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# Cadillacs AND Dinosaurs

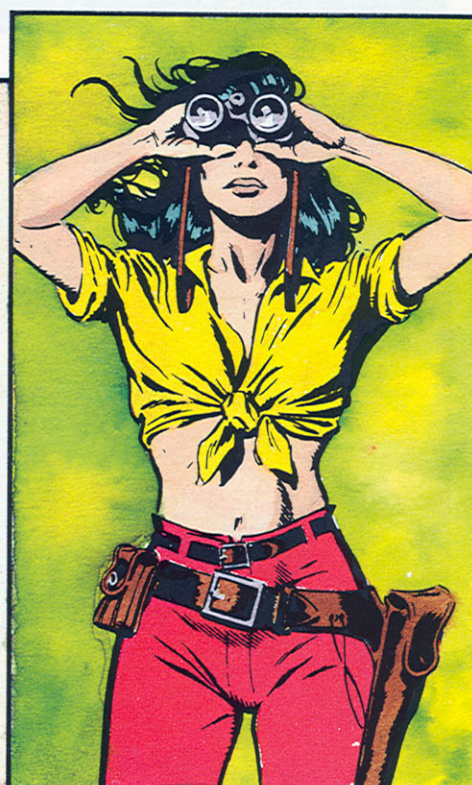## The Roleplaying Game

Thrilling Adventures In A World Gone Mad!

GDW GAMES

# Cadillacs and Dinosaurs
## The Roleplaying Game

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## Cadillacs & Dinosaurs, The Roleplaying Game

SINCE 1973
**GDW**
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# Cadillacs & Dinosaurs

## YEARS OF FIRE

The first evidence of the onset of the cataclysm came in the mid-1980s with the discovery of localized holes in the ozone layer. Although the antarctic hole was discovered first, within a few years a similar hole was discovered over the north pole.

At the same time, depletion of the oxygen-generating rain forests, coupled with massive releases of carbon dioxide ($CO_2$) and sulfur dioxide ($SO_2$) into the atmosphere, brought on a global warming trend. The earliest evidence of this trend was a multiyear drought in sub-Saharan Africa. A three-year drought in North America followed in the late 1980s, and the 1990s were characterized by an extended drought in the Mediterranean basin, as well as renewed droughts in Africa and the central United States. By the mid-1990s there was no longer any doubt that the earth was entering what scientists called the "Little Cretaceous" period.

In the actual Cretaceous period, temperatures were 10-12°C (18-21°F) above normal, a greater temperature variation than that which triggered the Ice Age. The Little Cretaceous brought on a dramatic reduction in the sizes of the arctic and antarctic polar caps, with subsequent inundation of the coastal areas of all of the continents and the disappearance of many of the Pacific island chains. Winter and summer were replaced with dry and rainy seasons. The rains scrubbed the $SO_2$ from the atmosphere, turning it into a sulfuric acid rain that destroyed inland lakes and rivers. Desert reclaimed much of the world's marginal farmland, while tropical jungle encroached on the more fertile areas.

Industrial pollution combined with ultraviolet poisoning (due to the depleted ozone layer) began to kill ocean plankton on a large scale. This not only affected the aquatic food chain, but also further reduced oxygen generation. The increase in ultraviolet radiation produced a dramatic increase in skin cancer, and the earth's population increasingly remained indoors during daylight hours.

As food production plummeted, population pressures became overwhelming. The teeming populations of the world's major cities showed increasingly psychotic behavior, while nations warred over the shrinking areas of fertile land and dwindling fishing banks. Radical Malthusians preached genocide as a tool of natural survival and gained power in many countries.

In a desperate attempt to meet its food needs, Japan launched a crash program in bioengineering and gene splicing. Its product was as unexpected as it was staggering in its effects: an organic compound understood only by a handful of biochemists and called the *Elixir Vitae*. The compound dramatically sped up the evolution of single-celled plants and animals, and soon examples of life long since extinct on the earth were replicated in the laboratory. By 2010 offshore trilobite beds were established to feed the hungry Japanese population, but other events rendered this achievement fruitless.

The 1980s had witnessed a series of devastating earthquakes in California, Mexico, and Armenia. There followed two decades of comparative calm, but then the geologic violence resumed with renewed fury in 2011. The second major eruption of Mount St. Helens in a century was followed shortly by major volcanic activity all along the border of the Pacific rim. While the world raced to deal with catastrophic destruction and casualties in the Hawaiian, Philippine, and Japanese home islands, a major earth tremor shook the central United States. The long-awaited quake along the New Madrid Fault had come at last, and with a violence which exceeded all prior predictions. Aftershocks followed one after another for weeks and made rescue efforts virtually impossible. Simultaneous earthquakes and vulcanism in Italy, the Balkans, Turkey, the Caucassus, and Iran took hundreds of thousands of lives and left tens of millions homeless.

As the tremors continued unabated and new volcanic cones formed on a daily basis, an alarming pattern began to emerge. The planet was undergoing a major increase in tectonic activity which showed every sign of accelerating. Furthermore, volcanic ash thrown into the atmosphere was settling on the remains of the icecaps, reducing their reflectivity and thus accelerating their melting, while massive amounts of $CO_2$ and $SO_2$ contributed to global warming.

As research into the phenomenon continued, work was begun on gigantic underground shelters in geologically stable areas of the planet's crust. Since no one could tell how long the shelters would be needed, they were designed to be completely self-sustaining ecosystems. Construction workers labored at a fever pitch as the geologic and ecologic destruction increased. Renewed major tremors along the New Madrid Fault caused a major settling of the crust, and the resultant tsunamis scoured the landscape clean as far north as the old headwaters of the Mississippi.

The first shelters were ready by 2015, and at first there were armed battles at their gates. As the global geologic disaster increased, however, surface travel became increasingly impossible, and soon only those people actually working on the shelters had the opportunity to occupy them.

By AD 2020 the churning, spitting Earth came to a boil. Billions died, and entire species were consumed. The few surviving humans huddled in their scattered iron and steel tombs and waited.

## YEARS OF DARKNESS

For the inhabitants of many shelters, the wait was mercifully brief. Few areas were immune to the tremendous geological forces at work, and many shelters simply disappeared into the shifting, sliding earth's crust. The miracle was that any shelters survived at all.

Those which did survive the quakes and tectonic movement were microcosms of the societies they had left behind. Governed by the remnants of the political, technological, and managerial elites of their societies, the shelters drew water from pure underground springs, power from geothermal generators, and food from hydroponic algae tanks.

The shelters had been designed to last for years, but the years turned into decades, and the machinery began to break down. Humans had no experience with designing *permanently* self-sustaining ecosystems, and there was now very little opportunity for trial and error. After about a century, the deterioration in the machinery reached crisis proportions.

At this point, a change in the leadership in the shelters began to take place. A small group of people in each community emerged as the new and powerful leaders—the mechanics. Only the mechanics understood the life-giving machines and could keep them running. While the shelters had originally been ruled by the traditional elites

of the surface world—politicians and industrialists—their power soon waned as the mechanics became the only group capable of guaranteeing the group's survival. While the previous unspoken aim of the governing systems had been to preserve the positions of privilege enjoyed by the rulers, the shelter societies now reorganized with the goal of maintaining their fragile ecosystem for the benefit of the group as a whole.

Gradually, also, the mechanics began to sense a pattern to the life in the shelter and began to understand the intricacies of a delicately balanced ecosystem. Even then they might not have survived were it not for the Grith.

The Grith were an ancient race which pre-dated humanity, but which had never developed a technology of their own and had carefully lived in isolation for tens of thousands of years. To avoid contact with humankind, the Grith had taken to living in caverns deep beneath the earth's surface, a system of caverns never suspected by human geologists. They had long ago mastered the techniques of maintaining a subterranean ecosystem and now carefully shared those secrets with the mechanics.

Humankind survived, led by the mechanics and their invisible mentors, the Grith. For 450 years people survived in their subterranean tunnels, and although each shelter was completely isolated from the others, a similar pattern developed in each one. There was a growing understanding of humankind's place in the ecosystem and a growing awareness that somehow humanity's ignorance of that place had brought on the cataclysm. The lessons learned from life in this precariously balance subterranean ecosystem were formalized into a code of living: the *Machinatio Vitae* (the Machinery of Life).

The basis of the *Machinatio Vitae* was an acceptance of humanity's place as one element of a balanced ecosystem, an element no more (or less) important than any other. It was a humble acceptance of the order as it existed, rather than an aggressive attempt to impose a different order on the world. By the same token, it recognized humanity's unique place in the natural order as a thinking animal and accepted its responsibility to actively maintain the balance.

Although the mechanics enjoyed a growing understanding of humanity's place in the natural order, much was lost during this period as well. The arts, unessential to daily survival, languished and all but disappeared. Nonessential people were weeded out, sometimes brutally, and society developed an unreasoning prejudice against people who did not work with their hands. The mechanics were single-minded in their devotion to their machinery and the balance of life in the shelters, but this bred a narrow-mindedness and inflexibility as well.

## A WORLD GONE MAD

Eventually, even the skills of the mechanics were no longer equal to the task of keeping the ancient machinery running. If humanity would survive, it would have to be by a return to the surface. The geologic upheavals had long since quieted, but there was no means of telling what sort of hellish environment waited above.

The first small parties of brave men and women who ventured to the surface discovered a world dramatically altered from that which their ancestors had known. Alterations in the geology and climate were to be expected and were easily explained. What proved impossible to explain was the unprecedented eclectic ecosystem. Plant and animal life from every geologic age of the earth was simultaneously present on the surface. How could complex and sophisticated forms of life, such as dinosaurs and mammals, many extinct for millions of years, have evolved and repopulated the planet in scarcely more than a century?

Explaining the new world, however, was not the most pressing concern of the people as they emerged from their shelters. Simple survival in a hostile environment was their highest priority. Led by the mechanics and their descendants, humankind began farming, hunting, and rebuilding the world, but always with a strong regard for maintaining the natural balance of life.

One hundred years later, humankind has reestablished a precarious foothold on the planet's surface, but life is very hard. Each of the widely scattered surviving shelters has formed the basis for a tribe. In some areas, considerable artifacts of the old world were recoverable and made life easier, but in most areas the tribes had to start from scratch. While most tribes have established various forms of government, usually based on some form of elected council, the spiritual leaders of the communities continue to be the Old Blood mechanics (or just Old Bloods), so called due to their direct descent from the original mechanics of the shelters.

As memories of the time spent in the shelters fade and the everyday difficulties of life assume a greater importance, there is growing resistance to the teachings of the Old Bloods. Poaching (hunting animals for luxury goods, such as skins, ivory, or rare glands, rather than for needed meat) is on the rise. Many farmers agitate for greater use of technology to tame the land. While few dispute the precepts of the *Machinatio Vitae*, many argue for a more liberal interpretation and wonder if the Old Bloods have become so immersed in dogma that they have lost the flexibility necessary to deal with a constantly changing environment.

As populations grow, the scattered tribes make tentative moves to contact other tribes. But at home, each tribe struggles with problems of its own moral direction, political control, and simple daily survival.

The old ways seem to be slipping away, but no one has a clear idea of what new order will grow up to replace them.

Only violence and change seem certain.

# PRECAMBRIAN TIME

| PERIOD | MILLIONS OF YEARS AGO |
|--------|------------------------|
| CAMBRIAN | 570 |
| ORDOVICIAN | 500 |
| SILURIAN | 435 |
| DEVONIAN | 410 |
| | 360 |
| MISSISSIPPIAN | |
| PENNSYLVANIAN | 330 |
| | 290 |
| PERMIAN | |
| | 240 |
| TRIASSIC | |
| | 205 |
| JURASSIC | |
| | 140 |
| CRETACEOUS | |
| | 65 |
| TERTIARY | |
| | 2 |
| QUATERNARY | |
| | 0 |

Some think the seeds of the Cenozoic's cataclysmic demise were sown as early as the eighteenth century. What *is* known is that by 1987 A.D., the series of geological upheavals that would signal the unprecedented fall of an era had already begun.

Although the enormous *pattern* and unfortunate *cause* behind the global catastrophe would not be discovered until many years later, by the early twenty-first century, mankind had begun its retreat from an increasingly inhospitable surface to the safety of vast subterranean shelters.

By 2020 A.D., the churning, spitting Earth came to a *boil*. Billions died and entire species were consumed. The few surviving humans huddled in their scattered iron and steel tombs and waited...

*Four hundred and fifty years* after it had sealed itself off, mankind returned to the daylight, and was greeted by a radically altered world...A world that logically should not exist...A world fully populated by an unprecedented, eclectic ecosystem!

Now, come with us through *beauty* and *terror*, *mystery* and *paradox*. Come with us to the...

# XENOZOIC ERA

## GAME OVERVIEW

**Cadillacs & Dinosaurs** is a roleplaying game set in the exotic and dangerous Xenozoic era. In a roleplaying game, one of the players becomes the referee, while the other players take the part of actual characters in the story as it unfolds. The referee describes the world and provides interesting puzzles and dangerous challenges for the players to deal with. This makes the referee like the author of a novel or short story in many respects.

But the players, unlike characters in a work of fiction, are not controlled by the referee. Instead, they decide on their own courses of action.

The result is an exciting blend of game and storytelling, with all participants cooperating to reach the conclusion of the plot.

The first several pages of this book have already provided you with some insights into the unique world of the Xenozoic era. This world setting was created by Mark Schultz and forms the basis for his outstanding comic book *Xenozoic Tales*, published by Kitchen Sink Press, Inc.

As this is written, the early issues of the magazine are being reprinted in color by Marvel Comics Group under their Epic label and with the title *Cadillacs and Dinosaurs*. Translations of the comics and graphic novels have appeared in several foreign languages.

Mark Schultz is the creative force behind the entire feel and look of the Xenozoic era, and draws the series in addition to writing it. Numerous examples of his exciting art appear throughout the pages of this book.

The game is set in the region inhabited by the tribe of the City in the Sea. Players will generate characters representing tribesmen and women from various walks of life. The tribe's existence is a precarious one, with constant threats to its survival.

When the tribe's Council of Governors encounters a problem, it invariably calls on groups of experienced troubleshooters to deal with it. The players will represent such a group.

The typical adventure session will begin with the referee informing the players that their characters have been called together by the council to deal with some new development. They will be briefed by a member of the council (the referee will play this role), or perhaps by the entire council if the problem is particularly serious.

The characters will make their way to wherever the problem is and deal with it to the best of their abilities. They will then return and make their report to the council, which will either congratulate them on a job well done or reprimand them for their mistakes.

In many cases a mission will take more than one actual game meeting to play out. In this case, the adventure is broken into several episodes. The first episode or two may be taken up with just getting to the problem area, particularly if it is at a remote outpost, such as the Calhoon Copper Mines. More than one episode may be required to deal with the problem, because in a good adventure the actual problem is often quite different from what the council believed it to be.

This pattern of council-directed missions will form the bulk of player activity for many game sessions. Eventually, however, the characters will come to understand the political situation in the City in the Sea better, and the referee may confront them with problems that the council is unaware of, or unable to act on, or even a willing party to. The characters may, at that point, begin taking action on their own. They will begin to act independent of the council, and the day may come when they act in open defiance of it.

But the game does not have to revolve exclusively around the internal politics of the City in the Sea. This is just one tribe of survivors, and there are undoubtedly many others. Characters may instead decide to direct their efforts outward. Once they have established considerable credit with the council for well executed operations, they may be trusted with more ambitious exploratory missions. The characters may even be able to talk the council into organizing a second expedition down the Theu River to the Great Inland Sea (with the characters in charge, of course). The genuine joy of roleplaying is that these decisions are entirely up to the players and the referee.

The contents of this book are arranged to make it as easy as possible for players and referees to get started. Players should begin by generating a character (the rules on doing so come next). Once they have a character, they will want to outfit him, so the equipment section comes next.

Following these is a section of rules and suggestions for the referee. Players are free to read this section, but they do not need to in order to play the game. Next come the combat and animal rules—again, both players and referees can read them, although only the referee has to.

The next chapter of the text, entitled "The Known World," should only be read by the referee, as there is a considerable amount of information about the world which the characters should only learn gradually and as a result of their adventures. This chapter has all the information a referee needs to get the game started.

The very end of the book provides an adventure and game reference charts. The charts may be used as is, or the referee may photocopy them, whichever is more convenient.

## DIE-ROLLING CONVENTIONS

**Cadillacs & Dinosaurs** uses six-sided and 10-sided dice, and you will need at least one of the first type and two of the second type. Play will be much easier, however, if you have a quantity of both kinds handy for the referee and the players to use.

When die rolls are called for in the game, a notation is used which tells you both how many dice are used and what type. For example, "1D10" means you roll one 10-sided die, while "3D6" means you roll three six-sided dice.

**Die Roll Modifiers:** Sometimes die roll results must be modified. For example, 2D6–2 means roll two six-sided dice and add the numbers together, then subtract 2. Conversely, 3D6+2 means roll three six-sided dice and add the numbers together, then add 2.

**Rolling vs. (Against) an Attribute or Skill:** To achieve success, the die roll must be less than or equal to the numerical value of the attribute (unless otherwise specified). Die roll modifiers (if any) are to be made to the die roll before comparing the result with the attribute number.

**Rounding-Off:** Fractions will sometimes have to be rounded off to whole numbers. The direction you should round will be specified in the text.

## GENDER-SPECIFIC PRONOUNS

For simplicity of form, the male pronoun is used in most cases in these rules.

This should not be interpreted as suggesting that female characters are precluded from any game activity; readers of the continuing story line will recognize that the women of the Xenozoic era are as capable and dangerous as are the men.

# Character Generation

Characters are the focus of **Cadillacs & Dinosaurs**; they are the alter-egos of the players, and all activity centers on them. Each character is a person within the game, interacting with other player characters (those controlled by other players) and nonplayer characters (controlled by the referee).

Characters are described in the game using their physical and mental attributes, skills, and other characteristics. All these characteristics are derived by a combination of die rolls and player choices. The following rules explain this process of character generation.

To make the process of character generation easier, a blank character record sheet is included on page 140. Skills are described in the Skill List on page 141. Character generation examples and sample record sheets are on pages 16-19. The character record sheet is largely self-explanatory, but occasional references to the rules are necessary, at least for the first few characters. A player should read the rules as he generates his character, filling in the appropriate blanks of the character sheet as he goes. Once the character is completely generated, the record sheet is a permanent record. *Remember to save at least one blank copy of the character record sheet to photocopy.*

## OVERVIEW

**Background:** Each player decides on the gender of his character, then names him or her and collects a few background skills.

**Attributes:** Each player determines the six basic attributes of his character, either by rolling dice or by using a point system described later. These six basic attributes are Strength, Agility, Constitution, Charisma, Intelligence, and Education.

**Experience:** Each character begins accumulating experience while still quite young, and this experience is represented in the game by background skills. Most experience, however, is gained through careers. Each character can have one prior career. Each career provides certain basic skills and allows the player to select a number of bonus skills, again based on the character's attributes. Thus the basic rolled attributes strongly influence the future actions of the character.

**Skill and Attribute Derived Values:** Once all changes to skills are finalized, certain values are calculated based on them. These values are things like the character's accuracy with a weapon at different ranges, how strong a punch he throws, and so forth.

**Equipment:** Finally, a player finds out how much equipment his character has managed to hold onto through his adventures so far.

## BACKGROUND

Each player should name his character and decide on the character's gender. In addition, each character receives certain background skills. Each player chooses four skills from the Background Skill List and receives a level 2 skill in each.

## ATTRIBUTES

Each character is described, in the simplest of terms, by six basic attributes: Strength, Agility, Constitution, Charisma, Intelligence, and Education. These attributes are divided between two broad groups: physical attributes (Strength, Agility, and Constitution) and mental attributes (Charisma, Intelligence, and Education).

Attributes may be determined in one of two ways—random generation or allocation. Random generation gives the player only minimal control over a character's attributes, but many players enjoy the challenge of playing a randomly generated character. Allocation allows the player greater input in shaping a character, but evens out the extremes of random fluctuation.

**Random Generation:** In this method, each attribute is determined by rolling 2D6−2 (reroll any roll that would result in a 0 attribute score). This gives a range of from 1 to 10 for each attribute.

A player who rolls attributes totaling less than 30 points may add attribute points (allocated as he sees fit) to bring the total up to 30. This way the character is always at least average.

**Allocation:** Players who choose the allocation method have a total of 32 points to be distributed among their attributes in any combination they wish. No attribute may have a value of 0 or more than 10.

**Meaning of Attributes:** Attributes have the following definitions:

*Strength:* The numerical quantification of a character's muscular power.

*Agility:* A measure of the character's coordination and nimbleness.

*Constitution:* Health and physical stamina. This affects the character's resistance to disease and also influences his hit capacity.

*Charisma:* The extent to which the character is attractive to and trusted by strangers. This is a measure not only of physical appearance, but also of sensitivity and natural charm.

*Intelligence:* A measure of the ability of the character to perform abstract reasoning. Intelligence primarily affects the ability of the character to learn; it is not the same thing as common sense. (How much common sense the character has is determined by the actions of the player himself.)

*Education:* A measure of the character's performance in a formal academic setting. This attribute determines how far a character can get in a university and serves as a prerequisite for certain forms of higher education.

**Abbreviations:** The six attributes of Strength, Agility, Constitution, Charisma, Intelligence, and Education are used throughout these rules. For brevity, they will sometimes be abbreviated as STR, AGL, CON, CHA, INT, and EDU, respectively.

## EXPERIENCE

Player characters will have to carry out many difficult and dangerous tasks over the course of the game. Skills in various fields of knowledge will determine their success or failure. The

## Background Skill List

- Swimming
- Melee
- Riding
- Fishing
- Small Boat
- Tracking
- Farming
- Small Arms

players have a reasonably free hand in choosing a prior career for their characters.

A character starts out at age 17 with certain minimum skills (these are picked up in the process of growing up, as noted previously). The character then enters a career. A character may enter any career for which he meets the attribute prerequisites. Nothing in these rules prevents a character from entering the game at age 17, although we cannot imagine why any player would want to do so.

Assuming a character does enter a career, roll 3D6 for the number of years spent in the career prior to the start of the game and add this to 17 to determine the starting age of the character. (Thus all characters who have a prior career will be at least 20 years old and may be as much as 35 years old. The average starting age for a character is 27.5.)

## OBTAINING SKILLS

Players obtain skills initially in three ways: background skills, career skills, and bonus skills. Background skills are available to all characters, regardless of career chosen. Career skills are provided by the actual career the player chooses for his character and are listed under the various career descriptions. Each career also provides a number of bonus skill levels, which may be used to purchase additional skills or increase the character's proficiency in existing skills.

Skills are received in levels from 1 to 10. A level of 4 in Mechanic skill would be written as Mechanic: 4.

As a character is awarded skill levels for careers, the player adds them to the previous skill levels. Bonus skills may be added to any existing skill or may be used to purchase new skills. However, once a character's level in a particular skill equals the character's controlling attribute, all additional skill level awards count only as a half level instead of a full level.

For example, a character with an Agility of 4 has a Driving skill of 2. If he received two skill levels for his career, his skill level would go up to 4. If he uses a bonus skill level to raise Driving higher, however, it would only go up to 4½, as the skill level had already reached the level of the controlling attribute (in this case, Agility).

All half levels are retained for long-term improvement purposes, but are rounded down for purposes of actual skill use. Thus, the character with a Driving skill of 4½ would have an effective skill level of 4 until he received an additional skill level promotion.

## CONTACTS

As part of his career, a character can acquire contacts. These are friends, acquaintances, associates, colleagues, confederates and even rivals that a character has some previous association or connection with. Basically, a contact is someone from the character's past, who is encountered at an opportune moment in an adventure session ("You just happen to run into an old pal from your smuggling days."). The rules given below are a means of regularizing these seemingly chance encounters. It is intended that contacts be used (at the referee's discretion) to add interest and variety to an adventure by providing an additional resource for characters to make use of in a crisis or to spur the plot along. In the hostile environment of the Xenozoic age, contacts can be vital.

Contacts exist in one of two forms: generic and solid. A contact must be one or the other—it cannot be both.

**Generic Contacts:** Generic contacts are assigned during char-

acter generation. The player may work up attributes and skills for them at any time, if desired, or this can be left to the referee. In some cases, it may not be necessary to develop a contact in great detail, unless the situation is such that the contact could turn into a recurring character.

**Solid Contacts:** Solid contacts are those which have been assigned a name, skills, attributes, suitable background history, and so on, and have been used in an adventure.

Players may not convert a solid contact back into a generic one, but they can run into the same person again in a different place if the referee is agreeable. Once a generic contact is turned into a solid one, the referee must pay a little closer attention to how he might go about showing up in future adventures. A contact in a band of poachers or nomads can be expected to wander, but a contact in a community government or a local militia will tend to stay in the same geographic area. Also, contacts can (and should) change over time. Next time you run into Angry Anton, maybe he'll be running a tribe—or scrounging in the ruins.

## INITIATIVE

To determine Initiative, roll $2D6 \div 2$ (round up). Add one to the Initiative for explorer-diplomats, hunters, guards, criminals, Old Blood mechanics, and nomads. However, a character's Initiative may never be higher than 6.

## SKILL AND ATTRIBUTE DERIVED VALUES

Once the player has finished all steps of character generation which affect skills and attributes, the following values, which are derived from skills and attributes, can be calculated.

**Hit Capacity:** Hit capacity is a measure of the amount of damage (hits or hit points) a character can take before suffering serious injury. Hit points can be suffered in any of seven different parts of the body: left arm, right arm, left leg, right leg, head, chest, and abdomen.

The hit capacity of a character's head is equal to twice his Constitution—CON×2. The hit capacity of his chest is equal to three times the sum of his Strength and Constitution—(STR+CON)×3.

Each of his other body parts has a hit capacity equal to two times the sum of his Strength and Constitution—(STR+CON)×2.

**Weight:** A male character's weight in kilograms is equal to 90 plus four times Strength minus Agility—[4×(STR−AGL)]+90. Thus, a character with a Strength of 6 and an Agility of 1 would weigh 110 kilograms (roughly 240 pounds), while a character with a Strength of 4 and an Agility of 8 would weigh 74 kilograms (roughly 162 pounds).

Physiological differences, particularly in bone structure, produce smaller body masses in women. For a female character, weight in kilograms is equal to 75 plus four times Strength minus Agility—[4×(STR−AGL)]+75. Thus, a female character with a Strength of 6 and an Agility of 1 would weigh 95 kilos (roughly 209 pounds), while a female character with a Strength of 4 and an Agility of 8 would weigh 59 kilos (roughly 130 pounds).

**Load:** A character can carry a considerable amount of equipment cross-country, but there is a limit. A character may carry, without being heavily burdened, weight in kilograms equal to three times the sum of his Strength and Constitution—(STR+CON)×3. This is called his normal load. A character may carry up to twice this amount, but is burdened and has his movement reduced, as

explained on page 59. A character may lift loads up to four times this amount and carry them short distances (50 to 100 meters), but this counts as hard work under the fatigue rules, as explained on pages 46-47. Characters may combine their load capacities to lift heavy objects.

**Throw Range:** The distance (in meters) a character can throw a one-kilogram weight accurately is called his throw range. Throw range is four times the character's Strength—STR×4.

**Base Hit Numbers:** After a character has selected the skills he desires, he should determine his base hit numbers. Base hit numbers are used in fire combat to determine the chances of hitting the target.

The base hit number is the D10 chance of hitting a target with an aimed shot. Base hit number is equal to the appropriate marksmanship skill for the weapon being fired, modified for range. All small arms use Small Arms as their marksmanship skill, except for hunting bows, which use Archery skill. The base hit number at close range is twice the skill; at medium range, it is the unmodified skill; at long range, it is half the skill; and at extreme range, it is one-quarter of the skill. All fractional values are rounded to the nearest whole number, with values of one-half rounded up. Players should record the base hit numbers for all relevant skills in the appropriate spot on the character record sheet, leaving unneeded spaces blank.

**Unarmed Combat Damage:** Unarmed combat damage determines the amount of damage a character will inflict on an opponent if he hits him during melee combat. Unarmed combat damage is determined by multiplying a character's Melee skill by his Strength and dividing by 10, rounding fractions down (unless this would result in 0, in which case it is 1)—(STR×Melee)÷10. The result is the number of hit points the character will inflict per attack.

**Example:** Jack has a Strength of 8 and a Melee skill level of 6. From this, calculate the unarmed combat damaged—(8×6)÷10=4.8. Jack will inflict 4 hit points per unarmed combat attack.

## EQUIPMENT

Many careers include some equipment as a special bonus. Equipment may be weapons or vehicles, but can also include an unusual item, such as a stock dog. Each career also provides money which can be used to buy equipment. All money is listed in terms of credits, the standard medium of exchange in the Xenozoic age.

For an explanation of money, see pages 116-117.

To determine how much money a player has, roll 1D6 (or 2D6, depending on the career) and multiply the result by 10, 50, 100, or 500, again depending on the career. Players may buy equipment separately or may pool their resources to buy equipment. All items of equipment are listed starting on page 20, along with their weight and prices.

**Example:** Jack is an Old Blood mechanic. The career money notation reads "1D6×Cr500." Jack throws 1D6 and rolls a 4. He receives Cr2000 to start the game.



BACK IN THE DAYS I WORKED DOWN IN THE **CATACOMBS**, I STUDIED UNDER SCHARNHORST HERSELF!

WHY, I EVEN MET THE GREAT **DR. FESSENDEN!**

AND I MADE THE RIGHT CONTACTS TO INSURE I COULD GET SOME OF THIS HERE **PRE-CATACLYSMIC EQUIPMENT** FOR MY OWN USE....

## CAREER LIST

The following section lists the careers a player may choose from. Each career listing provides entry requirements, career skills, bonus skill levels, any applicable specialties, contacts, money, and special information.

Skills are received in levels from 1 to 10.

### Criminal

**Entry:** Strength or Agility: 7+, Charisma: 5+.
**Skills:** Basic skills listed below, plus four bonus skill levels.
- Melee: 2
- Small Arms: 2
- Thrown Weapon: 2
- Disguise: 2
- Interrogation: 2
- Bargaining: 2
- Forgery: 4
- Lockpick: 4
- Stealth: 4
- Scrounging: 2

**Contacts:** 1 manager or politician, 1 criminal/black market, 1 hostile mechanic.
**Money:** 1D6×Cr100 in gold dollars.
**Special:** 1 pistol of your choice.

### Doctor

**Entry:** Education: 9+.
**Skills:** Basic skills listed below, plus eight bonus skill levels.
- Biology: 2
- Chemistry: 2
- Medical: 8
- Riding: 2
- Interrogation: 2
- Leadership: 2
- Persuasion: 2
- Observation: 2

**Contacts:** 1 scientist, 1 doctor.
**Money:** 2D6×Cr500.
**Special:** Complete set of medical instruments.

### Engineer

**Entry:** Education: 7+, Intelligence: 5+.
**Skills:** Basic skills listed below, plus six bonus skill levels.
- Small Arms: 2
- Electronics: 3
- Gunsmith: 3
- Lockpick: 3
- Machinist: 3
- Scrounging: 2
- Metallurgy: 2
- Engineer: 8

**Contacts:** 1 politician, 1 mechanic.
**Money:** 1D6×Cr500.
**Special:** 1 pistol of your choice, 1 rifle worth no more than $500.

### Explorer-Diplomat

**Entry:** Charisma: 6+, Constitution: 6+, Intelligence: 7+.
**Skills:** Basic skills listed below, plus six bonus skill levels.
- Small Arms: 3
- Biology: 1
- Geology: 1
- Medical: 1
- Meteorology: 1
- Riding: 1
- Mountaineering: 2
- Swimming: 1
- Small Boat: 1
- Foraging: 3
- Fishing: 1
- Navigation: 3
- Persuasion: 3
- Observation: 3

**Contacts:** 1 politician.
**Money:** 1D6×Cr100.
**Special:** 1 pistol of choice, 1 rifle worth no more than $500.

### Farmer

**Entry:** Constitution: 7+, Intelligence: 5+.
**Skills:** Basic skills listed below, plus six bonus skill levels.
- Small Arms: 2
- Biology: 2
- Meteorology: 4
- Riding: 2
- Bargaining: 2
- Foraging: 4
- Farming: 6
- Driving: 2

**Contacts:** 1 mechanic, 1 manager, 1 farmer.
**Money:** 1D6×Cr50.
**Special:** 1 stock dog, 1 rifle or shotgun worth no more than $400.

### Guard (Warrior, Mercenary)

**Entry:** Strength: 7+, Agility: 5+.
**Skills:** Basic skills listed below, plus four bonus skill levels.
- Melee: 6
- Small Arms: 6
- Medical: 1
- Riding: 2
- Interrogation: 1
- Stealth: 3
- Foraging: 2
- Observation: 2
- Scrounging: 3

**Contacts:** 1 manager or politician, 1 guard, 1 criminal/black market.
**Money:** 1D6×Cr100 in credits or gold dollars, player's choice.
**Special:** None.

### Hunter

**Entry:** Agility: 7+, Strength: 5+.
**Skills:** Basic skills listed below, plus four bonus skill levels.
- Small Arms: 6
- Biology: 2
- Meteorology: 2
- Riding: 2
- Swimming: 1
- Stealth: 4
- Foraging: 2

● Navigation: 2
● Observation: 2
● Tracking: 4
**Contacts:** 1 mechanic or criminal/black market, 1 hunter.
**Money:** 1D6×Cr100 in credits or gold dollars, player's choice.
**Special:** 1 rifle of your choice.

### Laborer

**Entry:** No prerequisites.
**Skills:** Basic skills listed below, plus 10 bonus skill levels.
● Mechanic: 2
● Melee: 2
● Small Arms: 2
● Bargaining: 2
● Electronics: 2
● Gunsmith: 2
● Machinist: 2
● Small Boat: 2
● Driving: 2
● Scrounging: 2
**Contacts:** 1 manager, 1 laborer, 1 criminal/black market, 1 engineer.
**Money:** 1D6×Cr50 in credits or gold dollars, player's choice.
**Special:** None.

### Manager

**Entry:** Intelligence or Charisma: 5+, Education 7+.
**Skills:** Basic skills listed below, plus eight bonus skill levels.
● Leadership: 6
● Persuasion: 6
● Bargaining: 6
● Scrounging: 4
**Contacts:** 1 politician, 1 manager, 1 engineer.
**Money:** 2D6×Cr500.
**Special:** None.

### Nomad

**Entry:** Constitution: 7+, Intelligence: 5+.
**Skills:** Basic skills listed below, plus two bonus skill levels.
● Melee: 4
● Small Arms: 4
● Thrown Weapon: 2
● Medical: 1
● Riding: 4
● Mountaineering: 1
● Swimming: 1
● Bargaining: 1
● Foraging: 4
● Navigation: 4
● Observation: 1
● Tracking: 4
**Contacts:** 1 mechanic or engineer, 1 nomad.
**Money:** 1D6×Cr10.
**Special:** 1 horse, 1 bow and a quiver of arrows.

### Old Blood Mechanic

**Entry:** Strength: 7+, Intelligence 6+.
**Skills:** Basic skills listed below, plus six bonus skill levels.
● Small Arms: 2

● Gunsmith: 2
● Lockpick: 2
● Stealth: 3
● Driving: 4
● Scrounging: 2
● Navigation: 2
● Tracking: 3
● Mechanic: 6
**Contacts:** 1 politician, 1 engineer, 1 hostile criminal, 1 Grith.
**Money:** 1D6×Cr500.
**Special:** 1 rifle and 1 pistol of choice. 1D6 cars and/or trucks, or 1 small motorboat, 1 bag of *Scrabble* tiles.

### Politician

**Entry:** Charisma: 7+, Intelligence: 5+.
**Skills:** Basic skills listed below, plus eight bonus skill levels.
● Persuasion: 8
● Leadership: 6
● Bargaining: 8
**Contacts:** 2 politicians, and 1 scientist, mechanic, or explorer-diplomat.
**Money:** 2D6×Cr500.
**Special:** 1 pistol and 1 rifle of choice. Access to all parts of the city.

### Sailor (Fisherman)

**Entry:** Agility: 7+, Intelligence: 5+.
**Skills:** Basic skills listed below, plus four bonus skill levels.
● Melee: 2
● Swimming: 2
● Small Boat: 6
● Fishing: 6
● Navigation: 6
● Bargaining: 2
● Observation: 2
**Contacts:** 1 manager or politician, 1 sailor.
**Money:** 1D6×Cr50.
**Special:** 1 fishing boat.

### Scientist

**Entry:** Education: 7+, Intelligence: 9+.
**Skills:** Basic skills listed below, plus eight levels in any one specialty, plus four levels in a second specialty, plus eight bonus skill levels.
● Mechanic: 1
● Medical: 2
● Instruction: 2
● Interrogation: 1
● Leadership: 2
● Electronics: 2
● Observation: 4
**Specialties:**
● Biology
● Chemistry
● Geology
● Metallurgy
**Contacts:** 1 scientist, 1 politician.
**Money:** 1D6×Cr500.
**Special:** Access to the city's vaults and libraries.

## CHARACTER GENERATION EXAMPLE 1

The player begins by determining her character's background. She decides on a male character and names him Cliff Stockwell. She rolls 3D6 for the number of years spent in the career prior to the start of the game and gets a 12. Adding this to 17 gives a result of 29 years of age. She decides that Cliff is from a seagoing family and has grown up near the docks. For background skills she picks Melee, Swimming, Small Boat, and Fishing, and writes down a level 2 skill for each.

Next, she rolls for Cliff's attributes. In each case she rolls two dice and subtracts 2. For Strength she rolls a 9, which gives Cliff a score of 7. For Agility she rolls a 7, for a score of 5. For Constitution she rolls another 9, for a score of 7. For Charisma she rolls only a 4, for a score of 2. For Intelligence she rolls a 2, which would give Cliff a score of 0. But since all scores of zero are rerolled, she rolls again and this time gets a 10, for an Intelligence score of 8. She also rolls a 10 for Education, for a score of 8.

Now she must chose a career for Cliff. Cliff's attributes qualify him to be an engineer, mechanic, laborer, guard, nomad, farmer, or manager. He does not have the prerequisite attribute scores to enter any other career. The player decides to make Cliff a manager.

First, she adjusts Cliff's skill levels. He receives a level 6 skill in Leadership, Persuasion, and Bargaining, and a level 4 skill in Scrounging. Since Cliff had no previous scores in any of these fields, she writes these scores on the character sheet.

Next, she allocates his eight bonus skill levels. Cliff needs some Small Arms skill, so the player allocates three points there for a level 3 skill. She wishes to increase Cliff's Melee skill to take advantage of his Strength, so she allocates four points there, raising his skill level to 6. She allocates Cliff's remaining bonus skill point to Leadership. However, since his Leadership skill level is already in excess of his Charisma, this extra point only adds a half level to his Leadership skill.

For contacts, Cliff knows a politician (probably a member of the Council of Governors), a manager, and an engineer. The referee can choose from the detailed NPCs starting on page 120, can make up

NPC contacts for Cliff, or can have the player make up the contacts (subject to the referee's approval, of course).

As a manager, Cliff begins with 2D6×Cr500. The player rolls a 6 and so starts off with a balance of Cr3000 with which Cliff may purchase equipment. The player decides Cliff will purchase the following:

- Knife: Cr5
- .38 Special revolver: Cr200
- 90 rounds of .38 ammunition: Cr30
- 30-06 hunting rifle: Cr500
- 90 rounds of 30-06 ammunition: Cr18
- Horse (broken): Cr1000
- Horse tack: Cr50

Cliff is left with a balance of Cr1197, which he will keep as a reserve against later needs.

Next, Cliff's player determines his Initiative. She rolls a 6, which gives him an Initiative of 3.

Finally, the player calculates Cliff's derived values.

**Hit Capacity:** Since Cliff has a CON attribute of 7, the hit capacity of his head is 14—CON×2. Since he also has a Strength of 7, the hit capacity of his chest is 42—(STR+CON)×3—and that of each of his other body parts is 28—(STR+CON)×2.

**Weight:** Since Cliff's AGL score is 5, his weight is 98 kilograms—90+4×(STR–AGL)—or about 215 lbs.

**Load:** Cliff can carry a normal load of 42 kilograms—(STR+CON)×3.

**Throw Range:** Cliff can throw a one-kilogram weight accurately to a distance of 28 meters—STR×4.

**Base Hit Numbers:** As Cliff has no Archery skill, his only base hit numbers are for Small Arms. Since his skill level is 3, his base hit numbers are 6 at close range, 3 at medium range, 2 (1½ rounded up) at long range, and 1 (¾ rounded up) at extreme range.

**Unarmed Combat Damage:** Since Cliff has a Strength of 7 and a Melee skill of 6, he will inflict 4 hit points per melee attack—(STR×Melee)÷10.



THERE'S *MACH-TANDO.*

WE OUGHT TO SEE THE CAMP SOON... I WONDER WHY THEY DON'T HAVE LOOKOUTS POSTED?

# Character Record Sheet

Player **MICHELLE STURGEON**  Gender **MALE**  Throw Range **28 M**

Character **CLIFF STOCKWELL**  Age **29**  Initiative **3**

**CAREER: MANAGER**  Weight **98 KG**  Load **42 KG**

## Attributes and Skills

**Strength** __7__
Archery _____
Melee __2+4=6__
Mechanic _____
Small Arms __3__
Thrown Weapon _____

**Education** __8__
Biology _____
Chemistry _____
Engineer _____
Geology _____
Medical _____
Meteorology _____
Metallurgy _____
_____

**Constitution** __7__
Riding _____
Mountaineering _____
Scuba _____
Swimming __2__

**Charisma** __2__
Disguise _____
Instruction _____
Interrogation _____
Leadership __6 + ½ = 6½ = 6__
Persuasion __6__
Bargaining __6__

**Agility** __5__
Electronics _____
Forgery _____
Gunsmith _____
Lockpick _____
Machinist _____
Small Boat __2__
Stealth _____
Driving _____

**Intelligence** __8__
Foraging _____
Farming _____
Fishing __2__
Navigation _____
Observation _____
Scrounging __4__
Tracking _____

## Contacts

1 POLITICIAN
1 MANAGER
1 ENGINEER

## Base Hit Numbers

| Skill | Close (×2) | Medium (×1) | Long (×0.5) | Extreme (×0.25) |
|-------|------------|-------------|-------------|-----------------|
| Small Arms | 6 | 3 | 2 | 1 |
| Archery | - | - | - | - |

Unarmed combat damage
**4**

## Hit Capacity

**14** (Head)

**42** (Chest)

**28** (R. arm)  **28** (L. arm)

**28** (Abdomen)

**28** (R. leg)  **28** (L. leg)

## Equipment

Cr **1197**

KNIFE
.38 SPECIAL
90 ROUNDS OF .38 AMMO

.30 - 06
90 ROUNDS OF .30-06 AMMO

HORSE (BROKEN)
HORSE TACK

Cadillacs AND Dinosaurs

## CHARACTER GENERATION EXAMPLE 2

The player begins by determining the character's background. She decides on a female character and names her Montana Jones. She rolls 3D6 for the number of years Montana spent in her career prior to the start of the game and gets a 10. Adding this to 17 gives a result of 27 years of age. The player decides that Montana has grown up on the mainland, and for background skills she picks Riding, Tracking, Small Arms, and Farming, and she writes down a level 2 skill for each.

The player chooses the allocation method of determining attributes, distributing 32 points among the attributes as follows:

Strength: 8
Agility: 4
Constitution: 2
Charisma: 6
Intelligence: 6
Education: 6

Now the player must chose a career. Montana's attributes qualify her to be a mechanic, criminal, or laborer. She does not have the prerequisite attribute scores to enter any other career. The player decides Montana will be a mechanic.

First, the player adjusts Montana's skill levels. Montana receives a level 2 skill in Small Arms, Gunsmith, Lockpick, Scrounging, and Navigation; a level 3 in Stealth and Tracking; a level 4 in Driving; and a level 6 in Mechanic.

In most cases these are new skills, but in the case of Small Arms and Tracking they are added to Montana's existing background skill levels.

Next, the player allocates Montana's six bonus skill levels. She has no Melee skill so far, so the player allocates 3 points to it. She allocates the remaining 3 points to Tracking. Montana already has a Tracking skill of 5 (2 background, 3 career), and a controlling attribute (Intelligence) of 6. Her first skill point raises the skill to 6, but the next two points raise it only a half level each, giving her a final skill level of 7.

For contacts, Montana knows a politician (probably a member of the Council of Governors), an engineer, a hostile criminal, and a Grith.

The hostile criminal probably bears a grudge against Montana for her having thwarted some plot at a previous time. The Grith is Montana's secret contact.

Montana automatically starts with a rifle and a pistol of her choice, and either a small motorboat or 1D6 motor vehicles. The player picks a .357 Magnum revolver and a Weatherby .460 Magnum rifle for her weapons.

She opts for motor vehicles instead of the small boat, and rolls a 2 on the die. For her two vehicles, she decides on one car and one truck.

Montana's player notes that as a mechanic, Montana begins with 1D6×Cr500.

She rolls a 3 and so starts off with a balance of Cr1500 with which she may purchase equipment.

With her money she purchases the following gear:

- Pack: Cr20
- Shelter half: Cr25
- Sleeping bag: Cr50
- Cold weather clothing: Cr100
- Parka: Cr150
- Personal medical kit: Cr100
- 100 rounds of .357 ammunition: Cr100
- 100 rounds of .460 ammunition: Cr200

She is left with a balance of Cr755, which she will keep as a reserve against later needs.

Next, Montana's player determines her character's Initiative. She rolls a 7, which becomes a 4 ( 3½ rounded up). Since Montana is a mechanic, however, the player adds 1 to her Initiative, which makes it a 5.

Finally, the player calculates Montana's derived values.

**Hit Capacity:** Since Montana has a CON attribute of 2, the hit capacity of her head is 4—CON×2. Since she has a Strength of 8, the hit capacity of her chest is 30—(STR+CON)×3—and that of each of her other body parts is 20—(STR+CON)×2.

**Weight:** Since Montana's AGL score is 4, her weight is 91 kilograms—75+[4×(STR−AGL)]—or about 200 lbs.

**Load:** Montana can carry a normal load of 30 kilograms—(STR+CON)×3.

**Throw Range:** Montana can throw a one-kilogram weight accurately to a distance of 32 meters—STR×4.

**Base Hit Numbers:** As Montana has no Archery skill, her only base hit numbers are for Small Arms. Since her skill level is 4, her base hit numbers are 8 at close range, 4 at medium range, 2 at long range, and 1 at extreme range.

**Unarmed Combat Damage:** Since Montana has a Strength of 8 and a Melee skill of 3, she will inflict 2 hit points per melee attack—(STR×Melee)÷10, rounded down.

# Character Record Sheet

Player **JULIA MARTIN**
Character **MONTANA JONES**
**CAREER: MECHANIC**

Gender **FEMALE**
Age **27**
Weight **91 KG**

Throw Range **32 M**
Initiative **5**
Load **30 KG**

## Attributes and Skills

**Strength** 8
Archery ___
Melee 3
Mechanic 6
Small Arms 2+2 = 4
Thrown Weapon ___

**Education** 6
Biology ___
Chemistry ___
Engineer ___
Geology ___
Medical ___
Meteorology ___
Metallurgy ___

**Constitution** 2
Riding 2
Mountaineering ___
Scuba ___
Swimming ___

**Charisma** 6
Disguise ___
Instruction ___
Interrogation ___
Leadership ___
Persuasion ___
Bargaining ___

**Agility** 4
Electronics ___
Forgery ___
Gunsmith 2
Lockpick 2
Machinist ___
Small Boat ___
Stealth 3
Driving 4

**Intelligence** 6
Foraging ___
Farming 2
Fishing ___
Navigation 2
Observation ___
Scrounging 2
Tracking 2+3+1+½+½=7

## Contacts

1 POLITICIAN
1 ENGINEER
1 HOSTILE CRIMINAL
1 GRITH

## Base Hit Numbers

| Skill | Close (×2) | Medium (×1) | Long (×0.5) | Extreme (×0.25) |
|---|---|---|---|---|
| Small Arms | 8 | 4 | 2 | 1 |
| Archery | — | — | — | — |

Unarmed combat damage

2

## Hit Capacity

4
(Head)

30
(Chest)

20
(R. arm)

20
(L. arm)

20
(Abdomen)

20
(R. leg)

20
(L. leg)

## Equipment

Cr 755
.357 MAGNUM
WEATHERBY .460
ONE CAR
ONE TRUCK
BACKPACK
SHELTER HALF
SLEEPING BAG
COLD WEATHER CLOTHING
PARKA
PERSONAL MED. KIT
100 ROUNDS .357 AMMO
100 ROUNDS .460 AMMO

Cadillacs AND Dinosaurs

# Equipment

This chapter lists a variety of equipment available to characters in the Xenozoic era. It is specific to the City in the Sea—other tribes may not have been blessed with gigantic underground storage vaults filled with precataclysm manufactured goods. All items are routinely listed with a weight in kilograms and a price in either dollars or credits or both.

● Those items which have only a dollar price given are available either through the normal channels of the tribe or from the black market.

If the item is obtained from the tribe, the price must be paid in credits (only), and the character must have a good reason for requiring the item if it is unusual or highly specialized in nature. (Weapons and ammunition are particularly closely controlled.) The price in dollars is also the credit price of the item when obtained from the tribe.

If the item is obtained from the black market, the price must be paid in gold unless special arrangements are made (see pages 116-117 for a discussion of the black market), and no questions are asked.

● Those items which have only a credit price listed may only be obtained from the tribe through normal channels.

● Those items which have both a credit and dollar price may be obtained from either the tribe or the black market, but the price is different depending on which source is used.

## FOOD

The following types of food are available.

**Uncooked Produce:** Most food is sold uncooked but ready to prepare. In the city it is usually made up into "meal rations," each of which is sufficient for one meal. Active adults eat two meals a day; preadolescent children eat about one.

*Wt:* 1 kg per meal.
*Price:* $1 per meal.

**Wilderness Rations:** Fresh produce will go bad fairly quickly and is unsuitable for long expeditions. As a result, explorers routinely take along wilderness rations. These are more costly, due to the extra labor involved in their preparation. They generally consist of smoked or salted meat, dried fruits and vegetables, and twice baked bread (hardtack).

*Wt:* 1 kg per meal.
*Price:* $2 per meal.

**Prepared Meal:** In a few meeting places, prepared meals are served, along with brewed or distilled alcoholic beverages. These meeting houses are where most shady business is conducted.

*Wt:* Unimportant.
*Price:* $3 per meal.

**Strong Drink:** A traditional way to store surplus grain is to convert it to beer or distilled liquor.

*Wt:* Unimportant.
*Price:* $1 per liter of beer or shot of whiskey.
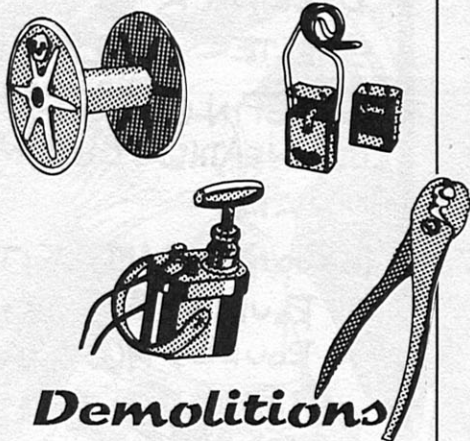


**Demolitions Kit**

## EXPLOSIVES

See the Demolitions section on page 68 for more information.

**Dynamite Stick:** The most common explosive used by civil engineers for demolitions, the dynamite stick is relatively easy to manufacture and is coming into more common military use. A quarter-kilogram stick has a DP value of 1.

*Wt:* 30 kg per case.
*Price:* $10 per quarter-kilogram stick, $750 per case of 100 sticks.

**Plastic Explosive:** Plastic explosive can be molded to desired shapes and will adhere to desired surfaces. It will not explode if burned, and can only be detonated by another explosion, usually provided by a blasting cap. A one-kilogram block has a DP value of 6.

*Wt:* 30 kg per case.
*Price:* $30 per 1kg block, $650 per case of 20 blocks.

**Engineer Demolitions Kit:** Contains items to enable a character to rig explosive charges and fuse them for detonation. Weight and price are given for individual items as well as for the kit as a whole. Items without weight, etc., are not available separately. Explosives must be purchased separately. A single charge uses up one blasting cap, plus whatever fuse, detonators, and so on used. Wire, tools, and the blasting machine can be recovered after a blast, but all other items are used up. Quantities included in a kit are in parentheses.

**Full Kit:** All of the below, packed in a wooden chest for transport.
*Wt:* 30 kg.
*Price:* $750.

**Tools (1 Set):** Pliers, knife, tape, cap crimper, and other items needed to prepare explosive charges.
*Wt:* 4 kg.
*Price:* $50.

**Cap, Blasting, Electric (50):** At least one is required to set off a charge.
*Wt:* Negligible.
*Price:* $2 each.

**Cap, Blasting, Nonelectric: (50):** At least one is required to set off a charge.
*Wt:* Negligible.
*Price:* $2.

**Wire, Electrical (2×100m Spools):** For use with electrical blasting caps. Any length can be fastened to up to 10 caps. Not normally reused.
*Wt:* 5 kg per spool.
*Price:* $50

**Wire, Trip (1×500m Spool):** A thin wire used in booby traps and the like. Tripwires can be of any reasonable length, but it makes no sense to have them longer than the blast radius of the explosive.
*Wt:* 2 kg per spool.
*Price:* $10 per spool.

**Blasting Machine (1):** A hand-cranked electrical igniter which can fire up to 10 caps electrically. The machine generates current by muscular motion and never needs recharging or battery changes.
*Wt:* 0.5 kg.
*Price:* $50.

**Fuse, Instant (2×100m Coils):** Burns 5900 meters per second; for use with nonelectric blasting caps. May be ignited by any igniter

or by flame, and it can be combined with itself (to set off more than one cap) or with a time fuse.

*Wt:* 3 kg per coil.

*Price:* $100 per coil

**Fuse, Time (2×100m Coils):** Burns 100 seconds per meter; for use with nonelectric blasting caps. May be ignited by any igniter or by flame, and it can be combined with itself (to set off more than one cap) or with an instant fuse.

*Wt:* 3 kg per coil.

*Price:* $75 per coil.

**Igniter, Fuse (50):** A weatherproof pull igniter, which can be used to light either an instant or time fuse. This igniter can be used in simple (pull-only tripwire) booby traps. Only one tripwire per igniter. It can be fixed directly to a nonelectric blasting cap.

*Wt:* Negligible.

*Price:* $3.

**Timer (5):** This detonator has a digital timer which can be set to any time from 30 seconds to 48 hours in 30-second increments. It will fire up to 10 electrical caps. Once set and sealed, it is waterproof, but it cannot be set underwater.

*Wt:* 0.25 kg.

*Price:* $20.

**Igniter (5):** A pull/release detonator used for sophisticated booby traps. It will detonate when pressure is either placed on a tripwire or released from the tripwire (if a wire is cut, for example). Up to three tripwires may be attached.

*Wt:* Negligible.

*Price:* $10.

## GENERATORS

A variety of electrical devices are available in **Cadillacs & Dinosaurs**, but they require electricity in order to function. The equipment list gives the power consumption, in kilowatts, of each electrical equipment item.

Those pieces of equipment which are listed as vehicle powered may only function when they are in the vehicle or when they are hooked to a generator. Other types of electrical equipment which only have a power consumption listed may only function when they are hooked to a generator.

A generator can power equipment as long as the total power consumption of equipment which is connected to the generator is less than or equal to the generator's output. (A 60-kilowatt generator has an output of 60 kilowatts.)

A generator consumes fuel at the rate noted above.

Some equipment listed is powered by internal batteries. Internal batteries will work for one day before they require recharging. For a battery to be recharged, it must be hooked to a generator for one period before it can again be used.

The generator must be operating when used to recharge, but no power consumption is charged against its capacity due to recharging (as the power consumption of battery-operated items in the game is insignificant when compared to even the smallest generator's output).

**1.5 Kilowatt:**

*Fuel Consumption:* 1 liters per period.

*Wt:* 50 kg.

*Price:* $200.

**5 Kilowatt:**

*Fuel Consumption:* 3 liters per period.

*Wt:* 150 kg.

*Price:* $700.

**10 Kilowatt:**

*Fuel Consumption:* 4 liters per period.

*Wt:* 250 kg.

*Price:* $1200.

**60 Kilowatt:**

*Fuel Consumption:* 20 liters per period.

*Wt:* 600 kg.

*Price:* $8000.

**100 Kilowatt:**

*Fuel Consumption:* 30 liters per period.

*Wt:* 1000 kg.

*Price:* $15,000.

**500 Kilowatt:**

*Fuel Consumption:* 90 liters per period.

*Wt:* 2500 kg.

*Price:* $50,000.
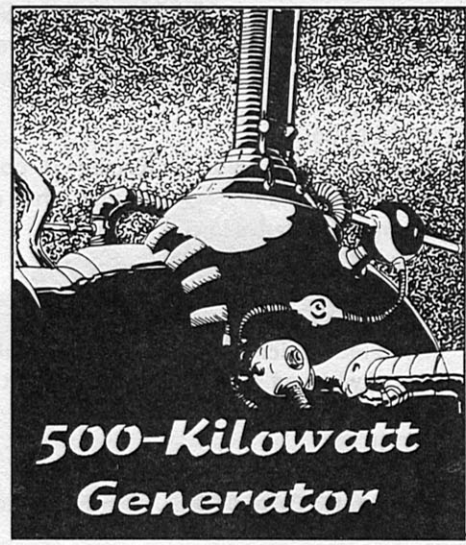


**500-Kilowatt Generator**

## HEATERS AND COOLERS

**Freezer, Small:** A one-cubic-foot freezer suitable for preserving food or medical supplies. It can be powered either by a vehicle battery or a generator.

*Power Consumption:* 0.12 kw.

*Wt:* 20 kg.

*Price:* $100.

