedition, provide the team with one or more locations to head for and give them the tools they require to ensure the mission is successful.



Once they have their mission, the team must plan out their course of action, who will do what, and just as importantly, which team-member will be responsible for which piece of kit. The larger items can be placed into the four wheel drive, but players may want individual characters to carry smaller items on their person. If so, they must be logged on the character sheet. Anything thrown into the back of the vehicle should be carefully noted by the referee. When the four wheel drive goes off a cliff, catches fire or tips into a fast-flowing river, he will then know exactly which pieces of kit the team have just lost!

Missions should not be too complex or have too many elements to them, especially at first. Keep the goal simple and easy to understand and remember. Ensure that the obstacles confronting the team are not too perilous or seemingly so. Each mission goal should hopefully present itself with one or two challenges, and the referee should add another obstacle en route. Always remember that the aim is not to kill characters or force them to return to Camp Cretaceous tired and beaten, it is to encourage young players to come together to find ways of overcoming practical challenges. By practical I mean that the characters will be tested physically, there will rarely if ever be any mental puzzles to solve. Choose a mission from the list below, or use it as inspiration for your own:

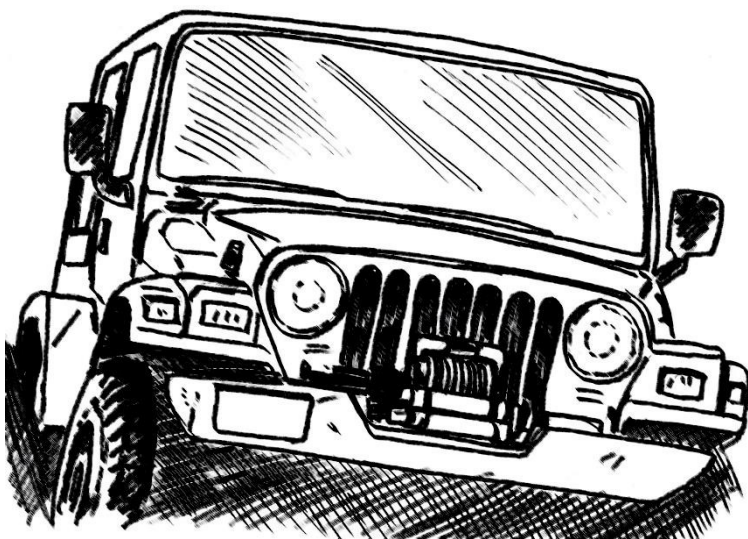
Eggs for Breakfast – Bring back at least one egg from a pteranodon nest that is located on a cliff over-looking the ocean. Getting down to the nest will be the main challenge here, and the kit required will include a couple of climbing harnesses, hard-hats and rope. A secondary challenge will be bringing the egg up undamaged, what do they intend to carry it in? Will they think of this in the briefing? My own players failed to take it into account and one bright spark suggested on the cliff edge that the second hard-hat, with its integral padding, could be used to carry the egg; they strapped it to the climber's belt. Of course the pterandons may not take kindly to eggs being stolen and at least one of them will make diving attacks every few turns. Can the other characters distract the angry flyers?



Weighing a Record-Breaker – How much does an alamosaurus actually weigh? The students are tasked with attempting to weigh one of these magnificent beasts, and the professor will probably ask for suggestions as to how this might be accomplished. Let the theories flow, hopefully one of the players will come up with the idea of plopping a weighing scale in front of the creature – he will give that student a merit and show them the ‘crush plate’ that he has built which will measure the pressure exerted by a creature’s tread. He can give the team three of these and the current location of a pod of alamosaurus, around twenty kilometres away. Challenges include getting ahead of the creatures, yet close enough to lay the three crush plates. Of course the chance of an alamosaurus stepping on one of the plates is slim and the team may have to regroup and redeploy the plates. Will they scare away the alamosaurus? And what if a couple of predators like albertosaurus turn up to hunt a vulnerable member of the pod? These albertosaurs will most likely ignore the characters, but will certainly spoil their plans ...

Tag a Triceratops – Professor Henderson wants the students to fit a radio tag to a triceratops to assist him with his study into triceratops migration routes. The kit for this mission will include a single dart gun and six darts filled with powerful Etomorphine, an anesthetic that should be strong enough to knock out a single triceratops. The location of a triceratops herd is known and the map co-ordinates are given to the player characters. An adult triceratops must be drugged, the radio collar

fitted, tested to ensure that it works, and the triceratops kept under observation until it wakes. Five back-up darts are provided in case the first does not deliver an adequate dose, or if the shots miss and the darts cannot be retrieved from the undergrowth. There are some interesting challenges with this mission, not the least of which is getting a dart into a triceratops.



The creatures are skittish herd animals that will probably flee at speed from a moving vehicle or from humans that walk towards them. The characters may have to lay in wait ahead of a moving herd, perhaps in some kind of improvised camouflage shelter. Fitting the collar should not prove a problem ... then again, perhaps it might be fun to have it inoperative. Quick-witted electrical work might be needed to get it working. As an additional challenge, perhaps the team spot a hungry pack of deinonychus circling the groggy triceratops. It only needs ten minutes or so, long enough to get on its feet and join its herd a few hundred metres away, can the team distract the deinonychus? Perhaps they can knock a couple out with the remaining darts (but don't tell the players that!).

Net the Microraptor – The microraptor is a tiny bird-like flying reptile with four feathered wings. Professor Henderson would like two to study at close range. The characters are given the task of camping in woods that are known to be inhabited by the creatures and they will need to set up camp there in order to catch the microraptors (since they hunt only at dawn and dusk). Kit supplied for this mission includes a couple of tents, cooking gear and a flameless camping stove, an electric fence and sleeping bags for every character. To catch the microraptors the professor provides a capture net, a net gun (with four net canisters), and a trap cage in which to hold any captured microraptors. Challenges will consist mainly of finding some way to trap the agile creatures in low light conditions. Can the characters set up the net on poles? Can they use some kind of bait in order to entice the microraptors down? Challenges could include the attraction of a small dinosaur, perhaps a troodon, or even a couple of alphas that have emerged from a burrow beneath the camp site.

TRAVELLING

Hiking: Hiking around the Cretaceous wilderness is not advised for any extended length of time, but should the characters be forced in to this action (perhaps their vehicle has broken down) then they can usually move at the speeds given below. Note that there are two ways to read



the speeds, the first is the standard kilometres-per-hour, the second measures speed in the time it takes to cover 5 km and can be used in conjunction with the map supplied with this game. Referees or players can look at the distance they want to travel (in multiples of 5 km) then work out how long it will take to make that journey. This latter method of determining travel time is preferred.

	KPH	Time per 5km
• <i>Flat, open ground</i>	5 kph	60 mins
• <i>Rough, hilly ground, or forest</i>	3 kph	1 hour 30 mins
• <i>Mountains, thick jungle, swamp</i>	1 kph	5 hours

Driving: The team are given an off-road vehicle with four wheel drive to carry themselves and their equipment. The speeds achieved by a loaded four wheel drive over trackless countryside vary tremendously according to the terrain.

	KPH	Time per 5km
• <i>Flat, open ground</i>	20 kph	15 mins
• <i>Rough, hilly ground, or forest</i>	10 kph	30 mins
• <i>Mountains, thick jungle, swamp</i>	2 kph	2 hours 30 mins

Nothing Goes as Planned!

It is a simple procedure to read off the distance and calculate a travel time, but moving through the prehistoric wilderness can be an adventure in itself! As in the modern world, travel through tough wilderness terrain can be frustrating, slow and dangerous. The referee can complicate such a journey if he decides to do so, using either his own imagination, or the table below. Roll first for the chance of an event ***every couple of hours***. Next determine the exact nature of the event.

Terrain	2D Roll
• <i>Flat, open ground</i>	11+
• <i>Rough, hilly ground, or forest</i>	10+
• <i>Mountains, thick jungle or water-logged swamp</i>	9+



HIKING EVENT TABLE

- 1 Twisted ankle; roll randomly for victim, they must move at half speed with assistance for next 3 hours.
- 2 Impassable terrain. Go back 5km.
- 3 Lose a piece of equipment (roll for the character and item randomly; or just select an item)
- 4 Slow progress due to terrain. Double travel time for this 5 km stretch.
- 5 Slow progress due to terrain. Double travel time for this 5 km stretch.
- 6 Fatigue/illness overcomes a character. Requires rest for two hours.

DRIVING EVENT TABLE

- 1 Flat tyre or suspension problem. Requires a repair taking 1D x quarter of an hour.
- 2 Impassable terrain. Go back 5km.
- 3 With the rough terrain, the vehicle is thrown about and a piece of equipment breaks or malfunctions. The referee should roll randomly or simple choose an item, and keep the fact secret until the time comes for the players to use that piece of equipment!
- 4 Slow progress due to terrain. Double travel time for this 5 km stretch.
- 5 Slow progress due to terrain. Double travel time for this 5 km stretch.
- 6 Vehicle engine breaks down. Requires a repair taking 1D x half hour.

Encounters with dinosaurs do not feature on these tables, since they should instead be established and decided upon by the referee him/herself.



CAMPING

Camping for the night involves pitching the tent, crawling in and sleeping until morning, right? Not in the Cretaceous. Some dinosaurs could stumble upon your campsite and crush your tent and its occupants without even knowing about it. Your food for the evening meal might attract scavengers who never give up. Camping in the Cretaceous requires some thought, but let the players find out about the problems and dangers of making camp for themselves!

Bad places to make camp include exposed and windy ridges, low, wet ground that is water-logged, beneath unstable and loose rocky slopes or on river banks that might flood or be too close to crossing points and watering points used by herds of dinosaurs.