**Freezer, Large:** A 14-cubic-foot freezer. It can only be powered by a generator.

*Power Consumption:* 1.4 kw.

*Wt:* 175 kg.

*Price:* $1000.

**Portable Heater:** Suitable for one average-sized room.

*Power Consumption:* 4.75 kw.

*Wt:* 3 kg.

*Price:* $200.

**150-Liter Water Heater:**

*Power Consumption:* 175 kw.

*Wt:* 180 kg.

*Price:* $1500.

**Refrigerator, Small:** Suitable for preserving small quantities of food or medical supplies. It can be powered by a vehicle or a generator.

*Power Consumption:* 0.1 kw.

*Wt:* 20 kg.

*Price:* $100.

**Refrigerator, Large:** 14 cubic feet.

*Power Consumption:* 1.3 kw.

*Wt:* 150 kg.

*Price:* $1000.

**Field Cooker, Military:**

*Fuel Consumption:* 4 liters per period.

*Wt:* 250 kg.

*Price:* $1000.

## HAND TOOLS

**Basic Tool Kit:** Small hand tools which are suitable for a variety of purposes. These may include wrenches, pliers, screwdrivers, and so on.
*Wt:* 5 kg.
*Price:* $200.

**Power Hand Tools:** A selection of power tools, including a chainsaw, 9" rotary saw, drill, and other electrical tools. Power consumption listed is for the whole set.
*Power Consumption:* 4 kw.
*Wt:* 35 kg.
*Price:* $500.

**Wheeled Vehicle Tools:** Specialized tools for repair and maintenance of wheeled vehicles, including spark plug wrenches, torque wrenches, a grease gun, and so on.
*Wt:* 10 kg.
*Price:* $500.

**Excavating Tools:** Picks, shovels, mattocks, and so on.
*Wt:* 20 kg.
*Price:* $300.

**Construction Tools:** Hammers, saws, squares, hatchets, chisels, and other woodworking tools.
*Wt:* 30 kg.
*Price:* $500.

**Small Arms Tools:** Specialized tools for maintenance and repair of small arms. Not suitable for construction of weapons from scratch.
*Wt:* 5 kg.
*Price:* $200.

**Electrical Repair:** Specialized tools for work on electrical appliances, wiring, and nonsolid-state equipment.
*Wt:* 3 kg.
*Price:* $500.

**Electronic Repair:** As above, but for work on solid-state electrical devices such as radios, radar sets, etc.
*Wt:* 3 kg.
*Price:* $1000.

**Arc Welder:** Operates off of an integral generator, which cannot be modified for other use.
*Fuel Consumption:* 40 liters per period.
*Wt:* 75 kg.
*Price:* $500.

**Portable Machine Shop:** A trailer containing powered machine tools, including a bench grinder, horizontal and vertical boring machines, a milling machine, metalworking and woodworking lathes, and numerous other machine tools. Exact components and uses are left to the discretion of the referee. It can be towed by any truck except a quarter-ton.
*Power Consumption:* 60 kw.
*Wt:* 1.75 tons.
*Price:* $75,000.

**Lockpick Tools:** Picks, torsion wrenches, shims, a stethoscope, and other equipment to open all types of locks.
*Wt:* 0.5 kg.
*Price:* $20.

## RADIO

**Long-Range:** This is a very heavy, vacuum tube, two-way radio with a range of several hundred kilometers, if the atmospheric conditions are favorable. It is not completely reliable. Only a few radios have been renovated, and they are used to keep in touch with the research stations.
*Wt:* 30 kg.
*Price:* $1500.

## VISION DEVICES

**4× Binoculars:** Allows the user to see longer distances than normal.
*Wt:* 0.5 kg.
*Price:* $100.

**Telescopic Rifle Sight:** May be attached to any rifle (Average: Gunsmith). If a scope is mounted, add 15 to the printed range figure for the rifle *when conducting aimed shots*. In addition, aimed shots at extreme range are conducted as if at long range for purposes of hit determination. Scopes have no effect on quick shots.
*Wt:* 0.5 kg.
*Price:* $500.

**IR Goggles:** Powered from internal batteries. Allows the user to see at night.
*Wt:* 0.5 kg.
*Price:* $250.

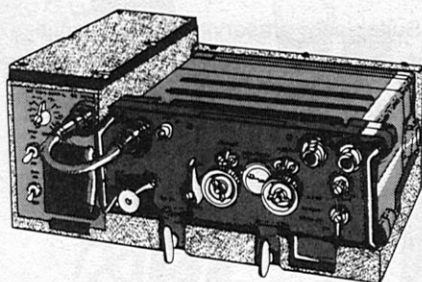**White Light Spotlight:** Powered by a vehicle.
*Wt:* 5 kg.
*Price:* $100.
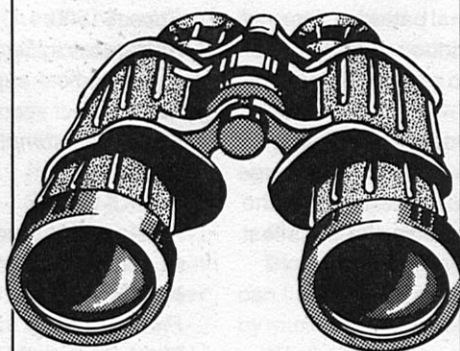
## MEDICAL SUPPLIES

**Anesthetic, Total (100 Units):** Liquid (for injection) or gaseous.
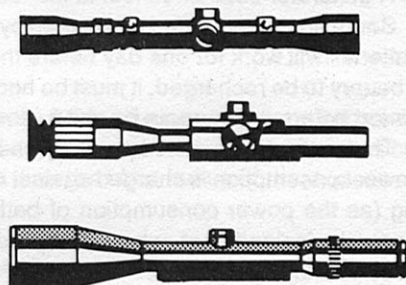*Wt:* 0.1 kg.
*Price:* $1000.

## Long-Range Radio

## Binoculars

## Telescopic Rifle Sight

**Anesthetic, Local (100 Units):** Only in liquid form (for injection).
*Wt:* 0.5 kg.
*Price:* $1000.

**Antibiotic (100 Units):** Liquid (which requires refrigeration) or oral (which does not). Oral costs $250 more per 100 units.
*Wt:* 0.2 kg.
*Price:* $500.

**Antifever (100 Units):**
*Wt:* 0.5 kg.
Price: $500.

**Pain-Reliever, Mild (100 Units):** Oral (pill) form only.
*Wt:* 0.5 kg.
*Price:* $500.

**Sedative, Mild (100 Units):** Oral form only.
*Wt:* 0.5 kg.
*Price:* $500.

**Sedative, Strong (100 Units):** Liquid (for injection) form only.
*Wt:* 0.5 kg.
*Price:* $500.

**Blood, Whole (1 Unit):**
*Wt:* 0.5 kg.
*Price:* $25.

**Plasma (1 Unit):**
*Wt:* 0.5 kg.
*Price:* $10.

**Surgical Instruments:** Scalpels, forceps, hemostats, clamps, and other tools for major surgery.
*Wt:* 5 kg.
*Price:* $2500.

**Personal Medical Kit:** An individual soldier's first-aid kit. Includes bandages, one unit of antibiotic, and other first-aid materials. This kit is used up in one first-aid operation.
*Wt:* 0.2 kg.
*Price:* $100.

**Doctor's Medical Kit:** Medical equipment and drugs. Includes 10 units of each drug type, plus bandages and tools for minor surgery.
*Wt:* 5 kg.
*Price:* $1000.

### OTHER EQUIPMENT

**20-Liter Jerrycan:** For fuel and other liquids.
*Wt:* 1 kg (empty).
*Price:* $25.

**Four-Man Tent:**
*Wt:* 12 kg.
*Price:* $100.

**10-Man Tent:**
*Wt:* 35 kg.
*Price:* $250.

**Horse Tack:** Saddle, straps, bridle, stirrups, saddle blanket, and so on.
*Wt:* 10 kg.
*Price:* $50.

**Pack Saddle:** A saddle especially designed for cargo.
*Wt:* 5 kg (empty).
*Price:* $40.

**Pack:** A pack is capable of carrying up to 30 kilograms of equipment. Weight given is empty.
*Wt:* 2 kg.

*Price:* $20.

**Flashlight:** Powered by internal batteries.
*Wt:* 0.2 kg.
*Price:* $20.

**Shelter Half:** A rubberized canvas sheet which can be combined with another to form a two-person tent or used by itself as a one-person tarp. Tent pegs, cord, and everything else needed to erect it are included.
*Wt:* 1 kg.
*Price:* $25.

**Sleeping Bag:**
*Wt:* 4 kg.
*Price:* $50.

**Cold Weather Clothing:** Includes boots, socks, etc.
*Wt:* 6 kg.
*Price:* $100.

**Parka:** Includes overboots, socks, etc.
*Wt:* 3 kg.
*Price:* $150.

**Aqualung:** Two compressed air tanks, fins, mask and regulator. One tank contains enough air for 30 minutes. Up to two may be connected to a single regulator for use.
*Wt:* 12 kg.
*Price:* $300.

**Air Tank, Aqualung:** For use with above. Can be refilled when empty in five minutes with a compressor.
*Wt:* 5 kg.
*Price:* $100.

**Rebreather:** Absorbs carbon dioxide from exhaled air and bleeds pure oxygen into it. One oxygen tank is used at a time with it, and it contains enough for 30 minutes underwater. Fins and a mask are included.
*Wt:* 10 kg.
*Price:* $400.

**Rebreather Recharge Kit:** For use with the rebreather. This kit includes a can of carbon dioxide absorbent and a small tank of pure oxygen (enough to recharge a rebreather for 30 minutes underwater).
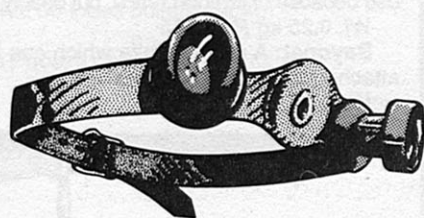*Wt:* 5 kg.
*Price:* $100.

**Air Compressor:** For filling scuba tanks, tires, and other items needing compressed air.
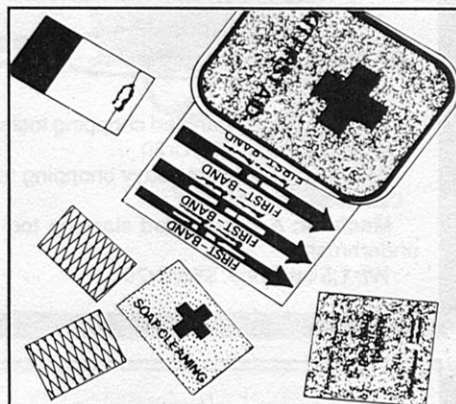*Fuel Consumption:* 1 liter per period.
*Wt:* 45 kg.
*Price:* $200.

**IR Goggles**

**Personal Medical Kit**

# Melee Weapons

Melee weapons include a variety of lethal objects.

**Knife:** About the size of a kitchen butcher knife. Of limited combat use because of its short reach, but deadly in the right hands.

*Wt:* 0.25 kg *Price:* $5

**Bayonet:** A military knife which can be held in the hand or attached to the end of a rifle.

*Wt:* 0.25 kg *Price:* $10
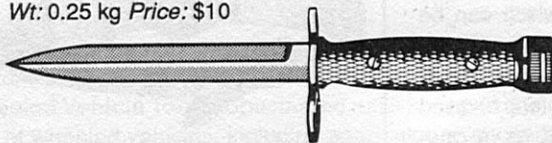
**Spear:** A short, broad blade mounted on a wooden shaft. It is a thrusting weapon—awkward, but useful because of its reach. Used as a defense against small predatory animals.

*Wt:* 2 kg *Price:* $10

**Club:** Blunt, a half-meter long, and used as a bashing instrument.

*Wt:* 2 kg *Price:* Free for the taking in most places

**Hatchet:** Short-handled chopping tool used to trim firewood.

*Wt:* 1 kg *Price:* $15/Cr20

**Axe:** A long-shafted heavy chopping tool.

*Wt:* 2 kg *Price:* $40

**Machete:** A long-bladed slashing tool used to clear away underbrush.

*Wt:* 1.5 kg *Price:* $50/Cr70

# Bows

Once only for hunting and target practice, bows are now used in combat where ammo is scarce. While the longbow requires special Archery skill, a crossbow uses Small Arms skill.

**Longbow:** Includes fiberglass composite bows and wooden self-bows, of 30 to 50 pounds pull.

*Ammo:* Arrows

*Wt:* 1 kg (*Ammo Wt:* 3 kg per 24 arrows)

*Price:* $100 (*Ammo Price:* $1 per six arrows)
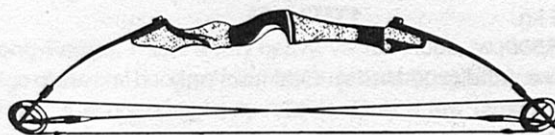
| Weapon | ROF | Dam | Pen | Rld | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|------|-----|
| Hunting bow | SS | −1 | Nil | 1 | 5 | 10 | — | 15 |

**Crossbow:** Includes prewar manufactures and recent weapons produced from old rifle stocks and truck springs. Pulls vary from 100 to 200 pounds.

*Ammo:* Bolts

*Wt:* 4 kg (*Ammo Wt:* 3 kg per 24 arrows)

*Price:* $150 (*Ammo Price:* $1 per 12 arrows)

| Weapon | ROF | Dam | Pen | Rld | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|------|-----|
| Crossbow | SS | 1 | Nil | 4 | 6 | 4 | — | 20 |

# Zip Gun

This is a primitive, one-shot firearm jerry-built out of pipe, wood, and other nonstandard materials. It is designed to fire standard ammunition—usually small-caliber pistol ammo. The end result is much the same, regardless of ammunition.

*Ammo:* .38 Special (9×29mmR)

*Wt:* 0.5 kg (*Ammo Wt:* 100 loose bullets per kg)

*Mag:* 1 individual

*Price:* $50 (*Ammo Price:* $1 per three bullets)

| Weapon | ROF | Dam | Pen | Rld | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|------|-----|
| Zip gun | SS | −1 | Nil | 1 | 1 | 2 | — | 6 |
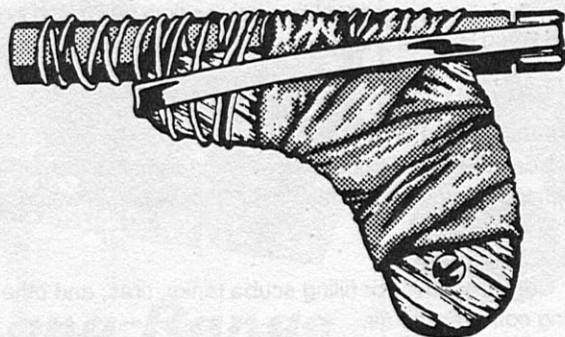
# Mauser M1896

One of the first automatic pistols ever manufactured, the Mauser M1896 (more commonly referred to as the "Broom Handle Mauser") was a favorite with collectors due to its distinctive appearance, and a few are still found in use. The Broom Handle comes with a detachable stock which aids in long-range fire but adds to the weapon's bulk.

*Ammo:* 7.62 Kurz (7.62x25mm)

*Wt:* 1.2 kg (pistol), plus 0.5 kg (with stock) (*Ammo Wt:* 0.2 kg per eight-round magazine, 80 loose bullets per kg)

*Mag:* 10 box (really uses a stripper clip to reload)

*Price:* $300 (*Ammo Price:* $1 per three bullets)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|----|------|-----|
| Mauser M1896 | SA | 1 | Nil | 1 | 3 | — | 12 |
| with stock | SA | 1 | Nil | 3 | 1 | — | 24 |
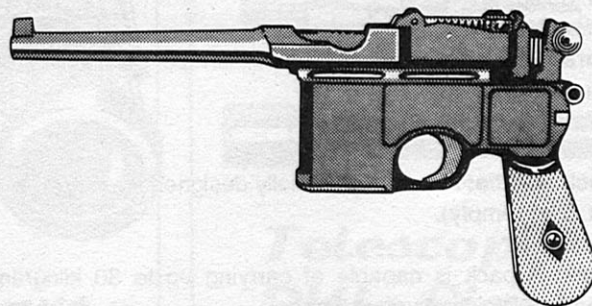
## .38 Special

Pistols are of little or no use against animals in the Xenozoic era; they are almost exclusively used for killing other people. This limits their use to criminals and a few members of the tribe who are in positions of authority. Many of the Old Bloods, for example, carry pistols, as do some guards. The .38 Special is a common handgun because it was the standard sidearm for US aircrews, including helicopter crews. The pistol was also used by many civilian police forces worldwide.

*Ammo:* .38 Special (9×29mmR)
*Wt:* 0.5 kg (*Ammo Wt:* 100 loose bullets per kg)
*Mag:* 6 revolver
*Price:* $200 (*Ammo Price:* $1 per three bullets)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| .38 Special | DAR | 1 | Nil | 1 | 3 | — | 12 |
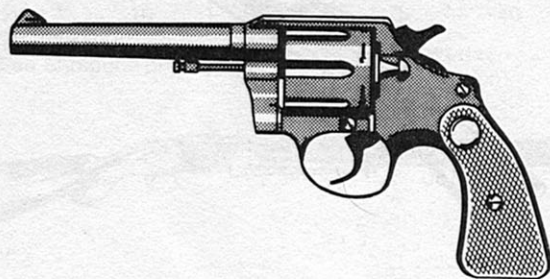
## .357 Magnum

More powerful revolvers, .357 Magnums are also quite rare.
*Ammo:* .357 Magnum (9×33mmR)
*Wt:* 0.5 kg (*Ammo Wt:* 50 loose bullets per kg)
*Mag:* 6 revolver
*Price:* $500 (*Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| .357 Magnum | DAR | 2 | 1-Nil | 1 | 3 | — | 12 |

## .44 Magnum

This weapon is one of the more powerful handguns ever made and was considered too powerful for police use in most departments. It is very rare, but has the advantage of being almost as powerful as some rifles at close range.

*Ammo:* .44 Magnum (11.2×32.8mmR)
*Wt:* 1 kg (*Ammo Wt:* 45 loose bullets per kg)
*Mag:* 6 revolver
*Price:* $1250 (*Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| .44 Magnum | DAR | 3 | 1-Nil | 1 | 4 | — | 20 |
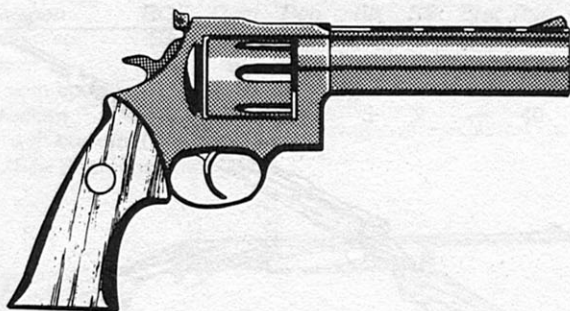
## 9mm Automatic

Widely used as both a police and military sidearm, this pistol is valued by criminals for its large magazine capacity and ease of firing. Available only on the black market.

*Ammo:* 9mm Parabellum (9×19mm)
*Wt:* 1 kg (*Ammo Wt:* 0.2 kg per 15-round box magazine, 100 loose bullets per kg)
*Mag:* 15 box
*Price:* $300 (*Ammo Price:* $1 per three bullets)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| 9mm auto | SA | 1 | Nil | 1 | 2 | — | 12 |

# .30-30

A popular sporting arm before the cataclysm, it is fairly common but badly underpowered for dinosaur hunting. The .30-30 is a lever-action rifle.

*Ammo:* .30-30 (7.62x51mmR)
*Wt:* 3 kg (*Ammo Wt:* 45 loose bullets per kg)
*Mag:* 6 individual
*Price:* $300 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil— SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| .30-30 | LA | 3 | 2-Nil | 5 | 4 | — | 50 |
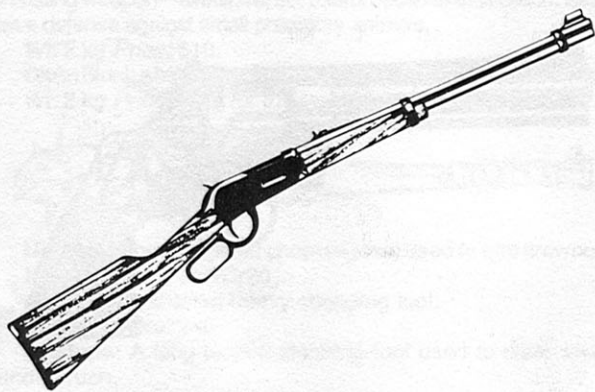
# .30-06

Another popular hunting rifle, the .30-06 is a bolt-action rifle.
*Ammo:* .30-06 (7.62×63mm)
*Wt:* 4 kg (*Ammo Wt:* 35 loose rounds per kilogram)
*Mag:* 5 individual
*Price:* $500 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil— SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| .30-06 | BA | 4 | 2-3-Nil | 5 | 4 | — | 75 |
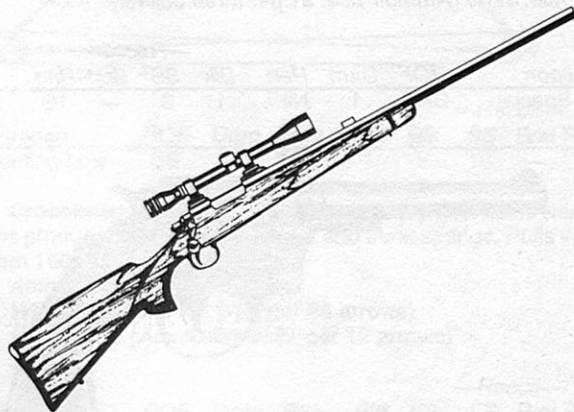
# Parker-Hale

This well made civilian hunting rifle was also used by the Canadian Army as a sniper's rifle with the addition of a telescopic sight.

*Ammo:* 7.62mm NATO (7.62×51mm)
*Wt:* 4 kg (*Ammo Wt:* 40 loose rounds per kilogram)
*Mag:* 3 individual
*Price:* $400 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil— SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Parker-Hale | BA | 4 | 2-3-Nil | 5 | 5 | — | 75 |

When the scope is attached, add 15 meters to the basic range for *aimed shots*. If the scope is later damaged or lost (or for quick shots) this modifier is not added.
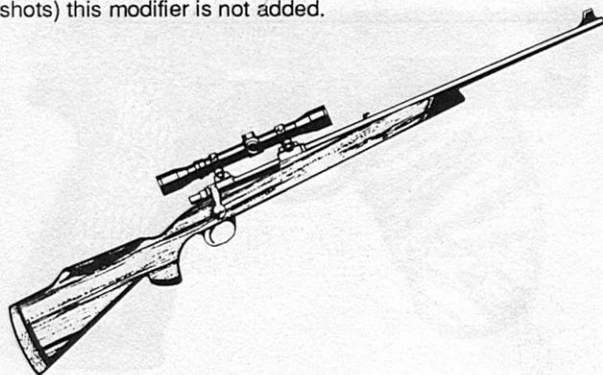
# Mauser Bolt-Action Rifle

A bolt-action civilian version of the German WWII rifle, this weapon is in very widespread use due to the tremendous numbers manufactured.

*Ammo:* 8mm Mauser (7.92×57mm)
*Wt:* 4 kg (*Ammo Wt:* 30 loose rounds per kilogram)
*Mag:* 5 individual
*Price:* $350 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil— SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Mauser | BA | 4 | 2-3-Nil | 5 | 4 | — | 65 |
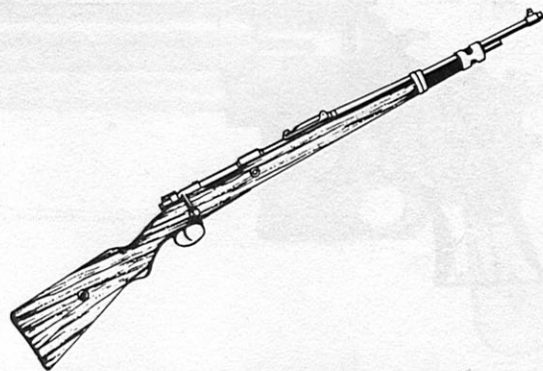
# Double-Barreled Shotgun

The double-barreled shotgun (in either the side-by-side or over-under configuration) is the most widely used hunting weapon in eastern Europe and is also used extensively in the West. The weapon breaks open at the action, and the two rounds are reloaded individually.

*Ammo:* 12-gauge buckshot or deer slug

*Wt:* 3 kg (*Buckshot Ammo Wt:* 15 loose rounds per kilogram *Deer Slug Ammo Wt:* 15 loose rounds per kilogram)

*Mag:* 2 individual

*Price:* $200 (*Buckshot and Deer Slug Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Double | SA | 5 | 3-4-Nil | 5 | 3 | — | 40 |
| Close with buckshot* | SA | 9 | Nil | 5 | 3 | — | 40 |
| Medium with buckshot* | 10 | 1 | Nil | 5 | 3 | — | 40 |

*See Shotguns on page 67.

# Pump-Action Shotgun

Pump-action shotguns are widely used in western Europe and have been widely taken into military use. The magazine given is for a common, extended-capacity, police-issue weapon.

*Ammo:* 12-gauge buckshot or deer slug

*Wt:* 4 kg (*Buckshot Ammo Wt:* 15 loose rounds per kilogram *Deer Slug Ammo Wt:* 15 loose rounds per kilogram)

*Mag:* 7 individual

*Price:* $300 (*Buckshot and Deer Slug Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Pump | PA | 5 | 3-4-Nil | 5 | 2 | — | 40 |
| Close with buckshot* | PA | 9 | Nil | 5 | 2 | — | 40 |
| Medium with buckshot* | 10 | 1 | Nil | 5 | 2 | — | 40 |

*See Shotguns on page 67.
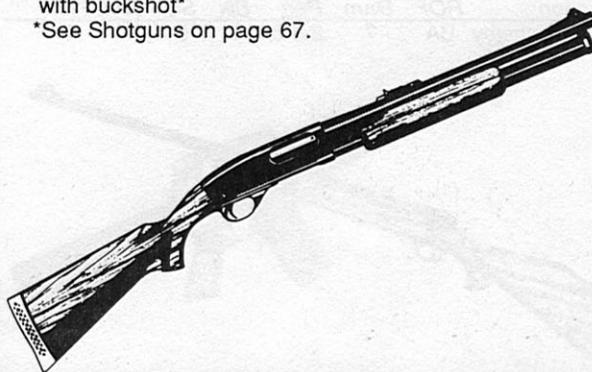
# Semiautomatic Shotgun

Semiautomatic shotguns are more complicated than their pump-action cousins. Nevertheless, they are increasingly popular with sportsmen and police agencies as they become more reliable. The Mag rating is for a common, extended-capacity, police-issue weapon.

*Ammo:* 12-gauge buckshot or deer slug

*Wt:* 4 kg (*Buckshot Ammo Wt:* 15 loose rounds per kilogram *Deer Slug Ammo Wt:* 15 loose rounds per kilogram)

*Mag:* 7 individual

*Price:* $400 (*Buckshot and Deer Slug Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Semiauto | SA | 5 | 3-4-Nil | 5 | 2 | — | 40 |
| Close with buckshot* | SA | 9 | Nil | 5 | 2 | — | 40 |
| Medium with buckshot* | 10 | 1 | Nil | 5 | 2 | — | 40 |

*See Shotguns on page 67.

# Scattergun

This is a radically cut-down double-barreled shotgun. The barrels have been sawed off about 18 inches from the breach, and the stock has been cut down to a pistol grip. It is usually carried in a hip holster and fired as a pistol, but only by the strongest sharpshooters. The weapon breaks open at the action, and the two rounds are reloaded individually.

*Ammo:* 12-gauge buckshot or deer slug

*Wt:* 1 kg (*Buckshot Ammo Wt:* 15 loose rounds per kilogram *Deer Slug Ammo Wt:* 15 loose rounds per kilogram)

*Mag:* 2 individual

*Price:* $200 (*Buckshot and Deer Slug Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|------|-----|
| Double | SA | 5 | 3-4-Nil | 2 | 7 | — | 10 |
| Close with buckshot* | SA | 9 | Nil | 2 | 7 | — | 10 |
| Medium with buckshot* | 10 | 1 | Nil | 2 | 7 | — | 10 |

*See Shotguns on page 67.
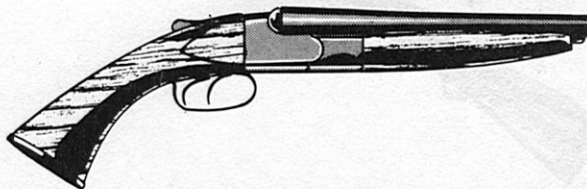
# .460 Weatherby Magnum

This weapon fires the most powerful rifle cartridge ever produced, and was designed to bring down very large game, such as elephants and rhinos. An integral muzzle break and reinforced stock help absorb some of the recoil, but it is still a shoulder bruiser to fire. Only a handful of these weapons have been recovered from the vault, and they are handed down from parent to child as priceless family treasures.

*Ammo:* .460 Magnum (11.6×74mm)
*Wt:* 5 kg (*Ammo Wt:* 12 loose bullets per kg)
*Mag:* 3 individual
*Price:* $2000 (*Ammo Price:* $2 per bullet)

| Weapon | ROF | Dam | Pen | Blk | Recoil SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| .460 Weatherby | BA | 7 | 2-3-5 | 6 | 5 | — | 75 |

# Holland & Holland .600 Nitro Express Double Rifle

First produced shortly after the turn of the century, this weapon was the most powerful hunting rifle in the world until that honor was taken by the .460 Weatherby Magnum. Its two barrels are side-by-side, and it breaks open at the action for reloading, like a double-barreled shotgun. Only a handful of these weapons have been recovered from the vault, and they are considered to be priceless family treasures.

*Ammo:* .600 Nitro Express (15.7×76mm rimmed)
*Wt:* 7 kg (*Ammo Wt:* five loose bullets per kg)
*Mag:* 2 individual
*Price:* $2000 (*Ammo Price:* $4 per bullet)

| Weapon | ROF | Dam | Pen | Blk | Recoil SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| H&H .600 Nitro | SA | 7 | 2-4-6 | 5 | 4 | — | 60 |

# Winchester M70 African

Designed specifically as a big game rifle, the M70 is only slightly less powerful than the Weatherby while being handier to use. Several of these have been recovered and are greatly prized by hunters.

*Ammo:* .458 Magnum (11.6×63.5mm)
*Wt:* 4 kg (*Ammo Wt:* 13 loose bullets per kg)
*Mag:* 3 individual
*Price:* $1500 (*Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | Recoil SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| M70 African | BA | 6 | 2-4-Nil | 5 | 4 | — | 60 |
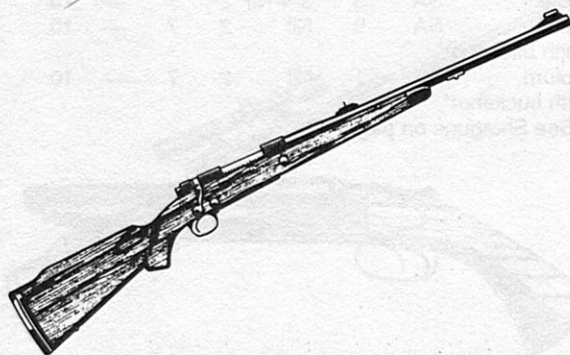
# .458 Tribal Express

A close copy of the Winchester M70 African manufactured by the tribe. Although it lacks the fine machining of a recovered pre-cataclysm weapon, it is still an effective big game rifle. Its lighter stock and lack of a shock-absorbing recoil pad make for a stronger kick, and its short barrel decreases its effective range. But it has the useful addition of a battery-powered flashlight above the receiver for night use. To make the telescopic sight possible, the flashlight bracket is offset to the right, and the scope is usually offset to the left.

*Ammo:* .458 Magnum (11.6×63.5mm)
*Wt:* 4 kg (*Ammo Wt:* 13 loose bullets per kg)
*Mag:* 3 individual
*Price:* $1000/Cr600 (*Ammo Price:* $1 per bullet)

| Weapon | ROF | Dam | Pen | Blk | Recoil SS | Brst | Rng |
|---|---|---|---|---|---|---|---|
| .458 | BA | 6 | 2-4-Nil | 4 | 5 | — | 50 |

When the scope is attached, add 15 meters to the basic range for *aimed shots*. If the scope is later damaged or lost (or for quick shots) this modifier is not added.

# Submachinegun

The Uzi (shown here) is a common and representative example of the military submachinegun. The Uzi has a folding stock which, when extended, allows aimed shots to be fired. When the stock is folded, the lower bulk rating is used, but the weapon may only fire quick shots and bursts. Although the tribe has not recovered any of these, examples exist in the vaults, and contacts with the Moles might be able to secure one.

*Ammo:* 9mm parabellum (9×19mm)

*Wt:* 4 kg (*Ammo Wt:* 0.3 kg per 25-round box magazine, 0.4 kg per 32-round box magazine, 100 loose bullets per kg)

*Mag:* 25 box or 32 box

*Price:* $500 (*Ammo Price:* $1 per three bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil—<br>SS | Brst | Rng |
|--------|-----|-----|-----|-----|----|------|-----|
| Uzi | 5 | 1 | Nil | 2/3 | 1 | 2 | 30 |

# M16A2

This weapon was the standard assault rifle of the US and Canadian armies before the cataclysm. Although the tribe has not recovered any of these, examples exist in the vaults, and contacts with the Moles might be able to secure one.

*Ammo:* 5.56mm NATO (5.56×45mm)

*Wt:* 3 kg (*Ammo Wt:* 0.5 kg per 30-round box magazine, 80 loose bullets per kg)

*Mag:* 30 box

*Price:* $1000 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil—<br>SS | Brst | Rng |
|--------|-----|-----|-----|-----|----|------|-----|
| M16A2 | 3 | 2 | 1-Nil | 5 | 2 | 3 | 55 |
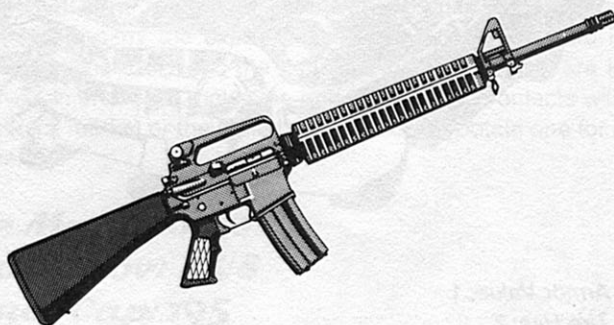
# M60 Machinegun

This standard US general-purpose machinegun is a development of the WWII German MG42. It is equipped with a bipod and can also be fired from a tripod. It fires 100-round belts. Although the tribe has not recovered any of these, examples exist in the vaults, and contacts with the Moles might be able to secure one.

*Ammo:* 7.62mm NATO (7.62×51mm)

*Wt:* 10 kg (*Ammo Wt:* 40 loose rounds per kilogram, 3 kg per 100-round belt)

*Mag:* 100 belt

*Price:* $1500 (*Ammo Price:* $1 per five bullets)

| Weapon | ROF | Dam | Pen | Blk | —Recoil—<br>SS | Brst | Rng |
|--------|-----|-----|-----|-----|----|------|-----|
| M60 | 5 | 4 | 2-3-Nil | 6 | 1 | 4 | 65 |
| bipod | 5 | 4 | 2-3-Nil | 6 | 1 | 2 | 95 |
| tripod | 5 | 4 | 2-3-Nil | 6 | 1 | 2 | 125 |

# M72A1 LAW

The M72A1 light antitank weapon (LAW) was extensively used by military and well financed criminal organizations before the cataclysm. It is a 66mm antitank rocket carried in a disposable launch tube. Although the tribe has not recovered any of these, examples exist in the vaults, and contacts with the Moles might be able to secure one.

*Wt:* 2 kg

*Price:* $200

| Weapon | ROF | Dam | Pen | Blk | Rng |
|--------|-----|-----|-----|-----|-----|
| M72A1 LAW | 2 | C:3, B:4 | 55C | 5 | 50 |
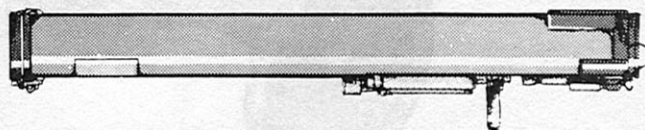
## Vehicle Cards

These two pages explain the most common vehicles available in the Xenozoic era (if any vehicles can be considered to be commonplace). The information provided with the vehicles includes the following:

*Tr Mov:* Travel movement. *Com Mov:* Combat movement. *Fuel Cap:* Fuel capacity, in liters. *Fuel Cons:* Fuel consumption rate, in liters of slither gas per period. *Armor Value:* The armor rating of the vehicle's hull. *Tire Hits:* Explained on page 75. *Price:* The vehicle's price on the open market, if available. *Load:* Interior cargo capacity, given in kilograms unless otherwise noted. *Veh Wt:* Gross weight, including fuel but not cargo. *Crew:* Number of crew+number of passengers. *Mnt:* Maintenance number.

## Cadillac

One of about a dozen or so cars of a variety of makes and models which have been repaired by Jack Tenrec. These are Tenrec's personal property, and he does not normally allow others to drive them. Additional cars are in storage in the vaults, however, and players with contacts with the black market or the Moles may be able to obtain one for a price.
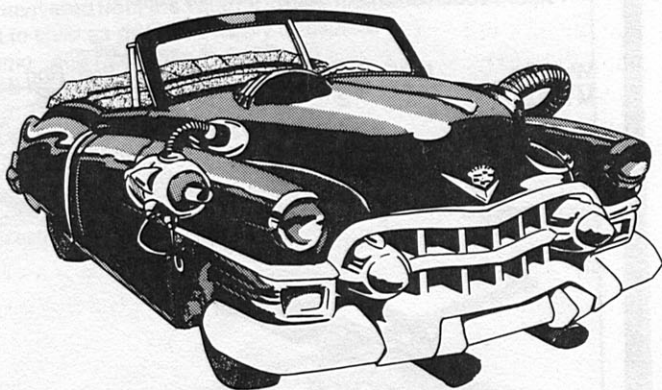
*Armor Value:* 1
*Tire Hits:* 2
*Price:* $10,000
*Load:* 0.5 tons
*Veh Wt:* 1 ton
*Crew:* 2+3
*Mnt:* 2

**Tr Mov: 200/40**
**Com Mov: 50/10**
**Fuel Cap: 80**
**Fuel Cons: 10**

## 1000-Liter (One-Ton) Tank Trailer
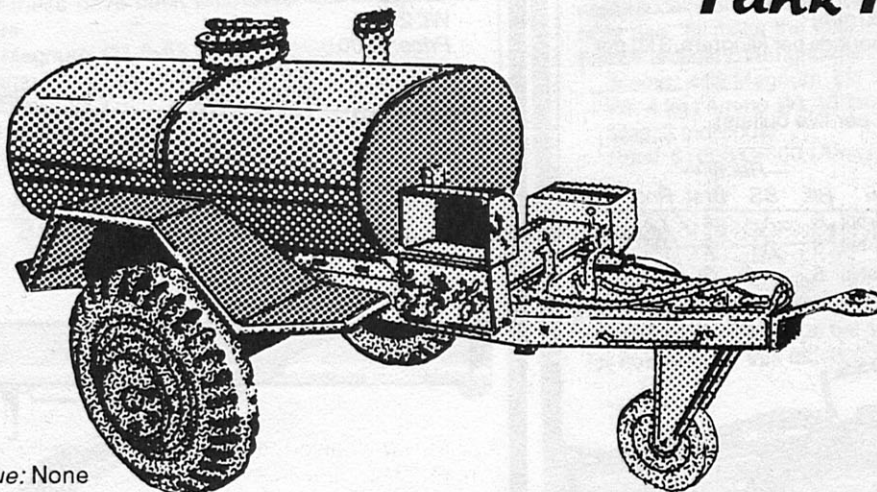
*Armor Value:* None
*Price:* $1000
*Load:* 1000 liters
*Veh Wt:* 0.5 ton
*Mnt:* 1

Identical to the one-ton cargo trailer, the tank trailer has had the cargo bed replaced with a 1000-liter sealed tank for transportation of bulk liquid.

# Cargo Truck
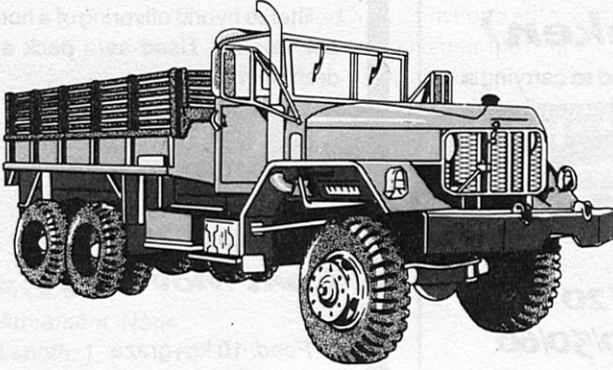
This standard 4×6 cargo truck with limited cross-country performance is capable of carrying three tons of cargo or an equivalent load of passengers. A total of six of these trucks are available to the tribe, all stored at Tenrec's fortress-garage. They are used to carry supplies to the research stations and Calhoon Copper Mines, and to bring ore back from the mines. The council will assign a truck to an expedition only if it is required to carry the expedition's equipment and if there is relatively little danger to the vehicle. Additional trucks are in storage in the vaults, however, and players with contacts with the black market or the Moles may be able to obtain one for a price.

*Armor Value:* 1
*Tire Hits:* 3
*Price:* $20,000
*Load:* 3 tons
*Veh Wt:* 4 tons
*Crew:* 2
*Mnt:* 4

**Tr Mov: 180/30**
**Com Mov: 45/8**
**Fuel Cap: 195**
**Fuel Cons: 30**

# One-Ton Cargo Trailer
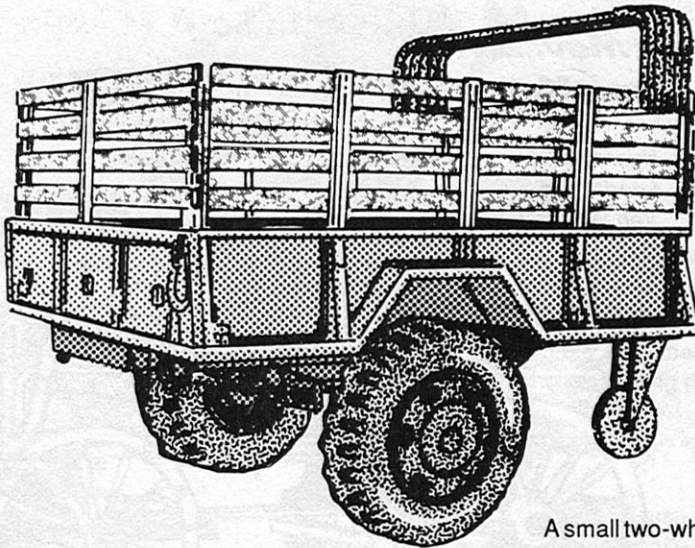
A small two-wheeled cargo trailer which can be towed behind any truck. The tribe has three of these trailers at Tenrec's garage, but they are seldom used. Additional trailers are in storage in the vaults, however, and players with contacts with the black market or the Moles may be able to obtain one for a price.

*Armor Value:* None
*Price:* $1000
*Load:* 1 ton
*Veh Wt:* 0.5 ton
*Mnt:* 1

# Horse (Broken)

Used as a mount, pack animal, or draft animal.
*Price:* $1000
*Hits:* 60
*Meat:* 90 kg

## Tr Mov: 20/20
## Com Mov: 10/30/60

*Feed:* 12 kg+graze
*Load:* 120 kg
*Wt:* 350 kg
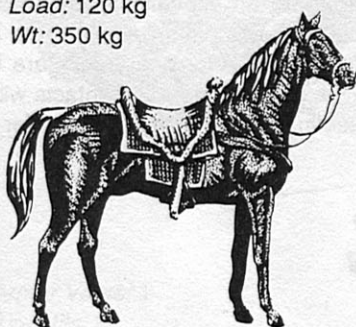
# Horse (Unbroken)

An animal not used to carrying a saddle. It must be broken before being put to any work.
*Price:* $500
*Hits:* 60
*Meat:* 90 kg

## Tr Mov: 20/20
## Com Mov: 10/30/60

*Feed:* 12 kg+graze
*Load:* 120 kg
*Wt:* 350 kg

# Mule

Sterile hybrid offspring of a horse and donkey. Used as a pack and draft animal.
*Price:* $300
*Hits:* 40
*Meat:* 70 kg

## Tr Mov: 20/20
## Com Mov: 10/20

*Feed:* 10 kg+graze
*Load:* 80 kg
*Wt:* 300 kg
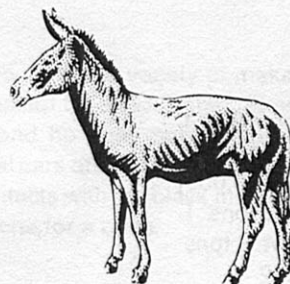
# Cart

A two-wheeled cart drawn by one animal. If it is used in hills or difficult country, the maximum load is halved. No provision is made for harnessing a second animal to the cart.

## Tr Mov: 20/10
## Com Mov: 10/4

*Price:* $500
*Load:* 0.5 ton
*Veh Wt:* 0.25 ton
*Crew:* 1
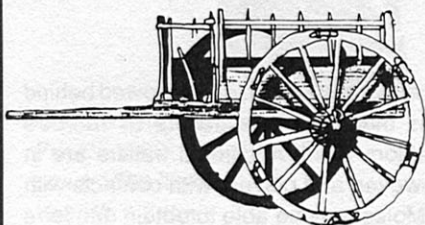
# Wagon

A large-bed wagon drawn by either two or four horses. Four are required in hills or difficult terrain, two on roads.

## Tr Mov: 20/10
## Com Mov: 10/4

*Price:* $1000
*Load:* 1 ton
*Veh Wt:* 0.5 ton
*Crew:* 1
*Mnt:* 1
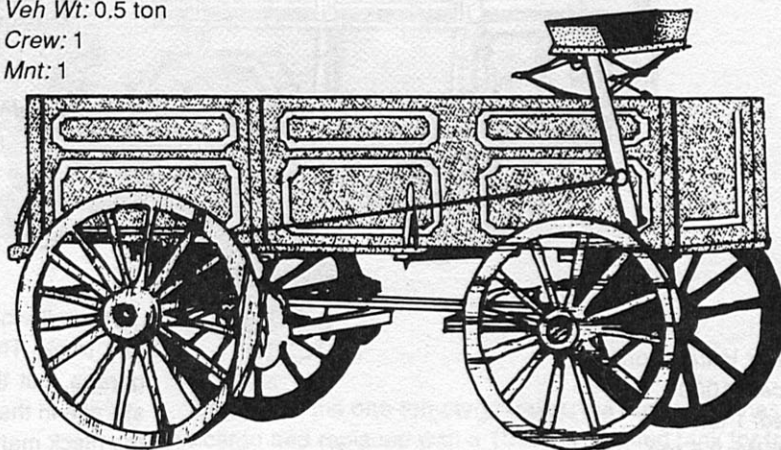
# Small Open Boat
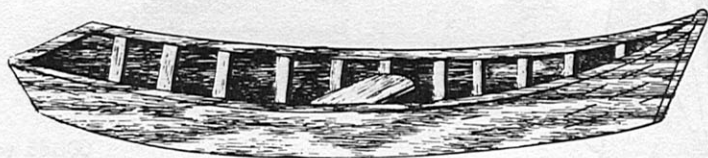
Price: $100
Armament: None
Length: 1
Draft: 0.5 m
Speed: 1
Turn: 4
Acceleration: 1
Pumps: None
Night Vision: None
Load: 200 kg
Minimum/Optimum Crew: 2/4
Mnt: 1

☐ **Half Speed**
☐ **Dead in Water**
☐ **Sunk**

Rowboats, canoes, and other open craft four meters long or less. These can often be carried by one or two people, and can usually be stored on top of a vehicle as cargo. They are propelled through the water by paddles or oars.

## Tr Mov: 20

Config: Flush deck
Tonnage: 1
Hull Armor: 0
Waterline Armor: 0
Superstructure Armor: 0
Propulsion: Muscle power
Size: 1

# Small Sailing Boat
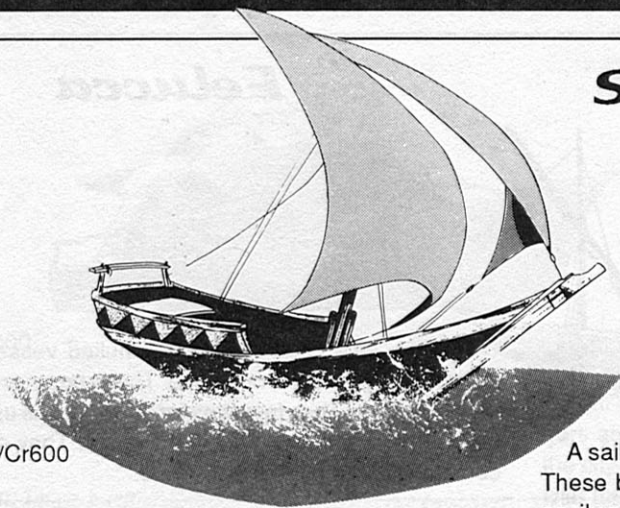
Price: $500/Cr600
Length: 1
Draft: 1 m
Speed: 1D6÷2 downwind, 1D6÷4 upwind
Turn: 2
Acceleration: 0.5
Pumps: None
Night Vision: None
Load: 1 ton
Minimum/Optimum Crew: 1/2
Mnt: 2

☐☐☐☐☐ ☐☐☐☐☐ **Half Speed**
☐☐☐☐☐ ☐☐☐☐☐ **Dead in Water**
☐☐☐☐☐ ☐☐☐☐☐ **Sunk**

A sail-powered, open-decked, wooden-hulled pleasure craft. These boats are fairly common in the tribe since they can be easily manufactured and require little maintenance and no fuel. Nimble and maneuverable, they are useful for work in the shallows along the coast.

## Tr Mov: 30

Config: Flush deck
Tonnage: 10
Hull Armor: 0
Waterline Armor: 0
Propulsion: Sails
Size: 1

# Fishing Boat

Price: $500/Cr600
Length: 1
Draft: 2 m
Speed: 1D6÷2 downwind, 1D6÷4 upwind
Turn: 2
Acceleration: 0.5
Pumps: None
Night Vision: None
Load: 1 ton
Minimum/Optimum Crew: 2/4
Mnt: 2

A sail-powered, wooden-hulled vessel with a cabin and cargo hold below deck. These boats are common in the tribe since they can be easily manufactured and require little maintenance and no fuel. They can be difficult to maneuver in cramped estuaries, but are in widespread use by open-water fishermen.

## Tr Mov: 30

Config: Flush deck
Tonnage: 20
Hull Armor: 0
Waterline Armor: 0
Propulsion: Sails
Size: 2

☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Half Speed**
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Dead in Water**
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Sunk**

# Felucca

Price: $1500/Cr2000
Length: 2
Draft: 2 m
Speed: 1D6÷2 downwind, 1D6÷4 upwind
Turn: 1
Acceleration: 0.5
Pumps: None
Night Vision: None
Load: 20 tons
Minimum/Optimum Crew: 4/10
Mnt: 2

A large, sail-powered, wooden-hulled vessel designed for longer voyages on the open sea. These boats are rarely built by the tribe, since it has few uses for them. One is used to resupply the northern research station, however. They are much more commonly used by the Wassoons.

## Tr Mov: 40

Config: Flush deck
Tonnage: 40
Hull Armor: 1
Waterline Armor: 1
Propulsion: Sails
Size: 2

☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Half Speed**
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Dead in Water**
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ **Sunk**

# Small Motorboat

*Price:* $5000
*Length:* 1
*Draft:* 1 m
*Speed:* 4
*Turn:* 4
*Acceleration:* 4
*Pumps:* 1
*Night Vision:* 1 white light spotlight
*Load:* 1 ton
*Minimum/Optimum Crew:* 1/2
*Mnt:* 4

A small, wooden-hulled pleasure boat. Jack Tenrec has renovated one of these and uses it for travel between his garage and the city, and the governors also have a single small power boat for their own use. Additional boats are in storage in the vaults, however, and players with contacts with the black market or the Moles may be able to obtain one for a price.

*Tr Mov:* **60**
*Fuel Cap:* **220**
*Fuel Cons:* **10**

□□□□□ □□□□□ **Half Speed**
□□□□□ □□□□□ **Dead in Water**
□□□□□ □□□□□ **Sunk**

*Config:* Flush deck
*Tonnage:* 10
*Hull Armor:* 0
*Waterline Armor:* 0
*Propulsion:* Motor
*Size:* 1

# Medium Motorboat

*Price:* $20,000
*Length:* 2
*Draft:* 1 m
*Speed:* 3
*Turn:* 2
*Acceleration:* 1
*Pumps:* 1
*Night Vision:* 1 white light spotlight
*Load:* 2 tons
*Minimum/Optimum Crew:* 2/8
*Mnt:* 6

A medium-sized, wooden-hulled pleasure boat with a small cabin (a cabin cruiser). Two of these have been renovated for official use by the council and are used to haul priority passengers and cargo (particularly the mail) back and forth between the city and the mainland. As with other rare vehicles, contacts with the black market or the Moles can obtain more.

*Tr Mov:* **60**
*Fuel Cap:* **400**
*Fuel Cons:* **20**

□□□□□ □□□□□ □□□□□ □□□□□ **Half Speed**
□□□□□ □□□□□ □□□□□ □□□□□ **Dead in Water**
□□□□□ □□□□□ □□□□□ □□□□□ **Sunk**

*Config:* Flush deck
*Tonnage:* 20
*Hull Armor:* 0
*Waterline Armor:* 0
*Propulsion:* Motor
*Size:* 2

# The Referee

The referee is the key to a good game. Referees must play every NPC, resolve critical events, describe the world, and guarantee an interesting and exciting time. The most important rule to remember, however, is this: The referee is the ultimate arbiter of what happens in the game. Like umpires in baseball, referees are not to be argued with while the game is in session. Discussions or disagreements should be saved for after the game is over—they have no place in the middle of an adventure.

Referees should strive to be reasonable and fair in running a game, but their job is a very tough one, and having to continually argue over the rules is not the best way to play a game.

What exactly does the referee do? He is the interface between his fictional creation—the game "world"—and the players' "personas"—the characters.

## DESCRIBING THE WORLD

A referee is the eyes and ears of all the characters, along with their noses, tongues, fingers, and that "funny feeling that something is not quite right." Everything the characters know about their environment comes to them through the referee, and for this reason, the referee must make the fullest possible use of words and descriptions to inspire the players' imaginations. Referee descriptions must make the imaginary world of the game seem real enough to entertain and divert the players.

Take a moment off from reading these rules and just think about what your senses tell you about your environment. Sight is the most obvious source of information available to you, but it is supplemented by sounds as well. What do you see around you? What do you hear? Do these two senses complement each other or give you contradictory messages? Perhaps you're in a quiet room which looks tranquil and orderly, but you can hear your brother and sister arguing in the next room—contradictory messages.

What can you smell? Dinner cooking? Someone painting somewhere in the building? Garbage you've been meaning to take out getting a little rank?

How about touch? You can feel this book in your hands and the chair you're sitting on, but what else? Is it a little warm, or is it maybe a little chilly? Is the humidity fairly high, or is it pretty dry right now?

Taste may even play a role in the referee's description—not a large one, by any means, but it should never be neglected.

All of these things let you know that you aren't just watching a TV program—you are alive in the world. For the players to enjoy the game fully, the world must seem real to them. That sense of reality must come from their senses. And the referee is their senses—*all* their senses, not just their sight and hearing.

The referee's descriptions of the world don't have to be ageless prose, and they shouldn't be tediously detailed. They should include the most vivid impression a player receives from each of his senses. If the players want more detail, the referee can always provide it to them.

Here are some brief rules of thumb for the referee to remember when trying to describe an interesting scene to the players.

● Never make it overdetailed. Stick to impressions, and let the players ask for details if they want them. Tell them the wall is covered with graffiti; don't describe the graffiti unless they ask.

● Use all the senses. Movies and television have sight and sound. Reality has sight, sound, smell, taste, and touch. Don't just tell them they're tired; tell them what it feels like to be tired. Don't just tell them they fell in the bog; tell them what the bog tastes like when they swallow a mouthful of it.

● Start with the strongest sensory impression. The biggest change will be the first thing they notice, so start with that. That first sensory input sets the stage for all the others.

● Nothing gets players' interest like a hint of danger. In most cases there will be no immediate threat to the players, but they will seldom be in a situation where there is absolutely no hint of danger.

● Save the best (or worst) for last. Then, when the players hear about the threat, they will want more details about it, and they won't have to wait through the other descriptions to ask.

Also, saving the best for last will help keep the suspense level high during the adventure.

## STRUCTURING THE GAME

Forethought and organization will help the referee.

**Campaign Planning:** This includes strategic planning beforehand as well as tactical planning after each adventure session. Where is the campaign to take place? We've provided a map of the "Known World," that area explored by the tribe. There are also a few more detailed maps of the area immediately surrounding the City in the Sea, where most adventures will start. These will suffice for your first several adventures. Soon, however, your players will want to push farther and farther inland. For that, you will need to make up additional maps. These may be of the lands to the west, parts of the underground caverns inhabited by the Grith, or detailed building floorplans for settlements, research stations, or parts of the City in the Sea itself.

When planning adventures, take into account the interests and opinions of the players, and try to arrange adventures so the players are given problems that will challenge and entertain their minds. Perpetual firefights appall some and thrill others. Political intrigues will be very interesting to some people and bore others to tears. Try to balance your campaign events to the type of action the players want, and then remember to throw in enough variety to keep things from falling into a rut.

**Directed Activity:** Your players should never be left to wonder about what to do next. It is your job to direct their activity along constructive lines. To this end, your first several adventures should be troubleshooting expeditions for the tribe. The players will lead expeditions out from the City in the Sea to various outposts, either to deliver badly needed supplies or to deal with some menace that threatens the workers there—or most likely both. Each expedition will take several gaming sessions and will end up (hopefully) with the players back at the city, having rendered the tribe a valuable service.

After several expeditions have been completed, the players will have a better idea of the general lay of the land. At that time you can begin to introduce political intrigue and other subtleties. By then, such developments will provide additional variety and flavor to the campaign; earlier they may be seen as excessive and confusing detail.

**Overall Goals:** The overall goal for all player characters is assumed to be survival. Most player characters will also probably be motivated to help the tribe survive and prosper. However, it is possible that some player characters will be motivated by greed or a desire for power. Those who have the interests of the tribe at heart may differ as to the best way to serve those goals. How rigidly must the *Machinatio Vitae* be adhered to? Each player must decide the

goals of his own character, and then adhere to those goals. However, you as referee should assist them by discussing these issues with them beforehand.

**Preparing for the Gaming Session:** This doesn't just mean buying munchies. Each adventure session should be part of a larger, general plot, and should present the players with two or more choices. By the end of the session, you should be able to figure out which one they will take. While you're putting the game away and throwing out the empty pretzel bags, take a little time to figure out what happens next. You should try to stay a little bit ahead of the players. Are they moving into a less organized area? Work out some encounters in advance and plant the seeds of the next fork in the plot of the overall campaign. Will they need some building interior plans next time? Better have them ready. Will they be running into a large installation? Diagram it out ahead of time. Assemble anything else you will need, like town maps or special locales. You will find a wealth of material in this book which can be used for many of these things, and with slight modifications the same material can be used over and over.

Save things you don't use (like camp diagrams, building interiors, town plans, NPC and encounter descriptions) to be renamed and used in the next session.

**Management of the Session:** Make sure everyone has something to do. Avoid sessions where you have to take one player aside and spend hours going over things with him. Players with high Stealth may want to "sneak on ahead and scout things out." That's unavoidable sometimes, but try to run these solo scouting missions quickly and with a minimum of detail so that the scout can get back to the group as quickly as possible. Make sure one or two players aren't monopolizing the decision making. Keep things moving along by discouraging conversations which are not game related—basketball games, movies, and girl/boyfriends (plenty of time for those after the session is over).

## SOME ADVICE FOR NOVICES

If you have played RPGs before, but never refereed, it will take time for you to get the feel of the world you are running and to get a sense of the game's flow. Here are some ideas.

Once your players have generated their first characters, referee a firefight between them and a group of hostile guards or poachers, or even a large slither. Make up a simple sketch map of the terrain, explain the situation and what they are trying to do, and go to it. Explain to them in advance that what happens here will not affect their characters in the game at all; it's just practice. This will give you a feel for the flow of combat much better than just reading the rules. If you encounter any problems with rules you aren't sure of, this is your chance to check them out without interrupting the actual game. Also, it will give the players a good feel for the capabilities of different weapons and may make them a little less anxious to get into a fight the first chance they get.

Next, give your players a couple of vehicles and have them do a cross-country march of, say, a week. This will enable you to become familiar with the encounter rules and will give players a chance to try hunting and foraging. These routines will be used repeatedly throughout the game, so it's a good idea to become familiar with them early.

In some ways, these exercises are a training course. The people your players' characters represent have had months, often years, of experience living off the land and fighting for their lives. They have a good idea of the capabilities of their equipment and of themselves, so your players should as well. When you and your players feel comfortable with the system, it's time to start the game.

## REWARDS AND EXPERIENCE

The successful completion of an adventure by your players should be accompanied by suitable rewards. Exactly what form these rewards take will be determined by the nature of the adventure and the decisions of the referee. Paper money is worthless, so payment will either be in gold (rarely), information, or some form of goods. These goods can be food, machinery, weapons, ammunition, spare parts for vehicles, or other equipment.

Bear in mind that what is treasure to one group may be a pile of worthless junk to another. On the other hand, it's possible that the characters may be satisfied just with the feeling of a job well done (well, it is possible!). Many times the payment will simply be the gratitude of the tribe, however, and players should not underrate the value of favors owed them by the council.

Don't go overboard—the best way to ruin a game is to overreward players for minor accomplishments. Sessions that end with the characters in possession of a tank farm of refined slither oil, or a fully stocked fortified garage and laboratory complex, are poorly run games.

**Experience:** Skill advancement is discussed elsewhere in this section. Other gains in experience include knowledge of a specific geographic area or information of value to the characters.

**Contacts:** Characters may make new contacts as a result of an adventure which may come in useful to them in later adventures, or they may make enemies who will turn up to dog their tracks. These are solid contacts, and their details will be dictated by the specifics of the adventure just completed.
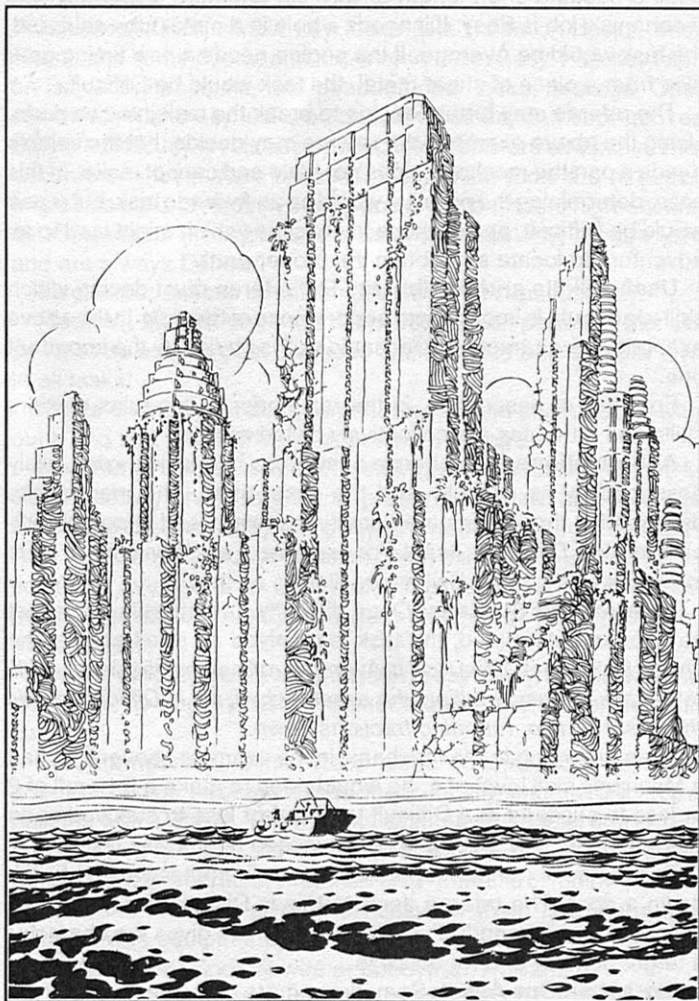
## SKILLS AND TASK RESOLUTION

The main use of skills and attributes is in determining the success or failure of actions the characters attempt. Actions depending on the use of skills and attributes are called *tasks*. Most of a referee's job will consist of adjudicating character attempts to accomplish various tasks.

Some tasks are obviously impossible, such as building a new truck engine from scratch without a machine shop and a storehouse full of materials. Other tasks, such as filling a gas tank with slither gas, are so simple that it is assumed any character can carry them out successfully. In between these two extremes, however, lie a multitude of tasks which the referee will be called on to adjudicate. Some tasks used repeatedly during the game (such as foraging or firing a rifle) are covered in detail in the rules. Others are up to the referee to determine.

When determining the success of a character's attempt to carry out a task, the referee should ask himself two questions: How difficult is the task, and what skills or attributes are important to the task? Each task is a D10 roll against (equal to or under) the character's relevant skill or attribute.

**Difficulty:** While there are numerous shades of difficulty in tasks, for game purposes all tasks are broken down into three categories: difficult, average, and easy.

For example, a mechanic needs to repair a villager's tractor. The referee first decides roughly what the vehicle's problem is (not strictly necessary, but it helps both players and referee visualize the situation), then decides if repair is Difficult, Average, or Easy. If the engine needs a short length of wire cut and fitted into place, the mechanic's job is Easy. If it needs a hole in a metal tube soldered, the task would be Average. If the engine needs a new timing gear filed from a piece of sheet metal, the task would be Difficult.

The referee may further decide to break the task into two parts. Using the above example, the referee may decide that the vehicle needs a part the mechanic does not have and cannot make. In this case, determining the problem would be an Average task, but repair would be Difficult, and perhaps impossible (which might lead to an adventure to locate and obtain the proper part).

**Useful Skills and Attributes:** The referee must decide which skill or attribute is important to performance of the task. In the above example, the character's Mechanic skill is obviously the important one.

For ease of description, in the remainder of this rules section, skills and attributes are collectively called assets.

**Abbreviations:** The chance of success in a task is completely described by its difficulty and the asset used. The many tasks described in these rules are sometimes expressed in an abbreviated form as *Difficulty:Asset*. For example, Easy:Swimming refers to an Easy task using Swimming skill as an asset.

**Determining Success:** Once difficulty and the relevant asset have been determined, the task is resolved as a roll against the character's asset. *If the task is Average, roll against the asset itself. If the task is Easy, multiply the asset by two; if it is Difficult, divide the asset by two, rounding fractions down.*

Thus, returning to the mechanic in the example above, if he had a Mechanic skill level of 4, he would need to make a D10 roll of 2 or less to succeed at a Difficult task, a 4 or less to succeed at an Average task, and an 8 or less to succeed at an Easy task.

For another example, suppose a player character wants to break down a door. The referee decides this is Difficult: Strength. The character has Strength: 7; dividing this by two gives the character a target number of 3 for success.

**More than One Asset:** Sometimes more than one asset can be applied to a single task. In most cases, both assets are necessary to performance of the task; whichever one the character has least of should be used to determine success. For example, the referee may decide repairing a scientific device is a difficult task requiring Mechanic and Electronics.

There are other possibilities too. Easy (Biology or Medical) means an Easy task in which either Biology or Medical skill is sufficient by itself; use the higher of the two. Average: Metallurgy or Difficult: Engineer means the same task may be performed using either asset with different difficulty levels. Finally, various mathematical formulas may be used: Difficult: (AGL+Thrown Weapon) uses the sum of two assets; Difficult: (Metallurgy+Mechanic)÷2 uses the average of two assets.

**Additional Difficulty Levels:** It is also possible for the referee to describe tasks more or less difficult than the three categories used here, or intermediate in difficulty. Simply multiply or divide the character's asset by larger, smaller, or intermediate numbers. For example, a "very difficult" task might require dividing the asset by three to determine the chance of success. A task intermediate between Easy and Average might multiply by 1.5, etc.

**Opposition:** In some cases attempts to complete a task will be met with opposition from other characters. There are three types of opposition.

First, a character may be trying to succeed at a task and another trying only to prevent him. One or the other must succeed. If a character were trying to break down a door, for example, a character on the opposite side might try to keep the door in place. In this case, the asset used is the asset of the character making the attempt minus the asset of the character trying to prevent him. Obviously, if the second character's asset is higher, the attempt fails automatically.

Second, two or more characters may be trying to succeed at the same task in a competition in which it is not certain that anyone will succeed. For example, two characters are racing to solve a complex mathematical problem. Both characters roll, in this case Difficult: (Intelligence and Education), and the one who succeeds is the one who rolls the furthest below the roll he would need for success without opposition. (Of course, it is possible for all contestants to fail.)

For example, suppose two characters are rolling with 6 and 4 target numbers; the first of them rolls a 4 and the second rolls a 3. Since the first character rolled two less than required for success, while the second character rolled only one less, the first character wins.

The third case is like the second, but this time one of the characters must succeed. An example would be a footrace or determining the winner of a hand of poker. Characters roll as above. If none of the characters' rolls succeed, the winner is the character who failed by the smallest amount. Roll again in case of ties.

**Outstanding Success:** If a character attempts to complete a task and beats his target number by four or more, he has achieved outstanding success. If, for example, a character needed to roll 8 or less, and rolled a 2, that would be an outstanding success.

How the referee handles outstanding success is dependent on the situation. Generally the task is done much more quickly than would usually be the case or some extra bonus is awarded. A mechanic might not only repair a tractor, but also improve its functioning in the process and gain particular gratitude from the villagers. The man trying to break down the door might also knock the man holding it shut unconscious, or knock it off its hinges with such noise and force that the occupants of the room are forced to roll for panic.

**Catastrophic Failure:** This is the opposite of outstanding success. If a character fails in a task and fails by at least four, roll again with the same required roll. If the character fails again, he has suffered a catastrophic failure. (If he succeeds, it's just a regular failure.) The mechanic in the previous example might not only fail to repair the tractor, but he would also break some other important part. The man trying to break down the door might hurt himself in addition to not breaking down the door.

Catastrophic failure should not be overused. In a great many tasks there is no obvious effect of a catastrophic failure, and it should not be rolled for—a geologist who fails to find an iron deposit should not also break his leg. Catastrophic failure's major purpose is to deter characters from attempting tasks (especially dangerous ones) far beyond their abilities.

## SKILLS AND ASSOCIATED TASKS

Not all skills and tasks are discussed here—many are described in other rules and are not repeated. Other uses are fairly obvious—most uses of attributes, for example. However, some skills require further explanation, and some common tasks are worth describing in more detail here. The following are intended as general guides only; there are too many tasks to list more than a small fraction, and difficulty may be increased or decreased by too many factors to cover in detail.

**Archery:** Make arrows (Average) or bows (Difficult).

**Biology:** Make antibiotics: Difficult. Assess condition of animal before purchase: Average. Detect disease in animal: Average.

**Chemistry:** This skill can be used to synthesize many useful substances; many have military uses: gunpowder (Easy), dynamite (Average), smokeless powder (Average), primer (Average), plastic explosive (Difficult). (Gunpowder can be used in appropriate single-shot weapons, while smokeless powder and primer are needed to reload ammunition.) Catastrophic failure when making these substances is truly catastrophic. Many other compounds of a less violent nature can also be synthesized, given the right equipment (or something close to it) and the proper raw materials.

**Disguise:** The main ingredients of this skill are not greasepaint and false mustaches, but acting skill and confidence. The most common use of disguise is to impersonate a tribesman of a different occupation. A mechanic may wish to impersonate a poacher, for example, to penetrate the black market. Fooling anyone is normally an Average task. This is increased to Difficult if the target's Intelligence is 3 or more higher than the person making the attempt, and is decreased to Easy if it is 3 or more lower. Disguise can be used to gain a cursory examination for documents (Average); see Forgery for the importance of this.

**Driving:** Cross soft ground without bogging down: Average. Cross rocky ground without damaging suspension: Average. Heavy rain makes all driving tasks one level more difficult.

**Electronics:** Make a radio receiver (Average) or transmitter (Difficult) if spare parts are available.

**Engineer:** This skill is used to construct things, such as bridges and buildings, and to excavate and operate underground shafts, mines, and caverns. It also carries with it a knowledge of explosives. Failure results in time and materials overruns. Catastrophic failure may sometimes result in collapse, but generally it results in just a need for emergency repairs to forestall a collapse. Most tasks will require additional labor. Operate open surface mine without mishap: Easy. Operate deep-shaft mine without mishap: Average. Direct construction of simple bridge: Average. Build small shed: Easy. Reinforce lightly damaged structure (bridge, house, etc.): Average. Direct reinforcement of heavily damaged structure (bridge,

house, etc.): Average. Assess condition of structure: Average. Place demolition charge (with engineer demo kit): Easy. Improvise detonator/fuse, etc. (in absence of engineer demo kit): Difficult. The skill can also be used to make tunnels in rock (Average but slow) or soil (Difficult but fast).

**Fishing:** Catch fish without adequate equipment: Difficult. Catch fish with adequate equipment: Average. Fabricate equipment: Average.

**Forgery:** Forge signature if an example is available: Easy. Alter a document (Average), or create a new document (Difficult). These tasks are one level easier if the document is expected to survive only a cursory glance (see Disguise).

**Geology:** Locate workable ore and mineral deposits of coal or iron: Average; other metals: Difficult.

**Gunsmith:** Fit telescopic sight to rifle (includes sighting-in): Average. Fit starlight scope to rifle (Easy: Gunsmith). Fabricate zip gun: Average. Make crossbow or crossbow bolts (Average). Reload cartridges, given brass and powder: Average.

**Interrogation:** Interrogation involves two major factors: the state of the prisoner and the nature of the information the interrogator is seeking. Rather than try to combine the two, here are some tasks to use as guidelines. Prisoner is: demoralized and frightened (Easy), fatigued, stupid, or boastful (Average), security-conscious (Difficult). Information sought: name of prisoner (Easy), scraps and hints requiring player interpretation (Average), strength and location of prisoner's gang/group (Difficult).

**Leadership:** Inspire NPCs to obey your orders: Average. Recruit NPCs: Difficult.

**Lockpick:** Pick simple key locks (like those on desks, briefcases, and some doors) and hot-wire vehicle: Easy. Pick key locks on jail cells, handcuffs, and deadbolt door locks: Average. Open combination and key locks on padlocks, safes, and strongboxes: Difficult. Difficulty levels assume lockpick tools are available. They become one level more difficult if lockpicking tools are not used. Improvise lockpick tool: Average. Locks on vaults and high-security establishments (in espionage missions particularly) require tools and are always Difficult.

**Mechanic:** Assess condition of vehicle for repairs: Easy.

**Medical:** In addition to the tasks outlined on page 72, this skill can also be used to treat diseased animals; add one difficulty level to all tasks.

**Melee Combat:** Knock a surprised opponent unconscious without killing him: Easy. Disarm opponent: Average.

**Metallurgy:** Smelt ore into metal, given smelter: Easy. Make simple alloys, given forge and proper raw materials: Average. Forge and cast metal objects, given raw materials, forge, and tools: Average. Construct forge/smelter, given excavating and construction tools: Average. Lack of a smelter makes conversion of ore into metal impossible. Lack of a forge makes other tasks two levels more difficult.

**Meteorology:** Predict weather later today: Easy. Predict weather tomorrow: Average. Predict weather the day after tomorrow: Difficult.

**Mountaineering:** Climb steep slope or sheer rock face with good handholds: Average. Climb sheer, mostly smooth rock face or building wall: Difficult. These tasks assume no special equipment. If equipment is used, the difficulty levels are one lower. Rappel down: Easy. (A character may also help others to climb by climbing up first and lowering a rope; difficulty for them is the same as climbing with equipment.)

**Observation:** Spot tripwire or boobytrap: Average.

**Riding:** Saddle-break unbroken horse: Difficult. Failure results

in slight injury to the rider. Assess condition of horse before purchase: Average. Conceal condition of horse before sale: Difficult.

**Scrounging:** When a character attempts to scrounge a specific object, he looks in a particular place. The referee determines difficulty based on his opinion of the likelihood of the object being in such a place. The higher a character's Scrounging skill, the more likely he is to find useful things in unlikely places.

**Scuba:** Avoid a mishap while using an aqualung or rebreather is Easy: (Scuba+ Swimming). Navigate underwater is Easy. Avoiding detection from watchers on the surface is Average with an aqualung or Easy with a rebreather.

**Small Arms:** A catastrophic failure at firing any small arms indicates the weapon jammed. Clearing a jam is Easy.

**Small Boat:** Rolls to avoid mishaps are necessary only in combat (Easy) or during unusual situations like overloaded boats, bad weather, or white water (Average). Sailboats are one level more difficult. Operating a small boat at all requires some skill but does not require a roll under good conditions. Navigate to within 10 kilometers of landfall (per 100 kilometers sailed): Average. Ditto in bad weather or at night: Difficult.

**Stealth:** Approach to within one meter of a sentry in daylight: Difficult. Ditto at night: Average. Approach to within one meter of animal: Difficult. Conceal trail (so as to make tracking one level more difficult): Average.

**Swimming:** Floating is Average when wearing clothes and Easy without clothes. A loaded character (one with other than light personal equipment) cannot float (or swim). If the task is failed, the character sinks (and will drown if he remains in the water). If successful, the character floats and may swim. Each character has a swimming endurance equal to five times his Constitution. Floating without clothes uses zero endurance points; floating while wearing clothes uses one endurance point per minute. Maximum swimming speed is meters equal to Swimming skill per combat round. A character uses five endurance points per minute when swimming at full speed and one endurance point per minute at half speed. If the character is wearing clothes while swimming, double the endurance cost and halve the speed. Swim while towing another person: Average. Dive without aqualung to depths of one to five meters: Average. Ditto to six to 10 meters: Difficult.

**Thrown Weapon:** Pin target's sleeve to wall with thrown knife while barely nicking skin: Difficult.

**Tracking:** Follow in snow, loose soil, or sand: Easy. Follow across rock: Difficult. Detect disease in animal from carcass: Average. Determine time since quarry passed through: Difficult. Determine number of animals or people in party: Difficult. Night increases all tasks by two levels of difficulty.

## SKILL IMPROVEMENT

As a person grows older and more experienced, it is natural that he will polish his existing skills and learn new ones. In a sense, **Cadillacs & Dinosaurs** picks up the threads of the lives of the characters in midcourse. Thus, they already have considerable knowledge of the world, but as time passes they will learn more.

**Experience:** As players find themselves in situations which require the use of skills, they will gradually learn to use them better. In the game, this is represented by experience points.

Award one experience point per session unless the player really screwed up, plus a bonus point for any particularly dangerous, or particularly intensive, skill used. Referees can award an additional bonus point for a player who is particularly good at staying in character during the session or who performs a notably heroic deed.

Referees should not award points for easy or mundane tasks, even if they are especially successful. The option in all cases is the referee's, but he should be guided by two simple principles. First, the reward should fit the task. Random and meaningless use of skills should not be rewarded by experience points. Rather, experience should be gained only when the task at hand needs doing. Second, skills are acquired gradually, and experience should reflect this. If players begin zooming up in skill levels, the game will soon lose its challenge.

At the same time, each player should note (perhaps with a pencil checkmark, so it can be erased before the next session) the skills used during the session. The experience points awarded can then be converted to levels in any one or more of the skills used.

**Conversion:** Experience points are converted to increases in skill levels during a lull in the characters' activities, perhaps during a day spent in rest and maintenance (the periods between active adventuring, in other words). When the referee thinks the time is right, the characters' accumulated experience points may be converted to increased skill levels.

To do this, the character spends experience points to buy levels in a skill. To buy a level costs points equal to its numerical value: to buy Mechanic: 5 costs five experience points (assuming the character has Mechanic: 4 already). A character must already have achieved the level immediately below the one sought, although a character can advance more than one skill level at a time (to go from Mechanic: 3 to Mechanic: 5 would require 4+5=9 skill points, which could be expended at the same time).

If the character's experience points for the skill are not converted, they may be accumulated. Points acquired may be used to build up any skill.

For example, Monk has accumulated six experience points by the time the referee lets his party assimilate its experience, and he decides he needs to improve his Small Arms skill. His current skill level is 4. To advance to Small Arms: 5 requires five points, leaving him one point left over for another use on another skill or to save for a later time.

**Option:** If the players don't mind the bookkeeping involved, referees may award points in specific skills, for use only in that skill (Mechanic experience points, for example, or Chemistry experience points).

**Initiative:** A separate point system exists for improving Initiative. Referees should award one point for each session in which there is a firefight, awarding an extra point for a particularly outstanding shot or a superior feat of hand-to-hand combat. Initiative points are used to buy increasing levels of Initiative just like any other skill, but Initiative experience points can only be used for Initiative.

**Advance by Observation:** If a player observes another player successfully accomplishing a task, the observing player gains one experience point. This observation must be a close-up examination of the task and must have the cooperation of the character actually performing the task.

If the referee considers the skill sought to be a complicated one (such as Mechanic), the task should take longer than usual (perhaps substantially longer), as the character performing the task will often have to pause to explain what he is doing or to answer questions. A character may gain experience points from observation only if the observed character's skill level is at least twice as great as the skill level of the observing character.

Some skills are used for tasks which do not take specific time periods and which cannot be explained or taught except by direct example. (Observation is a good example of this.) Characters may gain experience points through observation of these tasks. For example, if a group of characters encounters a group of NPCs, the characters' Observation skill is that of the character with the highest skill, modified downward for having extra people along. If the group is successful in surprising the NPC group, characters may gain an experience point in Observation by watching an expert at his craft.

**Instruction:** A character may be taught a skill. Teaching a skill is Average: Instruction. The instructor may teach a number of students equal to his Instruction skill level and must have a skill level in the skill being taught. An instructor cannot teach a student whose skill level in the subject taught is equal to or greater than that of the instructor. The task takes one period per day for one week (seven consecutive days). Successful completion of the task (rolled for at the end of the week) results in experience points for both the students and the instructor. The instructor gains experience for accomplishing a task as explained in the experience rules. Students gain a number of experience points (in the skill being taught) based on the number of students being taught.

If the number of students is less than half of the instructor's skill level, each student gains three experience points. If the number of students is half or more of the instructor's skill level, each student gains one experience point.

**New Skills:** A player who has a skill level of 0 in a particular skill may attempt to learn the skill. This may be done either through observation or through instruction. Since the character has a skill level of 0, his experience cost will be one. However, he must either observe the skill in operation or be taught it by someone with Instruction skill.

## NONPLAYER CHARACTERS

A variety of nonplayer characters (NPCs) will be encountered in the course of adventures. These are characters the referee will play, either in cooperation with or opposition to the player characters (PCs). Typically, NPCs are not as detailed as player characters, but on occasion a referee may choose to generate an especially significant NPC as if he were a PC.

**Types of NPCs:** For ease of play in the game, all NPCs are divided into four categories: Novice, Experienced, Veteran, and Elite. Each category has a fixed skill level and attribute level. This can be varied by the referee for special NPCs, as desired. The combat skill and attribute levels are provided primarily for ease of running large numbers of NPCs at the same time, as in a military unit.

The referee will decide which skills the NPC should have based on the situation encountered. It is possible for an NPC to have certain specialized skills considerably higher than the combat skill level listed. A doctor rated as a Novice NPC for combat, for example, would still have a high Medical skill.

*Novice:* Combat skills: level 2. Attributes: 5. Initiative: 1.
*Experienced:* Combat skills: level 4. Attributes: 5. Initiative: 3.
*Veteran:* Combat skills: level 5. Attributes: 6. Initiative: 4.
*Elite:* Combat skills: level 6. Attributes: 7. Initiative: 5.

**Appearance:** The appearance of an NPC is the first thing a player notices, but should be the last thing you decide about the NPC. The NPC's appearance will in many cases be a reflection of his abilities and motives. Likewise, appearances will shape the opinions of your player characters; often they will be all a player has to go on when making a decision. Appearance includes physical description and clothing, speech, posture, and so forth. As with a scenic description, emphasize the things that deviate from the norm and will catch the player's eye. Also, make an attempt to use colorful adjectives when describing NPCs. If you were a player, which of the following NPC descriptions would you prefer?

*As you ride down the road you see a farmer standing in his field.*
or
*As you ride down the road, you come to a grizzled, old farmer in dusty work clothes leaning against the sagging rail fence that surrounds his field.*

The second NPC description gives a much more vivid picture of the farmer. Now apply some of the other advice concerning scenic description. Provide other sensory information, throw in a hint of danger, and save the best for last. You may end up with a description like this:

*As you ride down the road, you come to a grizzled, old farmer in dusty work clothes leaning against the sagging rail fence that surrounds his field.*
*He must be resting after hard work, because he gives off the strong smell of sweat. He shows no sign of interest or welcome as you approach.*
*As you get closer, you see the left side of his face is puckered by a long, jagged scar. You recognize it from experience to be a recently healed bullet graze.*

This second description is much more useful to the players and will inspire a number of questions.

Is he not reacting to our approach because he's too tired to care, because he's sick, or because he's hostile? Who shot him, and why? Where does he live, and what does he know about the surrounding territory?

Usually you will want to make up the appearance of NPCs yourself with some specific image or mood in mind. Also, the appearance of some NPCs will be dictated by their occupation.

Refugees will look ragged, starvation-thin, and dirty. Merchants will be well fed and cleaner. Experienced soldiers may be grimy, but their weapons will be clean, while rusty or poorly cared-for weapons may be the sign of an inexperienced group. Put some thought and "character" into your NPC descriptions, and your gaming sessions will be richer for it.

### Contacts

Contacts are kind of halfway between stock NPCs and the detailed NPCs discussed below. Eventually, they should become detailed NPCs (assuming they survive that long!). A number of detailed NPCs already included in the game represent many of the more important inhabitants of the City in the Sea. You can select a player character's contacts from among these or generate new NPCs of your own. Ideally, no two players should have the same contact.

### Detailed NPCs

On rare occasions, a nonplayer character should be created as if he were a player character. Most NPCs are "spear-carriers." They hang around and provide local color as long as they are needed, and then they vanish forever. They are generally slow of wit, weak of limb, and quick to perish. Well, not everyone can be the hero of this story, and if the NPCs were as capable as your players, life would

be much more difficult for them and, more importantly, impossible for you, the referee.

Imagine every person your players run into with detailed skills and attributes, and three or four cunning plans up their sleeve. The paperwork alone would choke your game. So, for a variety of excellent reasons, most NPCs are just the bare bones of a character, a cardboard cutout to which you give the illusion of reality with elaborate descriptions and a couple of motivations, randomly chosen from the deck.

Most NPCs. But not all of them.

Because of the lengthy procedures involved in generating a character, referees should use detailed NPCs sparingly, and only where they will advance the plot of the adventure.

Detailed NPC motivations are not random—they are determined with care and thought. Because of this, detailed NPCs should return again and again to dog the characters' footsteps, like a villain in an old-time melodrama.

Not every character the players run into should be a detailed NPC. But a few well placed ones can add much to a campaign.

The most useful tool the referee has in running detailed NPCs is the motivation system.

### NPC Motivation

In many cases, the motivations of NPCs are either obvious or unimportant. A hostile guard, a merchant in a bazaar, a common field hand—the general range of background characters do not require the referee to determine motivation. Usually motivation is only determined for the leader of a group of NPCs or a solitary NPC with whom the players will have important or extended dealings.

To determine the motivation of an NPC, draw two cards from a standard deck of playing cards. The highest value card is the NPC's primary motivation; the other is his secondary motivation. The particular motive is determined by the suit of the card and its face value, as indicated on the NPC Motivations Table on page 43.

**Aggression:** The NPC has a greater likelihood of reacting with aggression or violence than most people. A "somewhat aggressive" NPC is not frightened or intimidated by threats of violence and will not hesitate to use violence if the situation seems to warrant it. A "moderately aggressive" NPC is assertive and inclined to view direct action as the preferred means of resolving disputes. A "very aggressive" NPC will tend to respond to any perceived threat with hostility or violence.

Even a high violence rating does not, however, necessarily indicate that the nonplayer character is brutal or a bully. For example, a "very aggressive" NPC who was also "very friendly" could be described as friendly, good-natured, and loyal, but with a very short fuse and prone to react with anger and violence when provoked.

**Greed:** The NPC wants to be rich. A "somewhat greedy" NPC will generally sell items for gold, even if alone in the wilderness. A "moderately greedy" NPC will probably only accept gold or will strike very hard bargains in barter. This sort of character is very easy to bribe. A "very greedy" NPC can be expected to accept bribes, deal only in gold, and perhaps attempt treachery if he believes the players have considerable wealth and he can get his hands on it.

**Friendliness:** The NPC is highly influenced by his love of people. He tends to be friendly, loyal, and just. A "somewhat friendly" NPC will be amiable, talkative, and cooperative with most people he meets. A "moderately friendly" NPC will have a strong sense of duty and loyalty to the group he belongs to. A "very friendly" NPC will have a strong commitment to justice and the welfare of everyone he meets. He will look for the good qualities in anyone he comes in

contact with but will react with anger to injustice and brutality.

**Ambition:** The NPC seeks personal power and influence. A "somewhat ambitious" NPC will be inclined toward boastfulness and a desire to impress his peers. A "moderately ambitious" NPC will wish to be in a position of real responsibility in an organization. A "very ambitious" NPC will be overwhelmed by a desire to manipulate and control the people around him, to become a ruler of men.

**Special Cards:** Aces and face cards are special cards, each with its own special meaning. If a special card is drawn, it is automatically the primary motivation or most prominent characteristic of the NPC. If two special cards are drawn, the NPC has two competing primary motivations or dominant characteristics. The meaning of each special card is given below.

*Inquisitive:* The NPC is insatiably curious, particularly about how the world came to be in its current state and what the Ancients were like.

*Brutal:* The NPC is a sadistic brute who enjoys inflicting physical injury on others. He is likely to use torture whether or not there is anything to be gained from it.

*Stubborn:* The NPC is stubborn and pigheaded, and will be extremely difficult to persuade once he has made up his mind. He is set in his ways and resists change of any sort.

*Murderous:* The NPC either has committed murder or is planning a murder. Murder in this sense does not mean a simple killing, but rather means the secret and intentional killing of an acquaintance for reasons of personal gain. Although the world is a very violent place in the Xenozoic era, murder is still rare.

*Just:* The NPC sees justice as the greatest virtue in a person and the only important consideration in deciding on a course of action. He will display great justice in his dealings with others, will have no respect for cheats, and will wholeheartedly assist any attempt to right an injustice.

*Honorable:* The NPC is scrupulously honest in his dealings with everyone, and his word of honor is his absolute bond. If he believes that he is honor-bound to do something, either because he has promised or because his position carries an obligation to do so, he will attempt to carry out the task even if it means his own death. He has utter contempt for liars or people who break their word.

*Loving:* The NPC loves a person so completely that he would willingly sacrifice himself for that person. This could be a spouse, parent, child, or friend.

*Wise:* The NPC is very wise, and always exhibits good judgment and offers sound advice.

*Generous:* The character is generous to a fault and will gladly give away anything he has to someone in need, even if this leaves him with nothing. In less extreme cases, he will be inclined to make very generous trades and will always refuse payment for help with a task other than one directly related to his normal livelihood.

For example, a generous farmer would give the adventurers all the food they needed and accept in return whatever he felt they could easily afford to trade or pay. If they needed help repairing a vehicle, he would help them and refuse to accept payment for it.

*Selfish:* The opposite of a generous person, a selfish NPC will never help without demanding payment and will never give away anything. He will also demand higher payment than he is due and will jealously guard his possessions.

*Lustful:* The NPC is driven by lust for the opposite sex. This may be lust for members of the opposite sex in general or may be an obsession for a particular member of that sex.

*Coward:* The NPC is a total coward and will run from danger at every opportunity. If escape is impossible, he will cower and refuse to fight.

*Driven:* The NPC is completely obsessed with one goal, principle, or idea.

*Treacherous:* The NPC is a liar and may be a traitor if the situation presents itself.

*Ruthless:* The NPC will let nothing stand in his way in achieving any goal and feels total disregard for the needs of others. The NPC can appear to be considerate, generous, loyal, or anything else which serves his purpose, but he actually feels nothing.

*Pompous:* The NPC is arrogant, conceited, and pompous in his dealings with others. He considers himself clearly superior to everyone around him.

## GETTING STARTED

So now you know how to referee a game, but where do you start? Where does the campaign begin, and how do you get your players going?

The campaign will begin in The City in The Sea. The first adventure session should be the assembly of the group at the request of the tribe's Council of Governors. Select an introductory mission that fits the mix of talents your players have chosen for their characters. Now let them get to know each other, not as players, but as characters. Have them tell the group about their characters, what their background is, and what they expect from the adventure.

Next, provide them with the mission briefing. The best way to do this is to describe the actual briefing and let them roleplay the session by asking questions of the briefer. You should choose which of the governors will give the briefing, and roleplay that NPC (or NPCs, since several or even all may be present).

Now it's up to the PCs to plot out their course of action.

## NPC Motivations

### Clubs

| Card | Motivation |
| --- | --- |
| Ace | Inquisitive |
| King | Brutal |
| Queen | Stubborn |
| Jack | Murderous |
| 8-10 | Very aggressive |
| 5-7 | Moderately aggressive |
| 2-4 | Somewhat aggressive |

### Diamonds

| Card | Motivation |
| --- | --- |
| Ace | Generous |
| King | Selfish |
| Queen | Lustful |
| Jack | Coward |
| 8-10 | Very greedy |
| 5-7 | Moderately greedy |
| 2-4 | Somewhat greedy |

### Hearts

| Card | Motivation |
| --- | --- |
| Ace | Just |
| King | Honorable |
| Queen | Loving |
| Jack | Wise |
| 8-10 | Very friendly |
| 5-7 | Moderately friendly |
| 2-4 | Somewhat friendly |

### Spades

| Card | Motivation |
| --- | --- |
| Ace | Driven |
| King | Treacherous |
| Queen | Ruthless |
| Jack | Pompous |
| 8-10 | Very ambitious |
| 5-7 | Moderately ambitious |
| 2-4 | Somewhat ambitious |

## TIME AND TRAVEL

A typical fight can be over in seconds, while an encounter can last several minutes. An adventure may take days or weeks. A campaign lasts months, perhaps years. Obviously, activities cannot all be played at the same rate of time—thus, a variety of time scales are used.

### Day

The longest measure of time regularly used is the day. Game days are used to gauge travel over long distances or progress toward completion of a major task. Referees and players will want to keep general track of weeks and months as well to keep a broader perspective on the passage of time.

The game day is broken down into six four-hour periods, used to schedule activities during a day. When moving cross-country, it is seldom necessary to plan each day separately; instead, players should settle on a routine—such as eight hours on the road, four hours foraging and hunting, four hours of camp duties and maintenance, and eight hours of sleep. Likewise, a day in town might consist of eight hours each of work, recreation, and sleep. Players would then merely specify to the referee their task. Special situations, such as a forced march, will require alteration in the routine. A generalized routine, however, will greatly speed play of the game.

The use of four-hour periods is for the convenience of the referee and players to make scheduling of daily activities easy. It is not meant to unduly restrict players' activities. Thus, for example, if a group of players wants to move a certain distance that is half the distance their vehicles can move in a four-hour period, the referee should feel free to let them do so and only charge them half the normal fuel cost for a one-period move.

### Travel

Daily travel distances can vary greatly based on terrain, loads carried, mechanical breakdowns, and a variety of other factors. The Travel Movement Table on page 137 gives rough values in kilometers travelled per period. The first number is used if travelling on a road, the second if travelling off the road.

People march half the listed human distance if burdened. They are also subject to fatigue (see page 46).

The referee should feel free to vary this as he sees fit. Remember that players should never feel that their interaction with the world around them is purely mechanical or a function of reading numbers off a chart.

An adventuring map is provided on page 126. It has a hexagonal grid superimposed with a scale of 10 kilometers per hex. This is a convenient travel movement scale, as characters on foot will normally move two hexes, but will move only one if encumbered or traversing difficult terrain. A blank hex sheet is provided on page 127. This sheet should be photocopied, and adventure maps of other areas can be drawn on it.

### Animals

Horses should not be made to travel more than two periods per day; mules should not be made to travel more than three periods per day. They can travel more than that, but they suffer an increased chance of going lame (see page 47). Horses and mules may be force marched. If force marched, a horse's travel distance is multiplied by two, and a mule's by one and a half. However, this also increases the animal's chance of going lame.

Any animal may be burdened (carrying up to twice its load). Unlike a human, the animal's travel distance is not reduced, but burdening

increases the animal's chance of going lame. A burdened animal may not be force marched.

Animals pulling wagons or carts may not be force marched or burdened, but may be forced to travel more than their usual number of periods.

## Terrain and Travel

Travel on a good road is largely unaffected by the terrain through which the road passes, but good roads are extremely scarce. Most characters will spend much of their time travelling cross-country. When travel on a road is practical, it is done at the road movement rate. A poor road (breaking up, partially washed out, or just hasn't seen a road crew in three or four years) allows travel at the full cross-country rate for vehicles regardless of terrain. River travel is covered on page 51 and 76.

Aside from roads and rivers, the main terrain types encountered in the countryside are flats/prairie, forest, jungle, swamp, hills and mountains.

**Flats:** Flats are stretches of very level ground only sparsely covered with vegetation. In many cases they are areas of ground scrubbed clear of dirt down to bedrock by massive geologic forces. Because of the hard and even surface, established paths through flats are counted as roads.

**Prairie:** Prairie is generally flat or gently rolling grasslands and for the most part consists of former cultivated lands which have reverted to the wild but are not yet wooded. Prairie also includes cultivated ground in the area of settlements. All movement through prairie is at the full off-road movement rate.

**Forests:** Forests are wooded areas of considerable extent. Most forests have frequent clearings and open areas, and are crossed by numerous paths. While a man can walk through virgin forest, it is an impractical means of travel for vehicles or for a party of men for any distance. Thus, all travel through wooded areas is assumed to be along paths and through clearings whenever possible. Movement on foot or by animals through forests is at the full cross-country movement rate. Vehicles travel through forest at half their cross-country movement rate unless following a particularly well travelled old dirt road, in which case they move at their full cross-country movement rate.

**Jungle:** Jungles are also known as tropical rain forests. They typically exhibit dense and lush vegetation which makes travel difficult. Vehicles may only travel through jungles following roads or trails. People move through jungles at half their cross-country rate.

**Swamp:** Swamps are difficult to traverse. A man on foot can move at his full movement rate. Animals and all vehicles move at half their cross-country movement rate. In addition, roll 1D6 once each four-hour period for each vehicle. A roll of 1 indicates the vehicle has become mired. Extracting a mired vehicle takes one additional period and requires the use of one or more vehicles whose combined weight equals or exceeds that of the mired vehicle.

**Hills:** Hills are relatively steep, but regular, rolling ground. All movement is reduced by half in hills. Hills may be wooded. If so, determine the movement rate for woods first and then apply the hill terrain reductions to the result.

**Mountains:** Mountains are extremely steep precipices which are impossible to travel through except by means of a few passes and established pathways or by means of Mountaineering skill.

## UPKEEP

This section is concerned with the day-to-day realities of the characters' lives. Even while they are having adventures, they must still eat, find fuel for their vehicles, and take care of their vehicles and animals.

## Food Requirements

Each character must eat at least three kilograms of food every day to remain healthy. Most of this must be found in the wild. "Civilized" food—domesticated animals, cultivated grains and vegetables, wilderness rations, etc.—counts as 1.5 times its weight. Thus a man could survive on two kilograms of such food a day.

Food consumption requirements for humans and some animals are summarized on the Food Consumption Table on page 137.

**Effects of Starvation:** If a character eats less than his daily requirement, but at least half the requirement, he suffers one level of fatigue. This fatigue remains (but gets no worse) until he eats his full requirement for as many days as he was underfed (or 10 days at most). A character gains one level of fatigue for each day in which he eats less than half the requirement, until his Strength, Agility, Constitution, and Intelligence are all reduced to 1; they do not fall below 1.

One level of fatigue is recovered for each consecutive day of full rations.

Eventually, a character on less than half rations will starve. This takes about a month of no food or several months of half rations.

## Foraging

Characters may find food in the wild by foraging. It takes one four-hour period to forage a one-kilometer-square area. An area may be foraged only once per month. For simplicity's sake, it is best to consider an area foraged out after one forage attempt.

Only one foraging party may forage an area. The number of people in the foraging party reduces the time it takes to forage an area but does not affect the quantity of food found. If two people forage an area, for example, they can search it in half a period. (A party can break up into several smaller foraging parties, provided they spread out and forage different areas.)

Foraging is a task (Average: Foraging) performed by the character in the party with the highest Foraging. Failure means that no food is found.

The Foraging Table on page 137 lists the amount of food, in kilograms, found by a successful forage attempt in each of the four seasons and in each of the major terrain types. If the character achieves outstanding success, double the amount of food found.

**Fields:** Players do not forage, per se, in fields, and no die roll is necessary. In the winter and spring, there is no food to be found in fields. In the summer and fall, there will generally be standing crops, and characters can gather virtually as much food as they can carry. In one period, this will generally amount to 200 kilograms per man, and counts as hard work.

An additional period is required to separate the edible parts of the crop from the chaff. This will yield a total of 50 kilograms of edible food in the summer or 100 kilograms of edible food in the fall. If a PC is in a hurry, the separation of edible food from chaff can be delayed until later, but the full 200 kilograms of weight must be carried until that time.

Alternatively, a period can be divided into two hours of harvesting and two hours of separation, resulting in 25 kilograms of edible food in the summer and 50 kilograms of edible food in the fall.

In both cases, the resulting food is considered "wild," and thus only counts as one kilogram of nutrition per kilogram of bulk.

## Fishing

Fish can be caught from any open water: a swamp, stream, river, pond, lake, or ocean. Fishing is a task (Average: Fishing) requiring line and hooks, a net, or a fish trap. Fishing without adequate equipment is Difficult: Fishing.

If the task succeeds, a character can catch fish in one period equal to the amount given on the Foraging Table on page 137 (expressed in kilograms of edible meat). Double the total for outstanding success.

These totals are for line fishing from a shore or boat, or net fishing from a shore. Double the totals for net fishing from a boat in large open waters (large lakes or the ocean).

**Explosive Fishing:** Anyone can throw an explosive in a pond and kill fish. No skill is needed. When a character announces his intent to try explosive fishing, the referee secretly rolls 2D6×10. This is the total quantity of fish (in kilograms of meat) available to be caught in the area. Each explosion will bring (1D6−1)×4 kilograms of meat to the surface. A character can keep throwing in explosives as long as he wishes. After the allowed number of kilograms of fish have floated to the surface, the referee should tell him, after each additional explosion, that no fish float up.

Note that it is possible to have an explosion fail to turn up any fish before the fish population is exhausted. Explosive fishing cannot be used in swiftly flowing water (since the dead fish float away).

## Hunting

Many encounters will be with animals. Briefly, players will often be able to surprise and kill animals and, if so, eat them. The animal descriptions on pages 82-107 list the edible meat on the animals characters can encounter.

## Fatigue

A character can undertake four general types of activity in a four-hour period: sleep, rest, hard work, and easy work.

**Sleep:** No other activity is possible while sleeping.

Each character must have one period of sleep per day or two periods of sleep if he has performed three or more periods of hard work. For every sleep period deficiency, the character suffers one level of fatigue. A fatigued character will recover one fatigue level for every period spent in sleep.

**Rest:** Rest is a poor substitute for sleep, but can help combat its lack. A character riding in a vehicle and not serving as a driver or lookout can rest. While rest does not count toward a character's sleep requirement, a fatigued character recovers one level of fatigue for each period spent resting.

**Hard Work:** Hard work constitutes tasks which are extremely fatiguing. These are marching, riding an animal, driving a vehicle cross-country, fighting, and actual physical labor (including, but not limited to, farming, building bridges and buildings, digging ditches or entrenchments, carrying out major repairs on heavy machinery, etc.). Some referee discretion is required when deciding which tasks constitute hard work. Changing a flat tire, for example, is not particularly heavy labor; changing an axle is. A few minutes of hard work in a period do not make it a period of hard work; it takes a substantial quantity to do so, with one exception: Any combat whatsoever in a period, however brief, makes it a period of hard work.

An already fatigued character may still do hard work, but suffers one additional level of fatigue per period of hard work, regardless of how many periods are spent sleeping.

**Easy Work:** Hunting and foraging, routine maintenance, guard duty, setting up and tearing down camp, preparing meals, driving a vehicle on a road, and simple first aid are all examples of easy work. Easy work neither increases nor decreases a character's fatigue level.

**Effects of Fatigue:** A character's effective Strength, Agility, Constitution, and Intelligence are reduced by one for each level of

fatigue. If any attribute is reduced to 0, the character becomes unconscious and will sleep for one complete period (thus raising the attribute back to 1).

Marksmanship ratings (see page 13) are reduced by three at close range, two at medium range, and one at long range per level of fatigue.

Load is reduced by 10% per level of fatigue. Throw range is reduced by 10 meters per level of fatigue.

Unarmed melee combat damage is reduced by one per level of fatigue.

All skills are reduced by one per level of fatigue.

*Example:* Monk and Carson are moving overland on a several-day march. They are carrying plenty of food with them, so they don't have to spend time foraging. Their routine is:

*Midnight to 8 a.m.:* Monk sleeps; Carson stands guard.

*8 a.m. to 4 p.m.:* Both march.

*4 p.m. to Midnight:* Carson sleeps; Monk stands guard.

Both Monk and Carson have two periods of hard work (marching), two periods of sleep, and two periods of easy work (standing guard) each day, and thus neither of them becomes fatigued.

On the second day out, a party of intruders stumbles into their camp at 10 p.m. Monk wakes up Carson, and in a firefight they chase the intruders off. Starting the next morning, Carson has a fatigue level of one (three periods of hard work marching or fighting and only one period of sleep) while Monk is not fatigued (also three periods of hard work, but two periods of sleep).

At the end of the day's march Carson's fatigue level has risen to three, since once fatigued he suffers an additional fatigue level per period of hard work. That night he goes to bed and sleeps for two periods. When Monk wakes him up at midnight he has a fatigue level of one, having then recovered two levels.

When Monk finally wakes up at eight the next morning, they decide not to march that day and let Carson rest. Both spend the day in routine maintenance and foraging, and at 4 p.m. Carson turns in. When he awakes at 8 p.m., he is refreshed and recovered from his fatigue.

As should be clear from this example, it is difficult for two people to make good time cross-country, keep constant guard, and not rapidly wear themselves out. This is why most 19th-century African safaris only marched for four hours per day, and would make camp at about noon.

The game referee should not bother about minor sleep period deficiencies except in instances where fatigue and endurance can both clearly become important to a group's activities. That is, if a group is moving at a fairly leisurely pace with plenty of time to catch up on sleep and rest, an interrupted night's sleep period is of no great concern, and should not be allowed to slow up the game by causing a flurry of paperwork and calculations on the part of either the referee or the players.

## Animal Maintenance

Animals, like vehicles, require "maintenance" if they are to perform properly.

**Feeding:** All horses and mules need to graze for two four-hour periods per day. Horses and mules also require grain if they do any work that day (including being ridden). The amount of grain required is given on the Food Consumption Table on page 137. If they do no work, they need not be fed grain, but must spend all day grazing to make up for it.

Each day in which an animal does not receive enough to eat, it receives a hunger level increase of one. If it is also forced to work, it receives a hunger level increase of two. All animals start at a hunger level of 0. If an animal's hunger level reaches 20, it dies. The animal's hunger level also increases its chance of going lame (see below). For every day in which the animal gets all the food it needs and is not required to do any work, it receives a hunger level decrease of one.

**Care:** Maintenance is a task (Easy: Riding) and takes 20 minutes per animal after its work is completed each day. Failure to conduct animal maintenance (or a failed roll) causes the animal to suffer a hunger level increase of one, but this addition does not occur more than once per week. (The animal is not really hungry, but the effects and remedies of inadequate care are the same as for hunger. For simplicity, they are treated the same.)

**Going Lame:** Each day in which an animal travels, it may go lame. Roll 1D10. A 1 indicates a potential injury. For each potentially injured animal, roll another D10 for 1 or less. Subtract one from the die roll for the following: each hunger level, each forced march, each period burdened, and each period travelled that day in addition to the normal allowed number. If the player rolls less than −3 on the second die roll, the horse has either broken a leg or collapsed from exhaustion and, in either case, must be put out of its misery. An animal carrying no load at all has no chance of going lame.

**Recovery:** An animal can recover from going lame. In order to recover, it must not carry any load and may not be force marched (although it can move at the normal travel speed). It must receive its full care and be well fed. If so, it will recover in two weeks automatically. It may recover in one week if the character caring for the animal does his job well (Average: Riding). If any of the above requirements for recovery are not met, the animal is permanently lame and is of no further use (except for food or sale to the gullible).

## VEHICLE TRAVEL

Travel movement by vehicle is accomplished in the same manner as travel by foot, but using the travel movement rates for individual vehicles consolidated in the Travel Movement Table on page 137.

### Vehicle Cards

For the convenience of the referee, we have put together data cards for each vehicle rated in this game on pages 30-35.

The referee should photocopy the card or cards for each relevant type of vehicle in the characters' possession and lay them out as indicated in the diagram below, slowest movement on top. This will display the travel time and fuel consumption rate for each vehicle in the players' convoy, and will enable the referee to quickly and easily find the convoy speed (that of the slowest vehicle represented by the cards) and the convoy's fuel consumption (by totaling the rates of the individual vehicles).

### Fuel

The cataclysm stripped the world of the means to extract and refine petrochemical fuels and, of equal importance, eliminated the desire to do so. Not only are fossil fuels nonrenewable resources, but they are also environmentally destructive and their use played a large part in the global warming that signalled the beginning of the end for the precataclysmic civilization.

The tribe members, however, still use a few vehicles and make considerable use of portable generators, heating units, pumps, and other electronic equipment. While a majority of their electrical power needs are produced by geothermal heat generators, for a portable fuel they use methane fuel refined from slither guano.

In fact, one area in which postcataclysm technology is considerably advanced over present-day technology is in fuel efficiency. Vehicles, portable generators and similar engines all burn methane or slither oil and get about twice the fuel mileage of contemporary engines.

**Consumption:** Each vehicle card gives the vehicle's fuel consumption rate (liters consumed per period spent travelling or in combat) and fuel capacity (in liters). These values are repeated on the Travel Movement Table on page 137. Additional fuel, of course, can be carried in supply vehicles or strapped to the outside of the vehicle in jerry cans, but this can be dangerous in combat. Fuel is available at any settlement and is provided as a matter of course to any representative of the council. It can also be purchased.

### Maintenance

A vehicle requires nearly constant maintenance to keep it running, even in the best of times, and these are not the best of times. People used to driving civilian cars on good roads are seldom aware of how much more punishment a military vehicle takes, even something as mundane as a cargo truck. In the world of **Cadillacs & Dinosaurs**, a good mechanic is worth his weight in gold, and is indispensable if the players have vehicles they want to keep running.

A good mechanic, for all his worth, will sometimes be considered a pest by the rest of the group. He will want to spend as much of his time as possible with the vehicles, going over them and conducting minor repairs and preventive maintenance.

He will be constantly searching for more spare parts, whether they are needed now or not. (Someday they'll be needed and might not be available then, so "get them now" is his philosophy.)
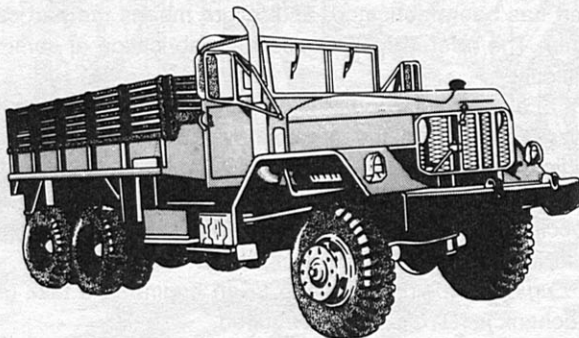


*Vehicle Cards*

This standard 4×6 cargo truck with limited cross-country performance is capable of carrying three tons of cargo or an equivalent load of passengers. A total of six of these trucks are available to the tribe, all stored at Tenrec's fortress-garage. They are used to carry supplies to the research stations and Calhoon Copper Mines, and to bring ore back from the mines. The council will assign a truck to an expedition only if it is required to carry the expedition's equipment and if there is

**Routine Maintenance:** Very few vehicles are left in perfect condition. Most have been repeatedly repaired and rebuilt, sometimes with homemade parts, and all are generally worn-out. Every vehicle has a base maintenance number indicated on its vehicle card. This is the number of hours per week that should be spent in routine preventive maintenance to keep it in good working shape, assuming it is in mint condition. The actual time spent in maintenance is up to the players, but should be influenced by the actual condition of the vehicle.

**Vehicle Condition:** Whenever characters acquire a vehicle during the game, the referee should determine its wear value by rolling 1D10. The higher the wear value, the more worn-out the vehicle.

Whenever characters are in a position to buy or sell a vehicle, its true value is determined by dividing its base price by its wear number.

Thus, a vehicle which would normally cost $10,000 but has a wear value of 8 would only be worth $1250.

**Breakdowns:** Each vehicle has the potential to break down each time it spends a period in either movement or combat. The D10 roll for a potential breakdown is equal to the vehicle's wear value.

Roll that number or less for a potential breakdown.

A potential breakdown does not mean the vehicle has actually suffered a serious malfunction. Avoiding an actual breakdown is a task (Easy: Mechanic) performed by the character who did the last maintenance on the vehicle.

If the vehicle has not been maintained for the recommended number of routine preventative maintenance hours in the last week, the potential breakdown automatically results in an actual breakdown.

If a potential breakdown does not result in an actual breakdown, the characters may continue moving without interruption. The occurrence of a potential breakdown is obvious to the characters, and the referee should tell the players that they hear ominous grinding noises in the engine, see smoke in the exhaust, etc.

Once a potential breakdown has occurred, there will be an additional automatic potential breakdown every period travelled thereafter until the vehicle receives at least its recommended number of routine preventative maintenance hours. Avoiding an actual breakdown during these potential breakdowns is a task (Average: Mechanic) performed by any character during intermittent short halts.

**Preventative Maintenance:** Extra preventative maintenance can help prevent breakdowns. Spending twice the recommended number of hours will reduce the chance of a breakdown by two; spending three times the amount reduces the chance by three, etc.

Spending eight hours per week maintaining a vehicle with a wear value of 6 will mean that the roll for a potential breakdown is 4 or less, not 6 or less.

**Increasing Wear:** After a vehicle has suffered 10 actual breakdowns, its wear value is increased by one. A vehicle with a wear value of 10 which suffers its tenth breakdown at that value is no longer reparable and is good only for salvaging parts from.

## Repairs

In the course of the game, players will be called upon to repair vehicles and other equipment which either has broken down or has suffered damage. The combat rules list the procedures used for determining battle damage to vehicle components. Breakdowns are discussed below.

**Tools:** If a character has the needed parts to make repairs, he must then have the tools to do so.

Given the correct tools (wheeled vehicle tools), the repairs take the standard time and are Average tasks. If a player has the wrong type of tools, the job will take twice as long and will become a Difficult task.