If the referee is using the 'high oxygen' fact in the game then a camp fire will not be an option, otherwise a fire *is* a good idea, and will provide welcoming warmth and light, allowing food to be cooked and guarding against wild animals. A look-out should be posted throughout the night (and must be relieved after a few hours) to watch for dinosaur activity. In addition, security can be enhanced with a portable electric fence. Spot lights are also included on the Kit List - these illuminate a wide area that can further deter predators and provide characters with valuable visibility around the camp area at night.

PHYSICAL CHALLENGES

A good deal of the adventure will involve the player characters' struggle with the environment. There are rivers to cross, swamps to negotiate, cliffs and crevasses, boulder fields and forests.

Rough Ground

As the travel rules show, there are several hazards associated with hiking or driving across rough country - it can be dangerous, as well as slow, work. Potential hazards include mudslides, rock-falls and ridges or cliffs that must be climbed or descended. Agility rolls or climb rolls can be made for some of these challenges, perhaps with a generous bonus



modifier. The aim here is to add a little danger and uncertainty, and to provide the players with a little thrill of tension. Failure might result in the loss of a Hit Point, or a trip or fall that breaks a piece of equipment.

The 'Growing Jeopardy' Effect

A useful rule for use with children is the 'growing jeopardy' effect that results when a situation worsens as more characters attempt it. A slope of loose rocks, for example, might give way 'at any time'. For this type of situation, I would dispense with skill rolls altogether, instead asking each player to roll a single six-sided die. The referee exhorts the first player to roll the die, 'but just don't roll a 1!'. If he or she rolls a 2, 3, 4, 5 or 6 then all is well and the character passes across easily. If they should roll that dreaded 1 then they loosen the rocks and change the odds. Not only do they have to re-roll, but the numbers to avoid now include 1 *and* 2. The next character also has to avoid the numbers 1 and 2. If they fail the roll, then more rocks tumble under-foot and the numbers to avoid increase to 1, 2 and 3. This unlucky character has to also re-roll.

Any character failing a second roll triggers the entire landslide and suffers the damage associated with that particular danger. For a rockslide like this I would call for 1D⁶ damage points to be inflicted and place the victim several tens of metres below the other characters on some precipitous ledge, forcing the characters to come up with a plan to rescue them.



River Crossing

Beloved of summer camps, outdoor adventure weekends and team-building courses around the world, the river crossing is a true test of team-work, ingenuity and skill. The referee must present the characters with a suitable (or perhaps the best of the 'least suitable') crossing points. It is never simply a river separated by two easily climbable banks, but instead holds the prospect of an easy crossing, but with an added element of risk and danger. Consider adding:

- A broken tree trunk that makes a useful bridge. Or does it?
- Various smashed trees and branches that have been washed down the river, now all jammed together to make a tangled bridge of slippery logs and branches.
- Rapids, with boulders jutting out from the water at strange angles. Characters might be able to leap from one to another to cross.
- A sandbank sticking out into the river at a lazy bend, could characters wade the last 5 or 6 metres to the other side?
- A very shallow, slow-moving stretch of the river that could easily be waded, but the opposite bank is a 4 metre-high cliff covered in hanging trees and creepers.
- Banks of shingle cover the river bed here and the river itself splits into many smaller courses as it passes through the gravel. It looks easy enough to cross here. But is it? Could the shingle banks trap characters or collapse?
- An actual bridge, built in sections by a team from Camp Cretaceous, but strangely not appearing on any map. Is it safe?

A great way to ramp up tension during a crossing is to suddenly reveal the presence of crocodiles in the water, or a hostile predator on the bank they are leaving. Attacks by inquisitive pteradons might also give



characters something to think about whilst they negotiate the river crossing! A serious threat can be forest debris, branches etc., washing down and striking a character, perhaps knocking them off their feet. The 'Growing Jeopardy' Effect is a perfect tool for use in these river situations, particularly when the bridge being used is unstable or unreliable.

Swampland

Swamps vary with terrain, climate and the movie you are watching! Some swamps are vast flooded areas of lakes and water channels, divided and bordered by beds of reeds and grasses. Think here of the Everglades in Florida. Others, like the mangrove swamps of West Africa, are forests

that grow out of the salt water channels and lakes. There are many areas around the world, also, that are classed as 'marshland' or 'boggy ground' that should be considered here too.

The problems associated with swamps and marshes centre on the difficulty of travel. In some areas of swamp, boats can navigate channels or pools, but many places are impassible to boats and instead the travelers will have to slog through reed beds growing out of thick, cloying mud. Even where open water exists, it is shallow and thick with soft mud and underwater vegetation. Propellers can get caught up, hence the use of fan-powered air boats throughout the Everglades, or the US Army's hovercraft in the Mekong Delta during the early 1970s.



In short, swamps are hard to negotiate, slowing down travel and they soak the hikers and threaten to trap them in mud banks or stands of impenetrable reeds. Travel times in swamps are slow and variable, on occasion no progress at all might be made, with the characters being forced to back-track when the going becomes impossible and no safe way through can be found. Use the figures in the Travelling section as rough approximations.

In the Water

Allow generous Athletics rolls for swimming in calm water (+3), with less generous DM's (or none at all) for diving down to find some sunken object (+1), for swimming across a fast flowing river (+0) or for attempting to get to dry land when tossed into some river rapids (+1).

In Camp Cretaceous, everyone can swim (it's part of the condition for entry!). Failure to make a swim roll shouldn't result in death by drowning automatically, failure indicates that the task failed, so the object on the river bed wasn't found, the swimmer had to return to the river bank, or he could not grab on to a rock as he was washed through the rapids. The idea is to add more challenge and tension to the situation, not kill off the character. Now, an Exceptional Failure certainly merits the chance of drowning. The character has gone under, is disorientated and exhausted, and cannot easily reach the surface... Ask the player to make three Athletics rolls, with survival depending on the 'best of three' rule. Each dice roll takes up one round and provides up to three rounds for the other characters to try and rescue the drowning individual. If two of the rolls are failed, then the character is either drowned or 'swept away never to be seen again', as the referee decides.

Climbing and Jumping

Characters can be expected to jump 1m in height and 2m in length. If circumstances become difficult or dangerous, the referee should require an Athletics roll.



Should a character fall from a height they will suffer damage:

1-2m	3-6'	1 point
3-5m	6-15'	1D+2
6-8m	15'-24'	2D+2
9m+	25'+	3D+6

Falling down a rocky slope will probably inflict 1 or 2 points of damage, although the referee might want to ask for a Climb or Athletics roll to give the character a chance to avoid any injury.



6

DINOSAURS



Dinosaurs weren't simply gigantic lizards, although they *were* descended from crocodile-like reptiles that once dominated life on the early Earth. Those early reptiles had splayed legs, like lizards today, but the early dinosaurs evolved new methods of locomotion. Dinosaurs stood up straight, either on four legs or two, and they tucked their legs beneath their bodies. Just like the reptiles, though, dinosaurs laid eggs in shells and had scaly skins. Of course dinosaurs came in many shapes and sizes, from creatures the size of chickens to vast sauropods the length of airliners. And they occupied most parts of the ecosystem ... most, but not all.



A few species of small mammals had developed, but in a world dominated by types of lizard, these would remain an oddity of evolution for several more millions of years. The reptilian cousins of dinosaurs included crocodiles, lizards, frogs and other amphibians, whilst snakes evolved during the Cretaceous. There were insects, too, like dragonflies, cockroaches, ticks, beetles and many others. In the sea lived ancient species of fish (including shark) and shellfish (like ammonite, crab and sea snail) along with a whole variety of ancient marine reptiles that dominated the ocean. These were not dinosaurs, but like the dinosaurs they were a family of reptiles that had evolved from more primitive types and found an environment in which to flourish. Most striking of these ocean reptiles were the dolphin-like ichthyosaurs, the long-necked plesiosaurs and the whale-sized mosasaurs.



In the air, it was a similar story. Early reptiles had evolved flying forms that became, in the Jurassic and Cretaceous, the exotic pterosaurs. These pterosaurs, like their earth-bound cousins, filled a variety of ecological niches; some pterosaurs hunted, others were scavengers or insect eaters but many seem to have been fish-eaters, much like modern gannets and pelicans. Birds existed, but they were still in the early stages of their evolution. Only a few species had so far taken to the air and these *were* in fact true dinosaurs - a type of small dromeosaur (raptor). During the Cretaceous the pheasant-like rathonavis



could be seen snapping at insects and its descendants would survive the mass extinction at the end of the Cretaceous to develop into the birds we see around us today.

Eighty years of dinosaur movies, from King Kong in 1933 to Jurassic World in 2015, have conditioned us to think of dinosaurs as fearsome killers, savage monsters from a lost world. In Camp Cretaceous we need to take a more dispassionate view and remember that dinosaurs are animals, not monsters. Many times, when I have helped children to kit out their characters ready for an expedition, the subject of weapons comes up. Some of the boys want assault rifles, machine-guns, even grenades. My response is to compare their field trip to the work of a lion conservationist in Africa, or a BBC wildlife camera crew filming sharks in the China Sea. The teams don't kill the animals they are there to study, and if they do have armed guards, it is to protect them from pirates or poachers, not from hungry carnivores. There are exceptions, of course, killer whales, crocodiles and polar bears will all show an unhealthy interest in human beings. This game is about non-violent problem solving, however, and so it is the animal-like behaviours and physical aspects of dinosaurs that interest us most. There is danger, not just from the big carnivores that may mistake stringy human children for their preferred prey, but also from herbivores that are defending their territory or reacting to some perceived threat. Thousands of people are killed each year, for example, by such non-meat eating animals as cattle, horses and hippopotami.

TYPES OF DINOSAUR

Dinosaurs are divided into related groups, the main types of which are:

Theropods: Two-legged carnivores of all sizes. Although many carnivores were powerful, fast hunters called carnosaurs that were able to hunt and kill dinosaurs much larger than themselves, there also existed much smaller predators. These smaller theropods, like the famous oviraptors, ate insects, small reptiles, eggs and mammals. All theropods stood upright on two legs, they had long powerful tails, short undeveloped



arms and the strong back legs of a runner. Most killed with their powerful jaws, packed with dagger-like teeth, the dromaeosaurs also developed retractable claws on each foot. Like predators today, theropods had keen eyesight and larger brains (for their body weight) than most of the herbivores they preyed upon.

Pachycephalosaurs: A two-legged species of omnivore with tough, domed skull. Pachycephalosaurs are in a class of their own; they were probably omnivores and their roofs of their skulls were domed and incredibly thick. Most likely, these animals engaged in head-butting contests with others of its species, just as mountain goats and bison do today.

Ornithopods: Two-legged herbivores, particularly the duckbilled hadrosaurs. This family of dinosaurs had broad, duck-like beaks that allowed them to eat many types of plants, much like the wide mouth of the modern rhino. Because of their versatility they were numerous and could survive in a wide variety of habitats. They are often referred to as the 'Cretaceous Cow'. Ornithopod's grinding teeth were at the back of its jaw. Although they were two-legged, their arms were well developed and they could walk on all-fours. Most of these dinosaur species had hollow crests that allowed them to hoot, bellow and trumpet. The largest of the ornithopods, Magnapaulia, was huge, weighing as much as two or three bull elephants and boasting a length of 16 metres. Most were a little smaller than this, however.

Thyreophora: The name means 'shield-bearer' and these four-legged plant-eaters were heavily armoured. Species included different types of ankylosaur, as well as sauropelta and edmontonia. Stegasaur belong to this group, but were extinct by the mid-Cretaceous. These animals walked on four legs, but the front legs were usually much shorter than those at the rear. Armadillos and pangolins today have armoured bodies, but the thyreophora developed armoured plates to protect their back, often reinforced with bony studs and spikes. Some species even armoured their tails and heads and euplocephalus (a type of ankylosaur) went further, its eyelids were protected by bony shutters! Although some



of these dinosaurs (like polacanthus) grew rows of fearsome spikes in order to protect themselves, others added a bony club on the end of the tail with which they could strike at their attackers.

Ceratopsians. Four-legged beaked and horned dinosaurs like triceratops. These are large quadrupeds with distinctive and often quite elaborate and developed facial horns and frills extending over the neck. These bony frills were used for protection as well as display, but may also have helped to cool the creatures. Individual ceratopsian species vary in length from one to 8 metres. Ceratopsians had beaks which allowed them to choose their food carefully, much like the modern-day gazelle which has narrow mouths for plucking leaves and fruit from trees and bushes.



Titanosaurs. The super heavy-weights of the dinosaur world were the titanosaurs, massive long-necked dinosaurs with long, whip-like, tails. Titanosaurs were actually part of a group called **sauropods** which had included brachiosaurs, apatosaurs and diplodocus. These had not

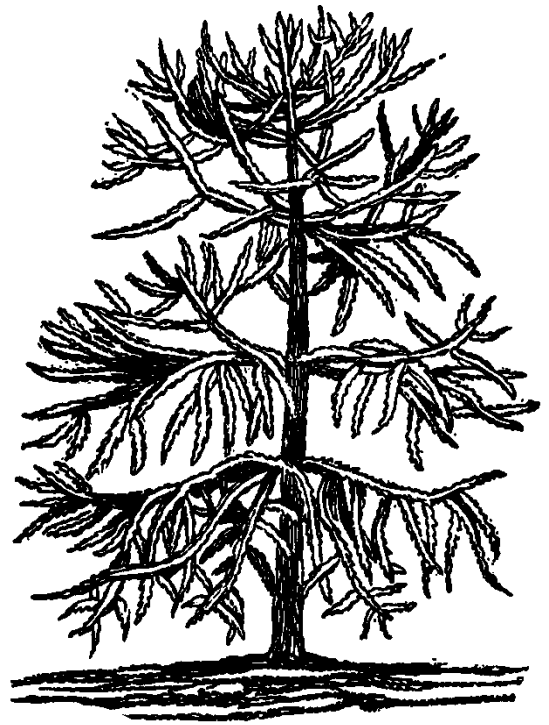


survived into the Cretaceous, perhaps due to the predation of large theropods like allosaurus. Titanosaurs evolved from those earlier species and were bigger and harder to kill, many had tough, bony plates covering their backs: they were armoured, though not to the extent of an ankylosaur or ceratopsian. Venenosaurus and saltasaurus, at only 10m long, were some of the smaller Titanosaur species and may have been hunted by packs of albertosaurus. Perhaps the most 'titanic' of all the titanosaurs was argentinosauros, which may have grown to an incredible length of 26m and an estimated weight of perhaps 80 tons! Titanosaurs, like all sauropods, grazed on the tree-tops, taking advantage of the fact that other species of herbivore could not reach them.

LIFE IN THE CRETACEOUS

EATING & DIGESTING

Cretaceous herbivores feed on a wide array of plant food, on coniferous trees (including the monkey puzzle with its sharp anti-dinosaur defences) and other plants with tough foliage and tall stems or trunks. Flowering plants had emerged by the time Camp Cretaceous was established, creating a glorious carpet of succulent, low-growing foliage which made grazing easier for many animals. Smaller ornithopods have become far more prevalent because of the abundance of fast-growing, ground level vegetation. Large sauropods, and titanosaurs, continue to graze the upper branches of the higher trees. These sauropods do not have grinding teeth and swallow their food whole, it is ground up within the stomach with the aid of pebbles, previously ingested, as well as microbes. Smaller herbivores, such as the ornithopods and ceratopsians, pluck their food from stems using toothless



Monkey Puzzle



beaks, or wide duck-like beaks, then pass it to grinding teeth at the back of the mouth. All of these animals regrow their teeth, handy when they wear down!

With all of this food being digested, dinosaurs produce an enormous amount of droppings. Large sauropods like alamosaurus probably eat between 3 - 4 tonnes of plant matter each week, which will turn into around one tonne of droppings! These are different shapes depending on the type of dinosaur dropping them, and an expert in tracking from Camp Cretaceous should be able to tell the difference. Even a novice will be able to differentiate herbivore dung from carnivore dung. Because fossilized dinosaur droppings are relatively rare finds in the 21st century, scientists at the camp spend many days chasing down and studying fresh dino-poo! Dung beetles often 'mine' into dinosaur dung, searching for nutrients left behind. Some beetles roll the best bits of dung into balls and then push them away to a secure burrow to become nurseries for young beetles. Dung may also be used by dinosaur species to mark territory, just as mammals do today.



Cycad



Tree Fern



RAISING A FAMILY

Like zebra and antelope today, most herbivorous dinosaurs gather together in herds for mutual protection. The size of a herd varies with species, it seems that iguanadons may live in herds of up to half a dozen, while hadrosaurs could gather in herds of several hundred, much like wildebeest today. Herds have their own hierarchies, and can be led by dominant individuals. With modern elephants, a matriarch (dominant older female) leads the group. She is old and wise, and remembers good places for food and water-holes, she remembers the best trails and knows which predators will be a danger in certain locations. Herd leaders in dinosaur societies have similar skills. Other animals in the herd, often brothers, sisters, aunts, uncles and cousins will all have a slightly different status in the 'pecking order'. Young ones will often be protected by other herd members, and when grazing may be sheltered within the centre of the herd. Stronger dinosaurs will graze at the front, or on the flanks. Expect stronger and older dinosaurs to form defensive rings around younger or weaker members of their own herd if threatened by a predator (or human group that is not taking precautions).

Male elephants often leave their herd once they are mature, and male hadrosaurs, ceratopsians and ankylosaurs, for example, may do the same. They live in 'bachelor herds' with other young males for a few years, until they feel (if they are strong enough) that they can challenge a male who leads his herd, perhaps forcing him to back off. The young pretender may take over that herd's females and young, or he might steal away a number of females in order to start his own herd. Young male dinosaurs will fight each other in mock battles within these bachelor herds, practicing their skills ready for the day they might challenge a herd leader. There is some evidence that the bony skulls of pachycephalosaurs and the horns of ceratopsians like styracosaurus were used in these mock fights.

Dinosaurs are egg-layers and these eggs are surprisingly small, the largest are only about twice the size of a modern ostrich egg. Forget the giant eggs of Persian fantasy, laid by the elephant-snatching Roc bird! Any bigger and the egg walls will be too thick to allow oxygen through, or



allow the hatchling to break out. Whilst some dinosaurs lay fewer than 10 eggs at a time, others lay 40 or more. These eggs are almost always laid in nest 'scrapes' on the ground, a metre or two across, which resemble a hollow or crater that is dug out by the mother and her mate before she lays her eggs within it. An oviraptor skeleton has been found that was sitting, chicken-like, on its nest, and it is likely that other small dinosaurs may do likewise. Picture a colony of penguins all sitting on nests, whilst the nest partners go out to gather food. We can imagine many types of dinosaur doing the same, acting in mating pairs, but gathering together in a single breeding colony together as a herd, ready to protect the communal nest sites from predators like tyrannosaur or oviraptor. Much larger animals, however, must just cover them over and walk away (or remain close by to guard the nests), the danger of smashing such delicate eggs will make incubating the eggs any other way unfeasible. Some dinosaurs will cover the earth mound over the nest with vegetation and as it rots it will have generated heat – a true incubator! The eggs probably take about a month to hatch.

Evidence suggests that newly hatched dinosaurs leave the nest almost immediately, they are mobile and independent. Until they are larger and can keep up with the herd, the rest of the animals usually remain in the vicinity. However, some species remain in the nest once hatched, like the duck-billed maiasaur. Just like those penguins, the hatchling maiasaurs must rely on regular feeds from their parents, most probably foraging in turn. Whilst predators can carry meat in their mouths back to the nest for their little ones (like an eagle, a crow or a puffin), herbivores instead must resort to regurgitating semi-digested food into the snapping mouths of their hungry brood. Most modern birds do this today. Dinosaurs grow up extremely quickly to enable them to join the herd and not slow it down. Still, many hatchlings fall prey to predators, die of starvation or accident or disease. Dinosaurs laid lots of eggs for this very reason.