**Breakdowns:** The current wear value of the vehicle is the D10 roll for the chance of a major breakdown. For example, a vehicle with a wear value of 8 must roll 8 or less for a breakdown to be major. A breakdown can strike any system in the vehicle, and the affected system should be determined by the referee (it will usually be either engine or suspension).

It is possible that a breakdown may not affect the mobility of a vehicle, but may instead be a weapons or radio malfunction. If a breakdown is not a major breakdown, it is automatically a minor one.

*Minor Breakdowns:* A minor breakdown results in minor damage to the component. The wear value of the vehicle is the D10 roll for the chance that parts are needed to repair the component (roll less than the wear value for parts to be required). Otherwise, repairs can be made without new parts.

*Major Breakdowns:* A major breakdown results in major damage to a randomly determined system (referee's choice, usually engine or suspension) and will always require parts to be repaired.

*Parts:* Roll 1D10 for the number of parts needed (where they are required), halving the number (round up) for a minor breakdown. (This is in addition to those parts which the character is assumed to be able to reassemble from the damaged component.) While parts may occasionally be found for sale, the most common sources for parts are cannibalization and fabrication. Parts can usually be cannibalized from an identical vehicle.

If the component to be cannibalized is undamaged, the required parts may automatically be taken from it.

If the component has sustained minor damage, roll 4 or more on 1D10 for the part required to be salvageable.

If several parts are required from a damaged component, the die roll is made separately for each part.

Characters may only fabricate parts if they have access to a machine shop. Each part requires 1D10 hours in the shop. Parts for electronic systems (including radios, missile launchers, and range finders) may not be fabricated; they can only be cannibalized.

Fabrication is Average: Mechanic for nonweapon parts and Average: Gunsmith for weapons parts. The roll is made after the part has been fabricated, and failure means the part cannot be used. The referee may decide that fabrication of some parts is Difficult.

For example, if a component is so damaged as to require half a dozen (or so) parts, the referee may decide that one of the parts is Difficult to fabricate.

**Battle Damage:** The vehicle combat system reads out in certain specified systems and damage severities. How these are repaired is discussed according to component.

*Engine:* Repairing damage to an engine is a task (Average: Mechanic). 1D10 parts are required.

*Suspension:* Repairing damage to vehicular suspension is a task (Average: Mechanic). 1D6+2 parts are required.

## BOAT TRAVEL

As the traditional arteries of travel have all but disappeared, rivers have become increasingly important avenues of travel and commerce.

Travel on rivers is by way of boat. Boats follow many of the same rules as land vehicles. In general, vessels can be divided into three broad categories which correspond to their means of propulsion: motor, wind, and muscle.

Boats handle movement and some aspects of combat and damage considerably differently than other vehicles.

**Travel:** Travel movement by boat is accomplished in the same manner as travel by foot or vehicle, but using the travel movement rates for individual vessels given with the vessel descriptions on the boat cards on pages 33-35.

**Fuel:** Motor-powered vessels consume fuel just as do land vehicles. Each vessel's entry on the vehicle card gives its fuel consumption rate (liters consumed per period spent travelling or in combat) and fuel capacity (in liters).

### Maintenance and Repairs

Vessels are maintained, break down, are repaired, and wear out in the same way as any other vehicle.

The only difference is that there are several types of damage unique to vessels—these are explained below. Refer to the Vessel Hit Location Table and Vessel Damage Table on page 133.

**Waterline:** Each separate waterline hit on a vessel's hull which penetrates causes a hole. Waterline hull damage can be permanently repaired or given a temporary patch.

A temporary patch is Easy: Mechanic, takes one combat turn (30 seconds) to complete for each level of damage, and will hold for four hours.

A permanent repair is Average: Mechanic, takes one hour for a minor damage level repair and four hours for a major damage level repair, and requires either construction tools or a welding torch (arc welder), depending on what the hull is made of. The repair may also require additional wood or sheet steel, at the referee's option and depending on the size of the hole.

*Flooding:* Waterline hull damage causes flooding of the vessel, which can eventually sink it. Repairing the waterline hull damage stops any further flooding, but does not remove any existing water. Repairing flooding is Difficult: Strength and consists of bailing out the boat.

Each PC can repair (bail out) one flotation hit (see page 77 for the definition of flotation hits) per combat turn (30 seconds) provided a successful task roll is made.

Two or more PCs may combine their Strength attributes and make a single roll.

Outstanding success means that two flotation hits worth of water have been bailed out; catastrophic failure means that one character is temporarily exhausted and must rest for a combat turn.

Some vessels have automatic bilge pumps. These will automatically pump out one or more flotation hits worth of water each combat turn. The pumping rate for the bilge pump, if one is present, is listed on the vehicle card.

**Rudder/Screw:** The rudder and screws are generally located together at the stern of a vessel. Repairing the rudder or screw is Average: (Mechanic+Swimming)÷2 and takes 1D6 hours.

### Encounters

Encounters are rolled for in the same manner described on page 52.

Hazards which are encountered on the open sea or in the shallows are navigation hazards rather than travel hazards.

If a navigation hazard is rolled, the character steering the vessel attempts to avoid the hazard by making an Average: Small Boat task roll.

If he fails the roll, the referee rolls again on the Navigation Hazards Table on page 139 and implements the indicated result.

For group encounters, the group may be in a vessel of its own or on the shore or riverbank, at the referee's option.

## ENCOUNTERS

Much of the excitement players experience as they travel across the landscape of **Cadillacs & Dinosaurs** is due to the thrill of the unknown. That feeling of anticipation mixed with dread is heightened by a good mix of encounters. The encounters in a game have to be carefully balanced. If there are nothing but random encounters generated from tables, the countryside will eventually take on a rather repetitive, mathematical feel. On the other hand, requiring the referee to make up every encounter will soon overtax his imagination.

What we have tried to do with this encounter system is to chart a middle course. We provide a considerable number of tables that cover a wide variety of environments and situations. They are intended to be complete as presented, and thus require no additional input on the part of the referee. However, the referee is strongly encouraged to use these tables as a starting point, not a finished product.

Encounters with people are resolved at the time scale the referee feels is appropriate. Usually, this will consist of roleplaying the encounter, with the referee playing the part of the nonplayer characters encountered and periodically informing the players of the passage of time. For example, after an exchange of conversation, the referee may say, "You've been

talking to the farmer for half an hour."

If the encounter is violent, the referee will use combat turns or even combat phases.

Encounter tables are presented on pages 138-139.

### Random Encounters

As the characters travel, they will encounter a variety of people, animals, settlements, and other features of the land. While many of these encounters will be mandated by the referee (pursuers overtaking the characters, a band of poachers the referee wishes them to meet, a research station printed on the map which they travel to) many others will be random encounters. A random encounter is one generated using die rolls and the encounter tables presented with the game.

**Frequency of Encounters:** The referee should roll once on the Encounters Table on page 53 every four-hour period in which the characters travel and once per day in which they do not. If the group itself is not moving but breaks up into hunting parties, foraging parties, scrounging parties, etc., the referee rolls once per period per party for an encounter. In addition, he will roll once per day for an encounter at the party camp.

**Types of Encounters:** The Encounters Table lists a variety of terrain types (mountain, jungle, swamp, etc.), each of which has a variety of outcomes based on the D6 roll. These outcomes are groups, animals, hazard, and no encounter (none). If "none" is rolled, there is no encounter this period. If any other result is rolled, roll again on the appropriate table—choosing the Group, Animal (land or water), or Travel Hazards Table on pages 138-139.

Group and animal encounters each have a separate table showing the various terrain types across the top and specific encounters down the side. Animal encounters include separate tables for land and water. Find the column corresponding to the terrain in which the players are travelling, roll 1D6 and locate the row of the number rolled. By tracing the row to the left side of the chart you can determine the exact encounter type.

**Range of Encounter:** The range of the encounter describes the distance between the players and what they have encountered when they first become aware of it. The range depends on the type of terrain in which the encounter takes place. The referee rolls 1D10 and consults the Encounter Range Table (on page 138). The die roll is multiplied by the value listed on the table to determine the range, in meters, at which one or both groups may see each other. The die roll in general is an easy way of determining how open the terrain is in that particular area. For example, if the referee rolled a 5 on an open terrain encounter, this is an encounter range of 1500 meters and means that the local terrain was such that the first opportunity for the two groups to see each other occurs at a distance of 1500 meters.

**Spotting and Surprise:** When a group of characters encounters a group of NPCs, each group has a chance of spotting the other (Average: Observation). Spotting a group moving in vehicles is Easy: Observation. Spotting a stationary and camouflaged group is Difficult: Observation. The roll is made only once per group, using the highest Observation in the group. The skill level used is reduced by one for each character in the group and by five for each vehicle in the group. It is increased by a like amount for numbers of characters and vehicles in the group encountered. However, the Observation skill used may never be more than halved or doubled by these modifications.

If neither group spots the other, the referee notes which group came closest to doing so. That group *will* spot the other, but not until some additional time has passed. The referee rolls 1D10, the result being the number of combat turns that pass before the spot is made. When the spot does take place the range of the encounter has been reduced by the distance travelled by the two groups since the original spotting opportunity.

If the two groups close to the minimum possible encounter range (the base range multiplier shown on the chart: 10 meters in forest, 30 meters in swamp, 100 meters in hills, etc.) both groups automatically spot each other.

If both groups spot each other at the same time, both groups are surprised (and both roll for panic). If one group spots the other without being spotted in return, that group is not surprised. Once a group has spotted another group and has not been spotted in return, it may either wait (allowing the other group to approach closer), attempt to evade (move away from the spotted group), or attack.

If the group attacks, the other group is surprised. This counts as an ambush (see page 61).

If the group waits, the other group continues to have one opportunity per combat turn to spot it. If it succeeds before being attacked, it is not surprised.

If the group attempts to evade, the other group has one opportunity to spot each combat turn until the referee decides the group has moved far enough away from the other group to be safe. This distance will vary, but will usually involve moving beyond the original encounter range rolled.

Thus, in the example given above where the encounter range was 1500 meters, once the group had moved to a safe distance of greater than 1500 meters without having been detected, it would have successfully evaded contact.

## Terrain Types

The type of terrain through which the players are travelling shapes the nature of the encounters they experience. The world has been dramatically changed by the cataclysm, and so the terrain of North America is considerably altered from today. An adventuring map of the area around the City in the Sea is provided on page 126. Referees should feel free to provide additional terrain maps for the use of players bent on exploration.

## Encounters

| Die | Swamp | Forest | Jungle | Mountain | Hill | Flats | Prairie | Shallows* | Open Sea |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal |
| 2 | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal |
| 3 | Animal | Animal | Animal | Hazard | Animal | Animal | Animal | Animal | Hazard |
| 4 | Hazard | Hazard | Hazard | Group | Hazard | Animal | Animal | Hazard | None |
| 5 | Group | Group | Group | None | Group | Hazard | Hazard | Group | None |
| 6 | None | None | None | None | None | Group | Group | None | None |

*Shallows include rivers, estuaries, bays, and coastal waters.

## Group Encounters

A group encounter is a shorthand notation for an encounter with a group of human NPCs. They are called group encounters to differentiate them from animal encounters, even though in some cases it is possible for the "group" to be a single NPC.

The Group Encounters Table on page 138 specifies the exact type of group encountered. The Encounter Statistics Table (page 138) then provides a more detailed look at the makeup of the group. A few additional die rolls on the table will flesh out the group's statistics.

**Number:** This column indicates the number of characters in the encounter. Usually the referee will have to roll a die and either divide it by a number or add it to a number.

**Observation:** This column gives the Observation value for the group. Not every character in the group will be this good; instead, it represents the best Observation available or the Observation skill of the point man.

**Type:** This indicates the NPC type of the unit, either V (Veteran), X (Experienced), or N (Novice). Usually two values are presented, and the referee is free to choose between them or roll a die. For ease of play it is recommended that most characters in a unit be of the same type, although this is not strictly necessary. It is a good idea, however, to have one character (usually the leader) in each group rated one experience level higher. If more than one subgroup is present, each should be made up of troops of the same type.

**Weapons:** These are listed merely as "good," "poor," or "primitive."

*Good* weapons include sporting rifles and shotguns, with ample ammunition.

*Poor* weapons include few firearms, consisting of perhaps a sporting rifle or a pistol or two with only a few cartridges. There might also be a few bows, with the rest of the group armed with melee weapons.

*Primitive* weapons include no firearms at all, and instead consist exclusively of bows, knives, spears, and clubs.

**Group Encounter Descriptions:** The various groups encountered by player characters are described in more detail below.

*Fishermen:* This group of fishermen is plying their trade on whatever body of water the PCs are travelling on. They travel in the number and type of boats appropriate to their group size and location. They may be suspicious at first but will probably aid anyone in need.

*Hunters:* This is a small band of local tribesmen out hunting for meat for their families. They are armed with rifles and shotguns, but do not have much ammunition—certainly not enough for a prolonged firefight. If attacked, they will put up as stiff a fight as they can, but they would rather avoid trouble and certainly will not pick a fight with a well armed group.

*Patrol:* This is a patrol of the tribe or, if a considerable distance from the city, of another tribe. The patrol will probably be searching for smugglers or poachers, or be under orders to march to a particular location for one reason or another. Under most circumstances the patrol will be suspicious of the characters, but not immediately hostile. Patrols are almost always made up of less than a half dozen well-armed men.

*Poachers:* Poachers are those who illegally hunt wildlife. Virtually every tribe of survivors has limited the hunting of animals to what is necessary to feed the tribe. Killing for luxury goods, such as skins, ivory, or rare internal organs for the quack medicine market is almost universally prohibited. Nevertheless, these goods remain in demand by the black market, where dinosaur glands in particular

command top money. Poachers tend to be somewhat antisocial by nature and prefer to live in the wilderness rather than the city. They are not well adapted psychologically to collective group effort and do not respond well to rules and regulations. To live in the wilderness, however, often requires a powerful hunting rifle and plentiful ammunition, and poaching is the only way to pay for them.

Typical poacher bands average about three or four men, and are almost always well armed.

*Primitives:* A very few people on the surface survived the cataclysm, but all vestiges of civilization and technology were lost. A few scattered bands of primitives now lead a precarious Stone Age existence, mostly in easily defended caves. They are extremely reclusive and will tend to shun contact with other humans. They are poorly armed, and their principal defense is stealth.

They are not usually a significant threat, but they often attempt to steal supplies or equipment from encampments at night. They may attack if they have the advantage of numbers and surprise.

*Smugglers:* Wherever there is government, no matter how tattered or threadbare, some commodity is either illegal or rigidly controlled. And then there are smugglers. Smuggler is a broad label for extralegal merchants. They may deal in armaments, drinking alcohol, dinosaur ivory—anything which the government prohibits its citizens from owning.

Smugglers move their goods by boat, wagon, vehicle, or pack horses; they are never found on foot. They are lightly armed and not particularly experienced at fighting. They will never start a fight and, if they are convinced the PCs are not thieves or government agents, may offer to travel with them for mutual security. Although they may be unsavory, smugglers are excellent sources of information.

## Animal Encounters

If the group encounters animals, the referee first rolls to see if the group spots the animals. This task is Average: Observation. The skill level of the player with the highest Observation skill is used, but one is subtracted from the skill for every two extra people with him. If spotting is successful, the group surprises the animals; if it is unsuccessful, the animals surprise the group. If the characters are in camp or near vehicles, they will never surprise animals. (The referee may occasionally throw in a comment such as, "While your vehicles were moving through the woods, you flushed a flock of zekes, but they were too far away to get a shot at.")

If characters surprise the animals, they have the option of either attacking or moving away undetected. If they attack, the animal will not react (either to attack or flee) until the end of one complete combat turn. If the players move away, they will avoid combat.

If the animals surprise the group, there is a chance that they will attack, as listed on the animal descriptions on pages 82-107. If the referee rolls the attack number or less on a D10, the animals attack and combat follows; if not, the animals will flee, and there will be no encounter (although the PCs may hear them crashing away through the trees).

If the players surprise the animals, roll to see if the animals attack, but only do so after the first combat round.

## Hazards

Any encounter can be hazardous, but a hazard encounter represents a natural event rather than an attack by men or animals. The specific hazard should be determined by the referee, and he should attempt to make hazards as unusual and unexpected as possible. There is a limit, however, to any referee's imagination, and so the following list is intended to fill in the major gaps. These are

fairly common hazards encountered in the Xenozoic era. Refer to the Travel Hazards Table on page 138.

**Rock Slide:** Rock slides are common in hill and mountain terrain types. They may carry away vehicles or pack animals (destroying their cargo), seriously injure characters in the party, cause a mountainside roadway to collapse, or block a narrow defile.

**Volcanic Eruption:** Volcanic eruptions are most common in hill and mountain terrain, but volcanic cones can be found scattered almost everywhere across the landscape. A volcanic eruption can cause rock slides, start grass fires that can sweep a prairie or forest, and precipitate animal stampedes. They are often accompanied by ash clouds and noxious gas, and characters near a violent eruption may find themselves injured by large falling rocks. Lava flows are also a danger, but are usually slow enough that they can be avoided by characters capable of movement.

**Earth Tremor:** Virtually all parts of the landscape are geologically active in the Xenozoic era, but the coastal areas near the City in the Sea are particularly prone to tremors. Tremors may cause horses to spook or characters to fall down. Avoiding a fall during an earth tremor is Easy: Agility, with only catastrophic failure resulting in an injury (1D6 to a random body part).

**Earthquake:** Earthquakes are major, violent movements in the earth's crust and are much more destructive than simple tremors, although they are considerably less common. Avoiding injury during an earthquake is Average: Agility, with failure resulting in an injury (1D6 to a random body part). Catastrophic failure results in a 1D6 roll to determine the number of D6 hit dice worth of injury suffered. In addition, considerable damage to vehicles and property is possible, as fissures may open in the earth to swallow up buildings, and large parts of coastlines or mountainsides may separate and slide away.

**Subterranean Gas:** Gas is often released as the result of volcanic activity, but gas from an eruption long ago may remain trapped in underground pockets for decades before being released, often for no apparent reason. Three types of gas are possible hazards: poisonous, noxious, and hallucinogenic.

*Poisonous gas* is potentially deadly, although its early effect will be to cause unconsciousness. Avoiding unconsciousness is Average: Constitution, and one roll is made each combat turn. The referee will determine the number of turns, or the distance, characters must move before they are out of the area of the gas. Any character who reaches clean air, including unconscious characters who are carried there, will revive in 1D6 hours and suffer no permanent harm. Poisonous gas is more quickly deadly to large animals, and an early sign of its presence will be the number of large, dead slithers.

*Noxious gas* will cause vomiting and disorientation to the extent that a character will become incapacitated. Avoiding incapacitation is Average: Constitution. One roll is made each combat turn, and escape from the effect of the gas is the same as for poisonous gas.

*Hallucinogenic gas* will cause the character to imagine that he is in a different environment, or that there are people, animals, or objects present which are not actually there. Telling hallucination from reality is Difficult: Constitution, and one roll is made each combat turn. A failed roll may cause the character to move back into the thickest area of the gas by mistake. The visions seen while under the effects of a hallucinogenic gas may, at the referee's option, be visions brought on by the player's subconscious, and may be a means of allowing a player to solve a puzzle which he already has the clues to but has been so far unable to decipher.

**Submerged Obstacle:** Submerged obstacles are encountered only when boating, and usually only in shallow water. Avoiding the obstacle is Average: Small Boat, rolled by whoever is at the helm. Failure causes sufficient hull damage that the boat must put into shore and spend one full period (four hours) repairing the bottom. Catastrophic failure means that the boat's bottom is caved in and the vessel sinks.

**Storm:** Storms plague any terrain type, both on land and in the water. They can appear suddenly and cause high winds, intense rain, and flooding. Characters in the open must seek shelter and wait for the storm to blow over, which will take 1D6 periods. Characters in shallow water should put to shore to ride out the storm, as the wind will almost certainly blow them onto rocks or underwater snags.

Characters in the open sea must attempt to ride out the storm without sinking. Avoiding sinking is Difficult: Small Boat and is rolled once every period of the storm. Since larger boats are more seaworthy than smaller boats, subtract the boat's size number from the task die roll. Failure indicates that the boat has partially filled with water. A second failure causes the boat to sink. An outstanding success cancels any previous flooding result. Any catastrophic failure causes the boat to sink immediately.

Characters in a boat which sinks cling to wreckage and try not to drown. Avoiding drowning is Easy: Swimming or Average: Constitution, with one roll made each period of the storm. When the storm is over, the characters will drift to the nearest dry land, arriving there after 2D6 additional periods of drifting.

# Tribal Size (1D10)

| Die | Population |
| --- | --- |
| 1 | 10,000 |
| 2 | 12,000 |
| 3 | 14,000 |
| 4 | 16,000 |
| 5 | 18,000 |
| 6 | 20,000 |
| 7 | 22,000 |
| 8 | 24,000 |
| 9 | 26,000 |
| 10 | 30,000 |

# Tribal Government (1D6)

| Die | Government |
| --- | --- |
| 1 | Popular council |
| 2 | Popular council |
| 3 | Corrupt council |
| 4 | Corrupt council |
| 5 | Dictator |
| 6 | Anarchy |

# Tribal Attitudes (1D6)

| Die | Attitude |
| --- | --- |
| 1 | Friendly and curious |
| 2 | Neutral |
| 3 | Neutral |
| 4 | Suspicious |
| 5 | Frightened |
| 6 | Frightened |
| 7 | Hostile |
| 8 | Hostile |

*Tribal Government Die Roll Modifiers:* +1 corrupt council, anarchy; +2 dictator.

# Tribal Crisis (1D10)

| Die | Crisis |
| --- | --- |
| 1 | Food shortage |
| 2 | Engineer needed |
| 3 | Animal migration |
| 4 | Weather or geologic disaster |
| 5 | Internal unrest |
| 6 | Rampant corruption |
| 7 | Citizens kidnapped |
| 8 | Mechanic needed |
| 9 | Epidemic, doctor needed |
| 10 | Disease, medicine needed |

## Other Tribes

There were other shelters, and there are other tribes. The Wassoons, for example, live to the south of the City in the Sea. As players venture beyond the boundaries of the explored world, they may encounter other tribes, at the referee's option.

If the referee decides to add another tribe to the game, he needs to make several decisions. First, where is the tribe located? Second, what types of artifacts was it able to salvage from the precataclysm? It may be less advanced than the City in the Sea or more advanced.

A variety of demographic details need to be determined as well. The referee can make these up to suit his campaign, or he can use the tables provided, at his option.

**Population:** The Tribal Size Table is used to determine the population of a tribe. Most of the tribe will live in a central settlement, but a number of small agricultural hamlets and villages are likely to be scattered throughout its near vicinity.

**Government:** If the players should gain entry and even acceptance to a tribe, the type of government will become important. To determine the government type, roll 1D6 and consult the Tribal Government Table. The four possible results are described below.

*Popular Council:* A local civic council, usually popularly elected, handles the business of governing the settlement.

While the council may be hampered by lack of resources and qualified personnel, it is doing everything in its power to help its citizens survive the cataclysm devastation and rebuild their lives.

*Corrupt Council:* A local civic council holds power, either by force of arms or through rigged elections.

Despite an outward display of democracy and concern for the people, the council members are growing rich while the situation of the common man remains wretched. There will be a corresponding high rate of corruption throughout the tribal government. Virtually any activity will require a bribe to someone.

*Dictator:* The tribe is ruled by a powerful and charismatic dictator. He has come to power through legitimate means, but has since gradually discarded the democratic structure of the municipal government and now rules directly by decree. He has absolute power, and the direction this has taken him and the tribe will be determined by the results of his NPC motivation cards (see page 43).

*Anarchy:* There is no effective form of government in the tribe. Strong individuals look out for their own families, gangs have staked out their "turf," and community groups band together to form vigilante units to protect themselves.

**Attitudes:** The reception that explorers can expect to receive is varied. Some tribes will welcome them for the help that trade and commerce with another tribe may offer. Some will consider them fellow victims of the cataclysm and do everything they can to help. Others will fear them, because fear comes easily in the Xenozoic.

To determine the reception the group receives, roll 1D6 and consult the Tribal Attitudes Table.

Note that die roll modifiers are possible based on the type of tribal government.

The five possible results are described in detail below.

*Friendly and Curious:* The inhabitants will welcome the group members and assist them if they are in trouble. They will actively hide the group from the group's enemies and provide the group with food, information, and medical care, and will be happy to trade goods with it.

*Neutral:* While the people may allow the group into the settlement, they may require some convincing. The people are not overly friendly and will not be inclined to take any risks on behalf of the characters.

*Suspicious:* The people are not willing to let the group members into the settlement and do not want to have anything to do with them. Only by making friends with someone the settlement trusts or doing the citizens some great service will the player characters be able to bring down the barrier of suspicion the villagers have erected.

*Frightened:* The inhabitants are terrified, are likely to open fire out of fear, and will insist that the group go away and leave them alone. It will be nearly impossible to gain their trust, but if the group should somehow help the settlement through a crisis, the inhabitants will be very grateful.

*Hostile:* The people will be actively hostile to the group. They will open fire on it and, if the opportunity presents itself, will attack the characters' tribe.

The group cannot expect anything but trouble from this tribe.

**Crisis:** Finally, no tribe is complete without a problem. Ten typical problems are presented on the Tribal Crisis Table, but referees should feel free to improvise. If starved for a good idea, roll 1D10 and read the result from the table. All of these are self-explanatory, but will require some elaboration on the part of the referee.

## Expanded Encounters

How does the referee expand upon these encounter tables? He can do so in three main ways—through the use of altered encounters, mandated encounters, and unusual encounters.

**Altered Encounters:** Altered encounters are modifications of those shown on the tables. Perhaps the characters let slip that they were carrying a large and valuable cargo of antibiotics before leaving the city, so when they encounter a band of poachers, the poachers are actively looking for them and have laid an ambush.

Or perhaps a local politician is out on a hunting expedition. You might roll encounters normally, but if the player characters encounter hunters, the NPCs would include the politician, would be better armed than most hunting parties, and might have a few guards along.

There are also situations in which the frequency of encounters needs to be altered. Suppose the player characters are fleeing through the forest pursued by dozens of search parties. One roll every four minutes might be more appropriate than every four hours.

Altered encounters have several very genuine advantages.

● First, they are extremely easy to come up with, and that's a virtue that cannot be overemphasized.

If you are like most referees in roleplaying games, then you have a limited amount of time and energy to spend getting ready for a gaming session. That means every easy encounter you come up with will give you that much more time to spend on making the rest of the adventure even more interesting.

● A second advantage of altered encounters is that they can take the routine out of routine encounters.

Here's a group of poachers, just like every other group of poachers you've run into.

Or are they actually down to just one or two bullets per man?

Or is it actually a patrol from another tribe trying to make contact? Ideally, your players should never be absolutely certain.

**Mandated Encounters:** Mandated encounters are taken right off of the encounter tables, although sometimes you may want to alter them a bit as well.

Instead of rolling (or, better yet, after rolling but regardless of what you roll) you announce the encounter.

This type of encounter can occur as a deliberate plot device by you or, more commonly, in response to the actions of your characters.

Plot devices should be used sparingly, but they should definitely be used. Always remember that your players want to experience the excitement of danger and adventure, so giving them some is certainly acceptable. Just remember that they also want to chart their own course.

If you want them to check out the beautiful ruined precataclysm research station you've spent all week preparing, provide them with a possible mission there by the council. That's your job.

But if they decide to go poacher bashing instead, do not have them jumped in an alley, tied up, thrown in the back of a truck, and then dumped in the research station, so there!

The actions of your players should often cause you to mandate encounters. If the player characters are going out on a boat to look for smugglers, don't stall the adventure for an hour just because you don't seem to be able to roll a 6 (or whatever) on the correct table.

This flexibility is the very heart of roleplaying. It teaches the players that wisdom is rewarded with success and foolishness with setback.

Most importantly, it teaches them that their actions in the game world produce appropriate reactions, and *that* above all else will make the world real for them.

**Unusual Encounters:** Unusual encounters will happen every adventure session, in all likelihood, and you won't have to spend much time figuring them out.

Are the PCs looking for the lost supervisor of the western research station? That's odd—no "wandering scientist" on the encounter table. Are they searching for the sunken hulk of a river barge carrying a load of mining machinery to the Calhoon Mines? Hmm. No sunken boat with machinery, either.

These are usually obvious sorts of things, and all you will have to do is determine whether you will mandate the encounter or make it semirandom.

Looking for the scientist, for example, would probably be treated as a task using Observation skill, while you might specifically place the sunken barge on a map, and the player characters would have to enter the locale by river and somehow search the river bottom in order to find it.

# Combat

From time to time, characters will find themselves in situations where violence (combat) is the only way out.

## COMBAT TURN

Each combat turn is 30 seconds long and is divided into six five-second combat phases. One action may be performed by a player in a combat phase, and each action takes one combat phase to complete.

An action is a precisely defined activity as listed in the following rules.

Many activities can be resolved using the combat turn instead of resolving each combat phase in order, and the referee should feel free to do so when the situation warrants. In this case, the players will tell the referee what they are doing during the turn.

The referee will resolve the activities of the NPCs, resolve fire, and tell the players what they see and hear. In many cases, however, a more rigorous division of time and action is necessary.

## MOVEMENT

Movement during combat can be resolved in whatever detail the situation warrants. In many cases, no map at all is needed—long-range sniping between parties on foot, for instance. In others, the referee can do well enough by just drawing a map and positions on a piece of paper.

If greater detail is needed, the referee can make a map beforehand, and the positions of characters and vehicles can be represented by pins, drawing on plastic overlays, counters, or miniature figures. Any scale may be used; movement rates and weapon ranges are given here in meters.

Combat movement rates, in meters per combat round, are given on the Combat Movement Table on page 132.

**People:** People may move at four different rates: crawl (two meters), walk (eight meters), trot (16 meters), or run (32 meters). *A character who is burdened travels half this fast.* Characters who are crawling are prone.

## GRID SYSTEM

Combat encounters should be resolved using a square grid to control movement and measurement of firing ranges. Two different scales of grids are used, one for outdoor encounters, and one for buildings and other interiors. The outdoor grid uses squares representing eight meters from side to side (sometimes referred to as tactical grid squares). The diagram to the right shows an American-style 100-yard football field with an outdoor grid system superimposed on it. The offensive team is shown lined up for a play with the ball on its own 40-yard line.

This should provide you with a good feeling for the actual area covered by one of these grid squares. Obviously it is fairly easy for men to conduct activity in such a square without interfering with each other.

Interiors generally require more detailed coverage, and in any event cover much smaller areas. As a result, we use a two-meter grid for these.

This grid can also be used for outdoor encounters which take place at close quarters, such as in an alleyway or in a small clearing in the woods.

The same offensive line shown on the eight-meter grid is shown again on a two-meter grid below.

Note that three large, eight-meter grid squares are reproduced and broken into their component two-meter squares. In this case, each man occupies a single square. Although it is possible for more than one man to stand in a two-meter area, it is difficult for both to then conduct any sort of activity without interfering with each other.

These grid sizes have been chosen to make them as easy as possible to use with the movement rates and ranges in **Cadillacs & Dinosaurs**.

● When using the interior two-meter grid, a character can crawl one grid square, walk four, trot eight, and run 15 squares per action.

● When using the outdoor grid, the same character could walk one, trot two and run four squares per action. It would take him four actions worth of crawling to move one square.

● It is possible to move and fire diagonally through a square as well as orthogonally (straight up and down or side to side), but the diagonal distance is greater. Count a square as being 50% longer diagonally than orthogonally. That is, it counts as three meters of range or movement to cross a two-meter square diagonally, and 12 meters of movement or range to cross an eight-meter square diagonally.

## Two-Meter Grid
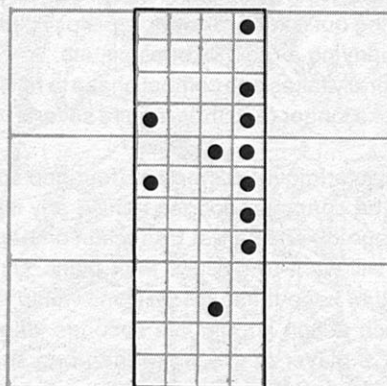


## Football Field
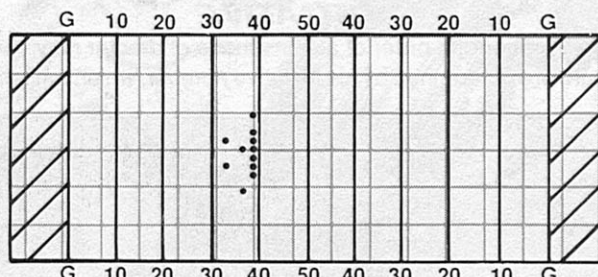
## ACTIONS

A character may perform one action in each combat phase (except as specifically noted elsewhere). Actions are chosen when it is actually time for the character to act. The possible combat actions are listed below.

*Aim:* Aiming improves the chances of hitting a target. It is done immediately before firing. Aiming at a target or area also enables a character to fire at any target which later moves through his line of sight.

*Crawl:* The character moves two meters.

*Drive/Ride:* The character is either driving a vehicle or riding an animal. In either case he must specify the speed (and whether or not it is the safe speed) to the referee. (See Vehicle Combat, page 74.)

*Fire:* The character fires his weapon at any target which is currently visible to him or which has been visible during the current phase at some point.

With some weapons this may be combined with a walk or trot.

*Go Prone/Stand Up:* A crawling character is prone. A prone character may stand up at any time, either as an action by itself or as part of a walk, trot, or run action. Standing up cuts the distance moved in an action in half.

*Melee:* This constitutes either an armed attack with a melee weapon (which may be combined with a walk or a trot) or an unarmed attack. There are four types, one of which must be specified: strike, grapple, escape (any of which may be combined with a walk or a trot), and diving blow (which may be combined with a walk, trot or a run).

*Mount/Dismount:* Get on or off of a horse or vehicle.

*Ready/Change Equipment:* This can consist of putting down your rifle and taking out a knife, drawing a pistol, linking two ammo belts together, readying a radio to transmit, etc.

*Reload:* It generally takes one combat phase to reload a weapon, although some take longer (and thus require several reload actions to finish).

*Run:* The character moves 32 meters (four grid squares).

*Take Cover:* The character dodges behind any close-by cover (see Cover on page 68 and Target Protection on page 70).

*Talk:* Players will want to discuss their plans, but the referee should be careful to keep these discussions within the bounds of reality. Since each action is only five seconds long, the referee should not allow a player to say more than one sentence or so during a combat phase. While talking can be combined with most other actions, it cannot be combined with firing.

*Trot:* The character moves 16 meters (two grid squares).

*Walk:* The character moves eight meters (one grid square).

## INITIATIVE

The number and order of actions that a character may conduct in a turn are determined by his Initiative number, which ranges from

1 to 6 initially (but which may be reduced later due to panic or wounds). Player character Initiative is determined as noted in the character generation rules, while NPCs' Initiatives are determined by their experience level, as shown on the table below.

A character's Initiative is reduced by one if he is slightly wounded and by three (total) if he is seriously wounded. If a character is critically wounded, his Initiative is reduced by five (total). If a character's Initiative level is reduced to 0, he may not act at all. (See page 71 for more on wound effects.)

## SEQUENCE

The six phases of a turn are numbered from six down to one, with Phase 6 coming first, Phase 5 second, and so on. In each phase all characters with an Initiative equal to or greater than the phase number may conduct an action. In Phase 4, for example, all characters with Initiatives of 4, 5, and 6 conduct actions.

Actions in each phase are conducted in a specific order. The characters with the same Initiative as the phase number go first, followed by the next highest Initiative, followed by the next, and so forth. The referee will moderate this flow of actions by calling out Initiative numbers in the order in which they act. When a player's Initiative number is called, he will tell the referee the action he is conducting (as in "firing at the poachers behind the wall"). The referee will announce the actions for any NPCs acting at that point, provided they are detectable to the PCs. The referee then resolves all combats and calls the next Initiative number.

The effect of this sequence is to limit the number of actions a player can perform to his Initiative and also to regulate the sequence of actions in a turn. A typical turn proceeds as follows:

*Phase 6:* 6 acts.
*Phase 5:* 5 acts, 6 acts.
*Phase 4:* 4 acts, 5 acts, 6 acts.
*Phase 3:* 3 acts, 4 acts, 5 acts, 6 acts.
*Phase 2:* 2 acts, 3 acts, 4 acts, 5 acts, 6 acts.
*Phase 1:* 1 acts, 2 acts, 3 acts, 4 acts, 5 acts, 6 acts.

**Agility and Weapons Bulk:** If two characters have the same Initiative and are conducting actions at the same time which may interfere with each other (such as firing at each other), the character with the highest Agility goes first. However, for purposes of this determination, subtract the bulk rating of the character's weapon from his Agility.

**Repetition:** A character who decides to do exactly the same thing for an entire turn may conduct that action in every phase of the turn. All repetitive actions are conducted at the beginning of the phase, regardless of the Initiative level of the characters conducting them. However, if a character interrupts a repetitive action in the middle of a turn, he may not take any other action until his next regular opportunity to do so in the action sequence, and his next action must be to go prone or take cover.

**Opportunity Fire:** If a character is aiming in a specified direction or at a specific area and an enemy character passes through his line of sight, he may immediately fire on the enemy. This is resolved as if it happened simultaneously with the enemy movement. If the enemy soldier was visible at the beginning of the firer's action, the first shot fired counts as an aimed shot; otherwise, all individual shots are quick shots. (Automatic fire is possible instead, but then no shots count as aimed fire. See the automatic fire rule on page 66.)

A character may fire opportunity fire in a phase in which he would

### NPC Initiative

| NPC Type | Initiative |
|---|---|
| Elite | 5 |
| Veteran | 4 |
| Experienced | 3 |
| Novice | 1 |

normally not be able to take an action. Once he fires opportunity fire in such a phase, however, he may not do so again until he conducts an additional aim action. Once the PC fires, he has finished his action for that phase and may not take another, even if it is his turn to do so. In the next phase the character is still considered to be aiming at the same point until he takes some other action.

A player may only conduct opportunity fire once during a phase.

**Ambush:** An ambush consists of one or more characters firing from previously undetected positions at an enemy force. Since the ambushers are undetected, it is probable that the moving force is conducting regular movement. For purposes of this first combat turn, all characters in the moving force with an Initiative other than 6 are conducting repetitive movement and thus move every phase. (Players with an Initiative of 6 do so normally.) The ambushers may open fire when one or more of their troops reaches an Initiative point or, if they are aiming, when the moving force enters their line of fire.

### PANIC

Whenever a character is knocked down by wound damage (see Wound Effects, page 71) or surprised (attacked from an unex-pected direction, ambushed, or surprised by an encounter as defined in the encounter rules), there is a chance that he will panic. This is not blind panic which sends him screaming away, but is panic which causes him to momentarily freeze.

To determine if a player character panics, roll 1D6. If the result is greater than his Initiative rating, he panics. He may not conduct any action for the number of phases by which the die roll exceeds his Initiative.

However, if he is forced to freeze for more than one combat phase, he may go prone on the second phase and remain there until able to move again.

NPCs use the same system as PCs. Note that player characters with an Initiative of 6 never panic, while even Elite NPCs may. (It's good being a player character.)

**Charge:** If a character on foot is being charged by a vehicle or large animal within 100 meters (that is, he is about to be run over by something large and fast), he must check for panic. If he panics, he does not freeze; instead, he runs. Subtract one from the panic roll if the character has a weapon with a good chance of stopping the attacker and is prepared to fire it.

## MELEE COMBAT

In general, characters must be within two meters of each other to make melee combat attacks. Melee combat may be either armed or unarmed. Some melee weapons allow armed attacks at a range of three meters.

### Unarmed Melee Combat

There are four types of unarmed attacks: strikes, grapples, escapes, and diving blows. Strikes and diving blows attempt to do damage to the target, while grapples and escapes attempt to seize and hold the target or to escape from a hold.

A character may make only one unarmed combat attack per combat phase.

**Strike Attacks:** A strike attack is a task—Average: Melee. Success means that the attack hits. In the case of a surprise attack (unexpected attack from behind), no roll is made; the attack automatically hits.

**Blocks:** If a character successfully hits an opponent, the opponent may be able to block the blow. A character may attempt to block an attack at any time when a blow is directed at him, but the block counts as one of the character's actions for the combat turn.

For example, a character with an Initiative of 2 is struck in Phase 6 and blocks the strike. In Phase 2, he can receive his normal action (going first), but in Phase 1, he can take no action (because he blocked using one phase's action). Or he can take no action in Phase 2 and take his Phase 1 action in the normal turn sequence.

Blocking is also a task—Difficult: Melee. Success means that the attack has no effect. Surprise attacks cannot be blocked (if they could, they wouldn't be a surprise).

**Aimed Attacks:** A character may decide to concentrate his attacks against one particular body part—Difficult: Melee. If the attack succeeds, the die roll for location (see below) is not made; the attacker chooses the hit location.

**Hit Location:** Hit location (if the attack succeeds and is not blocked) is rolled on the Human/Animal Hit Location Table on page 132 (biped or quadruped, as necessary).

The die roll for hit location is not made for a surprise strike (an unexpected attack from behind) or an aimed attack. The attacker is allowed to pick his target.

**Damage:** Damage inflicted from a strike is equal to the attacker's unarmed combat damage rating.

**Armor:** Armor absorbs points equal to its value from each strike attack and suffers no damage. One hit is inflicted on the attacker on the body part (right arm, left arm, right leg or left leg) used in the attack for every two hits absorbed by the armor (round off to nearest whole number). Thus, if Monk punched Gerhard in the torso and caused six points of damage, but Gerhard was wearing a flak jacket, Gerhard would only suffer five hits, while Monk's right arm would suffer one hit.

**Grappling:** Grappling is a task (Average: Agility). It is somewhat simpler to resolve than a strike. Blocking is not possible; there is no hit location; and armor has no effect. While grappling "damage" is calculated in the same way as for a strike, the results of the attack are termed *controlling hits*. They are not damage, but rather are a measure of the extent to which one character has physically controlled another (with a hammerlock, by pinning him to the ground, etc.). Once a character has inflicted controlling hits on another character equal to or in excess of that character's Strength, the target character is totally controlled and ceases struggling. The

controlled character may not move; the controlling character may not move without releasing control (all controlling hits disappear). Until that time, however, the character may attempt to escape or grapple with the original attacking character.

If both characters grapple, the first one to achieve hits equal to his opponent's Strength controls the other.

**Escape:** An escape attempt is resolved in exactly the same way as a grapple; however, if the attempt is successful, hits equal to the unarmed combat damage rating of the PC making the successful attempt are removed from the accumulated total which the other player has already built up.

**Diving Blows:** A diving blow is an attempt to throw oneself at the enemy and knock him down. Blocking is not possible, and armor has no effect.

*Avoidance:* If a character is surprised (an unexpected attack from behind) the attack always hits. If he is not surprised, he may avoid the attack (Average: Agility). If the blow is avoided, the attacker is knocked down. If the attack is not avoided, it automatically hits.

*Effects:* If a diving blow hits, either the attacker or defender is knocked down and suffers hits. If 1D6+(2×Constitution) of the attacker is greater than Strength+Constitution of the defender, the defender is knocked down and suffers hits equal to the difference. Otherwise, the attacker is knocked down and suffers hits equal to the difference between the two values. If the defender is surprised, only his Constitution is used in the comparison.

## Armed Melee Combat

Armed combat is conducted with melee weapons.

**Range:** The two general categories of melee weapons are short range and long range. Characters must be within two meters of each other (the same as for unarmed combat attacks) for short-range attack and within three meters for long-range attacks. If a character with a short-range weapon (including an unarmed character) encounters a character with a long-range weapon, the short-range weapon may not attack in the first phase of contact (although a short-range melee weapon may block).

The ranges of melee weapons are given on the Melee Weapons Table on page 132.

**Hit Procedure:** A melee attack is a task—Average: Melee. In the case of a surprise attack (unexpected attack from behind), no roll is made; the attack automatically hits.

**Modifiers:** Certain melee weapons add a hit modifier to the character's Melee skill, also shown on the Melee Weapons Table on page 132. This modifier is added to or subtracted from the character's skill; however, it may never reduce the character's skill below 1.

**Blocks:** If a character successfully hits an opponent, the opponent may be able to block the blow. The character blocking must also be armed with a melee weapon (it doesn't make much sense to block a bayonet strike with one's hand). A character may attempt to block at any time when a blow is directed at him, but the block counts as one of the character's actions for the combat turn.

For example, a character with an Initiative of 2 is hit in Phase 6 and blocks the armed melee strike. In Phase 2, he can take his normal action (going first), but in Phase 1 he can take no action (because he blocked, using one phase's actions). Or he can take no action in Phase 2 and take his Phase 1 action in the normal sequence.

A block is a task—Difficult: Melee. If the task is successful, the attack misses. Surprise attacks cannot be blocked.

**Hit Location:** Hit location is rolled on the Human/Animal Hit Location Table on page 132. The die roll for hit location is not made for a surprise attack; the attacker picks his target. The attacker may attempt to pick his target in any melee attack; this is a task—Difficult: Melee. If he hits, he chooses where he hits. Additionally, the referee may mandate certain hit locations if the situation warrants it. If an injured player crawls up to an enemy with a knife, he is unlikely to hit him anywhere but in the legs. Likewise, a character mounted on horseback and swinging a club is not going to hit the leg of a man on foot.

**Damage:** Damage inflicted from a melee attack varies with the weapon used. The Melee Weapons Table on page 132 gives the damage value of each weapon.

## FIRE COMBAT

Fire combat can be conducted at considerably greater distances than either unarmed combat or armed combat. Fire combat weapons (and hand grenades) are listed on the weapons charts on pages 134-135, which give a variety of information on each weapon. Weapons capable of firing more than a single round have one listing per type of round. The use of this information is explained in the subsequent rules.

There are two general varieties of fire combat: direct fire and indirect fire.

*Direct fire* is conducted when the gunner can actually see his target and fires a round directly at it with the intention of obtaining a direct hit.

*Indirect fire* is usually conducted when the gunner cannot see the target and instead fires at a high angle to lob his round over intervening terrain obstacles with the intention of it coming down in the close vicinity of his target. For the most part only certain heavy weapons (grenade launchers, mortars, and howitzers) are capable of indirect fire.

**Human Limits:** A single character can fire only one weapon at a time. If a character has no marksmanship skill relevant to a particular weapon type, he may not fire it.

**Rate of Fire:** Each shot in the game represents a single bullet. It is possible to fire more than a single bullet from most weapons in a five-second action phase. All weapons in the game have either a reloading (Rld) rating or a rate of fire (ROF) rating.

Weapons with a reloading rating hold only one round in the weapon at a time, may only fire the one round which is loaded during a fire action, and must then be reloaded before firing again. The reload rating is the number of reloading actions necessary to reload the weapon. If the weapon has more than one loader as part of its crew, each loader must spend the indicated number of actions reloading. For each loader missing from the gun crew, add one to the reloading time for the others.

Weapons with a rate of fire listing have either a letter code or a number. The various letter codes mean the following:

*SS (Single Shot):* This weapon can only fire once per firing action and must then be reloaded.

*BA (Bolt Action):* Each time the rifle is fired the bolt mechanism must be worked to eject the spent cartridge and move a fresh cartridge from the magazine to the chamber. Bolt-action rifles may be fired once per action phase. The working of the bolt is assumed to take place as part of the same action.

*LA (Lever Action):* Each time the rifle is fired the lever must be worked to eject the spent cartridge and move a fresh cartridge from the magazine to the chamber. Lever-action rifles may fire once per action phase, the same as bolt-action rifles.

*PA (Pump Action):* Each time the shotgun is fired the lever must be worked to eject the spent shell and move a fresh shell from the magazine to the chamber. Pump-action weapons may fire three rounds per action phase.

*DAR (Double-Action Revolver):* A double-action revolver does not have to be cocked between shots, as the first part of each trigger pull cocks the hammer. (A single-action revolver must be cocked between each shot. There are no single-action revolvers in the game.) This makes the trigger pull somewhat harder than on a semiautomatic pistol. A double-action revolver can fire three rounds per action phase.

*SA (Semiautomatic):* This weapon will fire one bullet with each squeeze of the trigger, and the force of the firing round is used to recock the weapon. Semiautomatic weapons may fire up to five shots per action phase.

**Automatic Fire:** Weapons with a number instead of a letter code are capable of fully automatic fire as well as semiautomatic fire. The number shown is the number of bullets in a typical burst from the weapon.

As a practical matter, no character may fire at more than three different targets in the same fire phase due to restrictions in changing targets.

Each automatic weapon can fire up to either five individual shots or five bursts per fire phase.

**Reloading:** All small arms have a Mag listing (for magazine) which consists of a number and, in some cases, a letter code. This shows the type of feed device used for ammunition in the weapon and the number of rounds in it. The most common form of magazine in small arms is a box magazine which attaches through the stock or pistol grip. *Weapons with no letter code after their Mag value are fed by box magazines,* each of which contains the number of rounds shown.

One reloading action is sufficient to detach an empty box magazine and insert a full one.

Other forms of magazines are noted by letter code as explained below:

*R (Revolver):* A revolver's feed device is a nondetachable revolving cylinder which usually holds six bullets. If loaded individually, three bullets can be loaded into the cylinder per reloading action. If a quick-loader is available (a circular clip holding six cartridges which enables all six to be dropped into the open cylinder at once), one reloading action is sufficient to reload the weapon.

*i (Individual):* Weapons with nondetachable magazines, particularly underbarrel tubular magazines, often have to be reloaded one bullet at a time. Up to three bullets may be loaded into a individual feed device per reloading action.

*B (Belt):* The weapon, a machinegun, is fed by a belt usually containing 100 bullets. Two reloading actions are necessary to replace a belt. However, if the machinegun has a two-man crew (gunner and loader), this requirement can be met by both expending one action reloading in the same phase.

### Hit Procedure

The chance of hitting a target with individual shots depends primarily on three things: marksmanship, range, and recoil. The combination of these factors will produce a D10 chance of hitting a target. The player or referee then throws 1D10 once for each bullet fired. If the hit number or less is rolled, the target is hit. Any other roll is a miss.

**Marksmanship:** All small arms use Small Arms as their marksmanship skill, except for hunting (long) bows, which use Archery skill. Crossbows use Small Arms skill. The appropriate skill level is the D10 chance of hitting a target with an aimed shot at *medium range.* This number is known as the base hit number.

An *aimed shot* is one which takes place after the character has spent one action aiming his weapon. A target must be visible in both the aiming and firing phases for an aimed shot to take place, and the character must tell the referee which target he is aiming at when he conducts the aiming action.

If more than one shot is fired in a phase, only the first shot counts as aimed; all subsequent shots are considered *quick* shots. In

addition, any shot fired which does not follow an aim action, or which is fired at a target other than the one aimed at, counts as a quick shot.

All quick shots are conducted with the base hit number *halved* (fractions of one-half or more are rounded up).

**Range:** The four ranges for direct fire are short, medium, long, and extreme. The value printed in the range column of the weapons tables is the weapon's *short range* in meters. *Medium range is twice short range; long range is twice medium; and extreme range is twice long.*

For example, a weapon with a printed range of 50 has a short range of 50 meters, a medium range of 100 meters, a long range of 200 meters, and an extreme range of 400 meters.

The base hit number at *close* range is *twice* the appropriate marksmanship skill. At *medium* range it is the *unmodified* marksmanship skill. At *long* range it is *half* the marksmanship skill. At *extreme* range it is *one-quarter* of the marksmanship skill. Round fractions to the nearest whole number, with fractions of one-half or more rounded up. Note that a character firing a quick shot at long range would have his marksmanship halved twice (once for range and once for a quick shot).

**Rifle Scopes:** Some hunting rifles come with a scope fitted to them. Any other rifle may have one fitted at additional cost by a gunsmith (they may not be initially acquired so equipped). The printed range on the weapons tables is for the rifle without a scope. If a scope is mounted, add 15 to the printed range figure *when conducting aimed shots*. In addition, aimed shots at extreme range are conducted as if at long range for purposes of hit determination. Note that scopes have no effect on quick shots.

For example, a rifle with a printed range of 75 and a scope would be treated, for purposes of aimed fire, as having a close range of 90 meters, a medium range of 180 meters, a long range of 360 meters, and an extreme range of 720 meters.

**Recoil:** Recoil is a measure of how much a weapon kicks when it is fired, which affects accuracy. Each weapon has a recoil value for a single shot. If it is capable of automatic fire, it also has a recoil value for firing a burst. Whenever a character fires a weapon, total the amount of recoil the weapon generates that phase by multiplying the recoil of a single shot or a burst by the number of single shots or bursts fired.

Once you know how much recoil the weapon generates in a phase, compare the total to the firing character's Strength. If the recoil is equal to or less than his Strength, fire is resolved normally. If it is greater than his Strength, reduce the hit number by the difference.

For example, if a character with a Strength of 7 is firing two single shots from a .44 Magnum revolver, the cumulative recoil is 8 (2×4), and the final hit number would be reduced by one (8–7). If the character were firing an aimed shot with a chance of hitting on a 7 or less and one additional quick shot with a chance of hitting on a 3 or less, the hit chances would be reduced to 6 for the aimed shot and 2 for the quick shot (all other factors being equal). The same character firing one shot from the .44 Magnum would have no reductions in hit chance. While high-recoil weapons can physically be fired as quickly as low-recoil weapons, it is often counterproductive to do so. The effects of recoil on automatic fire are different and are treated on page 66.

**Pistols:** Pistols may be steadied by using both hands and bracing oneself. This may only be done while stationary, and reduces the printed recoil by one.

**Two Weapons:** If a character is carrying two weapons at once (one in each hand), he may fire either one, but not both. For purposes of controlling the recoil of either weapon, his Strength is reduced by one.

## Automatic Fire

The hit procedure for automatic fire differs from that for individual shots. Whenever a character fires a weapon on its automatic fire setting, he fires one or more bursts of rounds.

The number of rounds in a burst is the number listed in the weapon's ROF column. Each time that a burst is fired, *roll a number of D6 equal to the number of rounds in the burst.*

Each 6 rolled is a hit.

For example, a weapon with an ROF of 5 fires five shots per burst, and any automatic weapon may fire up to five bursts in a fire phase (see Automatic Fire on page 64). If a character fired all five allowed bursts, he would roll a total of 25D6 for hits.

The actual number of dice rolled per burst, however, may be reduced by either range and/or recoil.

**Range:** Subtract one die from each three-round burst, two dice from each five-round burst, and three dice from each 10-round burst for each range band beyond close.

For example, a small arms weapon which fires 10-round bursts would roll 10D6 per burst at close range, 7D6 at medium, 4D6 at long, and 1D6 at extreme.

A weapon which fires five-round bursts would fire 5D6 at close range, 3D6 at medium, and 1D6 at long.

**Recoil:** Recoil is calculated the same way as for individual shots (see page 65). If it is greater than a character's Strength, reduce the number of dice rolled per burst by the difference.

For weapons with 10-round bursts, reduce the number of dice rolled per burst by twice the difference.

For example, a character with a Strength attribute of 5 fires an Uzi submachinegun in an action phase. The Uzi fires five rounds per burst, and the character decides to fire a total of three bursts (15 rounds). Examining the Military Small Arms Table on page 135 he finds that the Uzi has a burst recoil of 2.

Since he is firing three bursts, the total recoil in the phase is six, which is one higher than his Strength.

As a result, he subtracts one die from each burst fired, leaving him with a total of 12D6 rolled for hits instead of 15D6 (close range is assumed).

**Danger Zone:** The danger zone is the area where characters not actually aimed at may be hit by stray bullets from a burst of automatic fire.

The danger zone is an area four meters to either side of a line drawn between the firing PC and the target, and includes all potential targets which are within the same range band as the target.

Once a player has rolled all of his automatic fire hit dice and noted how many rounds hit, he takes half of the dice which missed (rounding fractions down) and rolls them again. Each 6 rolled on this second set of dice is a hit inflicted on another target in the danger zone. The referee will assign these hits to the other targets, beginning with those closest to the intended target.

Any dice which missed from this second roll (or half of all dice which missed from the first roll, if there were no other potential targets) are set aside and will be used to attack any character moving through the weapon's danger zone for one full phase. A full phase for the purposes of this rule is the remainder of the current phase and all of the next until the firing character's Initiative. However, if the firing character does not have an Initiative point in the next phase, then the fire lasts only until the end of the current phase. Note that by careful use of this effect, automatic weapons

fire can be used to interdict movement or keep enemy troops under cover by simply firing through open doorways, over the tops of walls, etc.

**Minimum Dice:** A three- or five-round burst will never be reduced to less than one die per burst, regardless of the number of reductions for range and/or recoil made. A 10-round burst will never be reduced to less than two dice per burst.

## Movement and Fire

Movement by either the firing character or the target reduces the chance of scoring a hit.

**Advancing Fire:** Characters may not fire while crawling or running. No aimed fire is possible while walking or trotting, but characters may fire quick shots or bursts normally. For purposes of controlling recoil, however, a walking character's Strength is reduced by 1 and a trotting character's Strength is halved, rounding fractions down.

**Fire From Moving Vehicles:** Characters may not conduct aimed fire from a moving vehicle. They may fire quick shots or bursts normally.

All such fire, however, is conducted as if at one range band greater than the actual range for purposes of determining hits.

**Fire From the Saddle:** Characters firing while mounted on a draft animal or saddle horse do so the same as dismounted characters, with two exceptions.

First, their movement category is based on the movement of the animal. Thus, characters on a running animal may not fire at all.

Second, the marksmanship skill used to determine the chance of hitting with single shots is either the character's appropriate marksmanship skill or his Riding skill, whichever is lower.

**Target Movement:** If the target is moving 30 meters or more in the current phase, it is treated as if one range band further away for purposes of hit determination.

## Ammunition

Every time a weapon fires it uses ammunition.

Ammunition record forms have been provided on page 136, and permission is specifically given to photocopy them. Half of the forms are laid out for ammunition belts and half for box magazines.

Players should each have one or more copies of this form to keep track of the ammunition they are carrying.