SOUND & COLOUR

Today, little is known of dinosaur skin colours, but studies of modern wildlife suggest that they would have been covered with a wonderful array of colours, camouflage patterns, scales and feathers. Like elephants, the very biggest dinosaurs, the sauropods, are almost immune from attack and have no need of camouflage. 'Smaller' dinosaurs (anything from a T-Rex down!) will sport all manner of camouflage designs based on their typical habitat: spots, stripes, stipples, two-tone colours and even changing patterns (much like chameleons, which use colour change for mood displays as well as stealth).

Feathers have been found on the fossils of some two-legged dinosaurs and it is likely that many of the theropods carried feathers. Some modern reconstructions of animals like T-Rex are shown covered with feathers, almost like giant birds, but most display a more subtle approach, illustrating theropods with feathered tails or forearms sprouting feathers. The referee can take the line he or she prefers; Spielberg left feathers out of Jurassic Park, for example, giving the paying audience the kind of dinosaurs that it expected. It might be far more interesting in Camp Cretaceous if feathers *did* appear on some of the theropods, solidifying the link between this type of dinosaur and their close relatives, the modern birds. I would never present these dinosaurs as completely feather-covered bird-like creatures within the game, but feathers can be used, along with colour and camouflage to bring dinosaur species to life with vibrant and interesting descriptions.

Herd animals need to communicate in order to stay together, in addition, they will need to be able to make alarm calls that warn of predators. Many animals today also make calls in order to attract mates, to ward off rivals or to let everyone know that this is *their* territory - stay away! Each species will have had its own calls, some deep and booming, like the huge sauropods, some hooting and trumpeting, like the long-crested hadrosaurs, some piping and melodious, like the raptors and other small theropods.



TRACKS

Any naturalist tracking dinosaurs in the Cretaceous will need to know something about those tracks. Broadly speaking, there are two main types of tracks: those of the long-necked sauropods, which are rounded or oval, and those of theropods, which are more bird-like. A good tracker can estimate the speed that the animal was doing when it made the tracks, whether it was walking or sprinting, for example. The ornithomimids seem to have been the fastest, able to run at about 60 kph. Much larger dinosaurs would have had trouble maintaining a run, and many were capable of a speed around twice as fast as a human (30 kph). For the sauropods actual running may have been impossible, and these land giants were probably only capable of a fast walk.



Tracks of the same species, but of varying sizes, will indicate juvenile members of the herd, and trackways discovered in North America have shown that these juveniles could be 'corralled' into the centre of the herd whilst the adults walk on either side to protect them. The famous trackway at Paluxy River in Texas, USA, even shows a sauropod being tracked by a large theropod predator. Where dinosaurs gather, such as river-crossings, water holes or fresh dinosaur kills, the ground will be trampled, leaving a confusing jumble of tracks that will be difficult to interpret. Animals are creatures of habit and will use the same migration routes or trackways over and over again. Tracks are obvious in wet



ground, mud or damp sand. The age of a track can usually be estimated by studying its sharpness and moisture content. Clearer tracks are more likely to be more recent.

Tracking is often about more than just footprints, however. Some smaller animals make 'tunnels' as their routes through dense vegetation, and the height of these gives some indication as to the animal's size. Likewise, larger animals (and many types of dinosaur) will break twigs and small branches in overhanging trees, again giving an estimate of the creature's height. Leaves will wilt and broken twigs will dry out – giving the tracker an idea of how long ago the animal passed through the area. Droppings left by the animals are also very useful in tracking them.

HUNTING

Dinosaurs have a reputation as being dim-witted, but their intelligence will have varied by species. Scientists use something called an 'encephalization quotient', or EQ, that is a ratio of actual brain weight to expected brain weight for the animal's size and type. Studies reveal that the EQ of a human is around 7.0, whilst crocodiles have an EQ of 1.0. All the herbivores studied had EQ's less than the crocodile, with the giant sauropods at the back of the line - their EQs hovered around 0.2. The meat eating theropods (the carnosaurus) generally had EQs between 1.0 and 2.0, while the pack-hunting raptors had EQs of 5.8, similar to that of a modern bottle-nose dolphin.

This certainly shows that the meat-eating dinosaurs, those that hunted their prey, required a greater degree of intelligence in order to plan their attacks, co-ordinate them with hunting partners and learn to adapt their strategies. The most intelligent, by far, seem to have been the dromaeosaurs (raptors like deinonychus) which seem to have hunted in sophisticated social groups, akin to those of African lions, American wolves and pods of killer whales.

Some meat-eating dinosaurs are solitary hunters, others will hunt in pairs to feed their young, others may team up (like sharks) to bring down large game, and others are pack hunters. These theropods are faster than their



herbivore prey, running on two powerful back legs, with shorter forearms that had little use. In many theropods the forearms can be used to help a fallen dinosaur get back to its feet and continue the chase, but some, noticeably tyrannosaurus rex, have extremely tiny, useless forearms that are of little help in such a situation. Tyrannosaurs may have been scavengers, hijacking the fresh kills of other, less formidable carnosaurus.

Not all predators hunt and chase herbivores. Pterosaurs probably feed on fish and live lives akin to modern pelicans. Oviraptors are suspected of sniffing out and raiding the nests of other dinosaurs for their eggs. Tiny theropods, like bambiraptor, will eat dragonflies and small lizards. The intimidating spinosaurus, with its distinctive dorsal 'sail' is equal in size to T-Rex, yet its long fang-filled snout suggests that it fed on large freshwater fish. Just as in our modern world, meat-eating dinosaurs exploited the resources around them, and many specialized in a particular role. Some were ambush predators, some were long-distance chasers, others were tactical pack hunters, some were scavengers, others were carrion hijackers, some were even fishermen!

DINOSAUR CHARACTERISTICS

This section provides characteristics and data for the major animal species inhabiting Laramidia during the Mid-Cretaceous period. Each Data File provides the same set of information:

- **Name** - The commonly known species name is given here.
- **Type** - Which broad family of dinosaur does this creature belong to?
- **Niche** - This is the ecological niche which determines the animal's habits and behaviour.
- **Strength** - Physical strength, fitness and forcefulness.
- **Dexterity** - Physical co-ordination and agility, reflexes.
- **Endurance** – Stamina and determination, and the ability to sustain damage.
- **Mass** - Given in metric values. A human adult weighs approximately 75 kg, a cow or horse weighs around 1000 kg and an adult elephant around 5 tonnes.



- **Pack** - How many animals typically gather together, this number gives the referee an idea of how many will normally be encountered at one time. Pick a number or roll the dice.
- **Move** - A dinosaur can be rated as Slow (+4), Medium (+2) or Fast (0). These categories describe how fast a creature can run in relation to a human being. See the rules for Running and Chasing in Chapter 3.
- **Armour** - Subtract this value from any damage received in a single attack.
- **Damage** - This is the damage inflicted upon a character or another dinosaur if it is successful in its attack.
- **Instinct** - Instinct is the animal equivalent of Education. Animals apply their Instinct DM to tasks such as sensing prey or solving problems.
- **Behaviour** - What will the creature do when it spots the characters? There are two values, Attack and Flee. Roll first one, to see if it attempts that particular action. If it fails that roll, check the second value. If that also fails then the creature is unsure or uncaring about the human presence. It continues to feed, walk or watch from a distance. Predators check for an Attack first and a Flee second, all other dinosaur types roll their Flee value first. Some situations will obviously initiate an automatic reaction, and dice should not be rolled. This might include firing a gun or starting a large fire. Use your common sense.



ALBERTOSAURUS

Type: Large Theropod

Str: 5D6 (18)

Mass: 3 tonnes

Armour: 2

Behaviour:

Dex: 2D6+2 (10)

Pack: 2D

Damage: 2D6+1

Attack 7+ Flee 10+

Niche: Intimidator

End: 5D6 (18)

Move: Fast (0)

Instinct: 2D6+4 (11)

Max. Length: 8 m

A small cousin of the T-Rex, albertosaurus is only half the size and is a scavenger, eating prey brought down by others, perhaps (like vultures and hyenas today) waiting for the predator to finish its meal, or stealing what it can. Like vultures, albertosaurs congregate in numbers, driving off other creatures like troodon from the kill.



ALAMOSAURUS

Type: Sauropod

Str: 11D6 (36)

Mass: 30 tonnes

Armour: 4

Behaviour:

Dex: 1D6 (1)

Pack: 2D+4

Damage: 4D6

Flee 8+ Attack 8+

Niche: Grazer

End: 11D6 (36)

Move: Slow (+4)

Instinct: 2D6+2 (9)

Max. Length: 21 m

America's only titanosaur; unlike other titanosaurs of this period, Alamosaurus has no hardened body armour. It roams the plains in small herds, living in fear of almost no predator. Care should be taken to avoid the long whip-like tail that the alamosaurus use for communication, and its mighty kick as it rears up in defence.



ALPHADON

Type: *Ancient Mammal*

Str: 2

Mass: 3 kg

Armour: -

Behaviour:

Dex: 5

Pack: 1D

Damage: 1D6-1

Attack 7+ **Flee** 4+

Niche: *Gatherer*

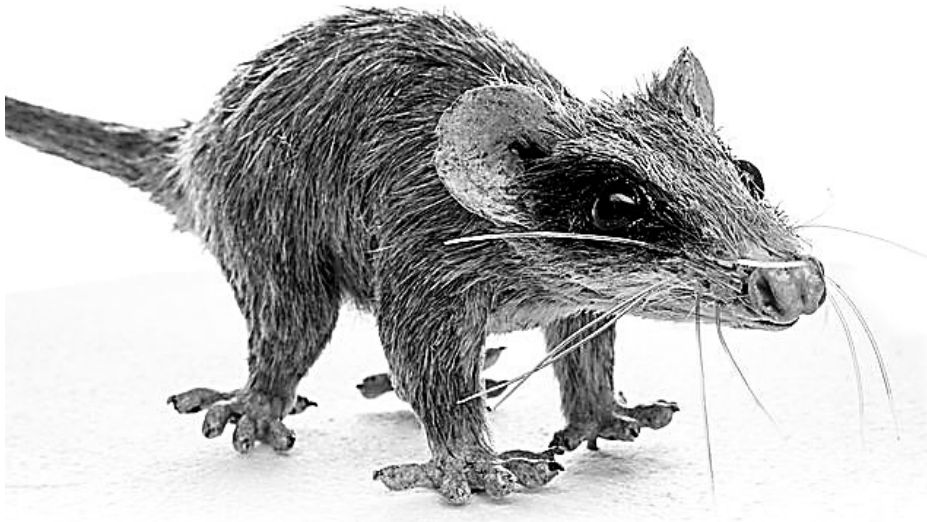
End: 2

Move: *Medium (+2)*

Instinct: 7

Max. Length: 30 cm

The alphadon is a mammal living under the feet of the dinosaurs. It is an omnivore that specialises in eating plants, but will also eat worms, grubs and insects. It resembles the modern American opossum. Alphadons dig burrows where they shelter from predatory dinosaurs like troodon or ornithomimus, and rear their young.



ANKYLOSAUR

Type: Thyreophora

Str: 6D6 (21)

Mass: 5 tonnes

Armour: 8

Behaviour:

Dex: 1D6 (2)

Pack: 1D+1

Damage: 3D6+2

Flee 9+ **Attack** 6+

Niche: Grazer

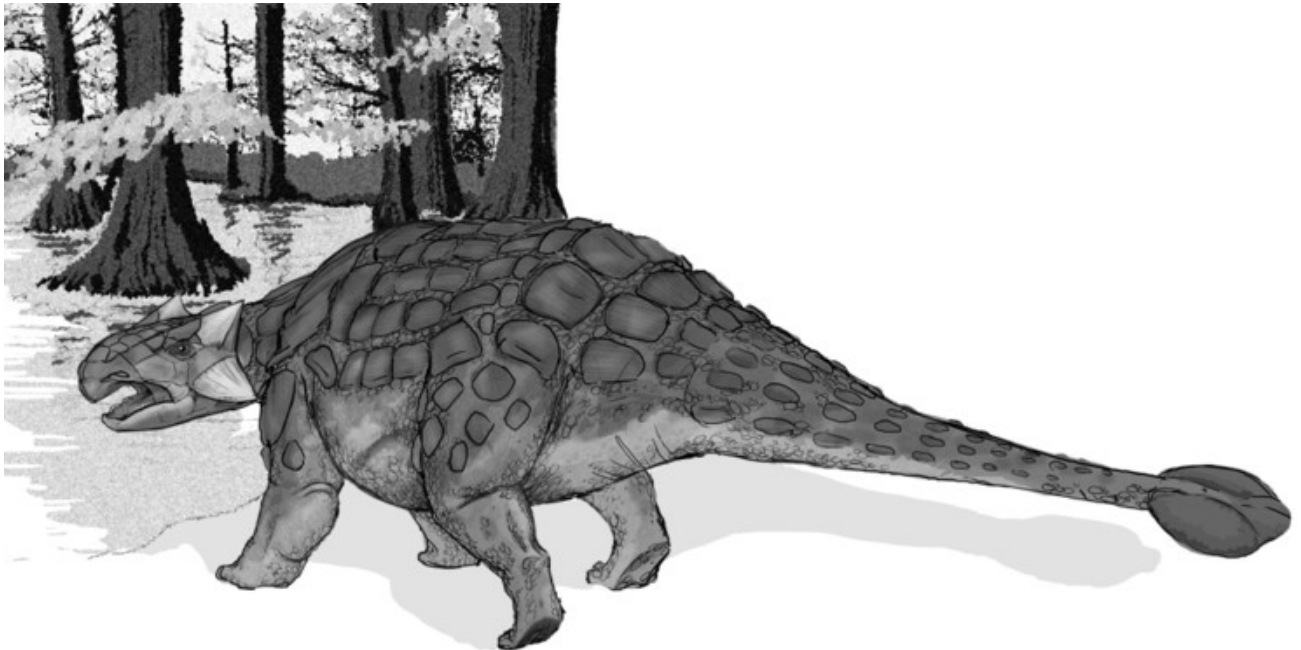
End: 6D6 (21)

Move: Slow (+4)

Instinct: 2D6+2 (9)

Max. Length: 10 m

These low-slung, four-legged dinosaurs are herbivores that are incredibly well-armoured. They are equipped with bony plates, horns, spikes and some have bony clubs (weighing over 50 kg!) at the ends of their tails for use as a weapon, standing sideways on to engage an attacker. One type, the euoplocephalus even has armoured eyelids...



BAMBIRAPTOR

Type: *Small Theropod*

Str: 1

Mass: 2 kg

Armour: -

Behaviour: *Attack 5+ if bigger, Flee 7+*

Dex: 5

Pack: 2D

Damage: 1D6-1

Niche: *Hunter*

End: 1

Move: *Fast (0)*

Instinct: 8

Max. Length: 90 cm

With opposable fingers and a large brain size for its weight, bambiraptor is a cunning and clever hunter, feeding upon mammals and lizards. When not hunting on the forest floor, it spends time in the trees, from which it can glide from to the other.



CROCODILE

Type: Reptile

Str: 4D6 (14)

Mass: 800 kg

Armour: 2

Behaviour: Attack if it has surprise, Flee 10+

Dex: 2D6 (8)

Pack: 3D

Damage: 2D+2

Niche: Pouncer

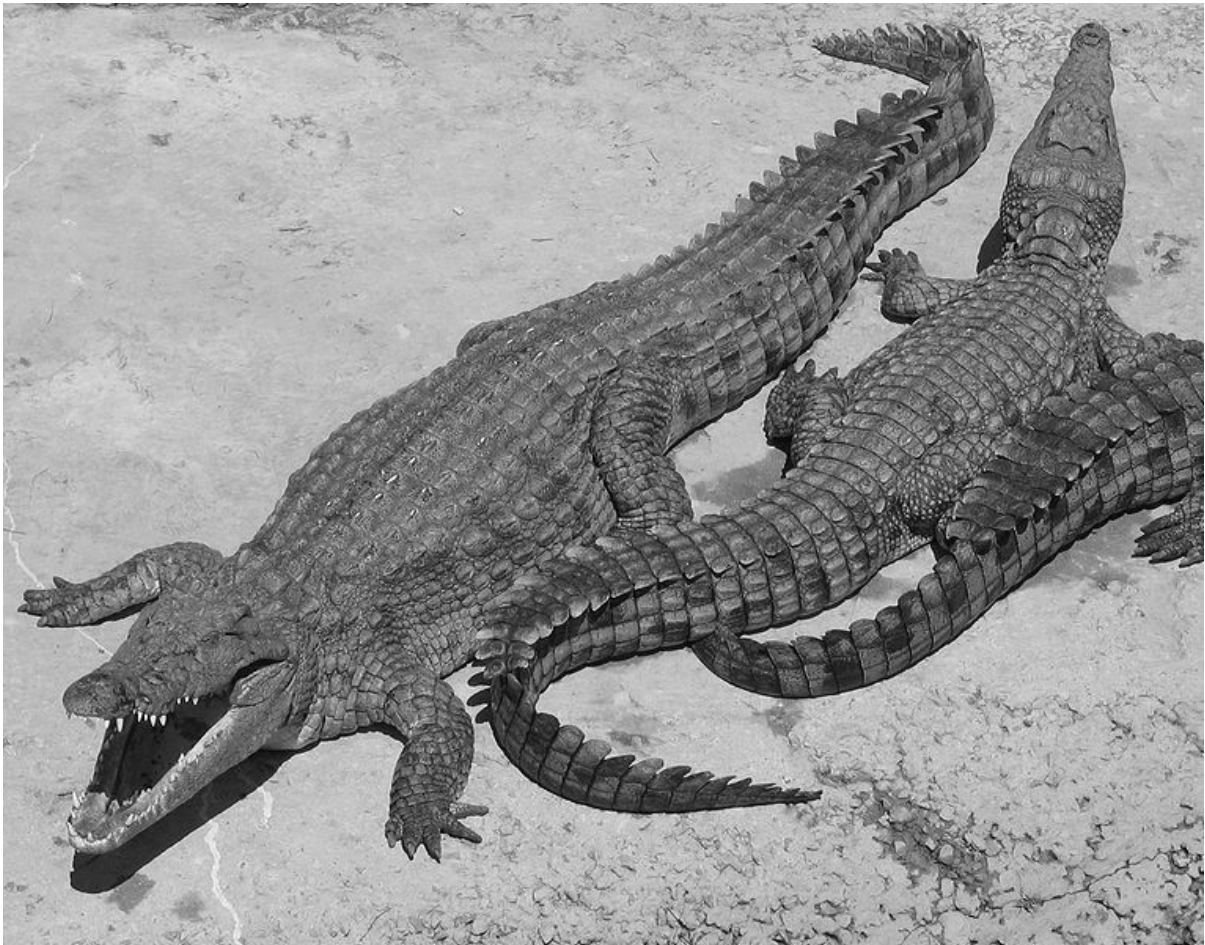
End: 4D6 (24)

Move: Slow (+4)

Instinct: 10

Max. Length: 4 m

The crocodile as we know it evolved in the Cretaceous. It is an ambush predator, waiting in shallow water to lunge out and seize prey drinking at a water hole, or crossing a river. Once it has the prey it will drag it into the water and thrash around, drowning and shredding it. A very dangerous animal indeed.