Write down by each magazine the type of bullets loaded and mark off the excess rounds so that the number of boxes is equal to the number of bullets loaded. When a magazine is loaded into a weapon, the player simply circles it on his form, and marks off bullets as they are fired.

The boxes are laid out in rows of five each, so most weapons can record bursts fired by marking off one or two complete rows. It is suggested that individual shots be marked off from the top of the magazine form and bursts marked off from the bottom.

## Special Cases

Special cases modify the basic firing rules.

**Target Obscured:** If the target is partially obscured (in brush, fog, mist, light smoke, etc.) it is treated as if it were one range band further away for purposes of hit determination.

**Firing at Riders:** If the target is a rider on an animal, motorcycle, or bicycle, the firing PC must declare whether he is firing at the rider or mount.

Whether he is firing at the rider or mount, fire is resolved normally, but if a single shot misses its intended target, it has a 10% chance of hitting the other. For automatic fire, misses are rerolled for additional hits on other targets in the danger zone as noted on page 66, but half of all additional hits are taken on the other target.

**Multiple Modifiers:** All modifiers to the number of dice rolled or the range at which fire is delivered are cumulative. However, when firing single shots (either aimed shots or quick shots), all rolls of 9 or higher miss the target, and all rolls of 1 hit the target, regardless of the character's skill level or any modifications to it.

When a weapon is firing bursts, the number of dice is never reduced to zero (see page 66).

## Shotguns

Shotguns may fire either slugs or buckshot rounds. Slugs are fired in the same way as any other small arms fire using the ratings provided on the Shotguns Table on page 134. If the shotgun fires buckshot, however, several special rules apply.

Buckshot may only be fired at close and medium range; it may not be fired at long or extreme range.

*Buckshot has a penetration of Nil at all ranges.*

At close range, each shot is treated as a normal single shot, but it does 9D6 damage. (For an explanation of dam-

age, see page 70.)

At medium range, each shot is treated as a 10-round burst of automatic fire (and is reduced immediately to 7D6 for being at medium range). Each round which hits does 1D6 damage.

## THROWN WEAPONS

Any hard object can be thrown at another character or animal. Hitting the target is Average: Thrown Weapon at effective range and Difficult: Thrown Weapon at long range.

Effective range is equal to the character's throw range if the object weighs one kilogram or less. If the object weighs more than one kilogram, effective range is equal to the character's throw range divided by the weight of the object. Long range is twice effective range.

Thus, if a character had a throw range of 20 meters, then he would have an effective range of 10 meters with a two-kilogram object or five meters with a four-kilogram object, etc.

If a thrown object hits its target, it causes hits equal to the sum of the throwing player's Strength plus 1D6, regardless of the weight of the object. Thrown objects have an armor penetration of Nil.

A throwing knife will always inflict 1D6 hits, regardless of the range or Strength of the thrower. Its armor penetration is likewise Nil.

## EXPLOSIONS

Many types of ammunition do damage solely by virtue of their kinetic energy. That is, they slam into the target and damage it by sheer brute force. All small arms fall into this category.

Other types of ammunition, however, explode when they hit, and this section describes their effects as well as that of explosive charges.

**Descriptive Terms:** The power of an explosion is described by two ratings: concussion and burst. Concussion is the effect of the massive overpressure wave generated by the explosion, while the burst radius is the area filled with small, high-energy fragments (often called shrapnel). These jagged metal fragments can cause severe injury. But they lose energy quickly due to their eccentric ballistic shape and thus do not carry anywhere near as far as a bullet.

**Concussion:** Concussion can affect part or all of the body, so the number of concussion damage dice called for are rolled and divided evenly among the various body parts. Simply divide the total damage suffered by seven and add that many points to each body part. All points left over which are not evenly divisible by seven are added to body parts as instructed by the referee. At least one of the extra points should be to the head, and the remainder should be distributed on the side facing the explosion or to any previously injured part.

The listed concussion value for an explosion is the number of damage dice rolled if *in physical contact* with the explosion. If a character is within the same eight-meter grid square as the explosion, the explosion does half this concussion, rounding fractions down. If a character is in an adjacent grid square, the explosion does half of this value, rounded down, and so on until the concussion is reduced to zero. The example table below shows the reduction of concussion damage at successive ranges for an explosion with a concussion value of 30.

**Cover:** Characters completely behind solid cover, such as behind a thick wall, completely inside a trench or foxhole, or inside an armored vehicle, do not suffer the effects of concussion. Characters under partial cover (such as partially exposed behind a wall, in a foxhole, or in the hatch of an armored vehicle) and prone characters halve the concussion value of any attack on them. (This does not apply to explosions which are in physical contact with them, such as grenades dropped into their trench.)

**Fragmentation:** The burst rating for an explosion is its primary burst radius—the area saturated with a high density of fragments. The secondary burst radius, which has a lower concentration of fragments, is twice this. The burst radii are expressed in meters, but are stepped in increments usable with the tactical grid system (see sample bursts, page 135).

**Hit Procedure:** Roll 1D10 for each character within either the

### Concussion Example

| Range | Concussion |
|---|---|
| Contact | 30 |
| Same square | 15 |
| 1 square | 7 |
| 2 squares | 3 |
| 3 squares | 1 |
| 4 squares | None |

primary or secondary burst radius of an explosion. Characters within the primary burst radius are hit by multiple fragments on a roll of 1-3, a single fragment on a roll of 4-6, and no fragments on a roll of 7-10. Characters in the secondary burst radius are hit by multiple fragments on a roll of 1-2, a single fragment on a roll of 3-4, and no fragments on a roll of 5-10. If a character is hit by multiple fragments, roll 1D6 to determine the number.

**Damage and Penetration:** Fragments do damage as small arms fire. Fragments closer to the explosion are more dangerous than those further away. Fragments in the primary burst area do 2D6 damage and expend one damage die per level of armor value (AV) struck. (Thus, they may penetrate armor of AV 1 and still do 1D6 damage.) Fragments in the secondary burst area do 1D6 damage and will not penetrate armor.

All hit, damage, and penetration information is summarized on the Fragmentation Attack Table on page 135. See the Armor Values of Cover Table on page 133 for the relevant effects of cover on armor value.

**Exploding Round Penetration:** All exploding rounds have a listed penetration value expressed as the minimum armor value of penetration. (The only exploding round included in the basic game is the M72A1 LAW.) The actual penetration of the round is the listed penetration plus the roll of 2D6 (except for rounds with a listed penetration of Nil). Compare this to the armor value of the target vehicle and consult the vehicle damage tables. (See the Vehicle Damage section on page 75.)

## DEMOLITIONS

Explosives, in addition to providing the bang for high-explosive rounds, are used to demolish structures and breach barriers.

**Types of Explosives:** For simplicity, the game deals only with the two most common types of explosives: dynamite and plastic explosive. The units used in the game are the quarter-kilogram stick of dynamite and the one-kilogram block of plastic explosive. All demolition effects are resolved in terms of the number of demolition points (DP) used. A stick of dynamite has one DP; a block of plastic explosive has six DPs. Plastic explosive is flexible and may be molded to any shape desired or broken into smaller charges of one or more demolition points. Several sticks of dynamite and/or blocks of plastic explosive may be joined to form larger charges.

**Setting Charges:** Each demolition charge takes 15 minutes (30 turns) to emplace. A demolition charge is defined as one or more sticks of dynamite and/or blocks of plastic explosive connected to each other (up to a maximum weight of 10 kilograms). Additional explosives may be attached as extra charges, but require additional time to emplace. If several larger charges are emplaced, several characters may work on emplacing them at once.

Setting a charge requires a detonator and may require fuses or electrical wire. A character must have a demolition kit (see pages 20-21) or must have improvised the required parts (see page 39). Improvised fuses/detonators will have a mishap on a D10 roll of 8+. Such a mishap is a hangfire (5-10 on 1D10) or a complete dud (1-4 on 1D10). A hangfire will detonate 1D10 phases later than expected; a dud will not detonate at all. The referee should make these rolls in secret.

Setting a charge is an Easy task using Engineer skill, with failure indicating that the charge does not go off when triggered, and with catastrophic failure indicating that the charge goes off while being set.

**Tamping:** Tamping consists of covering a charge so that the force of the explosion is contained and directed in toward a structure. Tamping must be done with dense or heavy material, such as rocks, sandbags, steel plates, etc. Tamping adds five minutes to the time required to set the charge. The referee may increase this time requirement for difficult tamping jobs. (It is very difficult, for example, to tamp a charge taped to the side of a freestanding girder.)

**Effects:** Like anything which blows up, explosives have a concussion, burst, and penetration value.

*Concussion:* It requires progressively larger quantities of explosives to produce a linear increase in concussion. To determine the concussion of a charge, consult the Demolition Table on page 133. This lists demolition points and their corresponding concussions. In reading the chart, you will notice that there are several gaps in the listing of demolition points. The DP value listed for a given concussion is the minimum number of DPs required to achieve that value.

For more precise results, the following formulae can be used to calculate the concussion value of a given demolition charge and the size of charge needed to achieve a given concussion.

To determine the concussion of a charge, divide the DP value of the charge by 2, extract the square root of the result, and multiply by 5. To determine the number of demolition points needed to achieve a given concussion, divide the concussion by 5, square the result, and multiply it by 2.

$C = 5(\sqrt{DP \div 2})$. *C:* Concussion *DP:* Damage points.

$DP = 2[(C \div 5)^2]$. *C:* Concussion *DP:* Number of damage points needed to arrive at a certain concussion.

*Burst:* Once the concussion of the explosion has been calculated, determine the maximum concussion radius of the explosion the same way as for a high-explosive round, as described on page 68. This maximum radius of concussion is also the primary burst radius of the explosion. The secondary burst radius is twice this.

Unlike a high-explosive artillery round, a demolition charge does not contain the material necessary to produce a large quantity of fragments. However, these are usually produced by the destruction of the object being demolished. If the demolition charge is simply lying on the ground or is used to demolish an earthen or timber and earth fieldwork, it does not produce fragments.

*Penetration:* The base penetration of a demolition charge is the same as its concussion value, but is modified by its means of emplacement. If the charge is tamped, its penetration is doubled. If the charge is simply laying on top of or leaning against a structure (as in the case of a thrown satchel charge or stick of dynamite) its penetration is halved. Unlike other explosions, the listed penetration value of a demolition charge is its actual penetration; players do not add the roll of 2D6 to it.

**Breaching Barriers:** Breaching a barrier basically means blowing a hole in it. Demolition charges can be used to breach walls, armor plate, embankments, etc.

To determine the size of the breach made by a demolition charge, first determine its maximum penetration. To do so, divide the penetration value of the charge by the armor value constant of the material of the barrier. This constant is listed on the Armor Equivalent Table on page 132. The result is the number of millimeters penetrated by the charge.

For example, a charge with a penetration of 8 would penetrate 40 millimeters (8÷0.2) of armor plate, 267 millimeters (8÷0.03) of brick or concrete, and 400 millimeters (8÷0.02) of stone, packed dirt, or wood.

Now determine the actual diameter of the breach made. The diameter of the breach, in millimeters, is the penetration (in millimeters) of the charge minus the thickness (in millimeters) of the barrier.

For example, a character wishes to breach a 500-millimeter-thick (about a half yard) reinforced concrete wall. The character is using nine one-kilogram blocks of plastic explosive (total of 54 DP). Consulting the Demolition Table on page 133, he uses the 50 row for DPs and notes that this has a penetration of 25. He spends an extra five minutes carefully placing and tamping the charge for maximum effect, thus doubling the penetration to 50.

He divides the penetration value of 50 by the reinforced concrete's armor value constant of 0.04, obtaining a total penetration of 1250 millimeters.

Subtracting the thickness of the wall from this leaves a hole 750 millimeters (0.75 meter, or over two feet) across.

Characters should take cover from the blast as an explosion with a concussion value of 25 will injure characters within three eight-meter grid squares (24 meters) of the explosion, and it will throw concrete shards to twice this distance.

OOOOOOOH...
LEG IS ON
FIRE...

## DAMAGE

A character can be injured as a result of combat in several ways.

### Gunshot Wounds

Each time a character is hit by fire he is wounded. The extent of the injury is determined by three factors: hit location, weapon damage, and target protection.

**Hit Location:** Whenever a character is hit, roll 1D10 and consult the Human/Animal Hit Location Table on page 132. This indicates the body part struck and injured by the shot.

**Weapon Damage:** All weapons do the same damage at all ranges. The damage value of the weapon is listed on the weapons charts and is the number of D6 rolled. Some weapons have a damage value of –1. In this case, roll 1D6 and subtract one from the result.

Some weapons fire exploding rounds. These weapons have a damage rating consisting of two separate listings: concussion and burst. The effects of explosions are treated on page 68.

**Target Protection:** Characters may hide behind obstacles as protection from fire. If the hit location rolled is covered by the obstacle, the shot has no effect unless it is able to penetrate the obstacle. The Armor Values of Cover Table on page 133 gives the armor values of common types of cover. Also, some dinosaurs have certain parts of their bodies covered by armor, as noted in the animal description.

For example, a character is under cover behind a tree. The referee decides that, since the character is firing a weapon, his head and right arm are exposed. If he is hit in the chest, the bullet strikes the tree instead and provides an armor value of 12.

Alternatively, a player inside a car is firing over the door. His head, arms and chest are exposed while his legs and abdomen are protected by the AV 1 car body.

Each weapon has a penetration rating that reflects its ability to punch through armor. This rating may consist of the simple notation Nil, indicating that the bullet will be stopped by any armor protection, or it may have up to three different numeric ratings. If so, the first rating applies to both close and medium range, the second to long range, and the third to extreme range. If a weapon's penetration drops to Nil at any range band, it remains unable to penetrate armor at longer ranges, so no additional entries are made.

The penetration value of a weapon is the number of damage dice it loses for each armor value it is required to penetrate. *Multiply the target's armor protection by the weapon's penetration value and subtract the result from the weapon's damage value.* If the remainder is a positive number, the bullet penetrates, and the referee rolls that many dice for damage. If the remainder is zero or a negative number, the bullet fails to penetrate.

For example, a character fires an M16 at close range and hits his target in the abdomen, which is protected by a car door. The M16 has a damage value of 2 and a penetration of 1 at close range, and the car door has an armor value of 1. Multiplying the penetration (1) by the armor value (1) and subtracting the result (1) from the weapon's damage value (2) shows that the M16 penetrated the door and did 1D6 of damage.

### Burns

Characters come in contact with burning fuel by being inside or near a vehicle when its fuel tanks explode. The primary burst radius of an exploding vehicle is 12 meters. All characters inside the vehicle when it explodes are covered with burning gasoline.

Characters come in contact with open flames when moving through a burning structure or a grass fire, usually to escape, but perhaps to rescue a wounded companion.

The amount of burn damage caused is determined by the temperature of the flame and the length of exposure.

**Temperature:** Burning gasoline causes 1D6 damage *per second* in contact with a body part. Moving through a burning structure causes 1D6 damage *per phase* per body part in proximity to the flame. This is summarized on the Burn Damage Table on page 133.

**Exposure Time:** In the case of open fire, the exposure time is measured in terms of combat phases actually in close proximity to the fire. In the case of fuel splashes, exposure time begins at the

start of the combat phase immediately after the character was hit. Characters hit by burning splashes will instantly attempt to remove them. They will make one such attempt per second in the phase, by making an Average task roll against Agility. Each successful attempt removes or extinguishes the burning fuel on one body part. The character still suffers burn damage for the second in which he succeeds in extinguishing a flame.

For example, a character is hit by three burning splashes of gasoline, two on his arm and one on his leg. In the first second he fails to extinguish any fires and takes 2D6 damage to his arm and 1D6 damage to his leg. In the following second, he brushes off the fuel on his arm but still takes 2D6 damage to the arm and 1D6 to the leg. In the third second he brushes the fuel from his leg, and suffers 1D6 damage. His total damage has been 4D6 to his arm and 3D6 to his leg.

If a character suffers sufficient damage to lose consciousness part of the way through a phase (say, after three or four seconds) he will remain conscious until the end of the phase. Other characters may help extinguish the burning character, making one attempt per second of the phase in the same way as described above.

## WOUND EFFECTS

A variety of effects result from wounds, some temporary and some more lasting.

**Killing Wound:** If a gunshot wound, fragmentation wound, or armed melee blow hits a character or animal's head or chest, there is a chance that the wound instantly kills the person or creature. Roll 1D10 and any result equal to or less than the damage value of the weapon (as modified by armor or cover) kills the character.

For example, a character fires a Weatherby .360 Magnum at medium range at a charging shivat and hits it in the head. The Shivat has head armor of AV 2. The Weatherby normally does 7 dice of damage, but loses two damage dice per armor level penetrated at close and medium range, and so has its damage value reduced to 3. If the player rolls a 3 or less on a D10, he immediately kills the shivat; otherwise, he does 3D6 damage.

It is recommended that PCs who suffer a killing wound instead suffer enough damage to increase the wound level of the head or chest to at least serious if unwounded (and critical if already serious), and in addition take the normal damage inflicted by the round. For example, if Charles had no damage to his chest and was struck by a killing wound, he would take enough damage to bring his chest to serious wound level plus the normal damage of the round which hit him.

**Knockdown:** If a character suffers more points of damage in a combat phase than his current Agility, he is knocked down and may not conduct any other action for the rest of the current turn. Concussion damage counts the same as gunshot and fragmentation wounds for determining knockdown, but burn damage does not.

**Stun:** Any damage to the head, including burn damage, has a chance of stunning the character. To avoid stun, roll 1D6 and add the damage suffered from the wound. If the result is equal to or less than the character's Constitution, he is unaffected. If the result is greater than his Constitution, he is stunned and remains unconscious for a number of combat turns equal to the amount by which the total exceeded his Constitution. For example, a character suffers a wound to the head with a damage of 6 and rolls a 5, for a total of 11. His Constitution is 9. He is stunned (unconscious) for two combat turns. Stunned characters are automatically also knocked down.

**Wound Severity:** The three levels of wound severity are slight, serious, and critical. *If one of a character's body parts has taken damage less than or equal to its hit capacity, it is slightly wounded. If it has taken more damage than its hit capacity, but less than or equal to twice its capacity, it is seriously wounded. If it has taken damage in excess of twice its capacity, it is critically wounded.*

*Slight Wounds:* A slight wound causes an immediate reduction in the character's Initiative rating by one. A character never suffers more than one Initiative reduction for slight wounds, regardless of how many he suffers. Slight wounds have no other effect on combat, although the referee may wish to penalize actions making use of slightly injured arms or legs.

*Serious Wounds:* A serious wound reduces a character's effective Strength by half (rounding final Strength down) and causes an additional immediate reduction of the character's Initiative rating by two (total of three, including slight). A character never suffers more than one Initiative reduction for serious wounds, regardless of how many such wounds he suffers. Characters whose Initiative ratings are reduced to 0 or less may not take any further actions during this combat.

A character who suffers a serious injury must also make a roll under his Constitution expressed as a percentage using 2D10 (one for the tens digit and one for the ones digit) to avoid losing consciousness. This roll must be repeated every combat turn in which the player attempts to conduct any activity.

A serious injury to the head automatically causes loss of consciousness. An unconscious character makes a roll under his Constitution expressed as a percentage at the start of each combat turn to regain consciousness.

Finally, a serious wound to the leg or arm causes the character to lose the use of that limb until it is healed.

*Critical Wounds:* A critical head injury causes immediate death. Critical injuries to other body parts cause immediate loss of consciousness and require medical attention within 10 minutes or the character will die from loss of blood.

To regain consciousness, a character who loses consciousness due to a critical wound makes a roll under his Constitution expressed as a percentage at the start of every other combat turn. Once he regains consciousness, his Strength is halved (rounding fractions down), and his Initiative rating undergoes an additional reduction by two. Characters whose Initiative ratings are reduced to 0 or less may not take any further actions during this combat.

**Wounded NPCs:** It is neither necessary nor desirable to keep rigorous records on the number and location of all hits on every NPC. As a result, a simplified wound system is used.

All NPCs have the same hit capacity: 20. The referee is provided with an NPC record form on page 136 (and you are given permission to photocopy it for your own game use). The form has two rows of 10 boxes labeled "wounds." As soon as an NPC takes any hits in the first row, he is slightly wounded and suffers a –1 Initiative penalty. As soon as the first row of boxes is full and he takes one or more hits in the second row, he is seriously wounded. He suffers an additional –2 Initiative penalty, and his Strength is reduced by half (round final Strength down). As soon as the second row of boxes is filled and he takes one or more additional hits, he is either dead or unconscious (but in either case is no longer a threat.)

Whenever an NPC is hit by fire, roll for hit location normally. If a head or chest hit is scored, there is a chance of a killing wound (see above). If no killing wound is scored, damage is recorded normally except that for head hits all damage is doubled. Otherwise, hit location is used only to determine if the bullet hit a body part protected by cover.

# RECOVERY
## (AND POSTBATTLE DAMAGE)

Each of the seven areas of the body may be damaged to one of three wound levels: slight, serious or critical (for more information, see page 71). As wounded body parts heal, their wound level decreases sequentially in severity until they are no longer wounded. When the wound level of a body part decreases, eliminate damage points to bring the area down to the midway point of the new level. When a body part goes from slightly wounded to healed, all damage points are removed.

For example, Jane's seriously wounded left leg heals to the point where it is now only slightly wounded. The leg has a hit capacity of 20 and had sustained 40 damage points. It has now healed to 10 damage points (which is halfway through the slight wound level).

Penalties to Initiative and other penalties associated with a wound level remain in effect until the wound is healed. Once consciousness is regained, it is not usually lost again except due to special circumstances discussed below.

**First Aid:** Wounds are best treated within a short time after they are received. First aid must be applied within six turns of the infliction of the wound to be effective. Effective first aid will reduce a critical wound level to a serious one or reduce the healing time of a serious wound by two days. In addition, the successful application of first aid always prevents infection to any wound.

First aid is a Difficult: Medical task. The use of a doctor's medical kit makes the task Average. A personal medical kit will give a person with no Medical skill a default skill of Medical: 4 for the purpose of applying first aid once (after which the personal kit is used up). The first aid task may only be attempted once per body part per injury. Characters who are conscious may apply first aid to themselves.

**Stabilizing Critical Wounds:** Critical injuries (other than to the head) must be stabilized within 10 minutes or the injured character dies. Stabilizing a critical wound is Average: Medical.

The use of certain equipment adds to the effective Medical skill of the person attempting the task (but he must have Medical: 1 to begin with): Plasma, +1, or whole blood, +2; strong sedative, +1; doctor's medical kit, +1, or personal medical kit, +1.

**Moving the Wounded:** Critically wounded characters suffer one additional point of damage to each wounded body area for each period in which they are moved, either by hand or in a vehicle. Transportation may cause changes in wound level to other wounded body areas of a critically wounded character (or even death).

**Basic Healing Rate:** A character without medical attention may recover from a slight wound level in one body area to healed in three days; from a serious wound level to slight in four days; and from a critical wound level to serious in one week.

Healing of all body parts goes on simultaneously.

*Medical Care:* Medical care and supervision will increase the basic healing rate of an injured character. If a character is under successful medical care while he is healing, two days of healing time are subtracted from each stage of healing.

Thus, critical wounds become serious in five days; serious wounds become slight in two days; and slight wounds are completely healed in one day.

For a person to receive successful medical care, the person administering the care must spend a half-hour per wound level per body area damaged per day tending to the patient's wounds (for example, two hours for a person with a critically wounded abdomen and a slightly wounded leg), and must make an Average: Medical

task roll once per day. Use of a doctor's medical kit in conjunction with this task reduces it to Easy.

Failure means that a day of potential healing time savings at this wound level is lost. Failure to receive successful medical care will never subtract from the basic healing rate of a character, but will only reduce the possible healing bonus.

Catastrophic failure (only) will add one day of required healing time if the entire possible healing bonus due to medical care has already been lost.

*Adequate Diet and Shelter:* Inadequate diet (as discussed under Food Requirement on page 45) and inadequate shelter can affect healing adversely. Add one day to the basic healing time per wound level when either of these conditions exist.

For example, with both inadequate diet and inadequate shelter (including drafts, leaky roofs, damp rooms, or sleeping bags on rough, cold ground) healing from a serious wound level in a character's right arm to a slight wound level would take six days rather than four.

*Surgery:* Surgery may reduce a character's critical wound drastically in severity. A character must have at least Medical: 3 and a set of surgical instruments to perform surgery. Converting a critical wound level in one body area to a serious wound is Difficult: Medical; the conversion is made the morning after the successful completion of the task.

The use of certain equipment adds to the effective Medical skill of the person attempting the task: Plasma, +1, or whole blood, +2; local anesthetic, +1, or total anesthetic, +3. Only one attempt at surgery may be made per critically wounded body area.

Failure means that the wound remains critical.

Critical failure may result in doubled basic healing time, permanent loss of use of a limb, or death, depending on the body part surgery was attempted on and the severity of the critical failure.

**Infection:** Every time a character suffers damage from melee combat, fire combat, or burns, there is a chance of infection. After every firefight (or accident) each injured body part has a chance of becoming infected on a roll of 2 or less on 1D10. If a person with at least Medical: 3 treats the wounded body area with antibiotic within eight hours, the chance of infection is reduced to 1 or less on 1D10.

If anyone uses a personal medical kit in an attempt to prevent infection, no infection results (but the kit is, of course, used up). This use of a personal medical kit may be combined with its use in a first aid attempt, above.

Infection is a major danger. Any time a character's wound is infected, healing (in all body parts, not just the infected one) stops until the infection is dealt with. In addition, for each week an infection lasts, the character takes an additional 1D6 damage points to the infected injured body part.

A character with a critical wound caused by an infection loses consciousness and remains that way until all wounds (even those not caused by the infection) are recovered to slight or he dies.

If, for example, a character takes nine points of damage in the left arm (a slight wound level) and that wound becomes infected, no healing takes place. After one week, the character takes an additional 1D6 hits in that arm (which may increase its wound level); after two weeks, another 1D6 is taken, and so on.

*Treatment of Infection:* Treating an infection is an Average: Medical task. If any antibiotics are used in the treatment, the task becomes Easy: Medical. One attempt may be made per week.

A successful treatment means that the treated body part is no longer infected, and healing may take place if no other body areas are infected.

## TACTICAL VISIBILITY

Normal daylight visibility is effectively unlimited, restricted only by intervening terrain and the curvature of the earth. (For a person of normal height standing on a flat plain, the horizon is about five kilometers distant.)

Smoke, adverse weather, and night reduce visibility severely. Dense smoke blocks visibility completely. Light smoke obscures characters and vehicles in and beyond it. In poor weather (light fog, drizzle, and light snowfall), maximum visibility distance is 2000 meters for moving vehicles, and very large objects and structures (such as villages, woods, etc.). For stationary vehicles, small structures (such as bunkers), and moving people, the maximum spotting distance is 1000 meters. For stationary people, it is 500 meters. In bad weather (dense fog, rain, and heavy snowfall), these distances are quartered.

Visibility at night varies considerably, depending on the amount of background light. The referee should assign a background light level of from one to five, with one representing a cloud-covered, moonless night (in other words, pitch black) and five a clear night with a full moon high in the sky. Visibility for large structures and moving vehicles is 400 meters times the background light level. Visibility for small structures, stationary vehicles, and moving people is 200 meters times the background light level. Visibility for stationary people is 100 meters times the background light level. Halve the distance for poor weather at night; quarter the distance for bad weather at night.

**Encounter Ranges:** In poor weather, halve all encounter ranges (except in forest and jungle). In bad weather, quarter all encounter ranges (except in forest and jungle). At night, multiply all encounter ranges (except in forest and jungle) by the background light level and divide by 10, then modify for poor or bad weather. (Forest and jungle are unaffected by reduced visibility, as visibility is already so limited that encounter range depends as much on hearing the encounter as on seeing it anyway.)

**Vision Enhancement Devices:** A number of vision enhancement devices are available. They have the following effects.

*Binoculars:* Binoculars are useful only during periods of good visibility (daylight and good weather). A character who is equipped with binoculars and is in a good observation position (building roof, treetop, hill) has his Observation skill increased by one. If he spots a group before they spot him or the rest of his party, double the range of the encounter.

*IR Goggles:* Infrared goggles allow a character to see moving or stationary personnel or other heat sources at a distance of 300 meters at night. In addition, a character wearing infrared goggles can see the beam of an IR spotlight. IR goggles have no effect in woods, smoke, or poor or bad weather.

*White Light Spotlight:* A white light spotlight will illuminate an area 20 meters across at ranges up to 2000 meters. The light itself can be seen by any character at any distance who has a clear line of sight to it. White light spotlights have no effect in forest and jungle, smoke, or poor or bad weather.

## VEHICLE COMBAT

These rules cover the use of vehicles in combat.

### Movement

As mentioned in the main combat section, any scale may be used; movement rates and weapon ranges are given here in meters.

Combat movement rates, in meters per combat round, are given on the Combat Movement Table on page 132.

**Vehicles:** The listed speeds are the safe combat movement speeds on-road and off-road. A vehicle may travel faster than this at the risk of a mishap (see below).

**Mishaps:** A character may drive a vehicle (including a motorcycle) at up to three times the safe speed, but he runs the risk of a mishap. Driving at up to twice the safe speed is Average: Driving.

Driving at up to three times the safe speed is Difficult. The roll is made once per turn. If a mishap occurs, the vehicle has become stuck in a pothole or ditch, or bottomed out in rough ground; the vehicle is stuck in place. Once per turn, the driver may attempt to get it moving again (Difficult: Driving); this occupies his time for the entire turn.

If a catastrophic failure takes place (see page 39), a serious mishap occurs. Serious mishaps include breaking an axle, throwing a track, rolling the vehicle, or in some other way putting it out of commission until major repairs are undertaken.

The referee should determine the exact nature of the mishap according to circumstances. On a crowded road, there may be a collision. A light vehicle is easy to overturn; an extremely heavy one is almost impossible to overturn. Passenger injuries are also up to the referee.

**Fire From Moving Vehicles:** Characters may not conduct aimed fire from a moving vehicle. They may fire quick shots or bursts normally.

All such fire, however, is conducted as if at one range band greater than the actual range for purposes of determining hits.

**Target Movement:** If the target is moving 30 meters or more in the current phase, it is treated as if one range band further away for purposes of hit determination.

### Firing at Vehicles

Firing at vehicles is similar in general principles to firing at individuals, but there are a few differences. Some additional die rolls must be made when dealing with vehicular weapons and vehicular damage.

Because vehicles may have different armor in different locations, each vehicle has its own armor ratings for different surface locations. A consolidated Vehicle Hit Location Table is provided on page 133.

**Penetration:** First, determine the penetration of the weapon. This is done differently for small arms and exploding rounds.

*Small Arms:* Small arms have a penetration rating which indicates the number of dice expended per armor level penetrated. For attacks on vehicles, however, simply divide the number of damage dice by the correct penetration value and round down. The result is the weapon's *final penetration value*.

*Exploding Rounds:* Rounds which explode always have only one penetration listed, which is a number followed by the letter C (indicating that it is "constant" throughout its range). Roll 2D6 and add the total to the listed value, the result being the *final penetration value*.

**Hit Location:** Next, roll once per individual hit and consult the



SKUNCH
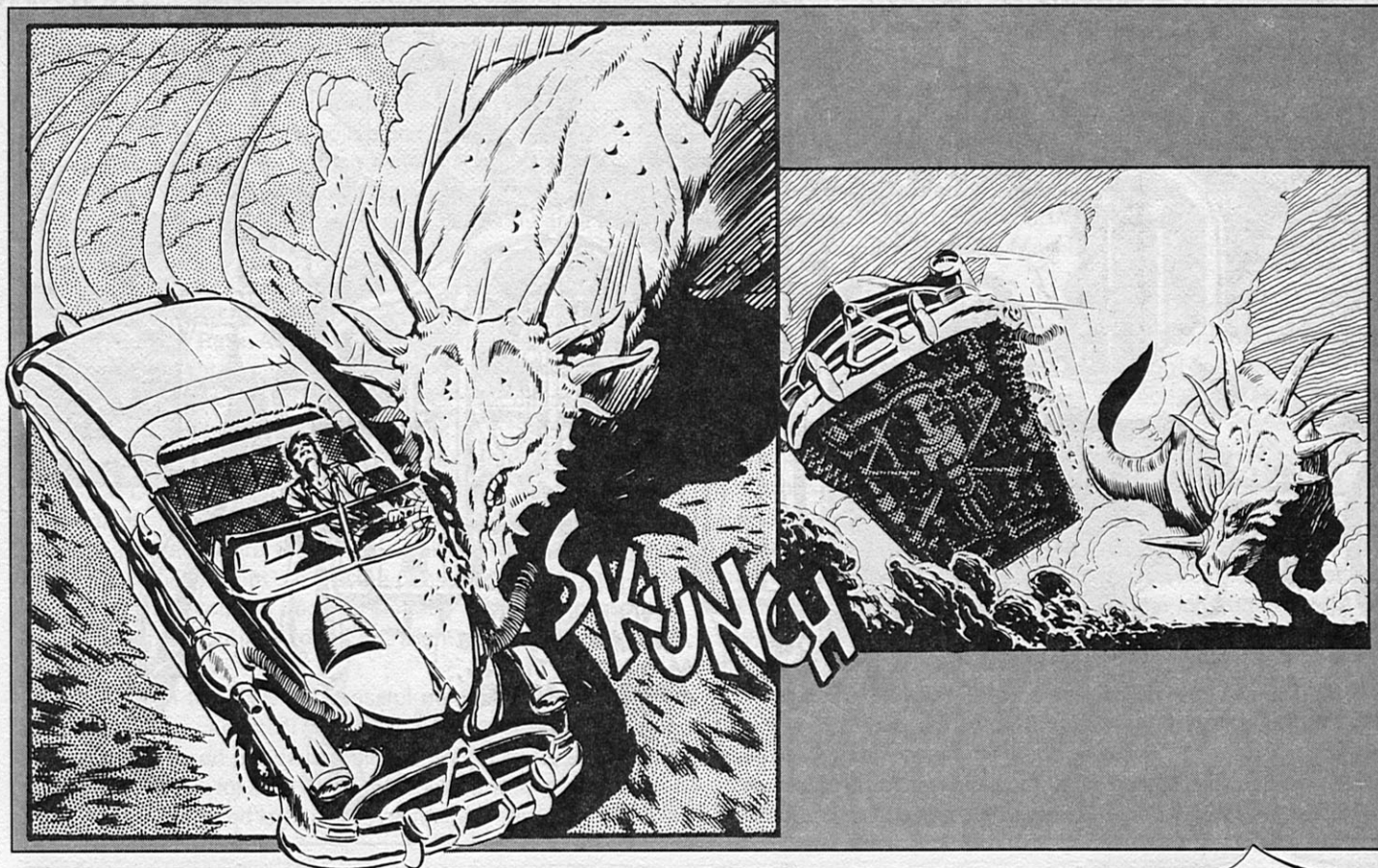
Vehicle Hit Location Table. Add one to the die roll if the shot was from the side of the vehicle. The two possible results are body and tires.

**Armor:** Once the location is known, consult the vehicle's combat statistics on its vehicle card and note the armor value of that part. Vehicles have a slight armor protection provided by their metal bodies, but it is an incomplete cover.

Whenever a shot hits a vehicle, there is a 50% chance of the shot hitting metal and a 50% chance of it going through the windows or canvas cargo covers. If it hits metal, the shot is resolved normally, and the vehicle receives the benefit of its armor. If it goes through the window or cargo area, the shot is always resolved as minor damage, and any damage result is ignored except for crew or passenger (cargo) hits.

Tires do not have an armor value but do have a critical damage value, labeled "Tire Hits," which is listed on the vehicle data cards.

**Extent of Damage:** Subtract the correct armor value of the target from the final penetration of the gun and consult the Vehicle Damage Resolution Table on page 133. If the result is zero or a negative number, the shot had no effect. If it is a positive number, read the result from the chart. The result will read out as from one to three damage results and will indicate whether these damage results are minor or major.

**Damage Implementation:** Locate the Vehicle Damage Tables on page 133, find the correct section (minor or major damage), and roll 1D6 once for each required damage result. *Tire hits are resolved differently, as noted below.*

*Driver:* The driver suffers 1D6 hits, each of which does 1D6 damage. Determine a hit location separately for each hit.

*Passenger:* One passenger is selected at random and is hit exactly as noted above under Driver. If no passengers are present, this becomes a "no effect." (The referee may substitute a cargo destroyed result for this result at his discretion if cargo is present.)

*Weapon:* If a weapon is mounted on the vehicle, this result renders it inoperable.

*Steering:* A steering hit increases the difficulty level by one of all combat maneuvers and movement in excess of the vehicle's safe speed.

*Engine:* The engine is hit and rendered inoperable. The vehicle may not move.

*Fuel:* The fuel tank of the vehicle has been hit. The amount by which the final penetration exceeded the vehicle's armor is the percentage of fuel capacity lost (and fuel, if the tank was fuller than the new capacity). This number is also the percentage chance that the fuel will ignite. If the fuel ignites, the vehicle catches fire, and the crew must immediately bail out.

*Roll:* Either the force of the explosion or the extent of damage to the vehicle's frame causes it to swerve and roll over. The driver and each passenger are thrown clear and suffer 1D6 hits to a random body part.

*Tires:* No damage tables are provided for tire hits. Tires do not have an armor value, but instead have a critical damage level (labeled "Tire Hits").

Each time a weapon hits the tires, it inflicts damage equal to its final penetration. Once the cumulative damage reaches the critical damage level, the tires suffer minor damage. Once it reaches twice that level, they suffer major damage.

One minor damage result to a vehicle's tires halves its movement. A second minor damage result, or any major damage, immobilizes the vehicle.
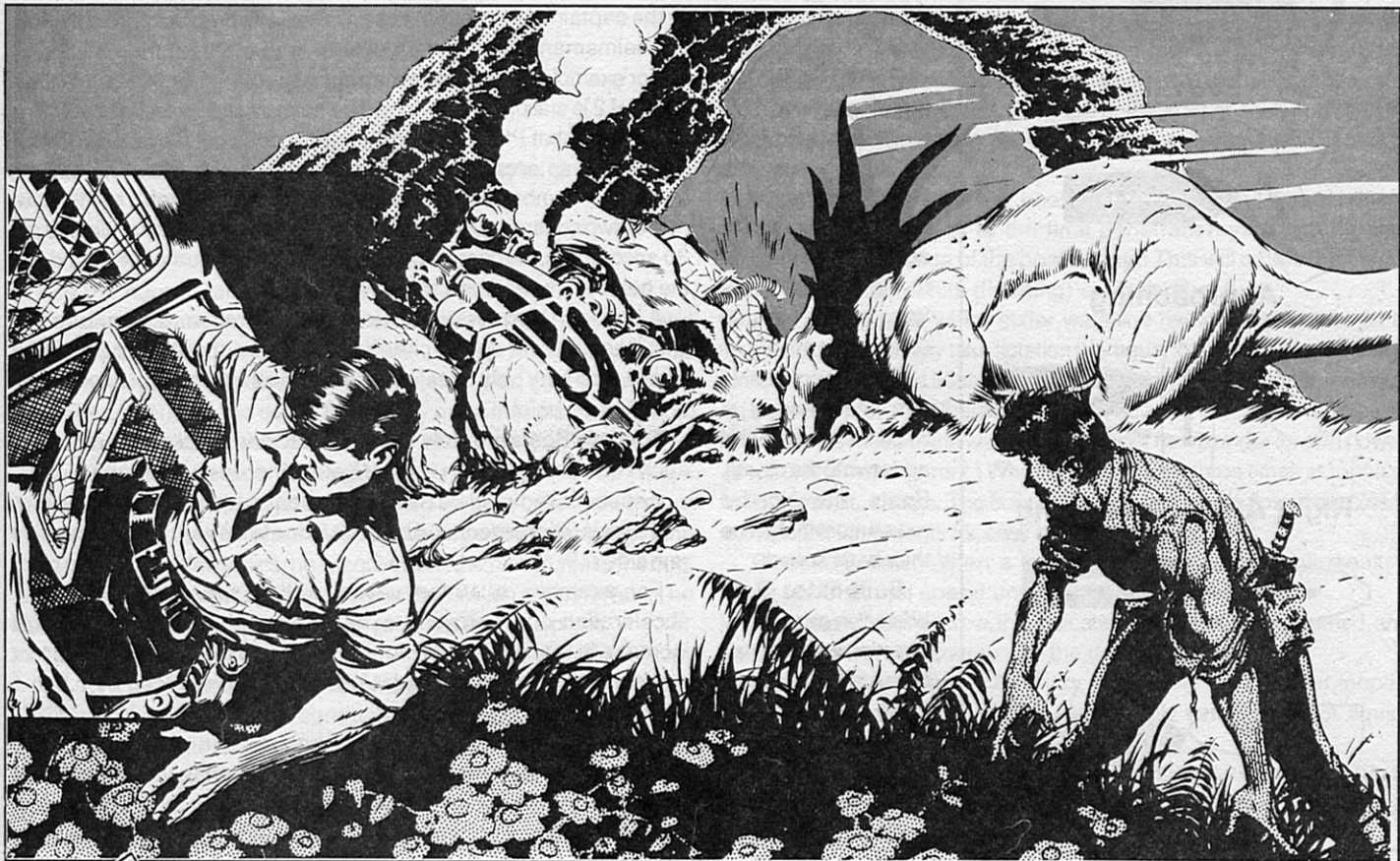
## BOAT COMBAT

These rules cover the use of vessels in combat.

### Movement

As with other combat movement, any scale may be used, but the eight-meter tactical grid is recommended. Combat movement rates for vessels are given in eight-meter increments moved per combat phase. When using a two-meter grid, multiply this number by four; when using individual meter measurement, multiply it by eight. This movement rate is the "safe" rate, and may normally be exceeded only at risk of mishap (to avoid a mishap is Average: Small Boat for speeds up to twice the safe rate). Mishaps can be an engine failure, a capsizing, or one roll on the Boating Mishaps Table on page 139. Note that some vessels may have a speed of 0.5, 1.5, etc.

When moving on the eight-meter grid, these vessels can move an extra square every other turn.

**Rowed Boats:** For muscle-powered craft, the "safe" speed is the boat's listed speed. Rowing characters must roll every turn against their Constitution to avoid accumulating a level of fatigue (see pages 46-47).

Each successive turn spent rowing at twice the listed speed adds two to the die roll. Boats may not be rowed more than twice their base speed.

**Sailboats:** Sailboats may move in any direction within the allowed arc, illustrated to the left. The referee will need to randomly determine wind direction before the combat begins.



### Sailboat Movement

### Boat Collisions



Leaving

Approaching

Right Angle/Grounding

Same

Opposite

**Motorboats:** Motorboats are propelled and steered by an engine. Small motorboats (size 1) can be rowed as well (if the engine is damaged).

**Current:** Rivers, streams, and oceans will have currents, which will affect the speed of a boat by impeding or adding to it, and which can cause unpowered boats to run aground or collide with obstacles. Canals and small bodies of water will usually not have significant currents. Currents will usually flow at a constant velocity and in a constant direction, and thus will need to be established (by the referee) before combat begins.

Current velocity is expressed in the number of eight-meter squares moved per combat phase. Most large rivers have a current of a half-square per combat phase, which will move the vessel one square downriver every other combat phase. Near rapids or in narrow, swift-flowing parts of the river, this will increase to one square per phase, and near waterfalls it can increase to two, three, or four squares per phase.

Current flow will be one-half square per combat phase for every two kilometers per hour of the current's speed.

**Turning:** Each vessel has a turning value which is the number of 45° turns it can make each combat turn (30 seconds). Vessels capable of making more than one 45° turn each combat turn may only make one turn per combat phase. A vessel may only turn during a combat phase in which either the helmsman has an Initiative point, or the captain of the vessel has an Initiative point and is present with the helmsman giving him orders.

**Acceleration and Deceleration:** Each vessel has an acceleration rating which is the amount it can increase its speed each 30-second combat turn. Vessels capable of making more than one speed increase each combat turn may only raise their speed by one per combat phase. A vessel may only increase its speed during a combat phase in which either the helmsman has an Initiative point, or the captain of the vessel has an Initiative point and is present with the helmsman giving him orders.

For example, a boat with a maximum speed of 4 and an acceleration rating of 2 is stationary at a dock. The helmsman has an Initiative rating of 4. On combat Phases 6 and 5 the boat does not move. On Phase 4 the helmsman accelerates to a speed of 1, and the boat moves one square. On combat Phase 3 he accelerates to a speed of 2, and the boat moves two squares. Since this is the maximum acceleration allowed per 30-second turn, the boat will continue to move two squares per round until the next turn, when it can accelerate further.

A boat can decelerate at twice its acceleration rate per turn, but is still limited to a speed change of no more than one per combat phase, and may only decelerate when the helmsman or captain has an Initiative point.

**Towing:** Boats may tow other boats. Speed and acceleration are each reduced by 0.5 for every fivefold increase in tonnage.

If speed is reduced below 0.5, the boat may not conduct the tow.

If acceleration is reduced below 0.5 due to towing, the acceleration remains 0.5.

For example, a 10-ton vessel with a speed of 1.5 and an acceleration of 1 is towing a 70-ton vessel. This is a sevenfold increase in tonnage, which counts as one fivefold increase (but not a second). Speed and acceleration are each reduced by 0.5 to 1 and 0.5 respectively.

**Running Aground:** Each boat has a listed draft and will run aground whenever it enters water shallower than this. Unless this is a deliberate grounding (as on a beach) and conducted at very low speed, the vessel suffers damage to its hull or running gear.

Roll 1D6 and consult the Boating Mishaps Table on page 139 to determine the result.

**Collisions:** Likewise, boats may collide with each other, or with floating objects such as logs, and suffer potential damage. Damage depends on the size of the boat and the net speed at the time of grounding. Net speed depends on the direction and speed the two collide at.

Two boats or objects heading in opposite directions add their velocities together. Boats or objects approaching and leaving add their velocities and divide by two. Boats or objects travelling in the same direction subtract the higher velocity from the lower.

Collisions at right angles and groundings use the speed of the faster boat or object. See the diagrams on page 76 for clarification.

The damage caused by a collision is equal to the tonnage of the object collided with divided by 10, times the net speed of the collision.

The damage counts as a waterline hull hit and will cause flooding. For example, a 20-ton boat collides with a 140-ton boat with a net speed of 5. The 140-ton boat suffers a waterline hull hit which is worth 10 [(20÷10)×5] damage points, and which will cause 10 flotation hits worth of flooding per combat turn until repaired. The 20-ton boat suffers a waterline hit worth 70 [(140÷10)×5] damage points, enough to immediately sink the boat.

**Depth:** The referee should indicate water depths on the playing surface in three increments: less than one meter, one to three meters, and more than three meters. This can be accomplished by contour lines, shading, color, or any other convenient means.

### Initiative/Actions

All Initiative rules apply. Actions of relevance to people on boats are:

● Ascend/descend ladder or staircase.
● Climb out porthole or over side.
● Open dogged hatch/dog open hatch closed.
● Operate manual pump or bail.
● Row.
● Change course or speed (a character must be at the helm in order to do this).

### Panic

Use the normal rules, with the following additions.

Panicked characters belowdecks will stay where they are and take no actions for one phase. However, if the boat has caught fire or has taken more than one-third of its flotation hits, the PCs will take the quickest route to the deck. There they must make another panic roll and will abandon ship if they fail.

Panicked characters on deck will move to the nearest cover (which may take them belowdecks) unless the boat is on fire or has taken more than one-third its flotation hits, in which case they will abandon ship. If the character at the helm panics, he will not desert the helm (unless the boat is on fire or has taken more than one-third its flotation hits). However, he will not turn or change speed until he recovers from the panic.

### Direct Fire from Boats

Direct fire from boats is conducted as other direct fire. Aimed shots may be made from a moving boat, but *all* shots are conducted as if at one range band greater than the actual range. Grounded boats are not considered to be moving. Standard weapons, if any, are noted on the vehicle cards.

### Firing at Boats

Small boats are no larger than ground vehicles. Medium and large boats are much larger and are thus easier to hit. When firing at a boat, add one to the chance of hitting it for each number by which its size rating exceeds one. For example, add two to the chance of hitting a size 3 boat. Size is equal to length.

### Damage to Boats

Boats suffer the same sorts of damage as vehicles, but also have additional types. The procedures for damage assessment are the same as for vehicles except as noted below.

**Vessel Configuration:** Each vessel's description lists its configuration. The two configurations are flush deck and superstructure.

*Flush Deck:* Most small craft, such as rowboats, motorboats, and other pleasure craft, are flush decked. Although some may be partially decked over, have slightly raised cabins amidships, or have cabins below the waterline, they are effectively single-deck ships.

*Superstructure:* Vessels with superstructures contain cabins and machinery spaces in the hull, and additional working and living space in a superstructure built on top of the deck. Damage is implemented according to the damage tables.

**Fire:** Boats are usually quite susceptible to fire, as even steel-hulled boats tend to be full of combustible material. Whenever a fire result appears on the damage table, the boat has caught fire.

The final penetration of the gun which caused the damage is the initial level of the fire. The fire will increase in level by 1D6 each 30-second combat turn. Characters may attempt to put out the fire by spending an entire combat turn fighting it. Extinguishing a fire is Difficult: Constitution. For every successful task roll made by a character, the fire is reduced in level by 1D6. Outstanding success reduces the fire by 2D6 levels. Catastrophic failure results in a burn injury. If the level of the fire exceeds the vessel's tonnage divided by 10, the fire will begin burning out of control and cannot be extinguished. Roll 1D6 at the start of each combat turn thereafter. The fuel and ammunition on board will detonate on a roll of 6, destroying the vessel.

**Waterline/Hull:** When a boat suffers this result, it sustains a waterline hull hit equal to the final penetration value of the shot minus the armor value of the boat (if any). This will cause that same number of flotation hits (flooding) each combat turn.

*Flooding:* Vessels which suffer waterline hull damage will begin to flood. Each vessel may take flotation hits equal to three times its tonnage before it sinks. After a vessel has taken flotation hits equal to its tonnage, its speed is halved. When it has taken flotation hits equal to twice its tonnage, it is "dead in the water" and may not move under its own power. (It will drift with the current.) When a vessel takes three times its tonnage in flotation hits, it sinks. The boat vehicle cards provide flotation boxes in convenient increments for easy recordkeeping.

**Rudder/Screw:** When a boat suffers a rudder/screw result, it must travel at half speed until the damage is repaired.

On boats without a screw, this indicates that the rudder is jammed, and the boat cannot alter course until the damage is repaired.

**Auxiliary Machinery:** Auxiliary machinery is rendered inoperable until repaired. The choice of precisely which piece of equipment is damaged is up to the referee.

**Cargo:** So many variations in cargo exist that it is not possible to give any concise rules for damage. The referee must use his own judgment in such situations.

## ANIMAL COMBAT

Most combat in **Cadillacs & Dinosaurs** will take place between characters and animals (mostly slithers—Xenozoic slang for dinosaurs).

The following rules cover the unique aspects of attacks by and against animals.

### Animal Initiative

Different animals have different Initiatives, as listed on the animal data sheets.

### Animal Combat Movement

Animals have two movement rates: walking and running. Domesticated animals (horses and mules) also have a trotting rate.

Wild animals will walk as long as they are unaware of humans. Once aware of humans, they will run, either to flee or to charge, depending on the result of the referee's attack die roll (see Animal Encounters, page 54).

Any character may ride a walking animal safely. Riding a trotting animal is safe for anyone with any Riding skill at all and is Easy: Agility for other characters. A character with Riding skill has a maximum safe speed on a horse equal to 20+Riding, rounding fractions up.

A character may ride at greater than the safe speed—up to 40 meters per round (full gallop)—at the risk of falling off. Avoiding a fall is Average: Riding or Difficult: Agility, rolled once per turn. A fall results in 1D6−3 hits, with location rolled on the Human/Animal Hit Location Table (page 132).

If a catastrophic failure occurs (see page 39), the result is a serious mishap. Serious mishaps include breaking a horse's leg in a chuckhole, tearing a muscle from leaping, or becoming bogged in mud so as to injure the horse. The referee should determine the exact nature of the mishap according to circumstances. A mishap of this sort will probably also result in a fall, as explained above.

### Attacks Against Animals

Attacks on animals are resolved similarly to attacks on NPCs, but with the following differences.

**Hit Determination:** Animals are attacked normally, except that some animals are so large that the chances of hitting them are significantly greater. Animals classified as "large" on the animal data entry are treated as if one range band closer for purposes of hit determination (but not for penetration).

For example, a Sambuk is a large animal. If a player fires at it at long range, he uses his medium-range base hit number to determine whether or not he scored a hit.

**Armor:** Many animals are listed as having armor on one or more parts of their body. In some cases, this armor is provided merely by tremendous body mass, which stops the path of a bullet before it can penetrate deep enough into the body cavity to have serious effects. In other cases it represents actual boney plates or very thick, tough hide that will resist penetration by bullets. Animal armor functions like any other armor, except as noted below.

**Melee Attacks Against Animals:** Large animals may not be attacked by unarmed melee combat, but may be attacked by armed melee combat. Animals not listed as large may be attacked by either armed or unarmed melee combat.

Armed and unarmed melee attacks against smaller animals (those not specifically listed as large) ignore any armor rating the animal has. (A skillfully wielded knife can search out vulnerable spots.) Armor does affect melee attacks against large animals.

Since unarmed melee attacks are possible against small animals, those animals have a listing for their Strength and Constitution. Strength is used when grappling attacks are made against them; strength and constitution are used when diving blows are made against them.

**Effects of Wounds:** Each animal has a hit value listed on the animal's data chart, which is the number of hits required to kill the animal. When the animal takes one-quarter of this number of hits, it is slightly wounded and suffers a −1 penalty to its Initiative and to its melee base hit number. When it suffers one half of this number of hits it is seriously wounded and suffers a −2 penalty to its Initiative and melee base hit number. When it suffers three quarters of this number of hits it is critically wounded and suffers a −4 penalty to its Initiative and melee base hit number. However, an animal's base hit number is never reduced to less than 1.

**Hit Location:** Animals are either bipeds, quadrupeds, or aquatic, as noted on the animal's data entry. However, hits are not recorded for separate parts of the animal's body.

Instead, hit location is used to determine three things about the wound.

First, the hit location indicates whether the attack struck an armored or unarmored part of the animal's body.

Second, a head or chest hit indicates a potential killing wound. Remember, however, that the number needed or less on the die to inflict a killing wound is the weapon's damage value after reductions have been made for armor, which can be very important when firing at slithers.

Third, any head hit which is not a killing wound does double damage unless the dinosaur has an armor value of 1 or more on its head.

In this case the head wound does normal damage (after reductions have been made for the armor).

### Attacks by Animals

Animals attack as if engaged in melee combat, either armed or unarmed (depending on the animal). No animal attack can be blocked by an unarmed combat attack. Attacks by small animals may be blocked with a melee weapon; attacks by large animals may not.

Each animal data entry gives the animal's melee base hit number (used the same as a character's Melee Combat skill), melee damage, and any other characteristics necessary to resolving its melee attack. Those characteristics vary depending on the type of attack used.

If an animal has two types of weapons, as several do, then it will have two base hit numbers and two melee damage numbers. The first base hit number and first damage number listed refer to the first weapon listed.

**Jaws:** Some animals have massive jaws which crush their prey. Attacks by animals with jaws are resolved as a normal armed melee attack.

**Charge:** Mastodons and macks (Xenozoic slang for ceratopsians) have horns (or tusks, in the case of the mastodon) and attack by charging with them. These animals may charge individuals or vehicles. Other animals rely simply on their massive body weight to overwhelm an adversary. All of these types of attacks are resolved in essentially the same manner.

If an individual is charged, he may attempt to avoid the charge in the same way as avoiding a diving blow (Average: Agility). If he fails to avoid the charge, he will be caught on the horns and tossed into the air or thrown to the side by the body blow. The wound from the actual impact with the animal causes the damage indicated on the animal data card to a randomly determined body part. The fall to the ground causes 1D6 hits to another randomly determined body part.

Vehicles may only be charged by animals listed as large animals. If a vehicle is charged, the driver may attempt to avoid the charge (Difficult: Driving). If he fails to avoid the charge, the vehicle will be hit, tipped over, and wrecked. Each occupant will be thrown clear of the wreck and will suffer 1D6 hits to a randomly determined body part. The animal then has a 50% chance of attacking one of the characters and a 50% chance of continuing to butt the wrecked vehicle. If attacked by one of the characters, however, the animal will automatically attack that character.

**Tail:** Some animals have long, heavy tails which can be used to attack an adversary. Tails are usually secondary weapons, so an animal conducts a tail attack only in the combat round immediately following an unsuccessful attack with its primary weapon (either jaws or charge).

**Claws:** Animals with claws always make one melee attack per turn with them, even if they also have another weapon with which to attack. The first successful claw attack does damage as an armed melee attack. After the first successful claw attack, all subsequent claw attacks become grappling attacks (which cannot be blocked). This grappling is special, and each successful phase of grappling inflicts both controlling hits upon a target and inflicts 1D6 hits to the chest area. Once the animal has inflicted enough controlling hits on a target to completely subdue (control) it, any attack by another weapon (such as jaws or tail) automatically hits and does double damage.

**Tentacles:** An octopus attacks using tentacles to entrap its enemy. This is treated like a normal grappling attack with the difference that, once a character is completely controlled, he will be unable to breath and will begin to suffocate. At the end of each turn in which a character has been controlled for the entire turn, roll 1D10.

If the result is less than the total number of cumulative turns the character has been controlled, the character loses consciousness. Continue to roll the die on subsequent turns, and the next time that the result is less than the total number of cumulative turns, the character dies.

# Animals

Although there are many interesting differences between the Xenozoic era and our own, the most striking and important is the animal life, particularly the slithers (slither is the Xenozoic slang term for dinosaurs).

The following listing covers the most important animals encountered while adventuring in the Xenozoic. Information is provided in the following format:

**Name:** The common name used in the Xenozoic era to refer to the animal.

**Scientific Name:** The formal scientific name of the animal.

**Description:** A brief description of the animal's physique and habits.

**Size:** This indicates whether the animal is considered a large or small animal for purposes of the combat rule.

**Habitat:** The terrain types in which the animal will normally be found.

**Number Appearing:** The number normally encountered, often expressed as a die roll.

**Attack:** The chance that the animal attacks if it surprises the party (roll this number or less on 1D10).

**Combat Move:** The movement of the animal in meters per combat round. Two numbers are given—the walking speed and the running speed.

**Hits:** The total number of hits the animal can take before it dies.

**Armor:** What level of armor the animal has, if any, and what parts of the animal's body are covered by it.

**Weapon:** What type or types of weapons the animal uses to attack.

**Base Hit Number:** The number or less the animal needs to roll to hit with an attack. If two numbers are present, the first refers to the first weapon listed, while the second number refers to the second listed weapon.

**Damage:** The number of damage dice rolled if a hit is scored. If the damage value is in brackets, it is the total damage inflicted, not the damage dice rolled. For example, a notation of 1 would indicate that 1D6 hits were inflicted, while a notation of [1] indicates that 1 hit (total) was inflicted.

If two numbers are present, the first refers to the first weapon listed, while the second number refers to the second listed weapon.

**Strength:** The animal's Strength, used if a character attempts to grapple with the animal.

**Constitution:** The animal's Constitution, used if a character attempts to grapple with the animal.

**Meat:** An indication of how much edible meat the animal is likely to have if killed. Roll 1D6 and multiply the result by this number to determine the kilograms of edible meat on the carcass.

**Initiative:** The animal's Initiative number.

In addition to the above information, each animal has an indication of its relative size shown in silhouette, located in a boxed inset on the page.

There are also four rows of hit boxes at the bottom of the page, each of which has one-quarter of the animal's total hit points in it. Each page should be photocopied by the referee (permission is hereby given to do so for personal use during a game).

One photocopy is used for each animal encountered, and hits inflicted should be recorded by filling in hit boxes as they occur.

# Cave Bear

**Scientific Name:** *Tremarctos,* et al.

**Description:** Quadrupedal omnivorous mammal. Territorial and likely to attack if disturbed, but not predatory by nature.

**Size:** Small
**Habitat:** Mountains, hills
**Number Appearing:** 1
**Attack:** 4
**Combat Move:** 8/24
**Hits:** 40
**Armor:** Chest, abdomen-1
**Weapon:** Jaws+claws
**Base Hit Number:** 6/4
**Damage:** 2/1
**Strength:** 15
**Constitution:** 15
**Meat:** 30
**Initiative:** 3

## Hits

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|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ |

# Croc

**Scientific Name:** *Phobosuchus*

**Description:** A carnivorous quadrupedal lizard, the croc is a larger version of a contemporary crocodile. Typical specimens are 20 or more feet long and weigh up to two tons. They are aquatic predators native to shallow water.

**Size:** Small
**Habitat:** Swamps, rivers, shallows
**Number Appearing:** 1D6÷2 (rounded up).

**Attack:** 5
**Combat Move:** 4/16
**Hits:** 60
**Armor:** None
**Weapon:** Jaws+tail
**Base Hit Number:** 4/2
**Damage:** 2/1
**Strength:** 15
**Constitution:** 20
**Meat:** 70
**Initiative:** Land, 2; water, 3
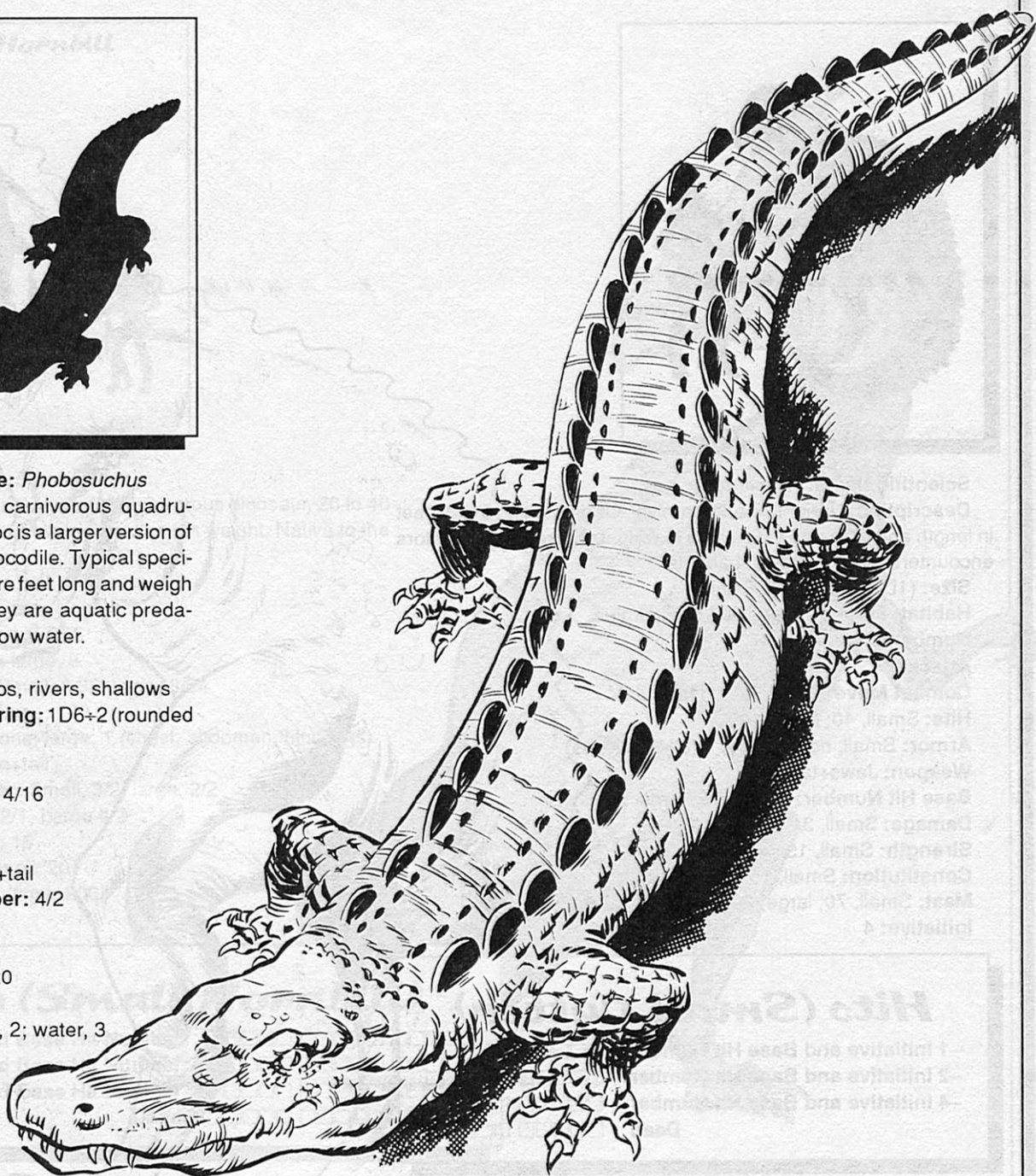
## Hits

-1 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
-2 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
-4 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
Dead ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐

# Cutter



**Scientific Name:** *Allosaurus*

**Description:** Upright bipedal carnivorous dinosaur, 15 to 35 feet in length and from one to five tons in weight. Aggressive predators encountered in a variety of habitats.

**Size:** (1D6) 1-5, small; 6, large

**Habitat:** Forest, jungle, hills, flats, prairie

**Number Appearing:** 1

**Attack:** 8

**Combat Move:** Small, 8/32; large, 8/24

**Hits:** Small, 40; large, 100

**Armor:** Small, none; large, 1 (all locations)

**Weapon:** Jaws+tail

**Base Hit Number:** Small, 6/2; large, 5/2

**Damage:** Small, 3/1; large, 4/2

**Strength:** Small, 15

**Constitution:** Small, 15

**Meat:** Small, 70; large, 200

**Initiative:** 4
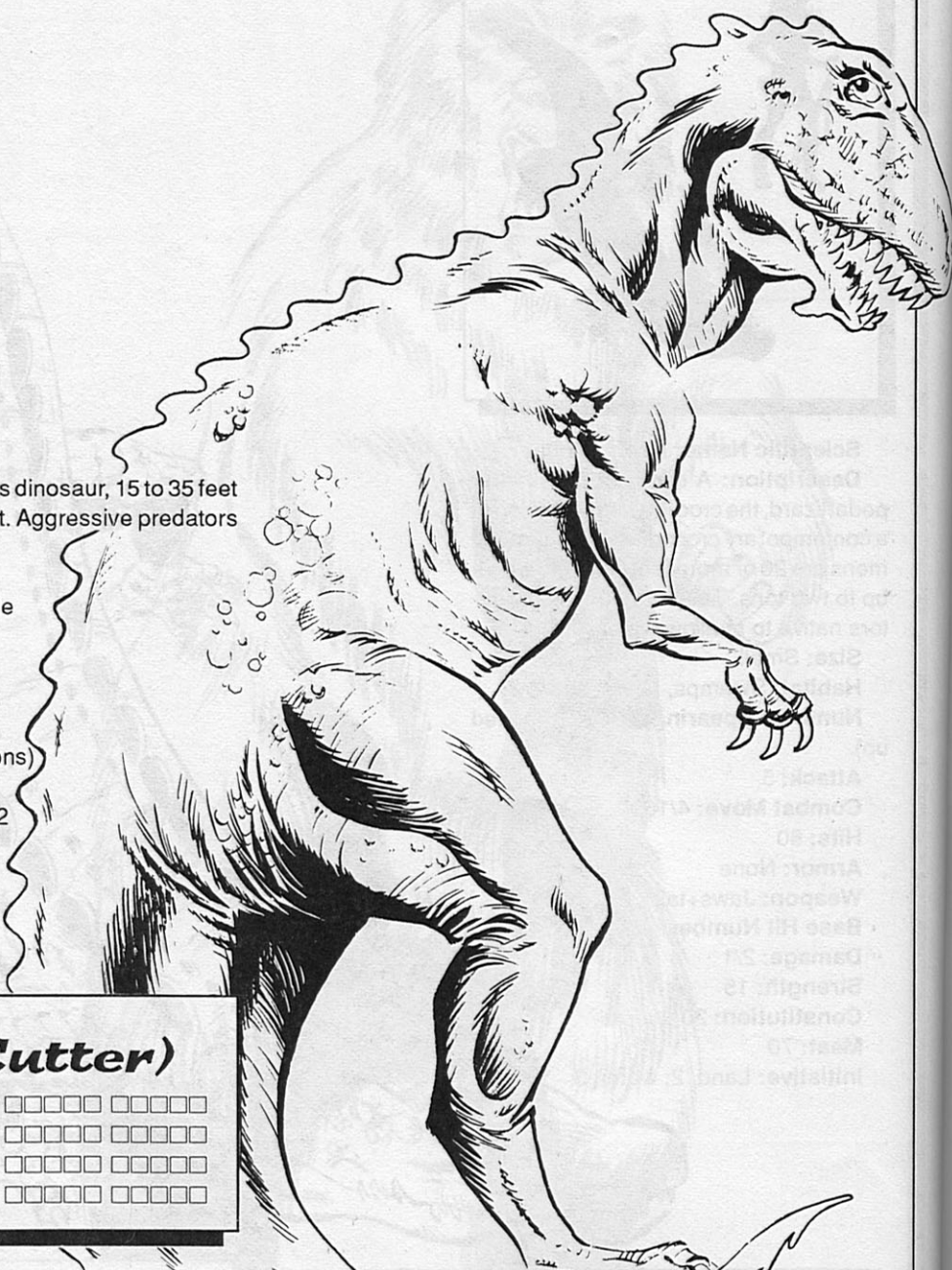
## Hits (Small Cutter)

| | |
|---|---|
| –1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| –2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| –4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ |

## Hits (Large Cutter)

| | |
|---|---|
| –1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| –2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| –4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

# Hornbill

## Small Hornbill

**Scientific Name:** *Saurolophus*

**Description:** Upright bipedal herbivorous dinosaur, 20 to 40 feet long and between two and six tons in weight. Native to the foothills and forests.

**Size:** (1D6) 1-3, small; 4-6, large

**Habitat:** Hills, forests, jungle

**Number Appearing:** 2D6

**Attack:** Small, 2; large, 3

**Combat Move:** Small, 8/32; large, 8/24

**Hits:** Small, 60; large, 100

**Armor:** Small, none; large, 1 (chest, abdomen, hind legs)

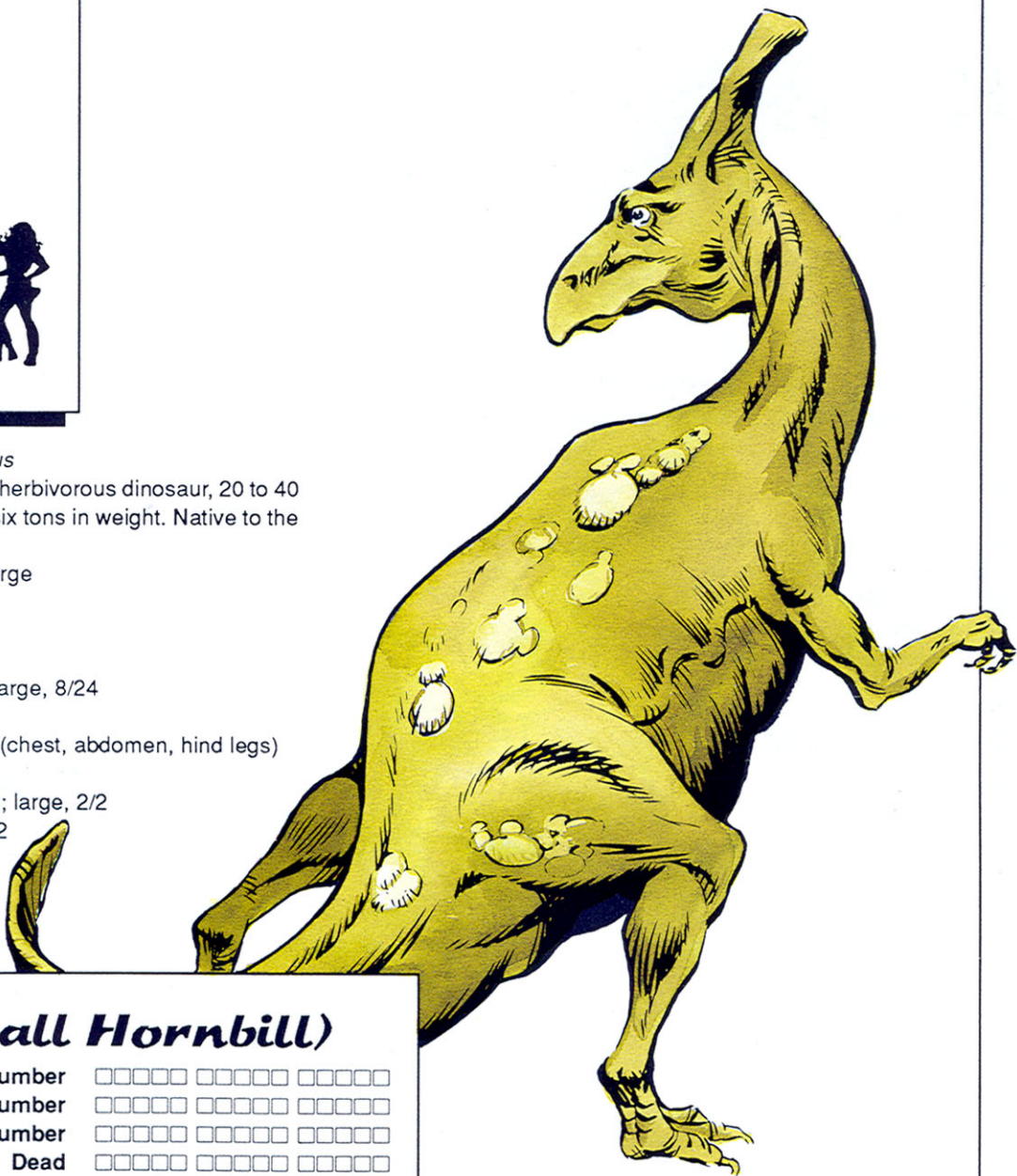**Weapon:** Charge+tail

**Base Hit Number:** Small, 3/2; large, 2/2

**Damage:** Small 2/1, Large 4/2

**Strength:** Small, 15

**Constitution:** Small, 20

**Meat:** Small, 70; large, 200

**Initiative:** 3

## Hits (Small Hornbill)

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

## Hits (Large Hornbill)

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

# Mack

**Scientific Name:** *Ceratopsia* (*triceratops, biceratops, styracosaurus*, et al.)

**Description:** A large herbivorous quadrupedal dinosaur with bony armor covering the head and neck, and one or more horns projecting forward. Macks are about 30 feet long and weigh from six to eight tons. They are native to the flats.

**Size:** Large
**Habitat:** Flats, prairie
**Number Appearing:** 1D6
**Attack:** 3
**Combat Move:** 8/24
**Hits:** 120
**Armor:** Head, 2; other, 1
**Weapon:** Charge
**Base Hit Number:** 4
**Damage:** 6
**Meat:** 250
**Initiative:** 2
**Notes:** When charging, the head's armor covers the chest as well, making the chest armor an effective value of 3. Unless provoked, only one mack from a group will attack—usually the oldest male.

## Hits

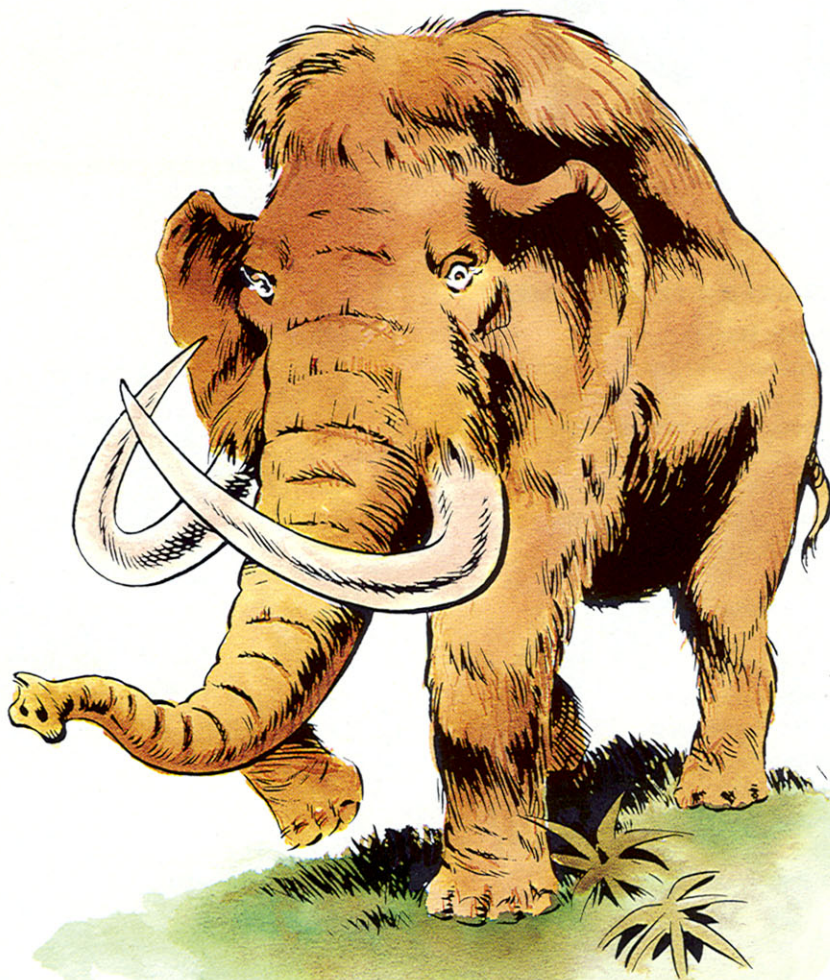| | |
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| Dead | □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ |

# Mammoth



**Scientific Name:** *Mammuthus primigenius*

**Description:** Quadrupedal herbivorous mammal native to dry lowlands. Although not predatory, mammoths are sensitive to intruders and easily angered.

**Size:** Large
**Habitat:** Hills, flats, prairie
**Number Appearing:** 1D6
**Attack:** 4
**Combat Move:** 8/32
**Hits:** 140
**Armor:** All locations, 1
**Weapon:** Charge
**Base Hit Number:** 4
**Damage:** 6
**Meat:** 300
**Initiative:** 3

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ |
| −2 Initiative and Base Hit Number | □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ |
| −4 Initiative and Base Hit Number | □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ |
| Dead | □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□□ |

# Octopus



**Scientific Name:** *Octopus*

**Description:** An aquatic carnivore, primarily a scavenger. The animal has a central body cavity and eight radiating tentacles.

**Size:** Small

**Habitat:** Shallows, open sea

**Number Appearing:** 1

**Attack:** 3

**Combat Move:** 4/16

**Hits:** 20

**Armor:** None

**Weapon:** Tentacles

**Base Hit Number:** 4

**Damage:** 2

**Strength:** 10

**Constitution:** 10

**Meat:** 8

**Initiative:** 3

## Hits

| | |
|---|---|
| –1 Initiative and Base Hit Number | ☐☐☐☐☐ |
| –2 Initiative and Base Hit Number | ☐☐☐☐☐ |
| –4 Initiative and Base Hit Number | ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ |

# Quetzalcoatl

**Scientific Name:** *Quetzalcoatlus*

**Description:** An aerial predator. The quetzalcoatl is not included in the encounter tables, but can be encountered in any terrain type in place of any listed animal, particularly a predator. Quetzalcoatl will not normally attack animals as large as man, but will defend itself if startled or threatened.

**Size:** Small
**Habitat:** Ubiquitous
**Number Appearing:** 1
**Attack:** 2
**Combat Move:** 32/60
**Hits:** 8
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** 4
**Damage:** 1
**Strength:** 1
**Constitution:** 1
**Meat:** 5
**Initiative:** 4

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐ |
| −2 Initiative and Base Hit Number | ☐☐ |
| −4 Initiative and Base Hit Number | ☐☐ |
| Dead | ☐☐ |

# Rock Hopper



**Scientific Name:** *Camptosaurus*

**Description:** Rock hoppers are upright bipedal herbivorous dinosaurs native to the flats, prairies, hills, and mountains. Fully mature specimens are about 10 feet long and weigh as much as one ton.

**Size:** Small
**Habitat:** Hills, mountains
**Number Appearing:** 2D6
**Attack:** 1
**Combat Move:** 8/32
**Hits:** 44
**Armor:** None
**Weapon:** Charge+tail
**Base Hit Number:** 4/2
**Damage:** 1/1
**Strength:** 10
**Constitution:** 15
**Meat:** 30
**Initiative:** 3

## Hits

−1 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐
−2 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐
−4 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐
Dead ☐☐☐☐☐ ☐☐☐☐☐ ☐

# Saber-Toothed Tiger

**Scientific Name:** *Smilodon, Homotherium, Machairodus,* et al.

**Description:** An extremely agile and powerful carnivorous quadrupedal mammal. This predatory cat is native to the forests and highlands and is an extremely dangerous hunter. It is generally eight to ten feet long and weighs as much as 1500 pounds.

**Size:** Small
**Habitat:** Forest, mountains, hills
**Number Appearing:** 1
**Attack:** 6
**Combat Move:** 8/40
**Hits:** 40
**Armor:** None
**Weapon:** Jaws+claws
**Base Hit Number:** 6/4
**Damage:** 4/2
**Strength:** 15
**Constitution:** 15
**Meat:** 30
**Initiative:** 4
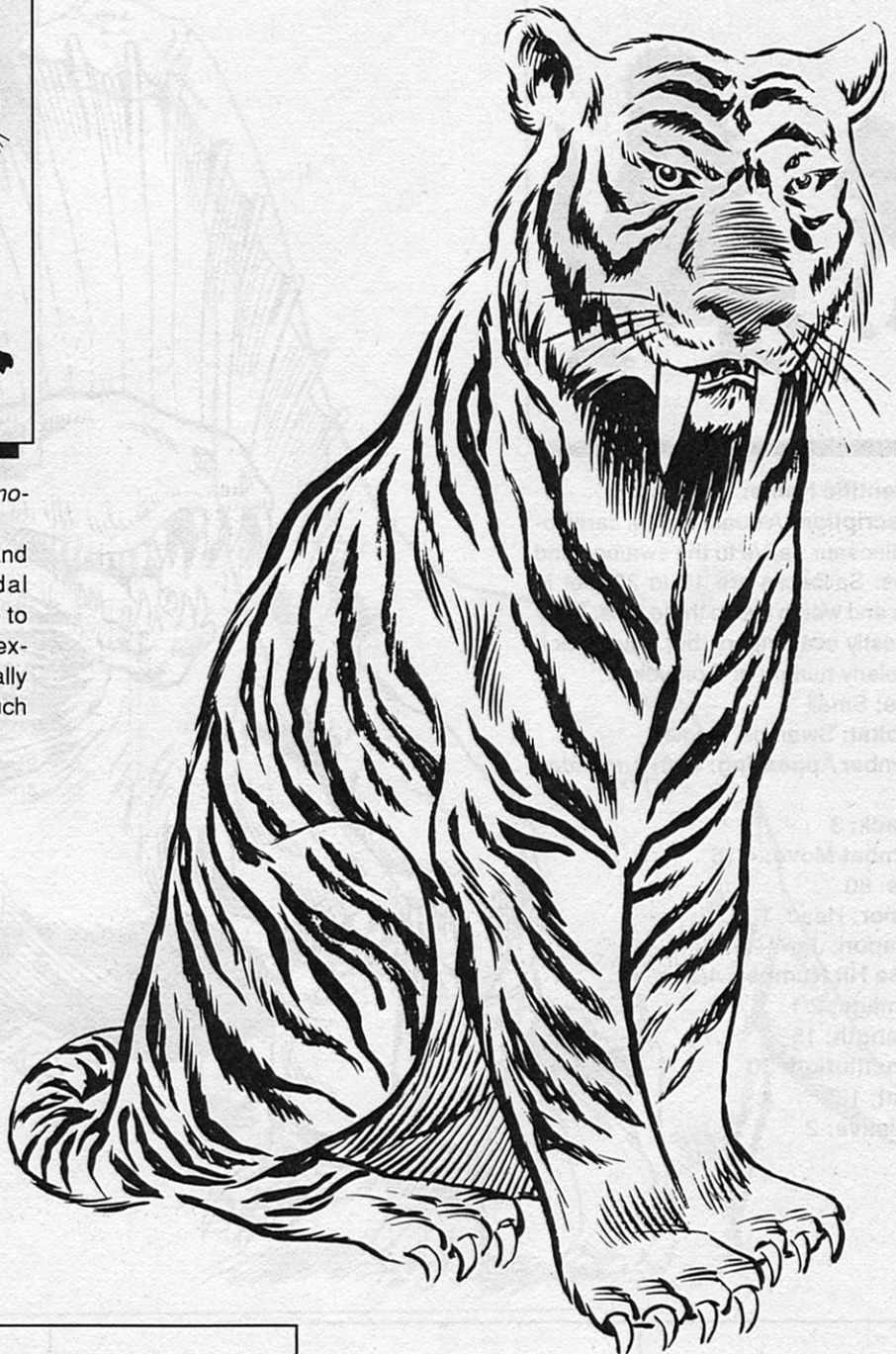
## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ |

# Sailback

**Scientific Name:** *Dimetrodon*

**Description:** A quadrupedal carnivorous dinosaur native to the swamps and jungles. Sailbacks are 15 to 20 feet in length and weigh two to three tons. They are mostly scavengers, but will attack if particularly hungry or if provoked.

**Size:** Small

**Habitat:** Swamps, jungles

**Number Appearing:** 1D6÷2, rounded up

**Attack:** 3

**Combat Move:** 4/16

**Hits:** 80

**Armor:** Head, 1

**Weapon:** Jaws+tail

**Base Hit Number:** 4/2

**Damage:** 2/1

**Strength:** 15

**Constitution:** 30

**Meat:** 125

**Initiative:** 2

## Hits

| | | | | |
|---|---|---|---|---|
| −1 Initiative and Base Hit Number | □□□□□ | □□□□□ | □□□□□ | □□□□□ |
| −2 Initiative and Base Hit Number | □□□□□ | □□□□□ | □□□□□ | □□□□□ |
| −4 Initiative and Base Hit Number | □□□□□ | □□□□□ | □□□□□ | □□□□□ |
| Dead | □□□□□ | □□□□□ | □□□□□ | □□□□□ |

# Sambuk

**Scientific Name:** *Sauropod* (*Apatosaurus/Brontosaurus, Camarasaurus, Diplodocus*, and others)

**Description:** A very large quadrupedal herbivore native to the forests, jungles, prairies, and swamps. Sambuks have a small head at the end of a long neck for grazing tall leafy trees, which is balanced by an equally long tail. Sambuks range up to 100 feet in length and up to 150 tons in weight.

**Size:** Large
**Habitat:** Flats, jungle, swamp
**Number Appearing:** 2D6
**Attack:** 2
**Combat Move:** 8/16
**Hits:** 500
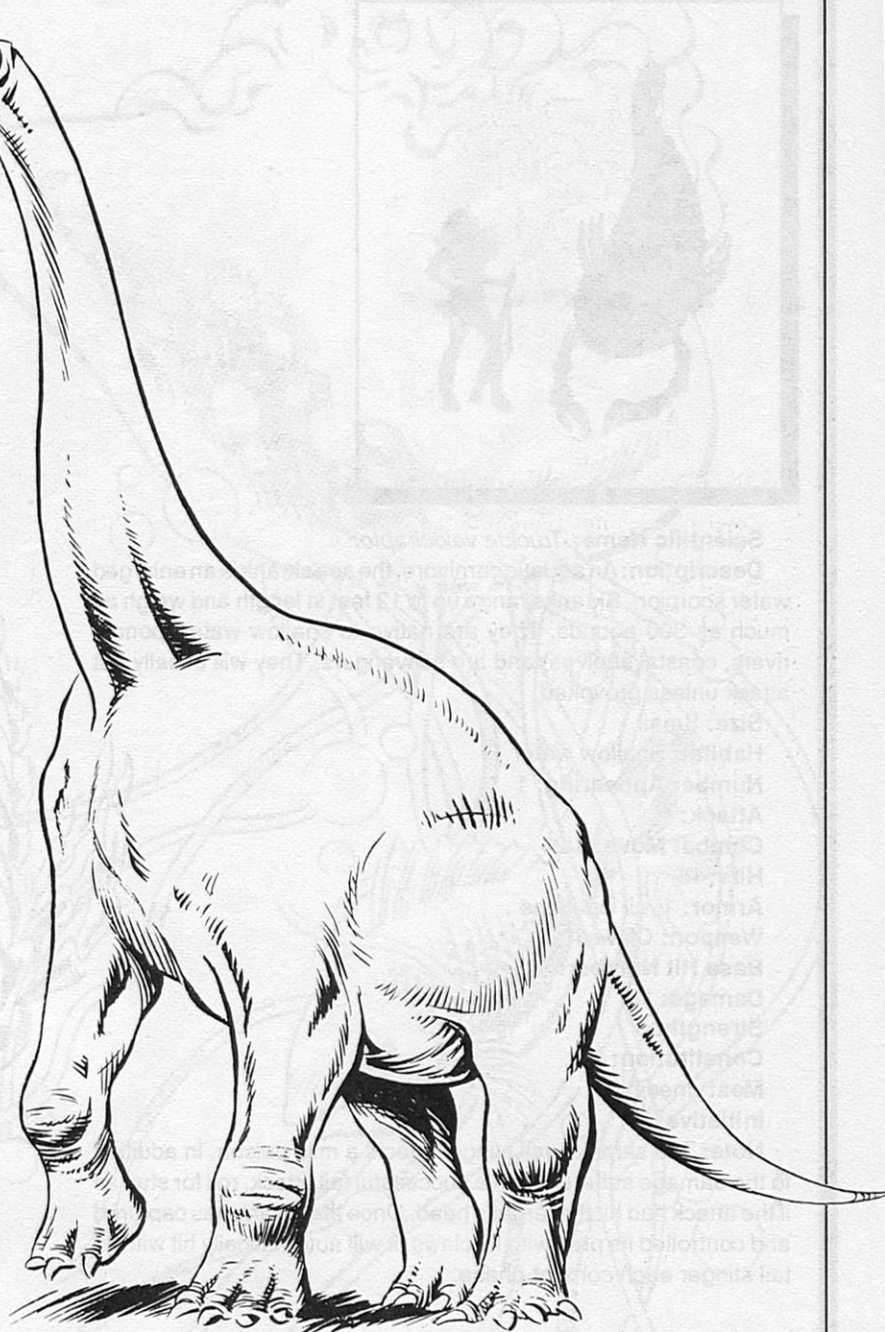**Armor:** All locations, 1
**Weapon:** Charge+tail
**Base Hit Number:** 2/2
**Damage:** 6/2
**Meat:** 5000
**Initiative:** 2

## Hits

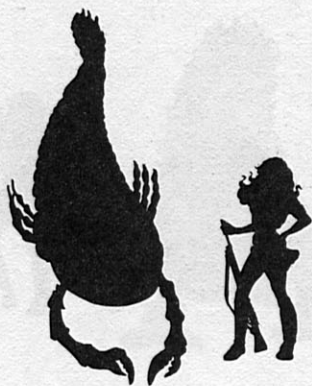−1 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
−2 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
−4 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
Dead ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐

*Each box represents five hits.*

# Sea Skrank

**Scientific Name:** *Trucida velociraptor*

**Description:** An aquatic carnivore, the sea skrank is an enlarged water scorpion. Skranks range up to 12 feet in length and weigh as much as 300 pounds. They are native to shallow water (ponds, rivers, coastal shelves) and are scavengers. They will usually not attack unless provoked.

**Size:** Small
**Habitat:** Shallow water
**Number Appearing:** 1
**Attack:** 4
**Combat Move:** 8/24
**Hits:** 16
**Armor:** 1, all locations
**Weapon:** Claws+tail
**Base Hit Number:** 4/2
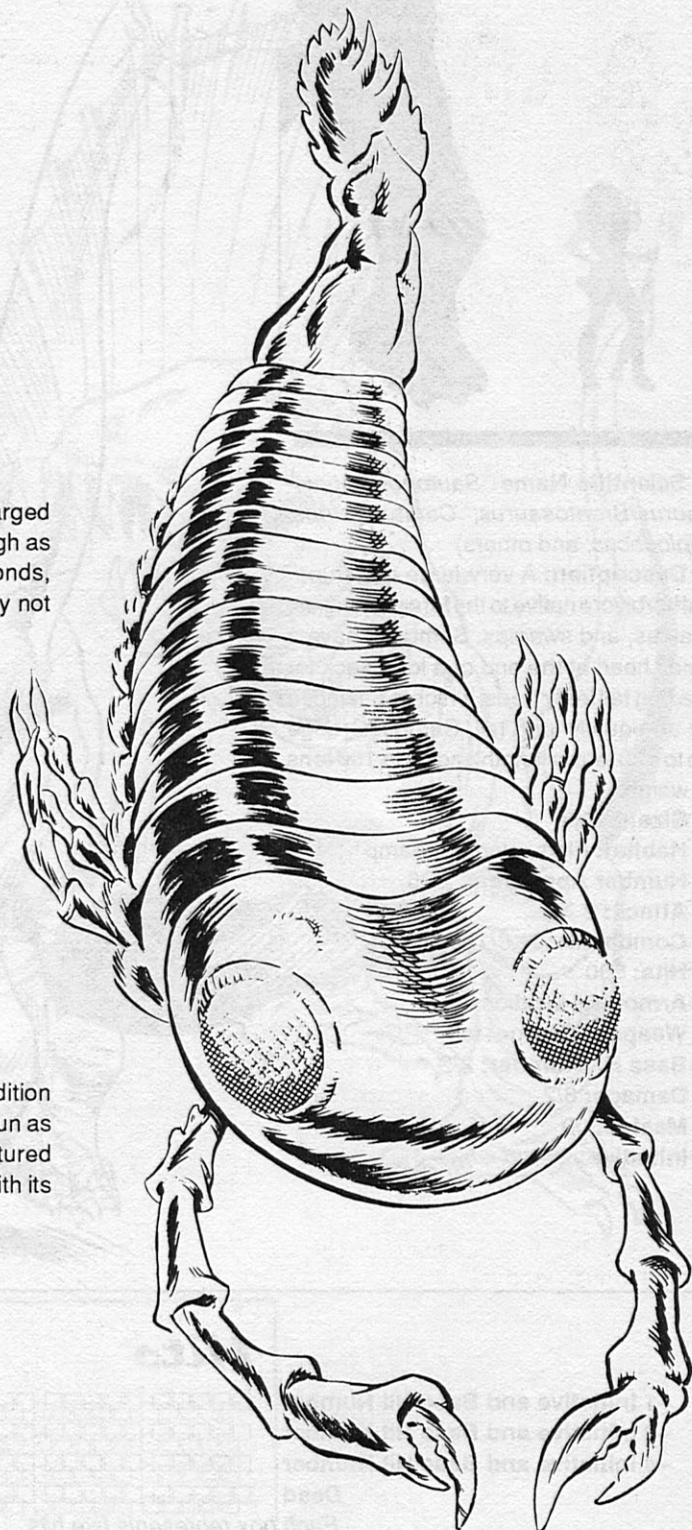**Damage:** 1/2
**Strength:** 6
**Constitution:** 8
**Meat:** Inedible
**Initiative:** 3

**Note:** The skrank's tail stinger injects a mild poison. In addition to the damage suffered from a successful tail attack, roll for stun as if the attack had hit the target's head. Once the skrank has captured and controlled its prey with its claws, it will automatically hit with its tail stinger each combat phase.

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐ |
| Dead | ☐☐☐☐ |

# Sea Viper
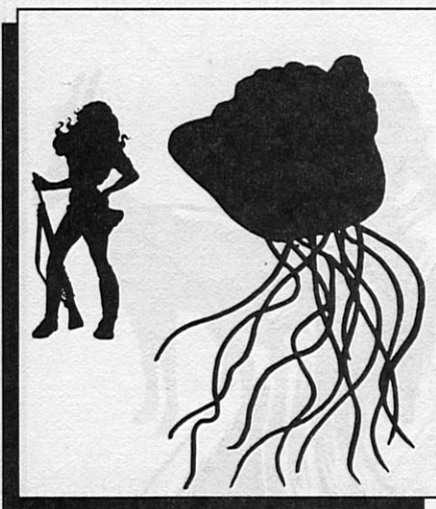
**Scientific Name:** *Volaculcita*

**Description:** An aquatic, carnivorous colony animal, similar to the Portuguese Man o' War, but much larger.

**Size:** Small in shallows, large in open sea
**Habitat:** Shallows, open sea
**Number Appearing:** 2D6
**Attack:** 2
**Combat Move:** 8/16
**Hits:** Small, 4; large, 12
**Armor:** None
**Weapon:** Stinging tentacles
**Base Hit Number:** Small, 4; large, 5
**Damage:** Small, 1; large, 2
**Strength:** 1
**Constitution:** 1
**Meat:** None
**Initiative:** 2

**Note:** The Sea Viper's tentacles do not grasp the victim like those of an octopus, but instead administer an electric shock. Treat tentacle attacks as normal melee attacks which cause the damage shown above. In addition to the damage suffered from a successful tentacle attack, however, roll for stun as if the attack had hit the target's head.
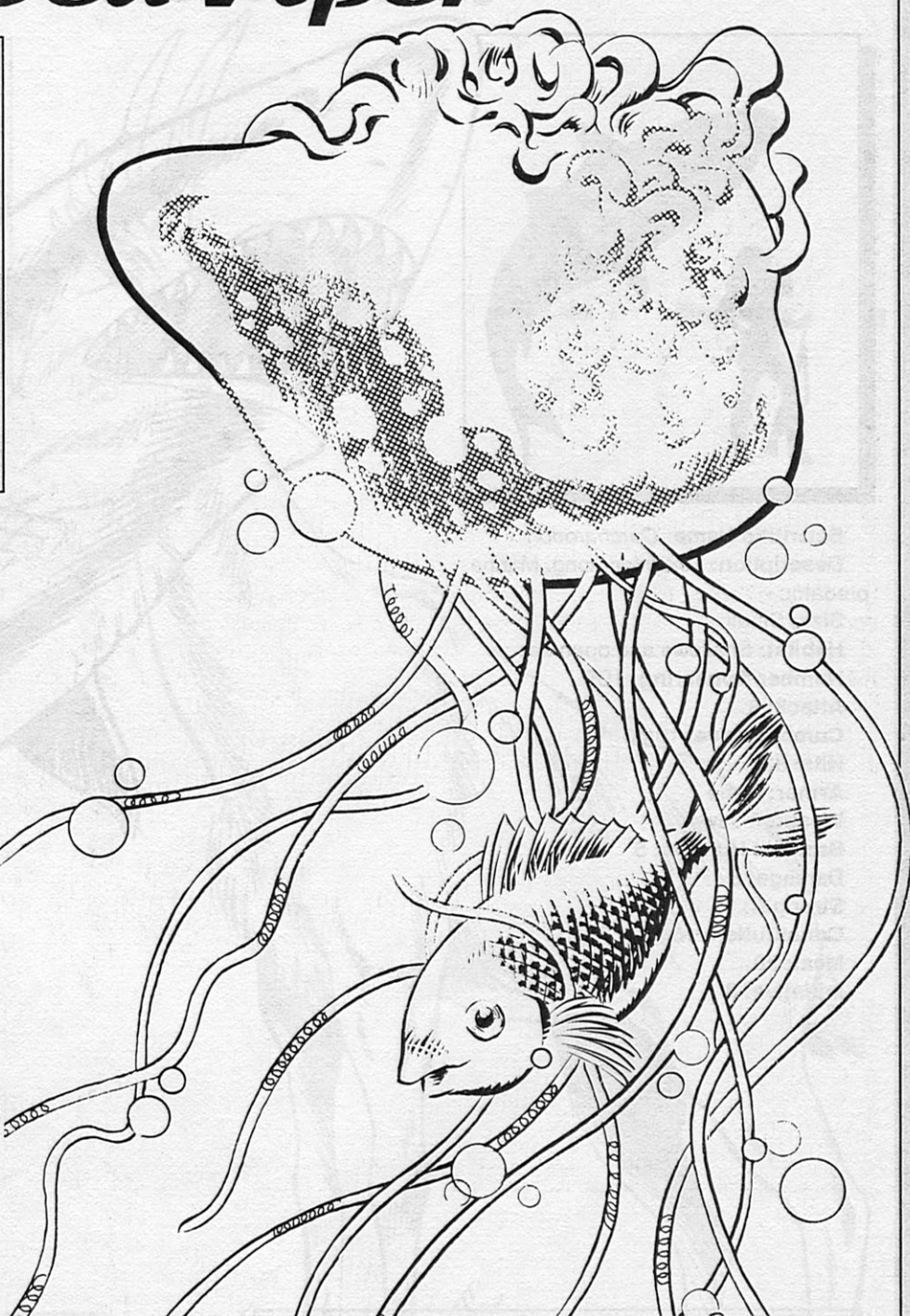
## Hits (Small Sea Viper)

-1 Initiative and Base Hit Number ☐
-2 Initiative and Base Hit Number ☐
-4 Initiative and Base Hit Number ☐
Dead ☐

## Hits (Large Sea Viper)

-1 Initiative and Base Hit Number ☐☐☐
-2 Initiative and Base Hit Number ☐☐☐
-4 Initiative and Base Hit Number ☐☐☐
Dead ☐☐☐

# Shark



**Scientific Name:** *Carcharodon*
**Description:** 10-20 feet long. Marine predator.
**Size:** Small
**Habitat:** Shallows and open sea
**Number Appearing:** 1D6
**Attack:** 8
**Combat Move:** 16/60
**Hits:** 32
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** 5
**Damage:** 3
**Strength:** 15
**Constitution:** 10
**Meat:** 20
**Initiative:** 3

## Hits

| | | |
|---|---|---|
| –1 Initiative and Base Hit Number | ☐☐☐☐☐ | ☐☐☐ |
| –2 Initiative and Base Hit Number | ☐☐☐☐☐ | ☐☐☐ |
| –4 Initiative and Base Hit Number | ☐☐☐☐☐ | ☐☐☐ |
| Dead | ☐☐☐☐☐ | ☐☐☐ |

# Shilliwak

**Scientific Name:** *Protoceras*

**Description:** Small quadrupedal herbivorous mammal, similar in size and appearance to a deer. Its only means of defense lies in flight.

**Size:** Small

**Habitat:** Mountains, prairie

**Number Appearing:** 2D6

**Attack:** Never

**Combat Move:** 8/48

**Hits:** 8

**Armor:** None

**Weapon:** None

**Strength:** 1

**Constitution:** 2

**Meat:** 1

**Initiative:** 4

## Hits

| | |
|---|---|
| –1 Initiative and Base Hit Number | ☐ ☐ |
| –2 Initiative and Base Hit Number | ☐ ☐ |
| –4 Initiative and Base Hit Number | ☐ ☐ |
| Dead | ☐ ☐ |

# Shivat

**Scientific Name:** *Tyrannosaurus rex*
**Description:** The largest of the carnosaurs, shivats are 40 or more feet long and weigh eight to 10 tons. They are upright bipeds and are less common than the similar (except for size) cutters.

**Size:** Large
**Habitat:** Forest, hills, flats
**Number Appearing:** 1
**Attack:** 7
**Combat Move:** 8/24
**Hits:** 140
**Armor:** Head, 2; arms, 0; all other locations, 1
**Weapon:** Jaws+tail
**Base Hit Number:** 4/2
**Damage:** 6/2
**Meat:** 350
**Initiative:** 3

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

# Skilk

**Scientific Name:** *Phobolocustus*
**Description:** Crablike invertebrates which range up to five feet in length.
**Size:** (1D6) 1-4, small; 5-6, large
**Habitat:** Rivers, shallows
**Number Appearing:** Small, 3D6; large, 1D6
**Attack:** 2
**Combat Move:** Small, 4/8; large, 4/16
**Hits:** Small, 4; large, 12
**Armor:** None
**Weapon:** Claws
**Base Hit Number:** 4
**Damage:** Small, [1]; large, 1
**Strength:** Small, 1
**Constitution:** Small, 1
**Meat:** Small, negligible; large, 3
**Initiative:** 4
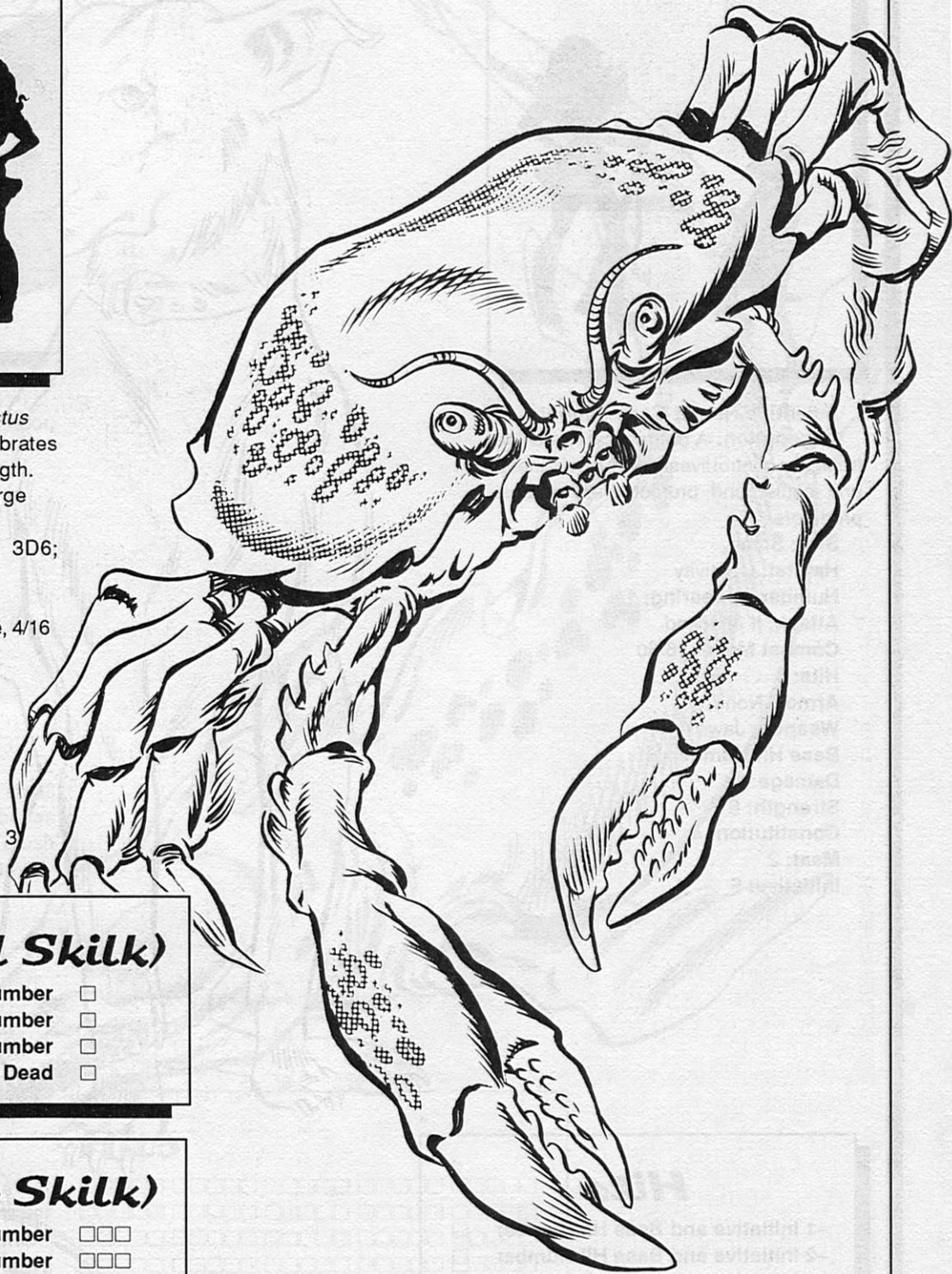
## *Hits (Small Skilk)*

–1 Initiative and Base Hit Number ☐
–2 Initiative and Base Hit Number ☐
–4 Initiative and Base Hit Number ☐
Dead ☐

## *Hits (Large Skilk)*

–1 Initiative and Base Hit Number ☐☐☐
–2 Initiative and Base Hit Number ☐☐☐
–4 Initiative and Base Hit Number ☐☐☐
Dead ☐☐☐

# Stock Dog

**Scientific Name:** *Canis familiaris*

**Description:** A domesticated canine trained to control livestock, such as sheep and cattle, and protect them against predators.

**Size:** Small
**Habitat:** Captivity
**Number Appearing:** 1
**Attack:** If attacked
**Combat Move:** 16/60
**Hits:** 4
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** 6
**Damage:** 1
**Strength:** 6
**Constitution:** 4
**Meat:** 2
**Initiative:** 5

## Hits

-1 Initiative and Base Hit Number ☐
-2 Initiative and Base Hit Number ☐
-4 Initiative and Base Hit Number ☐
Dead ☐

# Thresher

**Scientific Name:** *Mosasaurus*
**Description:** A large marine predator, from 50 to 100 feet long.
**Size:** Large
**Habitat:** Open sea
**Number Appearing:** 1
**Attack:** 9
**Combat Move:** 16/60
**Hits:** 500
**Armor:** 2, all locations
**Weapon:** Jaws
**Base Hit Number:** 5
**Damage:** 10
**Meat:** 5000
**Initiative:** 3
**Note:** Threshers will charge small boats with the same base hit number as listed above. If they hit, they will crush and sink the boat. They will not normally attack boats as large as a felucca.

## Hits

−1 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
−2 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
−4 Initiative and Base Hit Number ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
Dead ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐
*Each box represents five hits.*

# Triton

**Scientific Name:** *Trilobite* (several genera)
**Description:** Aquatic carnivore ranging in size from one-half inch to six feet in length.
**Size:** (1D6) 1-5, small; 6, large
**Habitat:** Shallows
**Number Appearing:** Small, 3D6; large, 1D6
**Attack:** Small, never; large, 2
**Combat Move:** 8/16
**Hits:** Small, 1; large, 12
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** Small, 2; large, 4
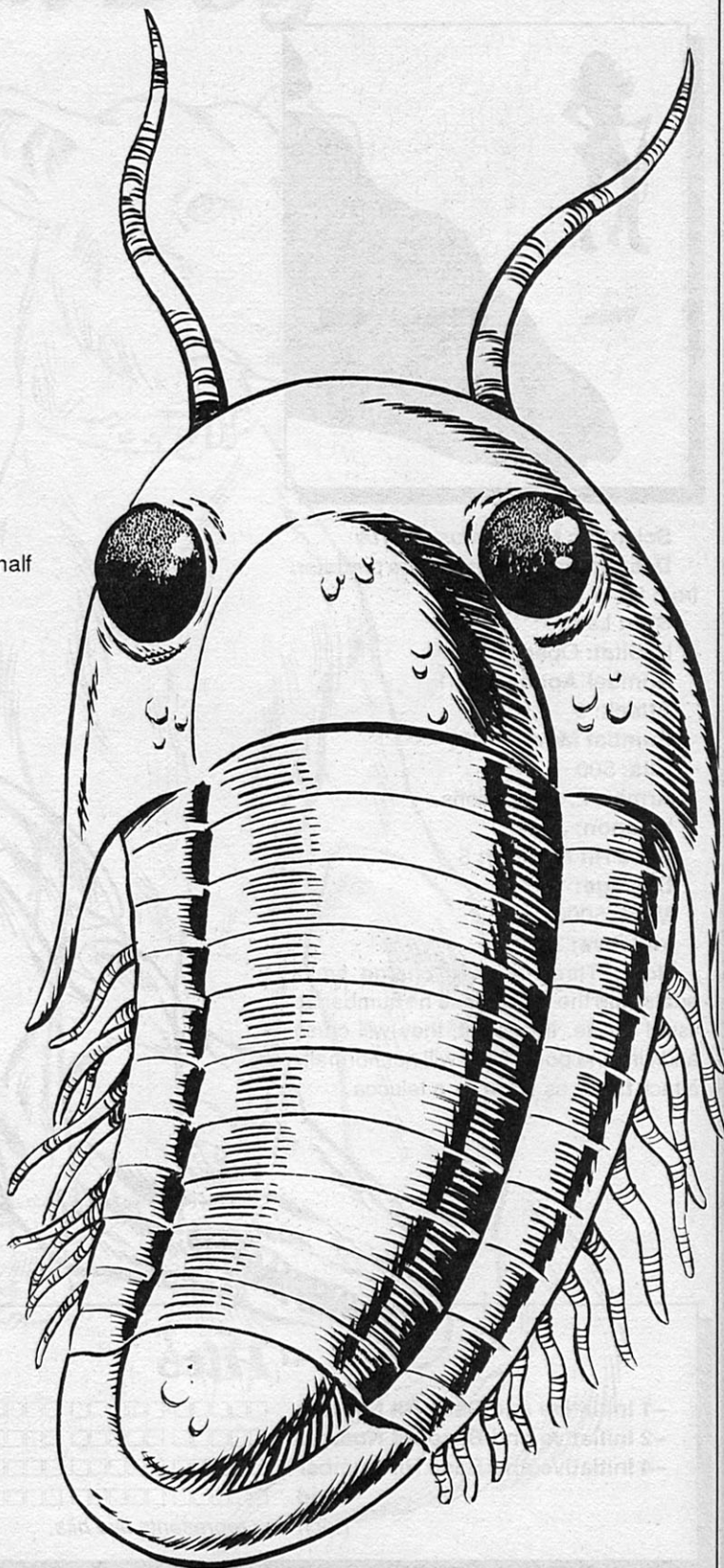**Damage:** Small, [1]; large, 1
**Strength:** Small, 1
**Constitution:** Small, 1
**Meat:** Small, negligible; large, 3
**Initiative:** 4
**Note:** Female Tritons are called sooks.

## Hits (Small Triton)

Dead ☐

## Hits (Large Triton)

−1 Initiative and Base Hit Number ☐☐☐
−2 Initiative and Base Hit Number ☐☐☐
−4 Initiative and Base Hit Number ☐☐☐
Dead ☐☐☐

# Widget

**Scientific Name:** *Icarosaurus*
**Description:** Very small omnivorous dinosaur, usually no more than a pound or two in weight and perhaps 12 to 18 inches in length.
**Size:** Small
**Habitat:** Swamps
**Number Appearing:** 1D6
**Attack:** 1
**Combat Move:** 8/24
**Hits:** 1
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** 2
**Damage:** [1]
**Strength:** 1
**Constitution:** 1
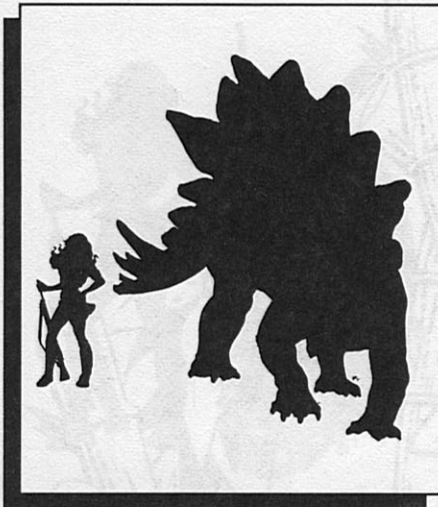**Meat:** Negligible
**Initiative:** 4

## Hits

Dead ☐

# Wohochuk

**Scientific Name:** *Stegosaurus*
**Description:** Herbivorous quadrupedal dinosaur about 30 feet in length and weighing four tons. It is notable for its small head and massive body, as well as its characteristic plates and spikes running down its spine and studding its tail. It will usually not attack unless provoked.