DEINONYCHUS 'raptor'

Type: Small Theropod

Str: 3D6 (11)

Mass: 100 kg

Armour: 1

Behaviour: Attack if outnumber prey, Flee 9+

Dex: 3D6+4 (15)

Pack: 2D

Damage: 2D6+2

Niche: Chaser

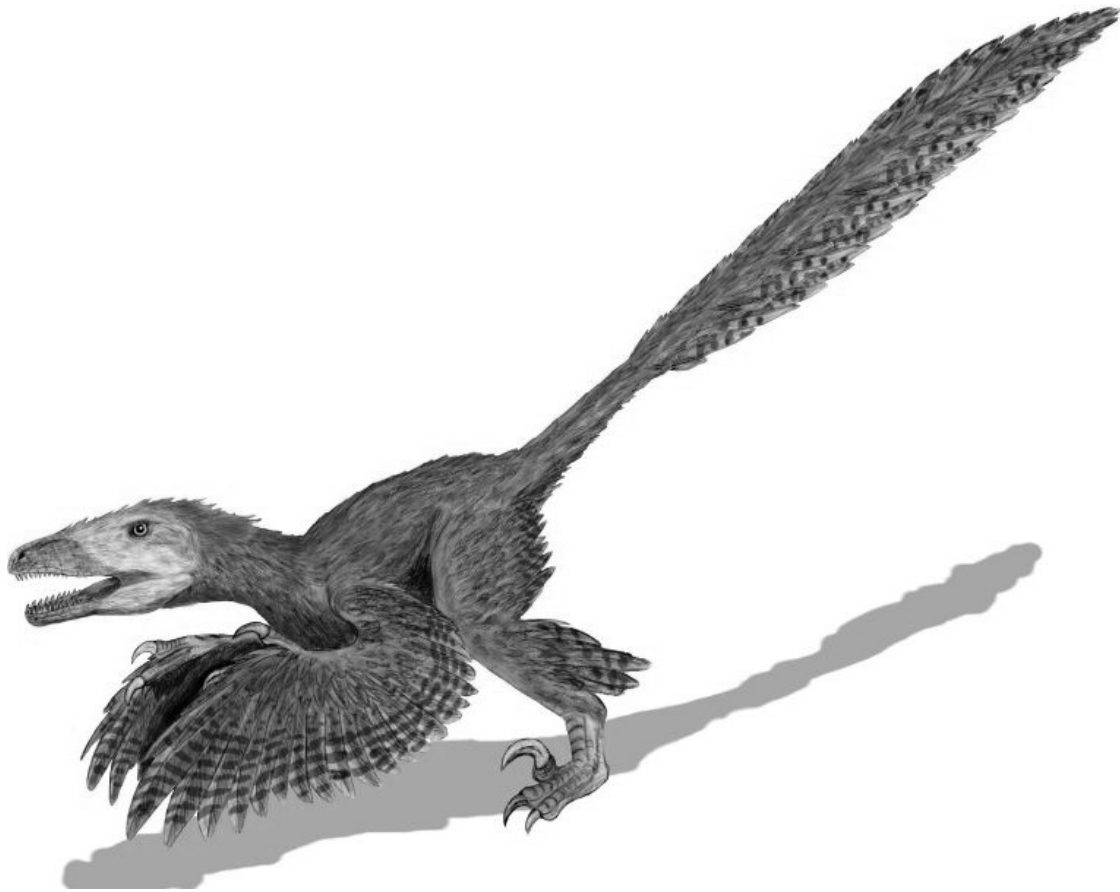
End: 3D6 (11)

Move: Fast (0)

Instinct: 11

Max. Length: 4 m

Deinonychus hunt in packs, wearing down their prey, until the time comes for a kill. These dinosaurs jump, biting hard and like a tiger, slash at the victim with their savage rear claws. Clever, co-operative and adaptable, the deinonychus featured in the movie Jurassic Park as the featherless 'velociraptor'. Beware.



HADROSAUR

Type: Ornithopod

Str: 6D6 (21)

Mass: 4 tonnes

Armour: 2

Behaviour:

Dex: 1D6 (3)

Pack: 4D+4

Damage: 3D6

Flee 7+ **Attack** 8+

Niche: Grazer

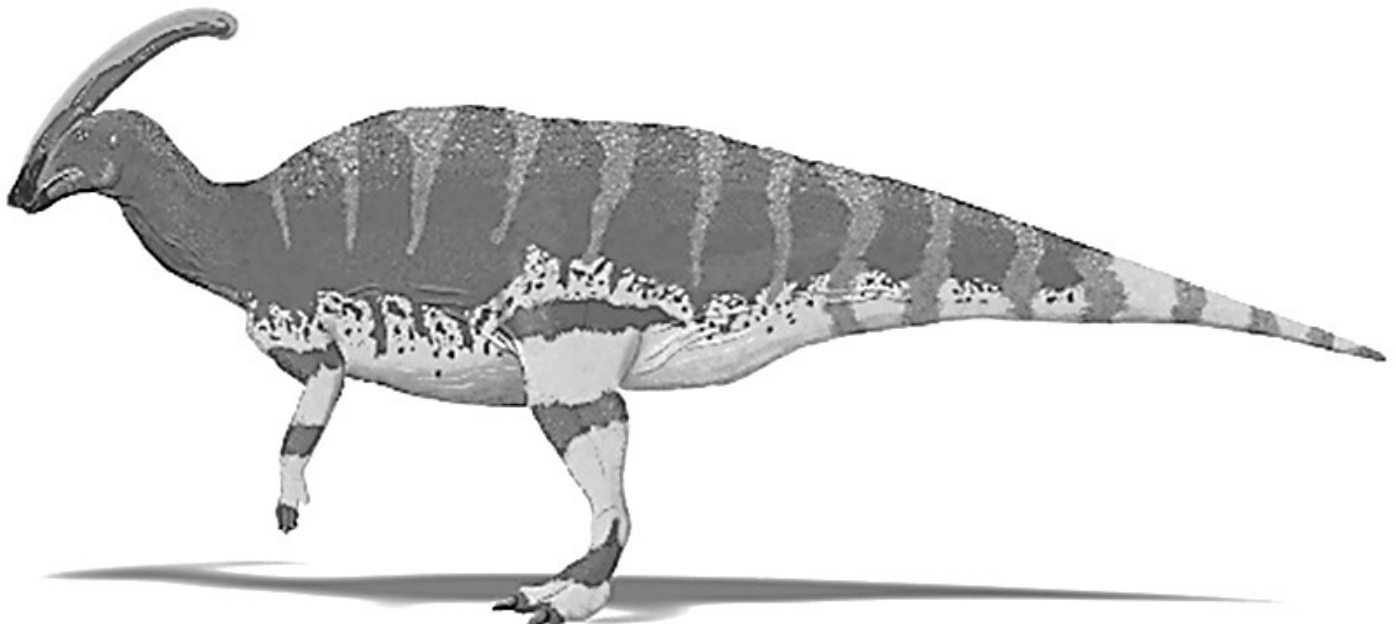
End: 6D6 (21)

Move: Medium (+2)

Instinct: 10

Max. Length: 10 m

Hadrosaurs are a common duck-billed dinosaur living in the Cretaceous. There are many varieties, most with elaborate head crests, some of which, like those of the parasaurolophus, are long, swept-back and used for making trumpeting calls. They are able to walk on all fours, or stand upright to feed on their powerful rear legs..



IBEROSORNIS

Type: Ancient Bird

Str: 1

Mass: 20 g

Armour: -

Behaviour:

Dex: 6

Pack: 1D

Damage: -

Flee 6+, **Attack** 11+

Niche: Intermittent

End: 1

Move: Fast (0)

Instinct: 6

Wing Span: 20 cm

Iberosornis represents the growing numbers of bird species that have evolved in the Cretaceous. This example resembles a dinosaur-headed finch or sparrow and eats berries and grubs.



IGUANODON

Type: Ornithopod

Str: 7D6 (24)

Mass: 5 tonnes

Armour: 3

Behaviour:

Dex: 1D6 (3)

Pack: 3D

Damage: 3D6+1

Flee 7+ **Attack** 8+

Niche: Grazer

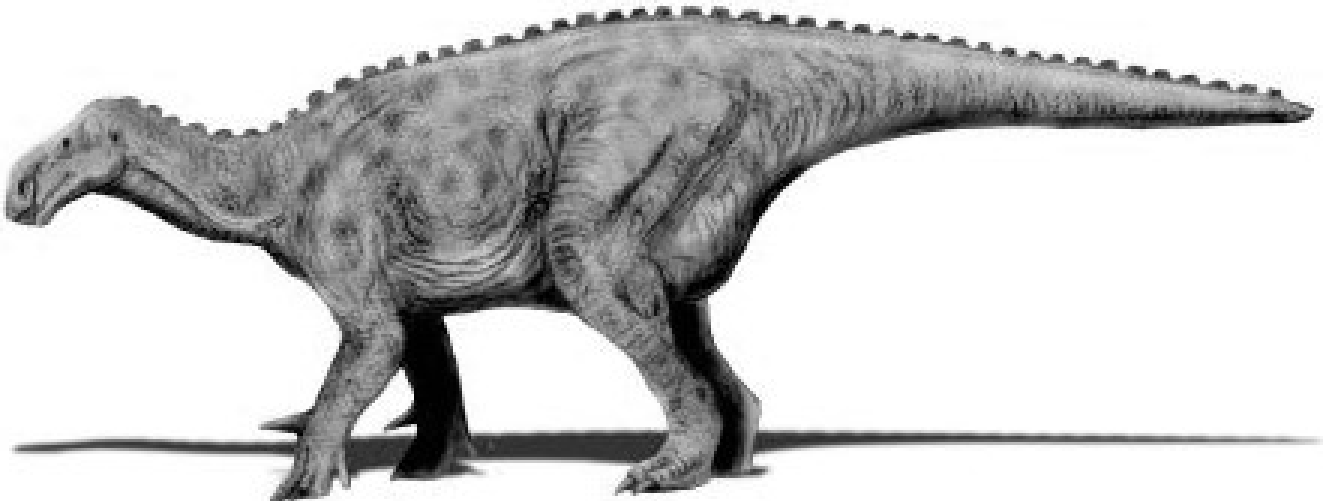
End: 7D6 (24)

Move: Medium (+2)

Instinct: 8

Max. Length: 9 m

With four legs this creature can migrate long distances, but it can also stand easily on its long back legs to reach leaves on trees. Iguanodons are the 'Cretaceous cow', with large herds feeding continuously. They have a remarkably dextrous little finger, as well as formidable spiked thumbs used in defence. Harmless if avoided.