**Size:** Large
**Habitat:** Forest, jungle
**Number Appearing:** 1D6÷2 (rounded up)
**Attack:** 2
**Combat Move:** 8/32
**Hits:** 80
**Armor:** Chest and abdomen, 1
**Weapon:** Charge+tail
**Base Hit Number:** 3/2
**Damage:** 3/3
**Meat:** 125
**Initiative:** 3

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

# Wonmug

**Scientific Name:** *Iguanodon*

**Description:** Herbivorous quadrupedal dinosaur native to wooded areas. Typical specimens are 30 feet long and weigh up to five tons.

**Size:** Large
**Habitat:** Forest, jungle
**Number Appearing:** 1D6
**Attack:** 2
**Combat Move:** 8/24
**Hits:** 100
**Armor:** Chest and abdomen, 1
**Weapon:** Charge
**Base Hit Number:** 3
**Damage:** 4
**Meat:** 200
**Initiative:** 3
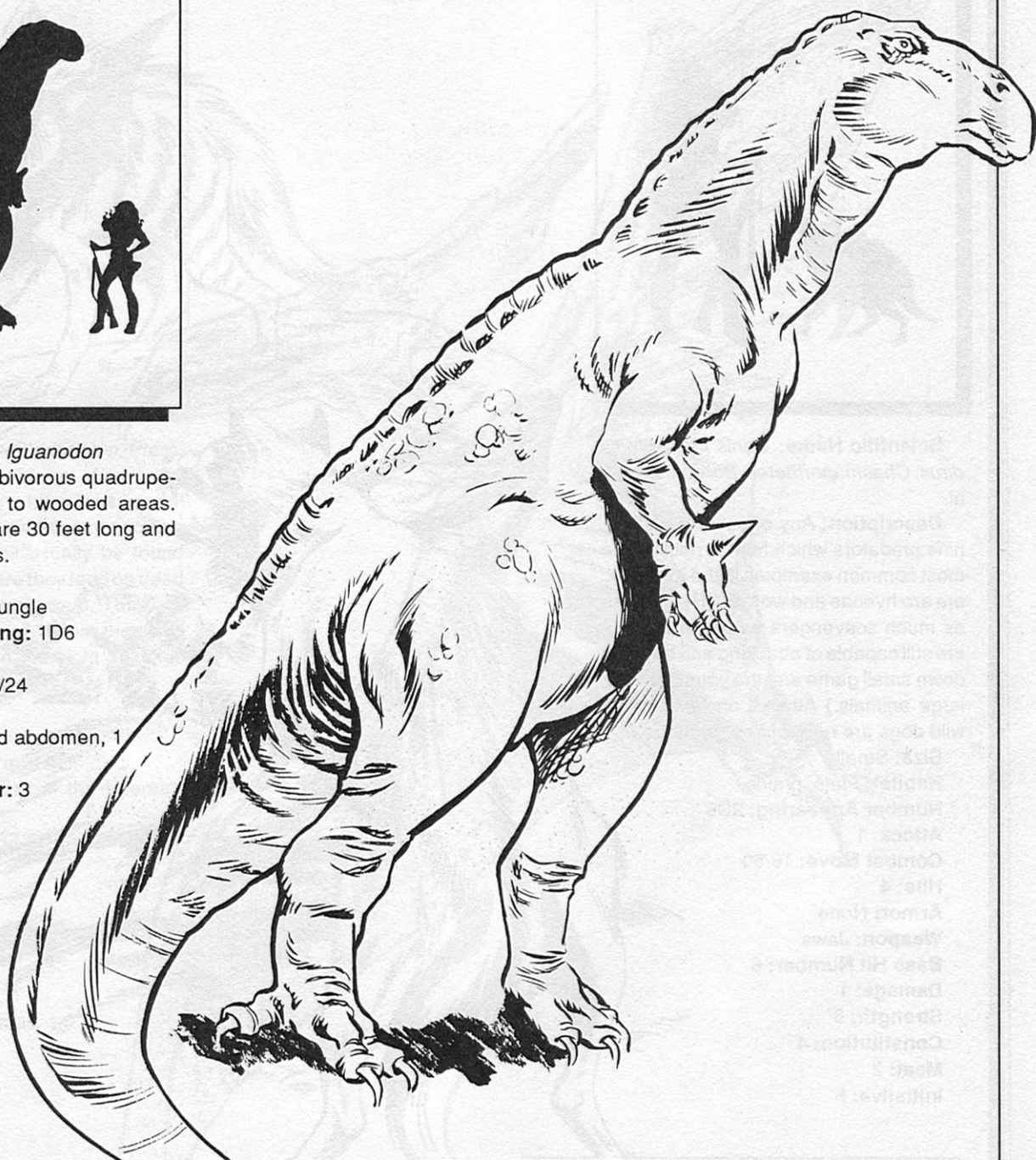
## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −2 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| −4 Initiative and Base Hit Number | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |
| Dead | ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ ☐☐☐☐☐ |

# Wild Dogs

**Scientific Name:** *Canis lupis, Canis dirus, Chasmaporthetes, Borophagus,* et al.

**Description:** Any of several wild canine predators which hunt in packs. The most common examples in the Xenozoic era are hyenas and wolves. (Hyenas are as much scavengers as predators, but are still capable of attacking and bringing down small game and the young of fairly large animals.) Attacks on humans by wild dogs are rare, but not unheard of.

**Size:** Small
**Habitat:** Flats, prairie
**Number Appearing:** 2D6
**Attack:** 1
**Combat Move:** 16/60
**Hits:** 4
**Armor:** None
**Weapon:** Jaws
**Base Hit Number:** 6
**Damage:** 1
**Strength:** 6
**Constitution:** 4
**Meat:** 2
**Initiative:** 5

## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐ |
| −2 Initiative and Base Hit Number | ☐ |
| −4 Initiative and Base Hit Number | ☐ |
| Dead | ☐ |

# Zeke

**Scientific Name:** *Pteranodon, Pterosaur, Rhamphorhynchus*, et al.

**Description:** A ubiquitous aerial scavenger. Not included in any encounter tables, zekes will usually be found near seashores where they feed on dead marine life which washes up. They are common inland as well, where they also feed on carrion, and the sight of zekes circling usually marks a recent kill.

**Size:** Small

**Habitat:** Ubiquitous

**Number Appearing:** 4D6

**Attack:** Rarely, but at the referee's discretion

**Combat Move:** 32/60

**Hits:** 4

**Armor:** None

**Weapon:** Jaws

**Base Hit Number:** 4

**Damage:** [1]

**Strength:** Small, 1

**Constitution:** Small, 1

**Meat:** 1/3

**Initiative:** 4
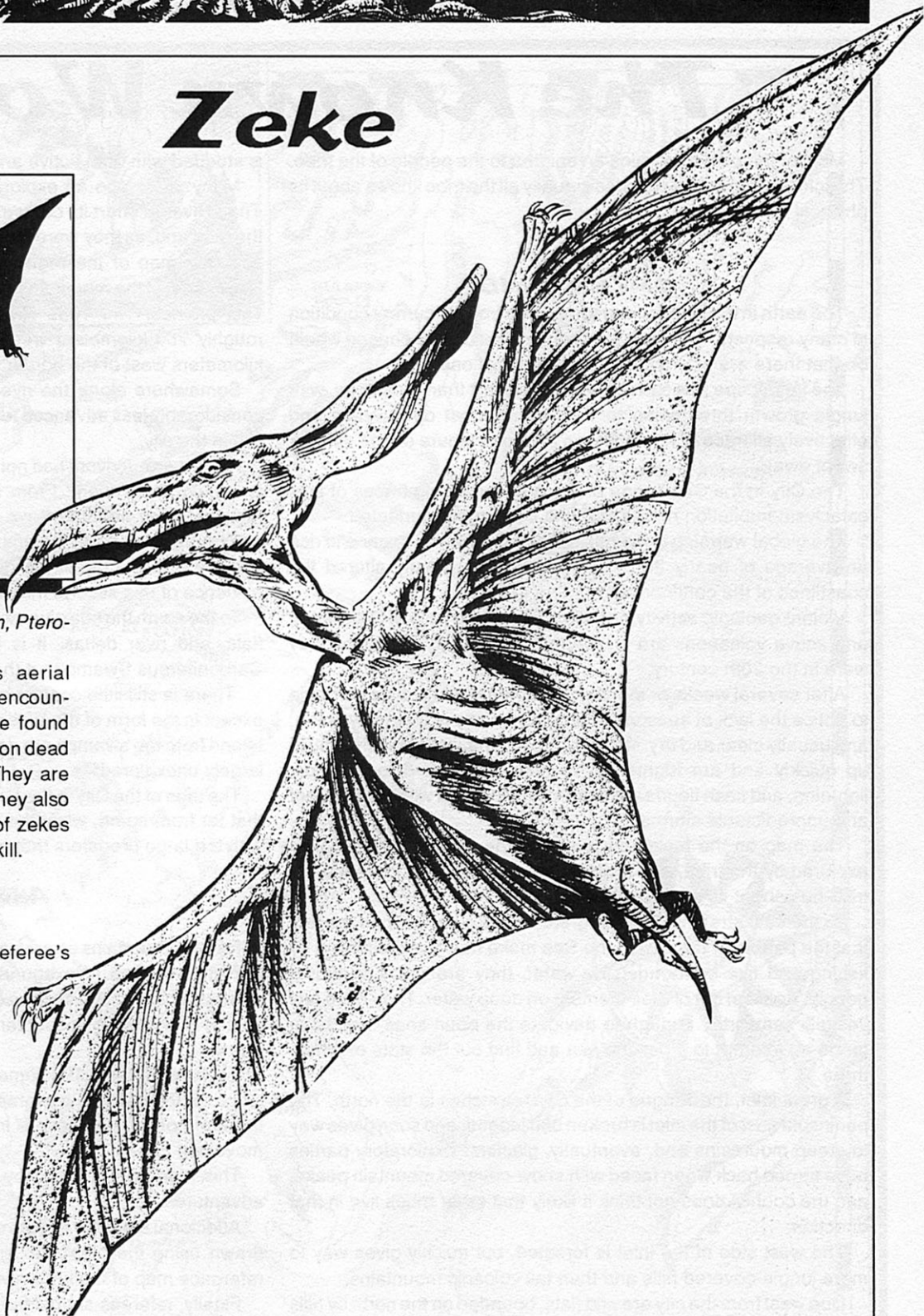
## Hits

| | |
|---|---|
| −1 Initiative and Base Hit Number | ☐ |
| −2 Initiative and Base Hit Number | ☐ |
| −4 Initiative and Base Hit Number | ☐ |
| Dead | ☐ |

# The Known World

Most of the planet remains an enigma to the people of the tribe. The information below includes virtually all the tribe knows about its physical surroundings.

## LAY OF THE LAND

The earth in the Xenozoic era is altered from its current condition in many respects. The most immediately noticeable change would be that there are now two moons instead of one.

The landscape has a much wilder look to it than ours does, with jungle growth threatening to overwhelm most open areas and effectively all trace of humankind's previous tenure on the surface swept away.

The City in the Sea is one of the only remaining traces of precataclysm habitation remaining, and it is largely inundated.

The global warming trend has caused the world's oceans to rise an average of nearly 20 meters, which has greatly altered the coastlines of the continents.

Violent geologic activity has also altered the face of the planet, and active volcanoes are no longer the isolated curiosities they were in the 20th century.

After several weeks or months in the Xenozoic, you would begin to notice the lack of seasons. The temperature is uniformly warm, and usually clear and dry. When storms come, however, they build up quickly and are frightening in their violence. Strong winds, lightning, and flash floods are hazards associated with the frequent and unpredictable storms.

The map on the facing page shows the area at least roughly explored by the tribe, and includes virtually all the knowledge the tribe has about its surroundings.

To the east stretches out the great Tethys Sea. Despite the fact that the people of the City in the Sea make much of their living by fishing and live surrounded by water, they are not a seagoing people, and feel out of their element on deep water. They have few vessels seaworthy enough to navigate the open seas, and have made no attempt to cross the sea and find out the state of affairs there.

A great inlet, the Tongue of the Sea, stretches to the north. The peninsula east of the inlet is broken and jagged, and soon gives way to steep mountains and, eventually, glaciers. Exploratory parties have turned back when faced with snow-covered mountain peaks, and the council does not think it likely that other tribes live in that direction.

The west side of the inlet is forested, but quickly gives way to more jungle-covered hills and then tall volcanic mountains.

Due west from the city are arid flats, bounded on the north by hills and the lake region, and on the south by more hills giving way to swampy lowlands.

The lake region is particularly interesting, as the lakes are sunken volcanic cones which have filled in with water.

The lakes are quite deep, while the surrounding countryside is a jumbled mixture of jagged rock outcroppings and lush forest and jungle.

Further northwest are steep mountains through which the Theu River makes its tortuous way. The southern line of these mountains is studded with both active and extinct volcanoes.

Many years ago an exploratory party made its way down the Theu River to chart its course. Only two survivors made it back to the tribe and, as they were guards rather than trained explorers, no accurate map of the region was forthcoming. They did reveal, however, that the mountain range trails off into hills and, eventually, vast prairies. The Theu River empties into a large inland sea roughly 700 kilometers west of the city (between 400 and 450 kilometers west of the border of the map).

Somewhere along the river, the party met another tribe, one considerably less advanced technologically than those people who live in the city.

As the two survivors had not dealt directly with the new tribe, little is known about them. From fragmentary descriptions provided, however, they seem to have patterned their culture after that of early American forest Indians. This tribe also provided rumors of another tribe which sails the inland sea, but the expedition found no evidence of this second tribe during its brief stay at the sea.

To the south the sea gives way to vast stretches of marshes, tidal flats, and river deltas. It is in the southern part of the Great Carboniferous Swamp that the Wassoon live.

There is still little contact between the Wassoon and the tribe, except in the form of the Wassoon ambassador, Hannah Dundee. Inland from the swamps are dense jungles, which have so far gone largely unexplored.

The tribe of the City in the Sea has had little motivation to explore that far from home, while the Wassoon lack the weapons to deal with the large predators that hunt firmer ground.

## Adventure Map

Page 126 contains an adventuring map of part of the area around the City in the Sea. A hexagonal grid has been superimposed on the map, and the terrain in each hex has been evaluated and categorized as one of the basic encounter terrain types covered by the game rules.

Each hexagon is 10 kilometers across. This is a useful scale, since it is the distance a character will move on foot through difficult terrain in one travel period. In clear terrain, the character would move two hexes.

This map can be used by the referee as a starting point for adventures.

Additional adventure maps of regions further from the city can be drawn using the blank hex grid provided on page 127 and the reference map of the known world.

Finally, referees should feel free to map additional parts of the world in the Xenozoic era, using the general hints provided in the description above.

Referees can gauge the extent of the change in the world's surface compared to the present day by comparing the map on the facing page to a map of the east coast of the United States today.

The City in the Sea is the remains of the precataclysmic city of New York, while the Wassoon city is built on the ruins of Washington, DC.

CALHOON
COPPER
MINES

The River

TO
INLAND
SEA

Nacht Maria
(Pass)

HELL'S OUTPOST

FESSENDEN'S
DOOMED
STATION

Aswad

Assif

UNEXPLORED JUNGLES

GREAT CARBONIFEROUS SWAMP

Humboldt
River

Phobos River

White Waters

WASSOON

The Hyades

L. Machtando

L. Orenda

The Flats

RESEARCH
STATION

RESEARCH STATION

Salt Marshes

Phacops
Island

BULGAR'S
POOL

Forest

Forest

THE TONGUE OF THE SEA

Forest

Astragjökull
(Glacier)

Atank Khawr

FARMLAND

Maddaket
Island

RESEARCH STATION

Zeke Rookery

THE CITY IN THE SEA

JACK'S
GARAGE

TETHYS SEA

N

THE
KNOWN WORLD
IN THE
XENOZOIC ERA
©1989     M. SCHULTZ

600 YEARS IN THE FUTURE

0  20  40  60  80  100

km

## TRIBE

The tribe lives in the ruins of what was once a mighty city, and which may very well be the most impressive metropolis left on the face of the planet. Although much of the city collapsed and is flooded under 20 meters of sea water, the tops of earthquake-proof skyscrapers still stretch upward from the water's surface.

The city is an intriguing blend of the ancient and the new. Although its foundations are the remnants of old skyscrapers, a layer of new construction has been laid over the old. Rubble has been used to build causeways and platforms which link the buildings to each other. Several broad, paved plazas exist, as well as numerous narrow alleyways and stone bridges. Parts of the city, which remain unoccupied, are accessible only by boat, and their buildings are mostly deserted shells. Other buildings are linked with the main complex only by networks of rope and wood footbridges.

### History

The tribe is descended from the survivors of a shelter located somewhat inland from the City in the Sea. When their ancestors returned to the earth's surface, over 100 years ago, they constructed primitive huts as dwellings, but suffered greatly from attacks by the giant prehistoric animals they soon labeled slithers. Exploratory parties which travelled to the coast, however, saw the spires of the city rising from the waves offshore and immediately recognized it as an impregnable fortress against the dinosaurs.

The tribe quickly moved its base of operations to the ruined city, occupying those floors of the buildings which rose above the water level. Rooftop gardens provided vegetables, while fishing boats plying the shallows filled their nets with edible marine life.

This prosperity could not last forever. Soon the schools of fish moved out to more dangerous deep water, and the tribe's population has finally outgrown the ability of the rooftop gardens to provide sufficient fruit and vegetables. The period of safety in the city did provide the tribe time to consolidate, however, and to learn enough about the new world to survive in it.

While fishing and gardening continues, the tribe also has now begun to move settlers back to the mainland to begin farming the stretches of prairie northwest of the city. The farms are small single-family operations for the most part, and have managed to provide subsistence for the farmers themselves as well as enough surplus food to meet the needs of the city, although just barely. Within the last few years, the tribe has settled a number of farmers in a large experimental farm designed to use more centralized management to achieve greater efficiency. So far, the experimental farm has failed to live up to expectations and continues only because it is heavily subsidized by the council. In all, about 2000 members of the tribe live on the mainland in the farms.

The vast bulk of the tribe's population, nearly 20,000 in all, continues to live in the City in the Sea.

Sometime after the first farms were started, explorers discovered evidence of a vast underwater storage facility under the city. Sunk deep into the rock below the city's foundations, the access tunnels were blocked by flooding. Work began immediately to shore up and pump out the water, however. Once the passageways were dry, the first chambers were opened and were found to contain a treasure of books, machines, and scientific equipment from before the cataclysm.

While mechanics saw to the recovery of vehicles and machines which suffered from several centuries of lack of use, engineers tackled the problem of keeping the chambers dry and reclaiming additional levels believed to exist below the first one. Gigantic geothermal-powered pumps were designed and constructed from cannibalized machinery, and special teams of scientists, engineers, and laborers formed, dedicated to recovering the storehouse of tools and knowledge that lay below the city.

Although it was originally planned to rotate the crews assigned to work the catacombs, somehow the plan was never implemented. Instead, those drawn to work in the deep, dark caverns beneath the city, soon nicknamed "Moles" by the other members of the tribe, willingly stayed there and drew more apart from surface society. Nevertheless, most of the weapons and mechanical devices which



> TENREC! CAIRO! WHAT'S THE WASSOON'S BUSINESS HERE?

> SHE'S OK. SHE'S WITH ME.

the tribe has, and which sets it apart from many other tribes of survivors, have been recovered by the Moles from the underground caverns.

As the second and third generations after the return to the surface grew to maturity, the social organization of the tribe began to change. Mechanics had held absolute sway belowground and had passed their knowledge down from parent to child. In the new world, there were many new challenges, and many of the children of the mechanics were drawn into different occupations. The mechanics themselves were absorbed in the intricacies of recovering the machines in the cavern and seeing to the daily maintenance of the vehicles and machines the tribe did use. Daily administration of the tribe's affairs were handled by a tribal council, elected by the tribe but subordinated to the mechanics. As time passed, this subordination became less and less formal, until today the tribe is effectively ruled by the Council of Governors. The remaining descendant of the mechanics, the so-called Old Bloods, occupy positions of respect and are effectively the ultimate law on the mainland. In the city, however, they are only one faction among many.

## Government

The tribe's ruling body is the Council of Governors, which is composed of four governors, who are elected for life. Passage of a vote in council must be by a three-quarters majority. The council votes itself new members to fill vacancies, but only after candidates have debated before the tribe. It is routine for the council to wait for several months before moving to fill a vacancy. This allows the tribe time to discuss the issue privately and for prospective candidates to make their decision to run and make their positions known to the public. A public debate then takes place, following which the council votes. A simple majority is all that is required to elect a new governor. Usually, elections are simple affirmations of the obvious consensus of the tribe.

If a governor falls out of favor with the populace, or with the other governors, the council can vote him out of office. He could then, of course, run for reelection when it was time to fill his vacant seat.

Since the council has little in the way of police powers, it relies heavily upon the respect of the people and their consent, so popular support is important. Most successful governors are those who win the public to their point of view.

**Council Duties:** The council has five principal areas of authority. First, it makes all of the administrative decisions necessary for the day-to-day running of the city's physical plant and provision of basic municipal services. These services consist of a very efficient mail service, garbage removal, provision of support to the mainland farming population, a surveillance and alarm system to protect fishermen from attack by large ocean creatures, and so forth.

Second, it makes and enforces the laws and passes judgment on transgressors. The tribe's penal code is simple and predictable, and concerns itself mostly with transgressions against the physical person or property of other tribesmen. Enforcement is, at best, sporadic. On the mainland, enforcement of the laws is mostly in the hands of semiofficial vigilantes, mostly Old Bloods and nomad spahis.

Third, it passes judgment on technologies seeking introduction to tribal use. This process is undertaken in consultation with the Old Bloods. The tribe spends a considerable amount of thought and discussion on the issue of "appropriate" technology, weighing the benefit to the tribe against the potential impact on the environment. The council, and the tribe as a whole, has so far shown considerable foresight in this regard, often at the cost of very real hardship to tribesmen.

Fourth, the council is responsible for the regulation of commerce. Believing that the accumulation of wealth in the hands of powerful industrialists was at least part of the root problem which bedeviled the ancients, they have attempted to prevent the formation of a system of monetary exchange. Instead, they have encouraged barter as the principal means of economic activity. Even they have found the system insufficiently sophisticated to meet the tribe's needs, however. Instead, they have been forced to institute a "labor/value credit" system.

This credit system awards a tribesman a certain number of "credits" for work undertaken for the community. These credits are



WHEN OUR FATHERS LEFT THEIR GREAT SHELTERS AND RETURNED TO THE CITY THEY BROUGHT WITH THEM A MAP TO THE TREASURE VAULTS FAR BENEATH THIS TOWER.

BY BUILDING A SERIES OF GEOTHERMAL PUMPS...

...THEY WERE ABLE TO SLOWLY DRAIN THE SEA AND EXCAVATE THE BEDROCK WHERE THE VAULTS LIE...

in return used to draw upon the resources of the tribe to meet the survival needs of the individual and his family. The value of the credit is tied to the value of food, with one credit equal to one meal's worth of rations.

Since credits are used for more than simply food and since the labor of the tribesmen produces a surplus, however slight, of goods and services over simple subsistence needs, this means that in practice the credit has become a form of legal tender. It is freely exchanged between tribesmen and accumulated as a form of surplus wealth savings, and is the source of some primitive monetary speculation. (Since its value is tied to food, its value in terms of purchasing other commodities rises in times of scarce food and falls in years of plentiful food.)

The tribe owns most means of production and distribution, and so for all practical purposes everyone works for the council. Farmers own their own land, but the council purchases all surplus food for credits. Fishermen own their own boats, but the council purchases their catch.

Most industries (none of which are more than large workshops) are owned by the tribe and run by the council. Workers are paid in credits, and the manufactured goods are sold for credits. The whole operation is run as a fairly complex corporation attempting to turn an annual profit, which is expressed as a slight surplus of food for unforeseen emergencies.

The council could exert a rigid control over the economic activity of the tribe if it had the necessary supporting administrative staff. In fact, it has very little statistical information available upon which to make planning decisions, and so the economy is largely left to cut its own most efficient channel.

Fifth and finally, the council promotes research into the nature of the world and the stability of the environment. For the most part, this takes three forms: the city laboratories, the research stations, and exploratory parties.

The city laboratories are designed to test new technologies for possible harmful environmental effects as a necessary prerequisite to their approval for general adoption. These labs also search for new information, but most of their time is taken up with testing. They work fairly closely with the Moles, as a general rule, and several of the labs are located in the catacombs themselves.

The research stations are set up to monitor the environment and detect any potential changes. They are particularly alert to geologic activity and unusual plant or animal life. There are currently three research stations: one to the north on the coast, one to the west at the edge of the swamps, and one to the south on a river island near the sea.

There was one additional station established in the swamps by Fessenden, the tribe's greatest scientist, but the swamp proved too hostile for the researchers sent to operate it. Although the swamp was killing them, Fessenden continued his experiments and discovered a means of polymorphing the human scientists and technicians into a life form more compatible with the swamp—the watchers. Fessenden was the last to undergo the transformation, and the station has been abandoned since then.

## FARMS

The vast majority of the tribesmen living on the mainland are farmers. Most of these are independent freeholding farmers who farm their own land. Many small farms and several farm villages are scattered throughout the agricultural land of the tribe. A typical farm will have between a half dozen and a dozen inhabitants, including the workers and their families. The villages seldom have more than 100 or 200 people.

In addition to the freehold farmers, a fairly large experimental farm complex is subsidized by the government. Its purpose is to try out new farming techniques and to perfect more efficient, but environmentally sound, means of large-scale farming. As mentioned above, it has only been marginally successful so far.

Farming is a hard life. The jungle continually attempts to reclaim the fields. Slithers often stampede through the field, or attack the livestock at night. Insects are much larger and hungrier than they are today and are a constant threat to the crops. Earthquakes, storms, blights, and droughts are other hazards that periodically can wipe out an entire year's work.

But despite the hard life, most farmers are satisfied with their life. For those who believe in the doctrine of the *Machinatio Vitae*, there can be no more rewarding profession than to work the earth with your own hands.

Furthermore, work on the land provides them with constant reminders of the validity of the doctrine. Predatory bugs keep the crop-eating insects in check. Slithers sometimes trample crops, but they also leave their manure, which is the best fertilizer available to the farmers.



WELL, IF WE'VE ALL HAD OUR SAY, SHALL WE VOTE?

DAHLGREN?

Finally, farmers are highly respected in the community. Most of them have volunteered for the difficult and hazardous life they lead, and their contribution to the tribe places them in a position of admiration and esteem.

### THE VAULTS

One large building which is not linked to the City in the Sea except by footbridge is the access point to the underwater vaults. This building's windows have been covered by rubble piles outside and bricked up inside so the water could be pumped out. The subbasements of the building are where the actual excavations started, and stone-reinforced tunnels lead further down into the storage chambers.

All of the recent excavations seep water, and large pumps are required to keep the catacombs dry. Even so, there are numerous water-filled tunnels and pools in low spots not reached by the pumps, and many of these contain dangerous marine life.

The vaults themselves contain a wide variety of artifacts and a large library. Because of the controlled humidity of the underground vaults, the books have remained in reasonably good condition, but those removed to the surface disintegrate in a matter of hours. Thus the library is immobile, and researchers wishing to use it must gain the permission of the council.

The contents of the vaults have provided the tribe members with the vast majority of their manufactured goods. Presumably, the vaults were created for this very purpose, although no record of them survived from the original shelter.

Perhaps they were made to supply the inhabitants of a different shelter which did not manage to survive. Perhaps they were assembled merely as a historic time capsule.

Certainly the contents go well beyond what a party of survivors would normally consider necessary to rebuild civilization, and many

OUR TROUBLED EXPERIMENTAL FARMS. YOUR WASSOON TECHNIQUES MAY BE THE KEY TO TURNING THEM AROUND.

obvious and potentially useful things were left out.

There are, for example, no stockpiles of raw materials for fabrication. There are a wide variety of machines, but hardly any operating manuals, and there is seldom more than a single example of any one large item. As a result, the farms make do with a bizarre assortment of tractors and farm machinery manufactured throughout the 20th century.

The crews of scientists and technicians who work in the vaults are lead by Wilhelmina Scharnhorst.

A gifted scientist in her own right, Scharnhorst is protective of the contents of the vaults and her workers, and she is increasingly antagonistic to intruders from the outside.

THE FOLKS WORKING THE VAULTS HAVE BEEN DOWN HERE FOR YEARS...

WATCH YOURSELF!

THERE WAS SUPPOSED TO HAVE BEEN A ROTATION SYSTEM, BUT LIKE MOST OF THE COUNCIL'S PLANS, IT WAS NEVER IMPLEMENTED.

TROMP!

JACK "CADILLAC" TENREC, CONTRACTED TO TRANSPORT MINERS AND COPPER, ARRIVES AT THE *CALHOON MINES* LATE IN THE DAY.

## CALHOON COPPER MINES

Aside from the research stations and the farms, the only other sizable group of tribesmen living on the mainland are the workers at the Calhoon Copper Mines, deep within the mountains.

The tribe can recover most metal that it needs from derelict machinery from the underground vaults. It cannot recover significant amounts of copper, however, without cannibalizing potentially valuable and irreplaceable electronic equipment.

Copper is extremely useful to the tribe since it is easy to work. It is used in cheap jewelry, as well as electrical wire, bronze and brass fittings, etc. It is also vital to the manufacture of brass shell casings, a prerequisite to modern small arms ammunition.

Between 200 and 300 people are usually present and working the mines at any one time. It is difficult and dangerous work, but then most jobs done by tribesmen are.
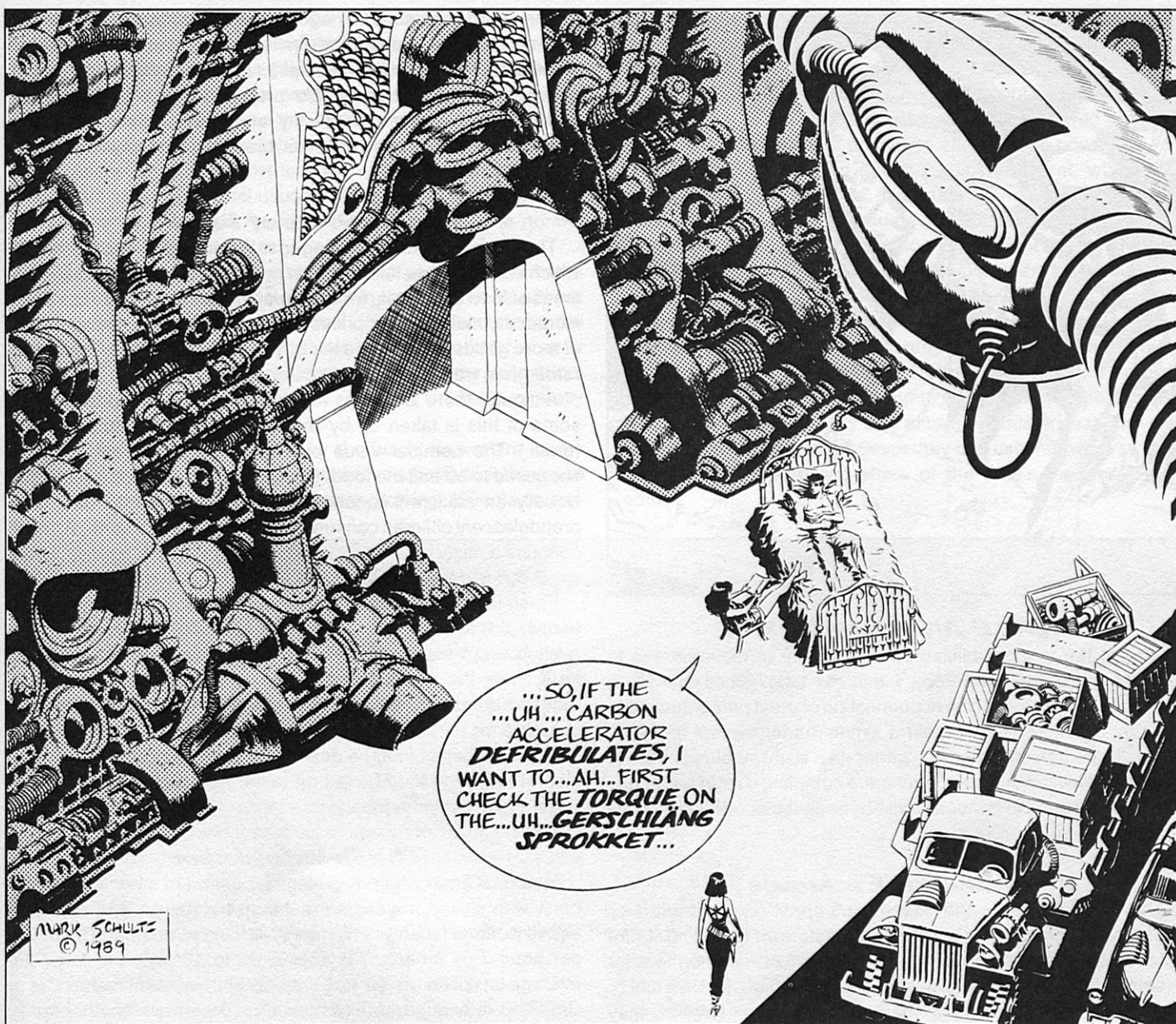
Due to the rocky nature of the nearby soil, local farming is not possible. Hunting parties can bring in occasional meat, but most food, along with all other supplies, is brought into the area by truck convoy.

The mine consists of a large, open-pit operation, with a number of buildings, including a barracks, several warehouses, screening and washing sheds, and a large smelter, which converts raw ore into pure copper ingots.

Truck convoys are organized once every two or three months and include most of the tribe's running trucks. They set out from the mainland garage and move west across the smooth going of the flats, call briefly at the western research station to drop off supplies, move north through Macht Matla Pass, wind up the Theu River Valley, and then climb a winding mountain road cut by the tribe to the mine site.

The convoys drop off supplies, mail, and new workers, and take back copper ingots and returning workers. A work party is engaged in cutting a road through the lakes region to make a more direct route to the mines, but this is a long-term project which may take years to complete.

MARK SCHULTZ
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...SO, IF THE ...UH...CARBON ACCELERATOR *DEFRIBULATES*, I WANT TO...AH...FIRST CHECK THE *TORQUE* ON THE...UH...*GERSCHLÄNG SPROKKET*...

## THE GARAGE

When the tribe moved to the city, the mechanics built a fortress research station on the mainland as a base of operations for exploration of the interior, and over time this became the center of operations for much of the activities of the mechanics. As many of the Old Bloods drifted into other occupations, stewardship of the fortress/garage gradually fell to Jack Tenrec, who remains the most influential of the Old Bloods, and one of the few who actually remains active as a mechanic.

As machinery was recovered from the underground vaults, much of it was brought to the garage for repair and refurbishment. The original large fortress has had additional facilities added, is completely roofed over, and is now a maintenance facility of tremendous value.

It makes its own power by use of a large underground geothermal steam generator. This is bulky, somewhat dangerous, and requires continual maintenance.

The garage has living quarters for several dozen, although seldom more than a half dozen people are living there. It has several large work areas, and all of the tribe's vehicles are stored there.

Jack's assistants conduct repairs and preventative maintenance between convoy runs on the trucks, and there are always several repair shops which contain large machines disassembled and awaiting repair.

These are usually items recovered from the underground chambers and can range from X-ray machines through electron microscopes to huge dynamos or tractors for the farms.

The garage is not technically controlled by the council, but rather is Jack Tenrec's personal domain. This is a hold-over from the time when the authority of the Old Bloods exceeded that of the council, and is yet another example of the sometimes murky nature of politics in the tribe.

The garage would probably be under council control by now if it weren't for the extraordinarily forceful and commanding nature of Tenrec's personality.

## TRADE AND COMMERCE

One of the responsibilities of the Council of Governors is to regulate trade and commerce within the tribe. Since there is a strong prejudice against the accumulation of great personal wealth, the tribe attempted to maintain a simple barter system for many years. As the tribe has begun to generate a slight surplus of wealth, and as its activities have become more complex, simple barter has proven insufficient to its needs and has been replaced by a primitive money system.

### Medium of Exchange

The tribe's money is the "labor/value credit" system, and was originally designed as a recordkeeping system for recording contributions to and draws upon the common wealth. Fishermen, for example, turned over their fish and received "credit" for their catch. As they drew food rations for themselves and their families, they drew down that credit balance.

Any remaining credits after feeding themselves and their families could be used for other necessities. If their boat needed repairs, the council would assign a work party to help, and the workers would receive credit for their work drawn from the fisherman's balance. If he had insufficient credits left, he either did the work himself or went without.

This was a simple way of guaranteeing that labor resources were allocated to the most productive activities, but the amount of detailed recordkeeping required soon overtaxed the limited administrative resources of the tribe. As a substitute, the tribe began issuing a limited number of brass credit tokens.

These are stamped out of the same steel/brass stock used for rifle cartridges, and so are fairly thin and light. They are round and of a uniform size (about two inches in diameter) and are minted in denominations of 1, 5, 10 and 20 credits. Large credit accounts are still maintained by the tribe's scribes, but using coins for many routine labor and goods transactions has greatly simplified paperwork.

The return of a limited coinage coupled with some surplus wealth has allowed the creation of limited luxury industries. Several taverns serve beer or stronger spirits (Cr1 per mug of beer or shot of whiskey), as well as simple prepared meals (Cr3). Copper jewelry is gaining some popularity, and a few artisans make their living crafting necklaces, bracelets, brooches, and other decorative ornaments.

### The Price of Food

The value of the credit is pegged to the scarcity of food in the city, which causes some fluctuation in prices for other commodities. In times of food shortages, for example, the absolute value of a credit increases, making most prices for goods fall. (It requires the offer of more goods to persuade the buyer to part with his or her credits rather than trade them in for scarce food.)

Although there is always some fluctuation in food availability, some of this is taken up by redefining the official contents of a "meal." The nominal value of a credit is one meal, which is supposed to be half the food required to feed an adult for one day. Usually an adult will consume two credits of food a day, while preadolescent children consume about one credit's worth. A "meal" contains a mixture of meat, vegetables, fruits, and grains, but the exact mix is determined by availability.

Fresh slither meat, for example, is included when available, but usually the meat is fish. Fresh fruit and vegetables are usually available, but sometimes dried varieties must be substituted. In hard times the absolute amount of food in a standard meal is reduced across the board. In times of bounty, bulk produce is available for purchase, and the individual tribesman can actually select the types of food he desires based on personal taste. (The idea of selecting food based on taste, however, is a luxury only rarely enjoyed by the tribe.)

### The Price of Labor

In normal times, the going wage for unskilled labor is Cr0.5 per hour, with skilled tradesmen making about twice this, and very skilled workers (such as engineers) earning as much as Cr2 or Cr3 per hour. This means that after eight to 10 hours of labor the average unskilled worker (the majority of tribesmen) makes Cr4 or Cr5. This is enough to feed himself and perhaps another family member, but leaves nothing for clothing or shelter. In most families both adults must work simply to survive and support their children. Those are the simple realities of life in a society which hovers on the edge of subsistence.

### Easy Money

Some people are content with a lifetime filled with honest work. It is enough for them to be part of a community, to contribute everything they can to its welfare, and to enjoy their fair share of the results. For others, though, it's every man for himself. There are always those who want to make a quick killing and then never have to worry about working again. The black market exists for them.

The black market deals in goods which cannot normally be obtained through the official channels of the tribe, for one reason or another. Sometimes the item is prohibited. Sometimes it is considered too frivolous to reclaim from the vaults. Sometimes it is available, but a request for it might cause uncomfortable questions to be asked. (Requests for Express rifle ammunition, for example, would certainly attract attention unless the tribesman requesting it

was a well-known and trusted hunter or explorer.)

Most items are available on the black market for a price, and the price is almost always paid in gold, not credits. A substantial horde of gold Krugerrands was discovered fairly early in the tribe's history, and these have now become the principal currency of the black market. Krugerrands are available in two denominations: $100 and $20. Transactions in amounts less than $20 are usually made in credits, but some gold must usually change hands from the buyer to the seller, with change made in "brass" (credits). The normal exchange rate is $1 per credit.

Black marketeers will not normally take large amounts of brass credits as payment due to the difficulty in trading them in without embarrassing questions being asked. They can sometimes be persuaded to accept them, however, if they are offered at a discounted rate. Cr6 for $5 is the normal rate for sums up to $500, and the exchange may go as high as Cr7 or even Cr8 for $5 for really large amounts.

The main commodities traded by the black market are luxury goods. Illegal demands for animal skins for decorative clothing and ivory for ornamental carved statuary are growing. (Simple owner-ship of these items is not proof of a crime, since in both cases there are examples of these legitimately obtained by tribesmen who lived in the wild or whose parents did. Killing for hides or tusk ivory is against the teachings of the *Machinatio Vitae*, but so is waste. When killing for meat or defense is necessary, it is considered proper to use every part of the dead animal as efficiently as possible.)

There is also a growing quack medicine market, which consumes increasing quantities of certain glands from dinosaurs. These are reputed to have a variety of hallucinogenic, aphrodisiac, or other special properties when consumed. Since the glands are usually difficult and dangerous to obtain, prices are extremely high.

The other end of the black market trade is in illegal weapons, ammunition, and other special items stolen from the vaults. Poachers provide the bones, skin, and glands from dinosaurs to the black market in exchange for gold, which they in turn spend on high-powered hunting rifles and ammunition, stolen from the vaults at great risk (and consequently sold at tremendous prices). The men and women in the middle, whoever they are, use this two-way trade to amass an ever-growing share of the tribe's meager excess wealth.

# Black Market Goods

The following prices are those paid by black market buyers for the specific commodities mentioned. They are sold to consumers in substantially altered form.

**Mammoth Tusk:** Mammoth tusk is used to carve ivory statuary. Each mammoth has two tusks.
*Wt:* 40 kg per tusk.
*Price:* $200.

**Mack Horn:** Used for the same purposes as mammoth tusks. Mack horn is also reputed to have some medicinal properties and is more more expensive for that reason. There are from one to three horns per mack, depending on species. (Roll 1D6 and divide by 2, rounding fractions up.)
*Wt:* 30 kg per horn.
*Price:* $200.

**Hornbill Horn:** Hornbills have unusually baroque and decorative horns which are prized for their shape. Each hornbill has a single horn.
*Wt:* 10 kg.
*Price:* $100.

**Small Slither Hide:** Used for decorative jackets, pants, belts, boots, and other leather goods.
It takes one full period of work (four hours) to remove the hide from a small slither.
*Wt:* 20 kg.
*Price:* $50.

**Large Slither Hide:** Used for the same purpose as small slither hide. It takes two full periods of work (eight hours) to remove the hide from a large slither. Two men working can finish the job in half this time.
*Wt:* 80 kg.
*Price:* $300.

**Mammoth Skin:** Woolly mammoth skins are used for decorative clothing (particularly fur collars), long fur robes, and warm rugs.
*Wt:* 100 kg.
*Price:* $400.

**Bear Skin:** Bear skins are used for the same purposes as are mammoth skins.
*Wt:* 20 kg.
*Price:* $100.

**Tiger Skin:** The pelt of a saber-toothed tiger is valued not only for its warmth, but also because this particular trophy is very rare.
*Wt:* 15 kg.
*Price:* $150.

**Tiger Skull:** The intact skull of a saber-toothed tiger, with prominent "sabers" in place, is a highly prized decorative item. Any cat which dies from a head wound has had the trophy value of the skull ruined.
*Wt:* 5 kg.
*Price:* $50.

**Small Slither Glands:** Selected glands from any small dinosaur. To avoid rapid decay, the glands are usually carried in a container filled with brine (salt water).
*Wt:* 1 kg.
*Price:* $200.

**Large Slither Glands:** Selected glands from any large dinosaur, except for those of the male shivat. To avoid rapid decay, the glands are usually carried in a container filled with brine (salt water).
*Wt:* 1 kg.
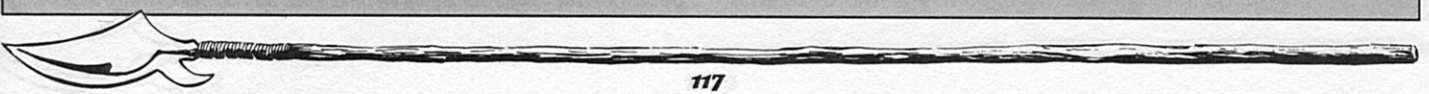*Price:* $600.

**Shivat Gonads:** Selected glands from a male shivat. (Half of all shivats encountered are male.) To avoid rapid decay, the glands are usually carried in a container filled with brine (salt water).
*Wt:* 2 kg.
*Price:* $1000.

Speech bubble 1: WE WASSOON LIVE IN A GREAT SALT FEN THAT HAS ABSORBED THE RUINS OF A CITY OF *WHITE MARBLE*...

Caption box: "A city that, unlike your own, was **completely** leveled by the cataclysm..."

## THE WASSOON

The only other tribe with which the City in the Sea has had significant contact is the Wassoon. This tribe lives over the ruins of what was once a great city of granite and marble, but which was completely leveled and then flooded by the cataclysm.

The Wassoon had a similar history to the tribe up to the time they emerged from the shelters. Tradition has it that the Wassoon are descended from the great lords of the ancient world, its scholar-rulers. However, not a single book survived the time in the shelters, and the Wassoon know little about their background other than rumor and legend.

From the time they emerged from their shelter, they have had a much more difficult existence than the tribe of the City in the Sea. They found no treasure trove of carefully stored machinery or off-shore fortress-city to use for protection. Instead, they took to the Great Carboniferous Swamp and built dwellings on stilts over the water for protection.

They have only a few firearms, which they obtained fairly recently by trading with their northern neighbors or which they took by force from poachers who invaded their territory. Most Wassoon hunters make do with spears and knives, and are forced to rely on skill instead of firepower. Even skill has its limits, however, and the Wassoon seldom venture out of the Carboniferous Swamp onto firmer land that can support the weight of larger predators. Crocs and sailbacks are about as large a predator as they can reasonably hope to bring down.

The nature of water currents in the Humboldt River Delta and the resulting periodic movements of the bottom soil made most settlements temporary. As a result, when the Wassoon found the old city, they jumped at the chance to make a permanent home, and they have lived there ever since. Its underwater layer of rubble provided the perfect bedrock platform into which they could anchor the pilings of their dwellings.

The Wassoon are almost exclusively fishermen and make their living from the sea. They have no farms on the land, although they do cultivate a number of aquatic plants, of which seaweed is the most important. In fact, they are much more skilled at fishing and cultivating aquatic plants than are the people from the City in the Sea, and they hope to exchange this expertise for more manufac-tured goods and mechanical knowledge. This is one of the main reasons for the presence of Hannah Dundee, the Wassoon ambas-sador, in the City in the Sea.

A second supposed reason for the dispatch of Ambassador Dundee was to prevail upon the Council of Governors to rein in Jack Tenrec's campaign against poachers. While the Wassoon have no more sympathy with poachers than do the tribe of the city, Tenrec's campaign has had an unfortunate secondary result. He has been so effective that the poachers have been driven south into Wassoon lands. As they are much better armed than Wassoon hunters and are totally without scruples, increasing numbers of Wassoon hunters have been killed and wounded. Even patrols sent out equipped with some of the Wassoon's few firearms have occasionally been overpowered.

A final reason for Dundee's mission, and perhaps the most important, stems from the fact that the Wassoon had no surviving precataclysmic texts until fairly recently. Most of their books were painstakingly reconstructed from memory, and to this day their society relies as much on spoken tradition as written history. Education places considerable emphasis on memorization, and Wassoons are generally capable of dramatic feats of memory.

The recent recovery of fragments of precataclysmic texts has allowed Wassoon scholars to familiarize themselves with the written forms of most precataclysmic languages, but has left them hungry for knowledge. Once they learned that the City in the Sea's vaults contained vast libraries, they have been alive with anticipation over the possibility of examining the ancient volumes. Hannah Dundee's mission to the city is more to gain access to these volumes than any other single thing, and part of her training has been to learn every precataclysmic language and absorb every detail of information the Wassoon knew about the customs and achievements of the ancients.

The Wassoon are also considerably more adept as seafarers than are the tribesmen from the city, and Wassoon feluccas have sailed considerable distances out to sea. They have not crossed the Tethys Sea, but they have visited and traded with other coastal tribes further to the south.

There is some fear of the City in the Sea by the Wassoons, because the Wassoon tribe knows that its northern neighbors have

access to a technological treasure trove which could easily be turned to aggressive purposes. Since most of their contact with the northerners has been with murderous bands of poachers driven south by Jack Tenrec's patrols, the Wassoon are fully aware of their neighbors' capacity for violence.

## THE GRITH

The Grith are an ancient intelligent race which pre-dates the appearance of man on the planet. They appear to be reptiles, although they are warm-blooded and anthropomorphic in general appearance. Nonaggressive by nature, the Grith came into early conflict with primitive man and sought safety in isolation rather than violent defense. They have lived underground for tens of thousands of years in deep caverns undreamt of by human geologists.

The Grith have developed a simple but effective subterranean ecosystem which relies upon nonphotosynthetic plantlife, geothermal heat, and groundwater to create a complete and self-replenishing food chain. When humankind was in imminent danger of perishing, the Grith quietly contacted the mechanics in the shelters and began sharing knowledge of their own survival techniques with them. This shared knowledge is the basis for much of the *Machinatio Vitae*.

Although the Grith move fairly freely through the caverns that lie near the surface, they deliberately leave these in their natural state to avoid providing evidence of their existence to any humans who should happen to wander in by mistake. Their true homes are much deeper, and the entrances to the subterranean ecosystem are carefully concealed. This is virtually a separate world, and is called the "Deep Deep Down" by the Grith. Few humans have ever been there, and its exact nature remains a mystery even to most mechanics.

The Grith are still reluctant to show themselves to humankind in general, and the gradual erosion of the authority of the mechanics has done little to change their minds. In any event, the Old Bloods are, for all practical purposes, the only humans aware of their existence, and entrances to the Grith undergound are carefully guarded secrets. Only in times of genuine emergency will the Grith risk discovery by seeking contact with the mechanics, and they in turn visit the Grith underworld rarely.

The Grith are not capable of speech and appear to communicate with each other telepathically. They are skilled empaths and have developed the ability to project their moods and emotions to a strong degree. This gives them a strong control over animals, which is of great assistance in dissuading intruders from prying into their domain. It also enables them to exert some level of protection over humans they are particularly concerned with, but only if they are in the very near vicinity.

One thing that their telepathic ability does not allow them to do is communicate directly with humans. While they can project emotions, such as fear, calm, or anger (and this is particularly effective in keeping humans out of their caves), they cannot project linguistic code. This is largely because the Grith operate on a more basic, emotional level than do humans. With telepathic communication available, they have no need for exactly encoded verbalized messages, and that center of their brains is not well developed.

The stopgap measure used by the Grith in the area of the City in the Sea is the use of *Scrabble*™ tiles. Each mechanic carries a bag of *Scrabble* tiles, for reasons unknown to the rest of the tribe. The mechanic has one Grith who is his regular contact, and that Grith uses the tiles to spell out simple messages.



THE GRITH ARE **CARETAKERS** OF A SORT. THEY **UNDERSTAND** THINGS ABOUT THE EARTH THAT ONLY COME FROM **AGES** OF WORKING **WITH** IT -- NOT FIGHTING AGAINST IT. THEY DON'T HAVE MUCH NEED FOR TECHNOLOGY.

I'VE NEVER BEEN ABLE TO GRASP THEIR **LANGUAGE**. AND THEY DON'T HAVE THE MECHANICS TO SPEAK OR WRITE. AND THEY SURE DON'T *THINK* LIKE US.

**THESE** ARE OUR ONLY LINK.

HOBB HERE IS MY CONTACT.

GO TO IT, HOBB.

THE GRITH SKILLFULLY MANIPULATES THE TILES.

# Mustapha Cairo, Engineer

Mustapha Cairo is a talented and dedicated engineer, responsible for the design and construction of most major projects in the tribe's territory. He spends much of his time in the city. He also commands the loyalty and respect of nomadic tribesmen, called "spahis," who live beyond the farmlands and are dedicated to the *Machinatio Vitae*.

**Motivation:** Wise, honorable.

### Attributes
- Strength: 5
- Agility: 4
- Constitution: 4
- Charisma: 6
- Intelligence: 8
- Education: 8

### Skills
- Small Arms: 6
- Melee: 6
- Riding: 2
- Electronics: 3
- Gunsmith: 3
- Lockpick: 3
- Machinist: 3
- Persuasion: 4
- Scrounging: 2
- Metallurgy: 2
- Engineer: 8

# Renfro Rynchus, Laborer

Small and shy, Renfro is captivated by zekes and dreams of building a flying machine. He is an expert on zeke flight patterns and has unearthed a few precataclysmic books on flight. Hannah Dundee alone takes his dream seriously, and he is extremely loyal to her in return.

**Motivation:** Driven (flight), friendly.

### Skills
- Swimming: 2
- Fishing: 2
- Riding: 2
- Mechanic: 2
- Melee: 2
- Small Arms: 2
- Bargaining: 2
- Electronics: 4
- Gunsmith: 2
- Machinist: 4
- Small Boat: 4
- Persuasion: 3
- Driving: 2
- Scrounging: 4

### Attributes
- Strength: 3
- Agility: 8
- Constitution: 4
- Charisma: 3
- Intelligence: 6
- Education: 5



# Governor Gorgostamos, Politician

Gorgostamos has plans for the tribe and himself. Big plans. He thinks the tribe can only prosper through vigorous expansion. But the rigid adherence to the *Machinatio Vitae* by the Old Bloods, particularly Tenrec, is a constant irritant. He is politically astute enough to realize he does not have the strength to openly oppose the Old Bloods, but he also knows the elimination of Tenrec would throw them into confusion. Gorgostamos is outwardly sympathetic to Tenrec but is secretly looking for a means of putting him out of the way—permanently.
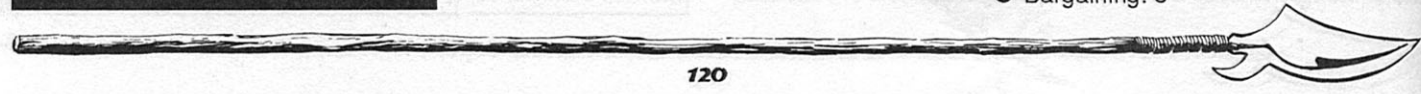
**Motivation:** Treacherous, very ambitious.

### Attributes
- Strength: 9
- Agility: 4
- Constitution: 3
- Charisma: 8
- Intelligence: 6
- Education: 3

### Skills
- Melee: 6
- Riding: 2
- Small Boat: 2
- Small Arms: 7
- Persuasion: 8
- Leadership: 6
- Bargaining: 8

# Wister, Manager

Wister is the manager of the Calhoon Copper Mines, the large, open-pit mining operation carried out far to the west of the City in the Sea. The mine is located at a great distance from the city because there are no suitable deposits closer. The Calhoon deposit, however, is a spectacular one which yields large quantities of high-grade ore—even under Wister's vacillating and incompetent management. Wister is unsure of himself and easily manipulated by his subordinates.

**Motivation:** Coward, somewhat ambitious.

### Attributes
- Strength: 2
- Agility: 9
- Constitution: 3
- Charisma: 4
- Intelligence: 6
- Education: 8

### Skills
- Swimming: 2
- Riding: 2
- Small Boat: 2
- Small Arms: 2
- Leadership: 6
- Persuasion: 8
- Bargaining: 8
- Scrounging: 8

# Governor Nock, Politician

Nock is, of all four governors, the one most often visible to the public and is the apparent, albeit unofficial, leader of the council. He is very vocal as to his opinions, and his words carry a great deal of weight in the council's deliberations. For all that, he is a failure as a leader because he is weak and secretly doubts his own abilities. This tends to cause him to vacillate on questions of policy and be more concerned with his own image than the merits of any particular project. He is increasingly jealous of the respect that the Old Bloods, particularly Jack Tenrec, command, but does not feel strong enough to directly challenge their authority.
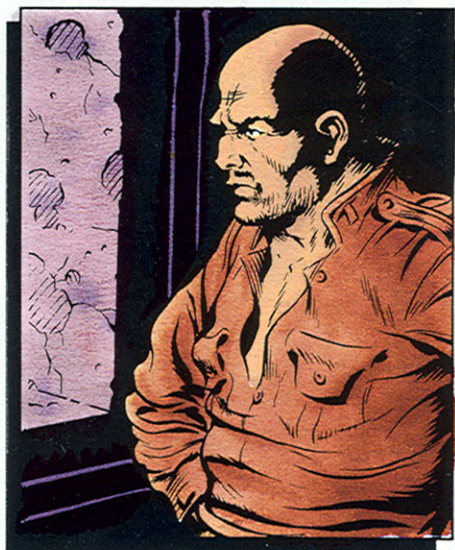
**Motivation:** Pompous, moderately ambitious.

### Attributes
- Strength: 7
- Agility: 4
- Constitution: 4
- Charisma: 8
- Intelligence: 8
- Education: 4

### Skills
- Melee: 4
- Small Arms: 4
- Riding: 4
- Tracking: 2
- Persuasion: 8
- Leadership: 8
- Bargaining: 8

# Governor Dahlgren, Politician

Dahlgren is abrupt and abrasive when she talks, although she keeps her thoughts to herself and lets others reveal their intentions. She is suspicious and cunning, but her efforts are ultimately aimed toward the betterment of the tribe, not accumulation of personal power. Although she is gruff, even rude, to Tenrec, she is privately in love with him and is his only real ally on the council. She also believes in the teachings of the *Machinatio Vitae* and recognizes Jack's importance as a symbol of the tribe's spiritual unity.