MICRORAPTOR

Type: *Small Theropod*

Str: 1

Mass: 500 g

Armour: -

Behaviour:

Dex: 6

Pack: 1D

Damage: -

Flee 6+, Attack 11+

Niche: *Intermittent*

End: 1

Move: *Fast (0)*

Instinct: 7

Wing Span: 80 cm

Showing the family links between raptors and birds, the microraptor is an amazing four-winged flying dinosaur the size of a crow or herring gull. It is an omnivore, eating lizards, berries, grubs and insects.



ORNITHOMIMUS

Type: *Medium Theropod*

Str: 3D6 (11)

Dex: 3D6 (11)

Niche: *Hunter*

End: 3D6 (11)

Mass: 170 kg

Pack: 1D

Move: *Fast (0)*

Armour: -

Damage: 3D6

Instinct: 9

Behaviour: *Attack 6+ if bigger, Flee 8+*

Max. Length: 2 m

These omnivores have short, beaked, parrot-like skulls with bony crests. They are heavily feathered and steal eggs, hunt lizards and grubs. They have a single long finger on each hand used for reaching these little creatures. No danger to humans, but hard to spot, or catch. They are very cunning.



OVIRAPTOR

Type: *Small Theropod*

Str: 2D6 (7)

Dex: 3D6 (11)

Niche: *Hunter*

End: 2D6 (7)

Mass: 25 kg

Pack: 1D

Move: *Fast (0)*

Armour: -

Damage: 1D6

Instinct: 10

Behaviour: *Attack 6+ if bigger, Flee 8+*

Max. Length: 2 m

These oviraptors (in America, a subspecies known as *Chirostenotes*) are omnivores that have short, beaked, parrot-like skulls with bony crests. They are heavily feathered and steal eggs, hunt lizards and grubs. They have a single long finger on each hand for reaching these little creatures. No danger to humans, but hard to spot, or catch. They are very cunning.



PACHYCEPHALOSAURUS

Type: Pachycephalosaur

Str: 4D6 (14)

Dex: 2D6 (7)

Niche: Hunter

End: 4D6 (14)

Mass: 450 kg

Pack: 1D

Move: Fast (0)

Armour: 1

Damage: 2D6+2

Instinct: 10

Behaviour: Attack 6+ if bigger, Flee 8+

Max. Length: 4.6 m

An omnivorous dinosaurs living in small groups, the pachycephalosaur has a large skull topped with a solid dome up to 25 cm thick. It uses this 'thick skull' to ram other males in duels and aggressive displays. Angry members of this species have been known to repeatedly ram vehicles – beware!



PTERANODON

Type: Pterosaur

Str: 2D6 (7)

Mass: 30 kg

Armour: -

Behaviour: Attack if it has surprise, Flee 5+

Dex: 4D6 (14)

Pack: 2D

Damage: 1D6+1

Niche: Pouncer

End: 2D6 (7)

Move: Fast (0)

Instinct: 7

Wing Span: 6 m

This famous pterosaur hunts fish like a modern day pelican, skimming low over the water. They nest on cliff-tops in huge colonies like seabirds today. On land the pteranodon will also feed on crabs, insects and scavenged dead animals. They are slow and ungainly walkers on land, their Move score is used when flying.



QUETZALCOATLUS

Type: Pterosaur

Str: 3D6 (11)

Mass: 120 kg

Armour: -

Behaviour:

Dex: 3D6 (11)

Pack: 2D

Damage: 2D6

Attack 7+ Flee 7+

Niche: Carrion Eater

End: 3D6 (11)

Move: Fast (0)

Instinct: 9

Wing Span: 12 m

The largest flying animal on Earth with a wingspan equal to a Cessna aeroplane! This huge creature is essentially a huge vulture, using its sharp beak to dig deep into carcasses, but it also targets small lizards and mammals. They can walk slowly, the speed given is when flying. Quetzalcoatlus prefer hills and mountains as their territories.



STYRACOSAUR

Type: *Ceratopsian*

Str: 6D6 (21)

Mass: 3 tonnes

Armour: 5

Behaviour:

Dex: 1D6 (2)

Pack: 4D+8

Damage: 3D6

Flee 9+ **Attack** 6+

Niche: *Grazer*

End: 6D6 (21)

Move: *Medium (+2)*

Instinct: 5

Max. Length: 6 m

Large herds of styracosaur roam Laramidia, their large skull frills are ringed by 60 cm-long spikes, used in both defence against large predators, but also for territorial battles between males. Styracosaurs are aggressive and do not back down easily, confronting a predator (or jeep!) with a crowd of angry and spiky adults.



THERIZINOSAURUS

Type: Large Theropod

Str: 7D6 (24)

Mass: 5 tonnes

Armour: 2

Behaviour:

Dex: 1D6 (2)

Pack: 1 only

Damage: 3D6+2

Flee 10+, Attack 10+

Niche: Intermittant

End: 7D6 (24)

Move: Slow (+4)

Instinct: 7

Max. Length: 10 m

As big as a T-Rex, the therizinosaur has gigantic claws on each of its 2 m long forearms. It is actually a herbivore, using its claws to pull down foliage that it cannot reach. Certainly the claws would also be useful in defence. A very strange creature – living a solitary life and not eating or foraging constantly.



TRICERATOPS

Type: Ceratopsian

Str: 7D6 (24)

Mass: 8 tonnes

Armour: 5

Behaviour:

Dex: 1D6 (3)

Pack: 4D+4

Damage: 3D6

Flee 8+ Attack 7+

Niche: Grazer

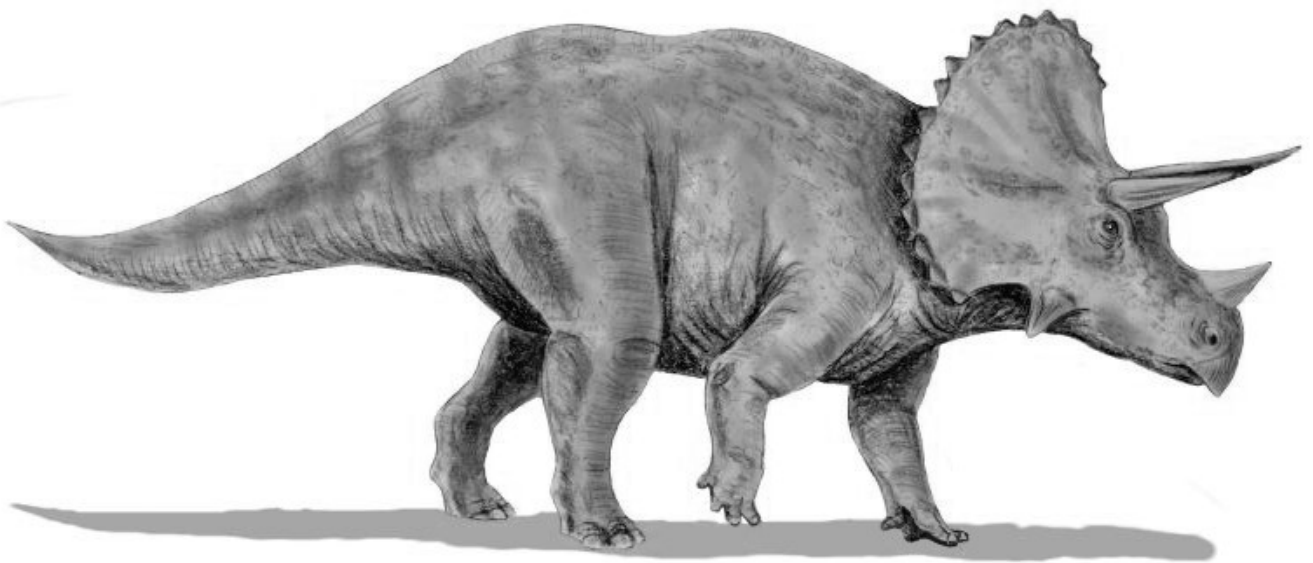
End: 7D6 (24)

Move: Medium (+2)

Instinct: 2D6+2 (9)

Max. Length: 9 m

Triceratops are famous for their impressive skull frills and three huge horns, the rear pair reaching 1 m in length. It roams America in large herds and the males compete in violent contests using their horns. Be careful of triceratops, they can be aggressive and make sudden charges towards humans when nervous or threatened.



TROODON

Type: *Small Theropod*

Str: 2D6 (7)

Mass: 50 kg

Armour: -

Behaviour: *Attack 6+ if bigger, Flee 8+*

Dex: 4D6 (14)

Pack: 2D

Damage: 2D6

Niche: *Hunter*

End: 2D6 (7)

Move: *Fast (0)*

Instinct: 12

Max. Length: 2.4 m

These small theropods resemble a small deinonychus, complete with swivelling killer claw on each foot. Yet they are not pack hunters, they are omnivorous feeders, using their large forward-facing eyes, grasping hands and intelligence to find all kinds of food-stuff after dark. Troodon are the most intelligent of dinosaurs, they hunt small lizards and mammals, scavenge, and exploit what plant-life they can.



TYRANNOSAURUS REX

Type: Large Theropod

Str: 8D6+4 (32)

Mass: 7 tonnes

Armour: 3

Behaviour:

Dex: 5

Pack: 1 only

Damage: 4D6+2

Attack: 6+ **Flee:** 11+

Niche: Intimidator

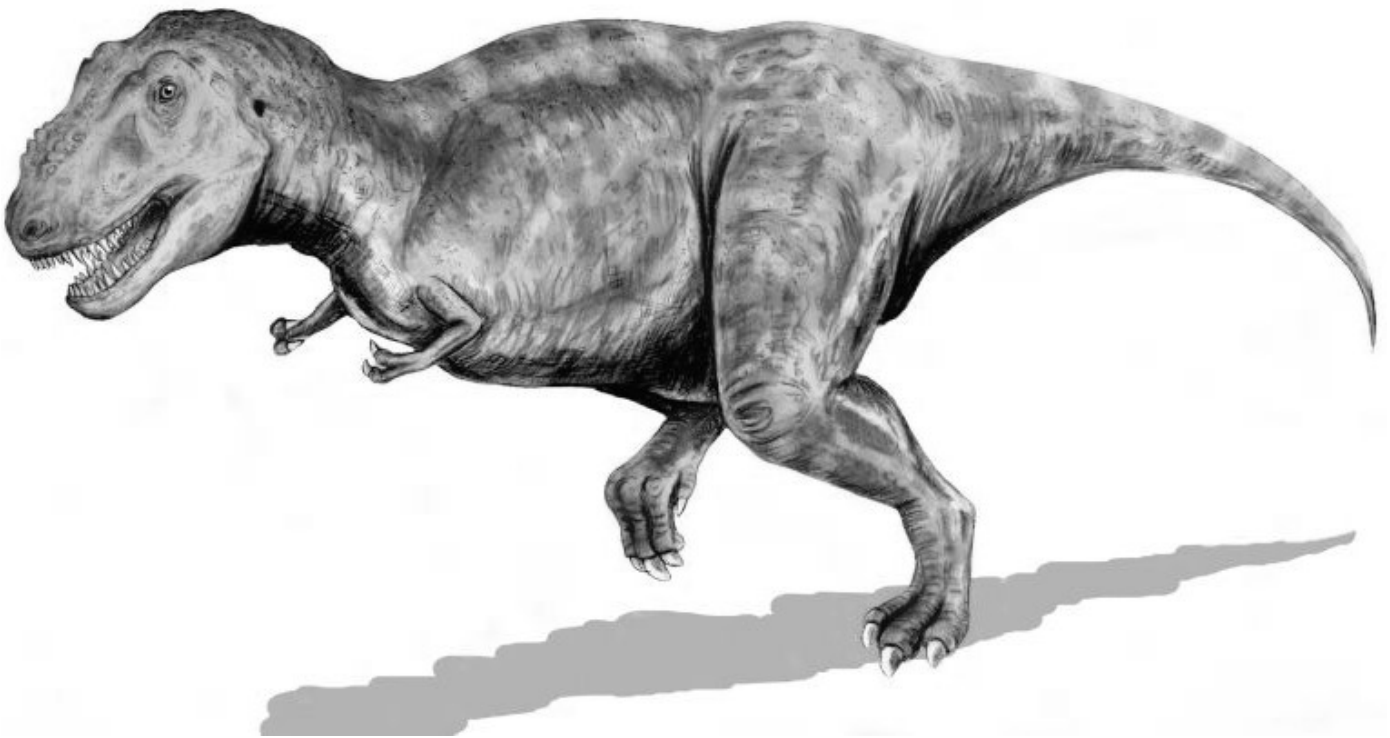
End: 8D6 (28)

Move: Fast (0)

Instinct: 11

Max. Length: 14 m

The largest predator on Earth, T-Rex can attack a herbivore from ambush but it prefers to sniff out another predator's kill and hijack the meat by scaring other carnivores away. Its teeth are like 15 cm-long serrated knives. A ferocious and intimidating killer, around which no human should feel complacent – or safe.



7

GAME RESOURCES

CEPHEUS ENGINE

Camp Cretaceous is based on a set of roleplaying rules called Cepheus Engine, derived from the famous Traveller roleplaying game. Find Cepheus Engine [HERE](#).

HANDOUTS

Children are more susceptible to player handouts than adults and seem to really enjoy the visual appeal of faux documents, photographs and so on. The letter from the youth mentor at Berkeley University at the start of this book is one such handout. I attached a similar letter to the parent reply slips that I sent home with the children, when I was recruiting for my own games. You could go further, with kit lists to fill in for example, or a request to the children to bring in a photograph of their character, cut from a magazine or downloaded from the internet. Likewise the referee may find that the players respond well to photographs of any adult characters that they have to interact with, their 'boss', the site doctor, the technician who always has their vehicle and kit ready, etc.

TOYS

Camp Cretaceous is not a wargame, yet it can be extremely valuable in action orientated situations to have some way to represent the locations of humans, dinosaurs and elements of the scenery to the players. I typically use a quick sketch map, drawn either on paper or a write-erase board. The possibility is there, however, to use a bag of plastic dinosaurs, a few toy army jeeps and a few 1/72nd scale plastic soldiers to 'set up' the situation so that the players can visualise the scene. The downside to this approach is that the children start playing with these props, moving them



around the table and turning their mind's eye away from the consensual reality that they were sharing in their heads. Instead they will focus on the toys. It is best used with slightly younger players.

BOOKS

Referees are heartily recommended to buy or borrow a book on dinosaurs for use in their game. There are hundreds of titles out there, superbly illustrated, comprehensive and packed full of fascinating facts that can be dropped into a Camp Cretaceous game. Any one of these facts can provide the seed for an adventure. Of course it is extremely useful to have great full colour illustrations of all the dinosaurs at the table in order to show the players just what their characters are facing!

TV AND FILM

A number of TV shows and films contain great ideas that can provide inspiration for a game, or simply provide atmosphere:

Jurassic Park (1993)

It is difficult for movie-goers aged 30 or under to understand the impact that this film made. Dinosaurs now lived and breathed for the first time, and the stumbling stop-motion beasts of the past were consigned to the cutting room floor. Once the power goes out, Isla Nublar becomes a dinosaur island with the various compounds and buildings of the Park becoming enclaves of modern technology. There is plenty here for referees, not just parts of the setting, such as the electric fences and the four-wheel drives, but the exciting non-combat action scenes that should make up the bulk of Camp Cretaceous games. Nedry gets his jeep stuck in the jungle, Alan Grant and the kids have to climb an electric fence, the kids themselves have to survive a T-Rex attack while trapped in a car that gets pushed over a cliff, Ellie treats a poorly triceratops ... plenty of ideas there!

Lost World: Jurassic Park (1997)

The Lost World is essential viewing for every Camp Cretaceous referee. Isla Sorna, the second island in Jurassic Park, is now a prehistoric



wilderness and John Hammond sends a small team in to document the habits of the dinosaurs. They carry cages, cameras, tranquilizer rifles and a host of other items in their off road camper van. A rival team soon arrives, and this one is tooled up with guns, huge cages and satellite uplinks – its aim is to capture some of the dinosaurs for exhibitions and zoos. Both expeditions go awry and between a mating pair of tyrannosaurs, a pack of velociraptors and a baby T-Rex, the humans find themselves in real trouble. There is plenty of inspiration here for a roleplaying game, take away the guns and you essentially have a Camp Cretaceous expedition. I particularly like the way in which the velociraptors hunt the humans in the grasslands and how their behaviour becomes more animal-like, more believable and less monstrous. A perfect subtitle for this movie would have been 'dinosaur safari'.

Jurassic Park III (2001)

My favourite film in the Jurassic Park series, the third movie is again set on Isla Sorna. This time the survivors of a plane crash must get to the coast in order to be rescued. There are a couple of new dinosaurs in this movie, but again it is the dramatic action scenes which prove inspirational.

Jurassic World (2015)

This is a decent movie in the Jurassic Park series, though it has essentially the same premise as the 1993 original (dinosaurs escape from a prehistoric theme park). Certainly worth watching in relation to Camp Cretaceous, but not quite as useful for a referee as any of the earlier films.

Prehistoric Park (2006)

A six-episode fictional documentary TV show. The program is presented by TV wildlife presenter Nigel Marven. In it, Nigel goes back to various geological time periods through a space-time portal and brings back live specimens of extinct animals to the present day, where they are exhibited in a wildlife park named Prehistoric Park. This is a really interesting set up and has many elements of interest to a referee, particularly the way in which they try to trap the animals, and also treat those that are sick.



Primeval (2007 – 2011)

A TV action-drama that follows a team of scientists tasked with investigating the appearance of time portals across the United Kingdom through which prehistoric and futuristic creatures enter the present. There are a number of elements that might interest referees, particularly in those episodes where the team members travel in to the past and the way in which they immobilize dinosaurs. However, much of the rest of the series is set in the present with an overtly science-fiction/conspiracy mix to it, making those parts less useful.

Terra Nova (2011)

A TV series running for thirteen episodes that follows a family as it moves to the prehistoric past as part of a large-scale colonisation effort. Scientists have discovered a time portal that permits (one-way) human transmission, and so a series of 'pilgrimages' are put in motion in an attempt to flee the dystopian overpopulated and hyper-polluted present of the mid-22nd century. I missed this series, but from all accounts it was packed with plenty of adventure seeds and setting ideas that could be mined and reused within a Camp Cretaceous game.

Flesh (1977 onwards)

This story in the British comic-book *2000AD* never left my imagination after I read it as a 9 year-old. It is debatable whether or not there is much in here for children, since it presents a Wild West pastiche writ-large in the Cretaceous, with gunslingers, crazy priests, and women of loose virtue. But the premise is glorious: an overpopulated Earth has invented time travel and uses it to send these Texan ranchers back to the Cretaceous in order to herd, butcher and process dinosaur meat which is then sent forward in time to feed the hungry billions. An eye opening premise.



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