**Motivation:** Moderately aggressive, in love with Jack Tenrec.

### Attributes
- Strength: 3
- Agility: 6
- Constitution: 4
- Charisma: 9
- Intelligence: 8
- Education: 4

### Skills
- Swimming: 2
- Melee: 2
- Riding: 4
- Small Arms: 5
- Persuasion: 8
- Leadership: 6
- Bargaining: 10

# Jack Tenrec, Mechanic

Most respected of the Old Bloods, Jack Tenrec lives in a huge fortress-garage on the mainland across the bay from the City in the Sea.

He is obsessed with maintaining the balance of nature and spends much of his time in the interior hunting down poachers. The rest of his time is divided between troubleshooting missions for the tribe and his single hobby, the restoration of old cars, particularly Cadillacs.

**Motivation:** Driven (by belief in the *Machinatio Vitae*), stubborn.

## Attributes

- Strength: 8
- Agility: 8
- Constitution: 8
- Charisma: 4
- Intelligence: 6
- Education: 6

## Skills

- Small Arms: 8
- Melee: 6
- Riding: 2
- Stealth: 6
- Tracking: 7
- Swimming: 2
- Navigation: 4
- Gunsmith: 2
- Lockpick: 2
- Driving: 6
- Scrounging: 6
- Mechanic: 8

# Hannah Dundee, Diplomat-Explorer

Sent from the city of Wassoon far to the south as ambassador to the City in the Sea, Hannah Dundee combines the subtlety of a born politician with the curiosity of a scientist. Her nominal mission to the city is to offer assistance in farming and fishing in return for the tribe limiting Jack Tenrec's campaign against poachers. (Tenrec is so efficient that he has driven most poachers south, where they are slaughtering slithers and ambushing Wassoon patrols.) Her actual mission is to gain access to the city's vast underground library. Despite ample cause for friction, Hannah works with Jack as often as against him, for reasons of her own.
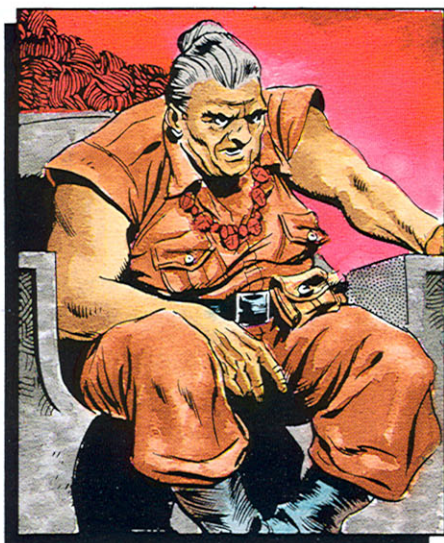
**Motivation:** Inquisitive, moderately ambitious.

## Attributes

- Strength: 4
- Agility: 4
- Constitution: 6
- Charisma: 9
- Intelligence: 8
- Education: 5

## Skills

- Small Arms: 6
- Melee: 4
- Biology: 1
- Geology: 1
- Medical: 1
- Meteorology: 1
- Riding: 3
- Mountaineering: 2
- Swimming: 3
- Small Boat: 3
- Foraging: 3
- Fishing: 4
- Navigation: 3
- Persuasion: 7
- Observation: 4

# Wilhelmina Scharnhorst, Scientist

Scharnhorst supervises excavation of the vaults. A brilliant scientist and powerful speaker, she is driven to become absolute ruler of the city. She has used her access to the vaults to educate herself in the ancient sciences and secretly arm the cavern workers, who are extremely loyal to her. She believes the *Machinatio Vitae* is absurd and the ancients didn't go far enough in environmental control.

**Motivation:** Ruthless, very ambitious.

## Attributes
- Strength: 5
- Agility: 3
- Constitution: 5
- Charisma: 6
- Intelligence: 10
- Education: 8

## Skills
- Swimming: 2
- Melee: 3
- Fishing: 2
- Small Arms: 2
- Leadership: 6
- Mechanic: 1
- Medical: 2
- Persuasion: 7
- Biology: 8
- Chemistry: 4
- Instruction: 2
- Interrogation: 1
- Electronics: 2
- Observation: 4

# Governor Toulouse, Politician

Dedicated to the welfare of the farmers of the tribe and obsessed with the success of their experimental farm plots, Toulouse is idealistic but gullible. His single-minded devotion to the farmers and their success makes him susceptible to manipulation by the ambitious and unscrupulous. His dedication to the farmers and his considerable charisma have made the farm communities his loyal constituents and form the basis for his political power.

**Motivation:** Driven (by a desire to see the farms prosper), somewhat friendly.

## Attributes
- Strength: 2
- Agility: 4
- Constitution: 4
- Charisma: 10
- Intelligence: 6
- Education: 7

## Skills
- Swimming: 2
- Fishing: 2
- Small Boat: 2
- Farming: 8
- Persuasion: 8
- Leadership: 8
- Bargaining: 8

# Dr. Bulgar, Scientist

Ever since the disappearance of Dr. Fessenden, Dr. Bulgar has been the tribe's foremost scientist. Driven by an insatiable thirst for knowledge, he is often impatient with the caution of the Old Bloods and tries to find ways around their restrictive regulations.

**Motivation:** Inquisitive, very ambitious.

## Attributes
- Strength: 3
- Agility: 6
- Constitution: 4
- Charisma: 3
- Intelligence: 10
- Education: 10

## Skills
- Mechanic: 1
- Small Arms: 2
- Swimming: 2
- Melee: 2
- Medical: 3
- Riding: 2
- Instruction: 2
- Interrogation: 1
- Leadership: 4
- Electronics: 3
- Observation: 6
- Biology: 10
- Chemistry: 6

# Black Elmer, Hunter



Although many hunters bring down only what they have to to feed themselves and the tribe, others hunt for the sport of it or, like Black Elmer, for profit. Many dinosaur glands bring small fortunes on the quack medicine market, and dinosaur ivory is always in demand.

**Motivation:** Treacherous, very greedy.

### Attributes
- Strength: 8
- Agility: 4
- Constitution: 8
- Charisma: 2
- Intelligence: 3
- Education: 2

### Skills
- Small Arms: 8
- Biology: 2
- Meteorology: 2
- Riding: 4
- Swimming: 3
- Stealth: 6
- Foraging: 2
- Navigation: 2
- Observation: 2
- Tracking: 7

# Hammer Terhune, Criminal

When Hannah Dundee arrived in the City in the Sea, Wrench Terhune and his fellow poachers were convinced it was to bring them to justice for the murder of the members of a Wassoon patrol. Their attempt to assassinate the ambassador was thwarted by Jack Tenrec, and Wrench was killed in the process. Now Hammer Terhune, Wrench's older brother, bears a permanent burning hatred for Jack Tenrec.

**Motivation:** Murderous, very greedy.

### Attributes
- Strength: 10
- Agility: 3
- Constitution: 5
- Charisma: 6
- Intelligence: 3
- Education: 1

### Skills
- Melee: 7
- Small Arms: 5
- Thrown Weapon: 2
- Riding: 2
- Disguise: 2
- Interrogation: 2
- Bargaining: 2
- Forgery: 4
- Lockpick: 4
- Tracking: 2
- Stealth: 4
- Scrounging: 2



# Ferris, Guard

One of the Moles who works in the storage vaults deep beneath the city, Ferris is slow-witted and prone to violence, but willing to take orders unquestioningly from his boss, Scharnhorst.
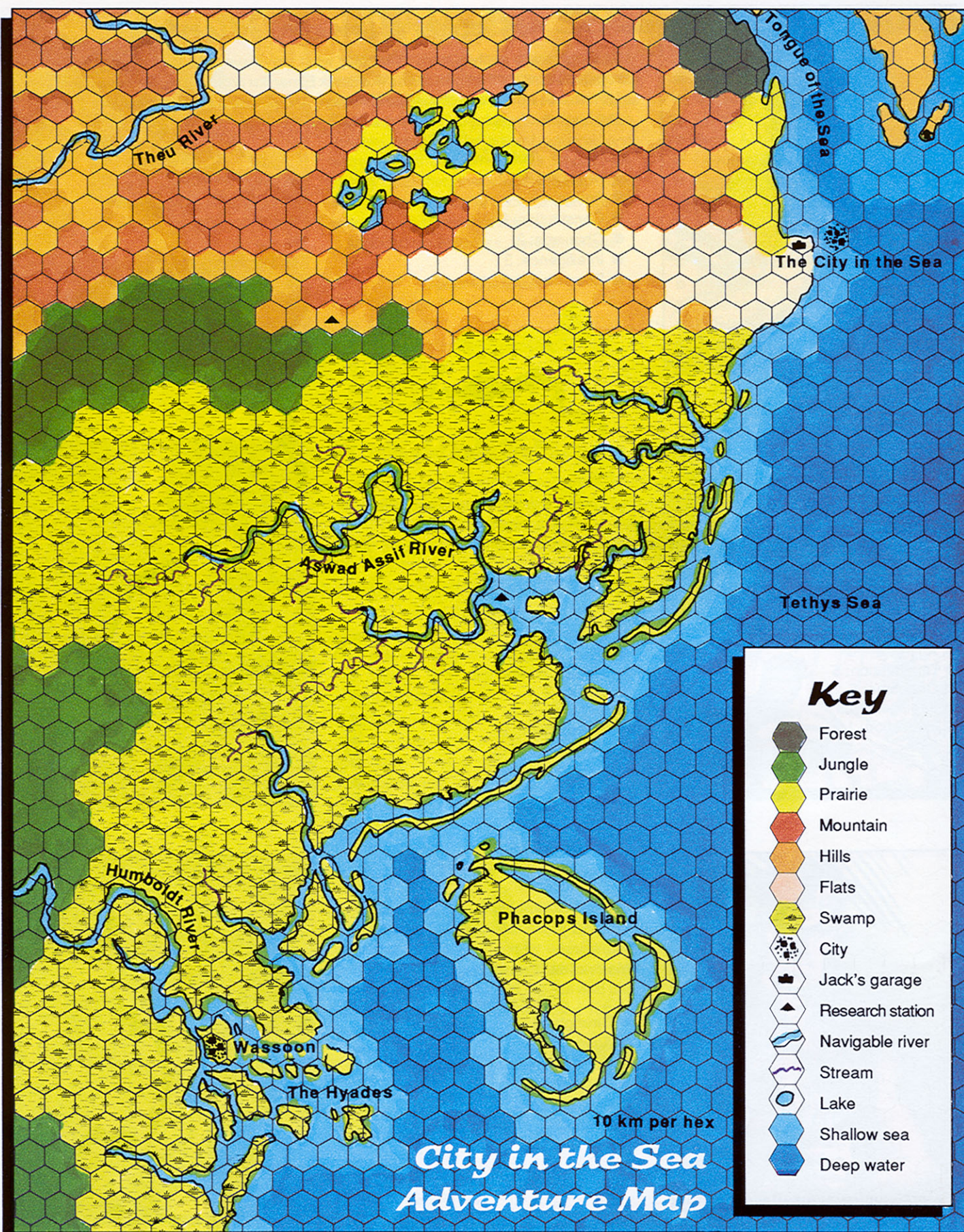
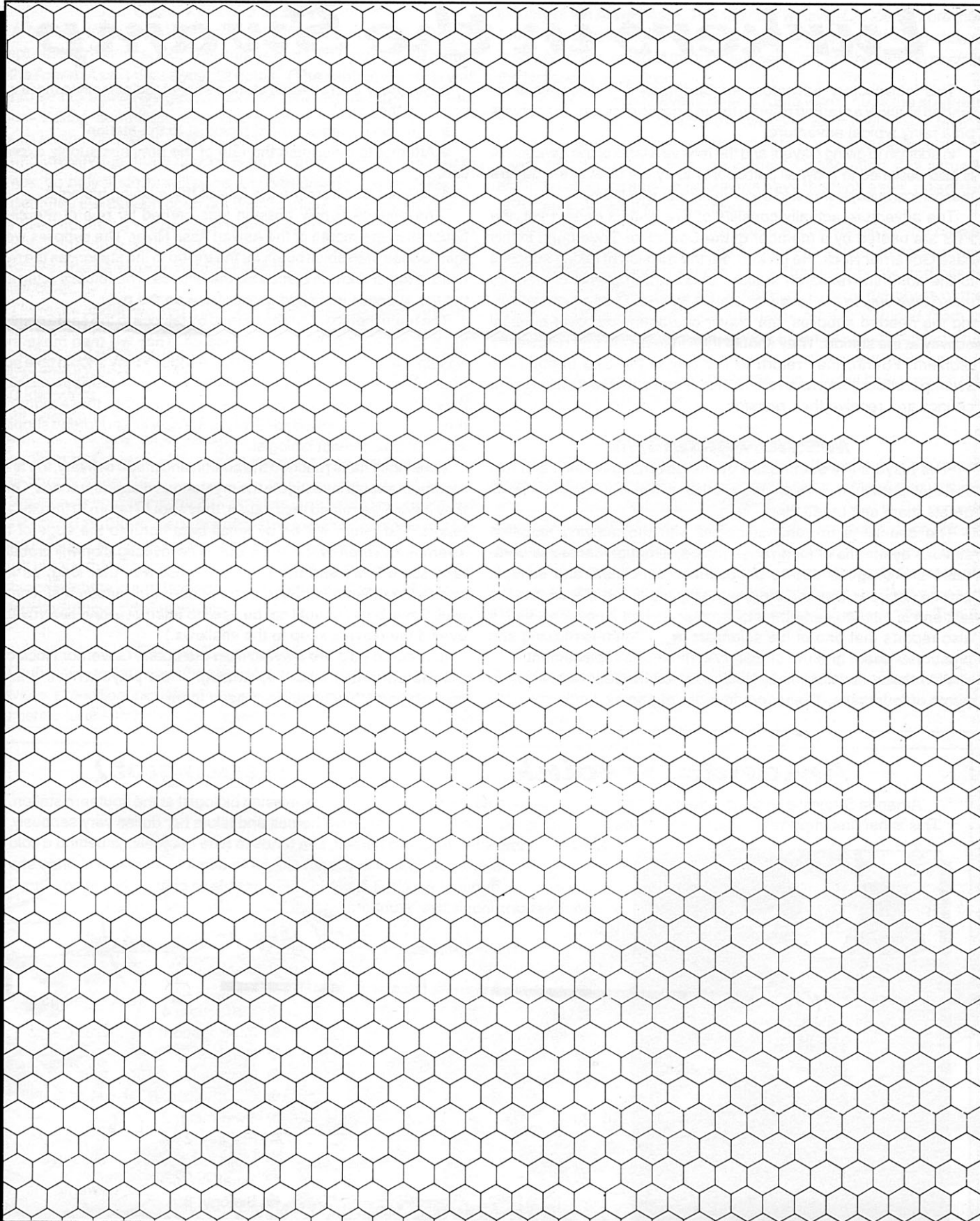**Motivation:** Brutal, somewhat greedy.



### Attributes
- Strength: 8
- Agility: 6
- Constitution: 10
- Charisma: 3
- Intelligence: 1
- Education: 2

### Skills
- Melee: 6
- Small Arms: 8
- Medical: 1
- Riding: 3
- Interrogation: 2
- Stealth: 6
- Foraging: 2
- Observation: 4
- Scrounging: 3
- Tracking: 3

Theu River

Tongue of the Sea

The City in the Sea

Aswad Assif River

Tethys Sea

Humboldt River

Phacops Island

Wassoon

The Hyades

10 km per hex

*City in the Sea*
*Adventure Map*

## Key

| | |
|---|---|
| | Forest |
| | Jungle |
| | Prairie |
| | Mountain |
| | Hills |
| | Flats |
| | Swamp |
| | City |
| | Jack's garage |
| | Research station |
| | Navigable river |
| | Stream |
| | Lake |
| | Shallow sea |
| | Deep water |

Permission is granted for players and referees to photocopy this blank hex map for game use.

# Lurkers in the Swamp

This introductory adventure for **Cadillacs & Dinosaurs** is intended to allow a starting referee to run a group of beginning players on a fairly typical adventure.

In addition to giving players and the referee a taste of the Xenozoic, it is also designed to allow all participants to try out most of the game's mechanical subsystems and become familiar with them.

The adventure actually consists of five distinct parts. First, the PCs are briefed by a member of the Council of Governors, in this case Governor Nock. He gives them the mission of taking supplies to the southern research station. Second, the player characters make their way to the research station by sea. Third, upon delivering the needed supplies, the player characters discover criminal activity at the station. They should then investigate and resolve the problem. Fourth, they return to the City in the Sea through the swamps, undergoing an overland trek. Finally, they will report to the council and receive their rewards.

### MISSION BRIEFING

The players are summoned by the governing council and told that their particular skills are required for a mission. Governor Nock greets them and briefs them.

The council is in communication with the outlying research stations by means of long-range radios, although contact is unreliable and irregular due to atmospheric conditions and sunspot activity. There is also a quarterly supply trip to the station, but the last one is past due and the station reports that it never arrived. It also reports that one of the scientists in the team is missing and presumed dead, and the station is in need of a replacement.

With these facts in mind, Nock outlines the team's mission in terms of four tasks. These are, in order of priority:

- Resupply the research station so that the scientists there can continue their work.
- Transport a replacement biologist to the station.
- Attempt to determine the fate of the previous supply expedition.
- Attempt to determine the fate of the missing biologist.

The original supply mission was carried by one of the city's feluccas to the mouth of the Aswad Assif River. The supplies were then loaded onto small boats for the trip up to the station, as the river delta is too shallow in places for the felucca. The felucca returned, but the supplies vanished somewhere on the river.

The team members will be carried by felucca to the same point as the original expedition and dropped off. They will then make their way upriver and deliver the supplies. Although they should take note of anything which might indicate the fate of the previous mission, they should not delay their journey to investigate these signs, as their first priority is speedy delivery of the now long-overdue supplies and the replacement biologist.

When they have reached the station and made delivery, the team members should investigate the mysterious disappearances. Once they have determined their cause, they should return to the city and report. The return will be by small boat north to the edge of the swamps and then overland on foot. (The investigation will probably take some time, and the felucca cannot wait that long, as it is needed to make a supply run to the northern research station as well. Small boats should not be used to attempt a long sea voyage, even if the players keep to the shallows.)

In order to help the players man the boats, Governor Nock can provide up to four laborers, although if the players have a large enough party they should not need them.

## Amanda Stroink, Scientist (Biologist)

Amanda Stroink is a young scientist who has been chosen as the replacement for the missing biologist at the southern station. This is her first important assignment for the tribe; she is extremely anxious to prove herself and takes her duties very seriously. As she is somewhat unsure of herself, she tends to hide her feelings behind a cold and impersonal exterior. She also is not inclined to admit to errors, and once she decides on a course of action, it is virtually impossible to change her mind.

**Motivation:** Inquisitive, stubborn.

### Attributes
- Strength: 3
- Agility: 4
- Constitution: 6
- Charisma: 5
- Intelligence: 10
- Education: 8

### Skills
- Mechanic: 1
- Medical: 2
- Instruction: 4
- Interrogation: 1
- Leadership: 2
- Electronics: 2
- Observation: 6
- Swimming: 2
- Fishing: 2
- Melee: 2
- Small Arms: 2
- Biology: 8
- Chemistry: 6

## GETTING THERE

A felucca travels 40 kilometers (eight hexes on the adventure map) per four-hour period. This means that the voyage to the mouth of the Aswad Assif takes about 12 hours. (The captain will steer well out to sea to avoid navigation hazards. The actual trip will be four hours sailing southeast, four hours sailing southwest, and four hours sailing due west.) The referee will roll for three encounters during the voyage, but a felucca is too large for even a thresher to attack, so only a storm will pose any genuine danger or delay.

Because the captain does not wish to make a night approach to the river mouth, he will propose leaving the City in the Sea at dusk and sailing during the night. That way the expedition will make landfall in the early morning and have the supplies loaded into the small boats by noon.

There are about two and a half tons (2400 kilograms) of supplies, which would normally require 15 small boats. The tribe had adopted the expedient of filling one small boat with 400 kilograms of cargo and towing it behind another boat with two rowers and an additional 200 kilograms of cargo. Using this technique, the players need eight boats and a total of eight rowers. Dr. Stroink will serve as a rower, as will any NPC laborers assigned to accompany the expedition by Governor Nock. This method slows the boats to half their normal speed.

Small boats normally move 20 kilometers (four hexes) per period, but this is slowed to 10 kilometers (two hexes) as explained above. Since the station is about six hexes upriver, it will take 12 hours to reach it by boat, which means that the expedition will have to tie up somewhere for the night and finish the journey the next day. The referee will again roll for three random encounters during the trip.

### First Expedition

On their way to the station the players may discover the remains of the previous expedition, provided they are taking the correct course. Ten kilometers southeast of the station a small tributary empties into the main estuary of the Aswad Assif. This tributary is navigable for no more than five or 10 kilometers to the south and then turns into a shallow, log-choked creek. Near the mouth of the tributary, however, are the sunken boats of the first supply expedition.

The players must have chosen a route which hugs the southern bank of the estuary to see the wrecks, and it will then take a character with good observation skill to do so (Observation: 7 or more, with the player with the highest Observation skill actually sighting the wreckage—if no players have this high a skill, one of the NPC laborers will see the wrecks).

The hulls of one or two small boats will be visible by the banks, along with a few torn-open supply bundles. Close inspection and investigation will reveal several more shattered boats and bits of supplies, along with the grisly remains of several members of the previous expedition (although scavengers have reduced them to little more than scattered bones). Very extensive study (taking a full four-hour period) of the wreckage will uncover a rifle bullet embedded in the gunwale of one of the boats and a bullet hole through the skull of one of the victims.

### Rotting Corpse

Regardless of which route the players take, they should come across the rotting corpse of a sambuk. The first sign of this will be circling vultures and zekes. Soon afterwards the PCs will begin to smell it. The carcass should be in shallow water near the shore. A close examination of it will show that most of the internal glands have been removed, and several spent bullets are imbedded in the animal's brain. The bullets are too badly distorted to determine their exact caliber, but they are very heavy, the sort of large-caliber slug fired from an expensive Express rifle. This is obviously the work of poachers.

If the characters indicate that they are being especially vigilant for additional signs of poachers, they will discover several smaller corpses along the way which have been skinned, another sure sign of poachers.

## RESEARCH STATION

Although the other research stations have permanent facilities built of brick or stone, the southern station has only wooden structures due to the difficulty of transporting stone into the swamp. The engineering problems associated with sinking pilings down to bedrock in the swamp were also beyond the capability of the tribe, and the earliest structures collapsed after a fairly short period of time.

Rather than fight nature, the tribe looked to it for inspiration. Species of extremely large, robust trees grow as tall as 100 feet in the swamps. They have broad, heavy branches, and remain upright by means of a fantastically dense, deep, and broad root structure. While the tribe could not easily duplicate this root structure, it was a simple matter to borrow it. The southern station's facilities consist entirely of what we would call tree houses.

Despite its primitive appearance, southern station is as well equipped as any of the others. The normal staff of the station is 10 scientists and technicians. (Currently only eight are present—nine after Stroink's arrival.) The station chief, Dr. Apollo Caduceus, is also its medical doctor.

Upon their arrival, the PCs will be greeted by Dr. Caduceus, who is friendly and helpful. He will begin by thanking them for having taken the risks necessary to bring the badly needed supplies, especially since the previous expedition did not get through.

## INVESTIGATION

When questioned about the disappearance of Dr. Gerhard Nebel, the missing biologist, Caduceus will supply all the information known by the staff, but that proves to be very little. One morning Nebel was simply missing. His fellow workers had noticed a change of mood in the days leading up to his disappearance; he had become suspicious of the others, secretive, and withdrawn. Then one day he was simply gone.

Caduceus does not think that he was the victim of foul play by a member of the staff, although he is willing to leave the actual investigation up to the players. Instead, he believes that Nebel simply had a nervous breakdown and one day wandered off into the swamps, probably falling victim to an animal. Nebel did not take a gun with him when he left. When told about the evidence of poachers in the area, Caduceus will agree that they may very well have killed Nebel if he happened to stumble across them in the act of committing a crime.

Other members of the staff will mostly corroborate Caduceus' version if questioned. Two members of the staff disagree, however. These are Nebel's two young assistants, who are convinced that someone in the staff is up to no good. Dr. Nebel became convinced that someone on the staff was slipping away from the compound and meeting with someone.

## Southern Station's Staff

**Director:** Dr. Apollo Caduceus
**Staff Medic:** Dr. Caduceus
**Staff Chemist:** Dr. Amanda Stroink (formerly Dr. Gerhard Nebel)
**First Assistant Biologist:** John Lorch
**Second Assistant Biologist:** Tanya Covington
**Staff Geologist:** Dr. Bruce Johnson
**Staff Chemist:** Dr. Sara Schramm
**Assistant Chemist:** Cliff Snyder
**Staff Meteorologist:** Rollie Sponberg
**Technician and Radio Operator:** Tom Thrawl

He claimed to have seen lights out on the water and heard the sound of oarlocks and low conversations. Although he was unable to determine who was involved in the nocturnal meetings, he resolved to find out. The next morning he was gone, never to return.

Careful investigation will reveal that the whereabouts of everyone in the station on the night Nebel disappeared can be established with the exception of Dr. Caduceus. He will be intrigued by this, but not particularly concerned. He will point out that in most cases pairs of people have verified the location of the other. Both of them could be in on the plot, if indeed there is a plot. But he will discount this as well, since only Nebel claims to have "seen lights and heard voices," and it is Caduceus' considered medical opinion that Nebel was the victim of paranoid delusions.

### Disappearance of Doctor Crater

The players will also discover that Caduceus has been the station chief only for the last six months, following the disappearance of Doctor Crater, the former chief. Caduceus was at the station then as medical doctor and was appointed to replace Crater. The passage of time has fogged everyone's memory of the exact events, so no one remembers what they were doing when Crater disappeared.

Caduceus will claim that Crater, too, had suffered from nervous stress. Other staffers will disagree with this, however. They remember no change in the behavior or attitude of Crater. Caduceus will respond that he is a trained medical professional used to noticing such things; the rest of the staff members are not.

### Additional Avenues of Investigation

If the players search the banks of the estuary near the station, they will find a number of old campsites, including fire pits and the marks left by small boats having been beached. These clearly seem to substantiate the reported observations of Nebel.
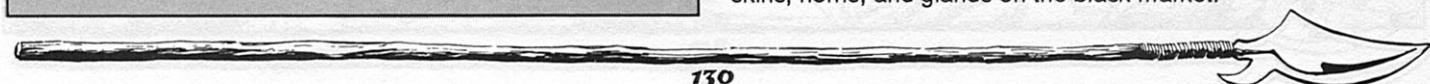
If the players choose to conduct secret searches of the belongings of various staff members, they will find that Dr. Caduceus has a Mauser M1896 automatic pistol hidden under clothes in his footlocker, along with several clips of ammunition. There is no cleaning kit, and if a player thinks to smell the barrel, he will smell powder residue. The pistol has been fired in the last week or two.

If the players ask Caduceus specifically about the pistol, he will say that it is for self-defense and that he used it to shoot a snake several days earlier. If, however, they ask him how many firearms are at the station, he will list only those rifles and pistols held in the station's small armory and will neglect to mention the Mauser.

### PLOT

Dr. Caduceus is secretly in league with a band of four poachers lead by Black Elmer. (See page 125 for a detailed description of this NPC.) As the station is studying the migratory patterns of animals, among other things, it has amassed considerable data on where various types of animals can be found in the swamps. Caduceus has been passing this information to Black Elmer in return for a share in the proceeds.

Caduceus had enough knowledge of biology to understand Nebel's notes and so would secretly copy the germane passages and then give them to Elmer. To avoid detection, they would meet by boat at night. Armed with this information, Black Elmer and his henchmen were slaughtering the local slithers and selling their skins, horns, and glands on the black market.

Six months earlier. the station chief, Dr. Crater, discovered Caduceus with Black Elmer in the swamp. Caduceus killed Crater with his own hands. More recently, Dr. Nebel was close to making the connection, so Crater killed him as well.

The first supply expedition was attacked only because it carried valuable scientific equipment and rare chemicals, which fetch a high price on the black market. Caduceus gave Black Elmer the time it was due, knowing that the council would not allow the station to starve and would send a replacement expedition.

### FOILING THE PLOT

The plot can be foiled in one of several ways. The surest way is to capture one of the poachers and interrogate him. As he will be frightened of what will befall him and has no great loyalty to Caduceus anyway, making him confess will be Average: Interrogation. If the first attempt to interrogate him fails, the PCs may try a second time, but this time it is a Difficult task. If they fail again, he will not talk under any circumstances.

It will be nearly impossible to catch Caduceus in the act of exchanging information with Black Elmer, as both will have decided to quit making the transactions for a week or so, due to the supply expedition. If the PCs leave and then sneak back several days later, they may have more luck. The exchanges only take place once or twice a week, however.

If the PCs continue to stay at the research station and keep asking questions, Caduceus will finally lose patience and try to kill them. He will enlist the gang of poachers in this and will try to wipe out everyone at the station to keep any word of his crimes from getting back to the council. (His first act, once he decides on this course, will be to destroy the radio, and his second will be to remove the bolts from the rifles in the station's armory. He will probably not be able to disable the PCs' rifles.) His plan will be to kill everyone in the station, dispose of the incriminating evidence, and then head back to the city along with the poachers. When he arrives there he will pretend to have survived the attack and made his way back through the wilderness alone.

This course of action will bring Caduceus out into the open, but it will also make things very uncomfortable for the PCs and the staff.

Assuming the players manage to foil the plot somehow, this part of the adventure will end with the death, capture, or flight of Caduceus, Black Elmer, and the other poachers.

### THE WAY HOME

The adventure is not over. The players still need to make their way back to the City in the Sea, perhaps burdened by a dangerous, murderous prisoner. Since people travel only 10 kilometers (one hex) per period in the swamps and probably won't travel more than two periods per day, it will take at least five days to reach the edge of the swamp to the northeast. It is then only a day or two by foot to Tenrec's garage and safety.

There will be a number of encounters along the way and a number of opportunities for the prisoners (if any) to escape. The referee should use the prisoners as a means of keeping the trip from degenerating into a simple exercise in random encounters. Keep the suspense level as high as possible so that the sight of Tenrec's garage on the horizon will be a genuine cause for relief on the part of the PCs.

### REWARDS

Players will be rewarded based upon how many of the six key tasks listed below they accomplish. For one task, Cr100. For two tasks, 1D6×Cr100. For three tasks, 1D6×Cr200. For four tasks, 1D6×Cr500. For five tasks, 1D6×Cr800. For all six tasks, 1D6×Cr1000. In all cases, half of the credits received as a reward must be immediately taken as specific goods (weapons, ammunition, equipment, food), while the other half may be accumulated for later use.

The six critical tasks are:
- Resupply the station.
- Deliver Amanda Stroink.
- Discover and foil the plot.
- Kill or capture Caduceus.
- Kill or capture at least one poacher.
- Prevent any further casualties among station personnel.

# Dr. Apollo Caduceus

Caduceus is not a scientist *per se*, but rather is a medical doctor. Despite this, he was placed in charge of the station when, six months ago, Dr. Crater mysteriously disappeared. Caduceus is what we would call a sociopath. Outwardly, he is normal, even friendly, while inside he is without compassion or conscience. He is motivated by very little beyond a desire to gratify his whim of the moment and will try to eliminate anyone who is a hindrance to him in any way. When Dr. Crater discovered his involvement with Black Elmer, Caduceus killed him. He did the same with Dr. Nebel a week prior to the arrival of the PCs, and he will probably try to do the same with them.

**Motivation:** Murderous, very friendly. (Although seemingly warm-hearted and friendly, the doctor is secretly homicidal.)

### Attributes
- Strength: 6
- Agility: 4
- Constitution: 7
- Charisma: 3
- Intelligence: 4
- Education: 10

### Skills
- Biology: 2
- Chemistry: 2
- Medical: 8
- Melee: 6
- Riding: 2
- Interrogation: 2
- Leadership: 2
- Persuasion: 2
- Observation: 2

# Combat Movement

| Animals | Walk/Run |
|---|---|
| Cave bear | 8/24 |
| Croc | 4/16 |
| Small cutter | 8/32 |
| Large cutter | 8/24 |
| Small hornbill | 8/32 |
| Large hornbill | 8/24 |
| Mack | 8/24 |
| Mammoth | 8/32 |
| Octopus | 4/16 |
| Quetzalcoatl | 32/60 |
| Rock hopper | 8/32 |
| Saber-toothed tiger | 8/40 |
| Sailback | 4/16 |
| Sambuk | 8/16 |
| Sea skrank | 8/24 |
| Sea viper | 8/16 |
| Shark | 16/60 |
| Shilliwak | 8/48 |
| Shivat | 8/24 |
| Small skilk | 4/8 |
| Large skilk | 4/16 |
| Stock dog | 16/60 |
| Thresher | 16/60 |
| Triton | 8/16 |
| Widget | 8/24 |
| Wohochuk | 8/32 |
| Wonmug | 8/24 |
| Wild dog | 16/60 |
| Zeke | 32/60 |

| Animals | Walk/Trot/Run |
|---|---|
| Horse | 10/30/60 |
| Mule | 10/20/— |

| Humans | Crawl/Walk/Trot/Run |
|---|---|
| Human | 2/8/16/32 |

| Vehicles | On Road/Off Road |
|---|---|
| Cargo truck | 40/8 |
| Civilian car | 48/8 |
| Cart | 8/4 |
| Wagon | 8/4 |

| Boats | Speed/Accel/Turn |
|---|---|
| Small open boat | 1/1/4 |
| Small sail boat | D/0.5/2 |
| Fishing boat | D/0.5/2 |
| Felucca | D/0.5/1 |
| Small motor boat | 4/4/4 |
| Medium motor boat | 3/1/2 |

*D:* Die roll.

All sail-powered vessels have a combat speed of 1D6÷2 downwind and 1D6÷4 upwind.

# Human/Animal Hit Location

| Die | Biped | Quadruped | Aquatic |
|---|---|---|---|
| 1 | Head | Head | Head |
| 2 | Right arm | Forequarter | Head |
| 3 | Left arm | Forequarter | Chest |
| 4 | Chest | Forequarter | Chest |
| 5 | Abdomen | Chest | Abdomen |
| 6 | Abdomen | Chest | Abdomen |
| 7 | Right leg | Abdomen | Abdomen |
| 8 | Right leg | Hindquarter | Abdomen |
| 9 | Left leg | Hindquarter | Abdomen |
| 10 | Left leg | Hindquarter | Abdomen |

**Biped:** Table assumes front/rear shot.
*Side Shot:* Far side hit equals near side hit.
**Prone Biped:** Table assumes top shot.
*Side Shot:* Far side hit equals near side hit.
*Front Shot:* Leg or abdomen hit equals miss.
*Rear Shot:* Head, arm, or chest shot equals miss.
**Quadruped:** Table assumes side shot.
*Front Shot:* Hindquarters or abdomen hit equals miss.
*Rear Shot:* Head or forequarters hit equals miss.

# Armor Equivalent

| Material | Millimeters per Armor Value 1 | Armor Value Constant |
|---|---|---|
| Armor plate | 5 | .2 |
| Sheet steel | 6 | .16 |
| Reinforced concrete | 25 | .04 |
| Concrete and bricks | 35 | .03 |
| Stone, packed dirt, wood | 50 | .02 |
| Loose dirt | 250 | .004 |

Explosive Penetration Formulas
$C=5(\sqrt{DP}+2)$. *C:* Concussion *DP:* Damage points.
$DP=2[(C\div5)^2]$. *C:* Concussion *DP:* Number of damage points needed to arrive at a certain concussion.

# Melee Weapons

| Weapon | Range | Hit Mod. | Damage Value |
|---|---|---|---|
| Bottle | S | — | 1D6÷2 |
| Knife* | S | +2 | 1D6 |
| Hatchet | S | — | 1D6+(Strength÷2) |
| Club | S | −1 | 1D6+(Strength÷2) |
| Bayonet† | L | +1 | 1D6+(Strength÷2) |
| Spear | L | — | 1D6+(Strength÷2) |
| Axe | L | −2 | 1D6+Strength |
| Machete | L | +1 | 1D6 |

*Including bayonet, when not on rifle.
†When on rifle.
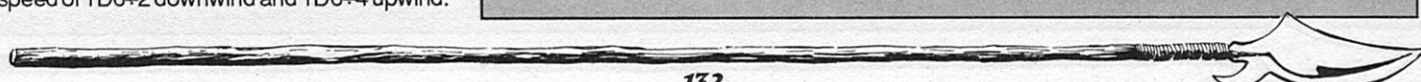
# Vehicle and Vessel Hit Location

| Die | Land Vehicle | Flush Deck | Superstructure |
|-----|-----|-----|-----|
| 1 | Body | Hull | Superstructure |
| 2 | Body | Hull | Superstructure |
| 3 | Body | Hull | Hull |
| 4 | Body | Hull | Hull |
| 5 | Body | Hull | Hull |
| 6 | Tires | Waterline | Waterline |
| 7 | Tires | Waterline | Waterline |

+1 to die roll for side shots.

# Vessel Damage

**Waterline**

*Minor*

| Die | Result |
|-----|-----|
| 1 | Waterline hull |
| 2 | Waterline hull |
| 3 | Waterline hull |
| 4 | Waterline hull |
| 5 | Cargo |
| 6 | Major waterline |

*Major*

| Die | Result |
|-----|-----|
| 1 | Rudder/screw |
| 2 | Rudder/screw |
| 3 | Engine/Mast |
| 4 | Fuel/mast |
| 5 | Fuel/mast |
| 6 | Minor hull |

**Hull**

*Minor*

| Die | Result |
|-----|-----|
| 1 | 1 crewmember |
| 2 | 1 crewmember |
| 3 | Auxiliary machinery |
| 4 | Auxiliary machinery |
| 5 | Cargo |
| 6 | Major hull |

*Major*

| Die | Result |
|-----|-----|
| 1 | Engine/mast |
| 2 | Engine/mast |
| 3 | 2 crewmembers |
| 4 | 2 crewmembers |
| 5 | Fire |
| 6 | Fire |

**Superstructure**

*Minor*

| Die | Result |
|-----|-----|
| 1 | 1 crewmember |
| 2 | 1 crewmember |
| 3 | Auxiliary machinery |
| 4 | Auxiliary machinery |
| 5 | Rudder |
| 6 | Major structure |

*Major*

| Die | Result |
|-----|-----|
| 1 | 2 crewmembers |
| 2 | 2 crewmembers |
| 3 | Fire |
| 4 | Fire |
| 5 | Fire |
| 6 | Major hull |

Auxiliary machinery includes bilge pumps, power winches on the deck, generators, etc.

A mast hit on a sailing vessel immobilizes it.

## Vehicle Damage Resolution

| P–AV | Result |
|-----|-----|
| 0 or less | No effect |
| 1 to 10 | 1 minor damage result |
| 11 to 20 | 2 minor damage results |
| 21 to 40 | 1 major damage result |
| 41 to 60 | 2 major damage results |
| 61 or more | 3 major damage results |

*P–AV:* Penetration minus Armor Value.

## Armor Values of Cover

| Cover | AV |
|-----|-----|
| Sandbag (250mm) | 5* |
| 2" wooden plank (50mm) | 1 |
| Timber house wall (200mm) | 4 |
| Cinder block wall (300mm) | 9 |
| Stone wall (300mm) | 6 |
| Thick stone wall (600mm) | 12 |
| Reinforced concrete | 10** |
| Tree trunk (600mm) | 12 |
| Brick wall (100mm) | 3 |
| Thick brick wall (300mm) | 9 |

*Per sandbag.
**Per 250mm.

## Vehicle Damage

**Minor Damage**

| Die | Result |
|-----|-----|
| 1 | Driver |
| 2 | Driver |
| 3 | Passenger* |
| 4 | Passenger* |
| 5 | Weapon |
| 6 | Major damage (see below) |

**Major Damage**

| Die | Result |
|-----|-----|
| 1 | Steering |
| 2 | Engine |
| 3 | Engine |
| 4 | Fuel |
| 5 | Fuel |
| 6 | Roll |

*If this is a passenger-carrying vehicle but no passengers are present, a passenger hit has no effect. Cargo destroyed may be substituted for this result at the referee's discretion.

## Burn Damage

| Source | Damage |
|-----|-----|
| Fuel | 1D6 |
| Structure/grass fire | 1D6 |

Fuel damage dice are *per second;* structure/grass fire damage dice are *per phase.*

## NPC Initiative

| NPC Type | Initiative |
|-----|-----|
| Elite | 5 |
| Veteran | 4 |
| Experienced | 3 |
| Novice | 1 |

## Demolition

| DP | Concussion/Penetration* |
|-----|-----|
| 1 | 3 |
| 2 | 4 |
| 3 | 6 |
| 4 | 7 |
| 5 | 8 |
| 7 | 9 |
| 8 | 10 |
| 9 | 11 |
| 11 | 12 |
| 13 | 13 |
| 15 | 14 |
| 18 | 15 |
| 32 | 20 |
| 50 | 25 |
| 72 | 30 |
| 96 | 35 |
| 128 | 40 |
| 162 | 45 |
| 200 | 50 |

*Penetration is modified by emplacement. *Tamped:* Pen×2. *Laying on or Leaning Against:* Pen+2.

# Single-Shot Pistols

| Weapon | ROF | Dam | Pen | Rld | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|----|-----|
|        |     |     |     |     |     | —Recoil— | | |
| Zip gun | SS | –1 | Nil | 1 | 1 | 2 | — | 6 |

# Pistols

| Weapon | ROF | Dam | Pen | Blk | Mag | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|----|-----|
|        |     |     |     |     |     | —Recoil— | | |
| Mauser M1896 | SA | 1 | Nil | 1 | 10 | 3 | — | 12 |
| (with stock) | SA | 1 | Nil | 3 | 10 | 1 | — | 24 |
| .38 Special | DAR | 1 | Nil | 1 | 6R | 3 | — | 12 |
| .357 Magnum | DAR | 2 | 1-Nil | 1 | 6R | 3 | — | 12 |
| .44 Magnum | DAR | 3 | 1-Nil | 1 | 6R | 4 | — | 20 |
| 9mm automatic | SA | 1 | Nil | 1 | 15 | 2 | — | 12 |

# Rifles

| Weapon | ROF | Dam | Pen | Blk | Mag | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|----|-----|
|        |     |     |     |     |     | —Recoil— | | |
| .30-30 | LA | 3 | 2-Nil | 5 | 6i | 4 | — | 50 |
| .30-06 | BA | 4 | 2-3-Nil | 5 | 5i | 4 | — | 75 |
| Parker-Hale | BA | 4 | 2-3-Nil | 5 | 3i | 5 | — | 75* |
| Mauser | BA | 4 | 2-3-Nil | 5 | 5i | 4 | — | 65 |
| .460 Weatherby | BA | 7 | 2-3-5 | 6 | 3i | 5 | — | 75 |
| H&H .600 Nitro | SA | 7 | 2-4-6 | 5 | 2i | 4 | — | 60 |
| Winchester M70 | BA | 6 | 2-4-Nil | 5 | 3i | 4 | — | 60 |
| .458 Tribal Express | BA | 6 | 2-4-Nil | 4 | 3i | 5 | — | 50* |

*When the scope is attached, add 15 meters to the basic range for *aimed shots.* If the scope is later damaged or lost (or for quick shots) this modifier is not added.

# Shotguns

| Weapon | ROF | Dam | Pen | Blk | Mag | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|----|-----|
|        |     |     |     |     |     | —Recoil— | | |
| Double | SA | 5* | 3-4-Nil | 5 | 2i | 3 | — | 40 |
| Pump | PA | 5* | 3-4-Nil | 5 | 7i | 2 | — | 40 |
| Semiautomatic | SA | 5* | 3-4-Nil | 5 | 7i | 2 | — | 40 |
| Scattergun | SA | 5* | 3-4-Nil | 2 | 2i | 7 | — | 10 |

*Buckshot damage is 9D6 at close range. At medium range, each shot is treated as a 10-round burst of automatic fire (reduced immediately to 7D6 for being at medium range). Buckshot has Nil penetration at all ranges.

# Bows

| Weapon | ROF | Dam | Pen | Rld | Blk | SS | Brst | Rng |
|--------|-----|-----|-----|-----|-----|----|----|-----|
|        |     |     |     |     |     | —Recoil— | | |
| Crossbow | SS | 1 | Nil | 4 | 6 | 4 | — | 20 |
| Hunting bow | SS | –1 | Nil | 1 | 5 | 10 | — | 15 |
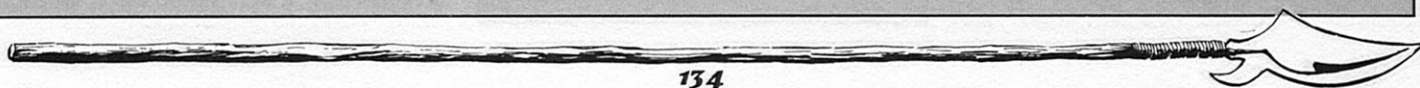
# Military Small Arms

| Weapon | ROF | Dam | Pen | Blk | Mag | SS (Recoil) | Brst (Recoil) | Rng |
|--------|-----|-----|-----|-----|-----|----|------|-----|
| Uzi | 5 | 1 | Nil | 2/3 | 25/32 | 1 | 2 | 30 |
| M16A2 | 3 | 2 | 1-Nil | 5 | 20/30 | 2 | 3 | 55 |
| M60 | 5 | 4 | 2-3-Nil | 6 | 100B | 1 | 4 | 65 |
| bipod | 5 | 4 | 2-3-Nil | 6 | 100B | 1 | 2 | 95 |
| tripod | 5 | 4 | 2-3-Nil | 6 | 100B | 1 | 2 | 125 |

# Rocket Launcher

| Weapon | ROF | Dam | Pen | Blk | Rng |
|--------|-----|-----|-----|-----|-----|
| M72A1 LAW | 2 | C:3, B:4 | 55C | 5 | 50 |

# Hand Grenades

| Type | Damage | Pen |
|------|--------|-----|
| Frag | C:3, B:12 | Nil |
| Concussion | C:5 | Nil |

# Fragmentation Attack

| Fragmentation Radius | Range | Mult. Frag. | One Fragment | Miss | Dam | Pen |
|----------------------|-------|-------------|--------------|------|-----|-----|
| Primary burst radius | 1×Burst | 1-3 | 4-6 | 7-10 | 2D6 | 1 |
| Secondary burst radius | 2×Burst | 1 | 2 | 3-10 | 1D6 | Nil |

# Sample Burst Diagrams (Eight-Meter Grid)

Primary

Secondary
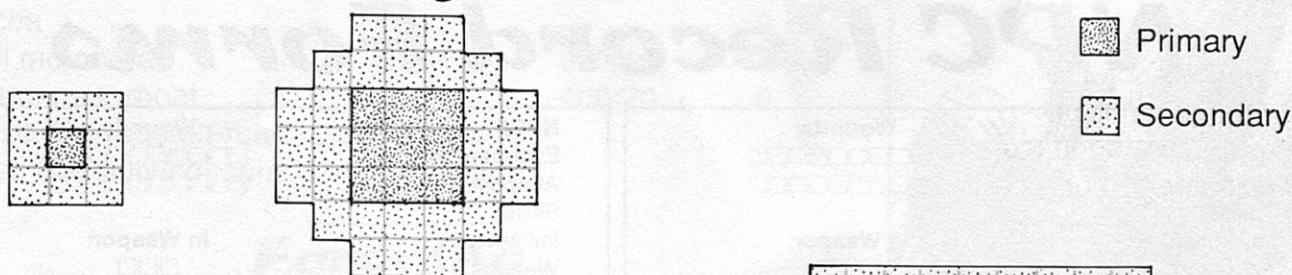
**Four-Meter Burst**

**12-Meter Burst**
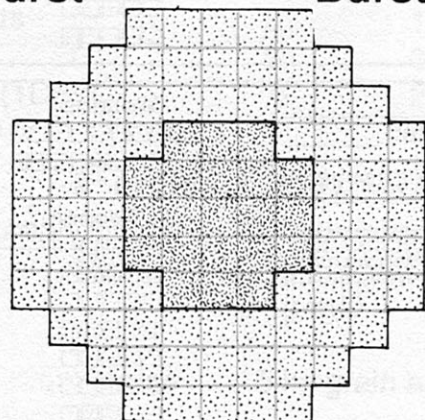
**20-Meter Burst**

**28-Meter Burst**

# Ammo Record Forms

## Magazine

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## 50-Round Belt

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# NPC Record Forms

NPC#: _____
Experience: _____
Attributes: _____
Skills: _____
Initiative: _____
Weapon: _____
Magazines: ☐☐☐☐☐☐
Special:

**Wounds**
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**In Weapon**
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NPC#: _____
Experience: _____
Attributes: _____
Skills: _____
Initiative: _____
Weapon: _____
Magazines: ☐☐☐☐☐☐
Special:

**Wounds**
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**In Weapon**
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NPC#: _____
Experience: _____
Attributes: _____
Skills: _____
Initiative: _____
Weapon: _____
Magazines: ☐☐☐☐☐☐
Special:

**Wounds**
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**In Weapon**
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NPC#: _____
Experience: _____
Attributes: _____
Skills: _____
Initiative: _____
Weapon: _____
Magazines: ☐☐☐☐☐☐
Special:

**Wounds**
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**In Weapon**
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# Terrain Effects on Travel Movement

| Unit | Flats/Prairie | Forest | Jungle | Swamp | Hill | Mountain | Water |
|------|------|------|------|------|------|------|------|
| Humans | N | N | $1/2$ | N | $1/2$ | $1/4$ | — |
| Animals | N | N | $1/2$ | $1/2$ | $1/2$ | $1/4$ | — |
| Vehicles | N | $1/2$ | — | $1/4$ | $1/2$ | $1/6$ | — |
| Boats | — | — | — | $1/2$ | — | — | N |

*N:* Normal.
*—:* Prohibited.

# Travel Movement

| Unit | Move | Fuel | Maint # |
|------|------|------|------|
| Human | 20/20 | — | — |
| Horse | 20/20 | — | — |
| Mule | 20/20 | — | — |
| Wagon/horse | 20/5 | — | 1 |
| Cart/horse | 20/5 | — | 1 |
| Civilian car | 200/40 | 80/10 | 2 |
| Cargo truck | 180/30 | 195/30 | 4 |
| Very small open boat | 20 | — | 1 |
| Small sailing boat | 30 | — | 2 |
| Fishing boat | 30 | — | 2 |
| Felucca | 40 | — | 2 |
| Small motorboat | 60 | 220/10 | 4 |
| Medium motorboat | 60 | 400/20 | 6 |

*Move:* On-road/off-road (cross-country).
*Fuel:* Capacity/consumption per period.

# Foraging

| Terrain | Winter | Spring | Summer | Fall |
|------|------|------|------|------|
| Forest, prairie | 1 | 3 | 6 | 6 |
| Swamp, jungle | 1 | 3 | 4 | 4 |
| Hills, flats | 0 | 1 | 2 | 2 |
| Field | 0 | 0 | 25 | 50 |
| Fishing (1D6×) | $1/2$ | 2 | 1 | 1 |

# Food Consumption

| Human/Animal | Consumption |
|------|------|
| Human | 2 kg domestic *or* 3 kg wild |
| Horse | 15 kg grain and graze eight hours |
| Mule | 10 kg grain and graze eight hours |

# Encounters

| Die | Swamp | Forest | Jungle | Mountain | Hill | Flats | Prairie | Shallows* | Open Sea |
|-----|-------|--------|--------|----------|------|-------|---------|-----------|----------|
| 1 | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal |
| 2 | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal | Animal |
| 3 | Animal | Animal | Animal | Hazard | Animal | Animal | Animal | Animal | Hazard |
| 4 | Hazard | Hazard | Hazard | Group | Hazard | Animal | Animal | Hazard | None |
| 5 | Group | Group | Group | None | Group | Hazard | Hazard | Group | None |
| 6 | None | None | None | None | None | Group | Group | None | None |

*Shallows include rivers, estuaries, bays, and coastal waters.

# Group Encounters

| Die | Swamp | Forest | Jungle | Mountain | Hill | Flats | Prairie | Shallows* |
|-----|-------|--------|--------|----------|------|-------|---------|-----------|
| 1 | Primitives | Primitives | Primitives | Primitives | Primitives | Hunters | Primitives | Fishermen |
| 2 | Primitives | Hunters | Primitives | Primitives | Hunters | Hunters | Hunter | Fishermen |
| 3 | Hunters | Hunters | Primitives | Primitives | Smugglers | Smugglers | Hunters | Fishermen |
| 4 | Poachers | Smugglers | Poachers | Poachers | Poachers | Poacher | Poachers | Smugglers |
| 5 | Poachers | Poachers | Poachers | Poachers | Poachers | Patrol | Poachers | Smugglers |
| 6 | Patrol | Patrol | Patrol | Patrol | Patrol | Patrol | Patrol | Patrol |

*Shallows include rivers, estuaries, bays, and coastal waters.

# Animal Encounters: Land

| Die | Swamp | Forest | Jungle | Mountain | Hill | Flats | Prairie |
|-----|-------|--------|--------|----------|------|-------|---------|
| 1 | Croc | Cutter | Cutter | Cave bear | Cave bear | Cutter | Cutter |
| 2 | Croc | Hornbill | Hornbill | Rock hopper | Cutter | Mack | Mack |
| 3 | Sailback | Saber-toothed tiger | Sambuk | Rock hopper | Hornbill | Mammoth | Mack |
| 4 | Sailback | Shivat | Wohochuk | Saber-toothed tiger | Mammoth | Sambuk | Mammoth |
| 5 | Sambuk | Wohochuk | Wonmug | Shilliwak | Rock hopper | Shivat | Shilliwak |
| 6 | Widget | Wonmug | Sailback | Shilliwak | Shivat | Wild dogs | Wild dogs |

## Encounter Range

| Terrain | Range |
|---------|-------|
| Forest | 1D10×10m |
| Jungle | 1D10×10m |
| Swamp | 1D10×20m |
| Mountain | 1D10×30m |
| River | 1D10×50m |
| Hill | 1D10×100m |
| Prairie | 1D10×200m |
| Flats | 1D10×300m |
| Shallows | 1D10×500m |
| Open sea | 1D10×1000m |

## Travel Hazards

| Die | Result |
|-----|--------|
| 1 | Rock slide |
| 2 | Volcanic eruption |
| 3 | Earth tremor |
| 4 | Earthquake |
| 5 | Subterranean gas |
| 6 | Storm |

# Animal Encounters: Water

| Die | River | Shallows | Open Sea |
|-----|-------|----------|----------|
| 1 | Crock | Octopus | Octopus |
| 2 | Crock | Sea skrank | Sea viper |
| 3 | Skilk | Sea viper | Shark |
| 4 | Skilk | Shark | Shark |
| 5 | Triton | Skilk | Thresher |
| 6 | Triton | Triton | Thresher |

# Encounter Statistics

| Group | Number | Observation | Type | Weapons |
|-------|--------|-------------|------|---------|
| Fishermen | 3D6 | 6 | N-X | Primitive |
| Primitives | 3D6 | 6 | N-X | Primitive |
| Smugglers | 2D6 | 5 | N-X | Poor |
| Hunters | 2D6 | 7 | X | Poor |
| Poachers | 1D6 | 6 | X-V | Good |
| Patrol | 1D6 | 8 | V | Good |

Groups with two experience levels listed may be made of NPCs of either experience level or a mix of the two, at the referee's option. Fishermen are carried in boats—small open boats, small sailing boats or fishing boats, depending on the environment and number of fishermen. NPCs may be mounted on horseback if the referee desires.

# NPC Motivations

## Clubs

| Card | Motivation |
|---|---|
| Ace | Inquisitive |
| King | Brutal |
| Queen | Stubborn |
| Jack | Murderous |
| 8-10 | Very aggressive |
| 5-7 | Moderately aggressive |
| 2-4 | Somewhat aggressive |

## Diamonds

| Card | Motivation |
|---|---|
| Ace | Generous |
| King | Selfish |
| Queen | Lustful |
| Jack | Coward |
| 8-10 | Very greedy |
| 5-7 | Moderately greedy |
| 2-4 | Somewhat greedy |

## Hearts

| Card | Motivation |
|---|---|
| Ace | Just |
| King | Honorable |
| Queen | Loving |
| Jack | Wise |
| 8-10 | Very friendly |
| 5-7 | Moderately friendly |
| 2-4 | Somewhat friendly |

## Spades

| Card | Motivation |
|---|---|
| Ace | Driven |
| King | Treacherous |
| Queen | Ruthless |
| Jack | Pompous |
| 8-10 | Very ambitious |
| 5-7 | Moderately ambitious |
| 2-4 | Somewhat ambitious |

## Tribal Attitudes (1D6)

| Die | Attitude |
|---|---|
| 1 | Friendly and curious |
| 2 | Neutral |
| 3 | Neutral |
| 4 | Suspicious |
| 5 | Frightened |
| 6 | Frightened |
| 7 | Hostile |
| 8 | Hostile |

**Tribal Government Die Roll Modifiers:** +1, corrupt council, anarchy; +2, dictator.

## Tribal Size (1D10)

| Die | Population |
|---|---|
| 1 | 10,000 |
| 2 | 12,000 |
| 3 | 14,000 |
| 4 | 16,000 |
| 5 | 18,000 |
| 6 | 20,000 |
| 7 | 22,000 |
| 8 | 24,000 |
| 9 | 26,000 |
| 10 | 30,000 |

## Tribal Crisis (1D10)

| Die | Crisis |
|---|---|
| 1 | Food shortage |
| 2 | Engineer needed |
| 3 | Animal migration |
| 4 | Weather or geologic disaster |
| 5 | Internal unrest |
| 6 | Rampant corruption |
| 7 | Citizens kidnapped |
| 8 | Mechanic needed |
| 9 | Epidemic, doctor needed |
| 10 | Disease, medicine needed |

## Tribal Government (1D6)

| Die | Type |
|---|---|
| 1 | Popular council |
| 2 | Popular council |
| 3 | Corrupt council |
| 4 | Corrupt council |
| 5 | Dictator |
| 6 | Anarchy |

## Boating Mishaps

| Die | Result |
|---|---|
| 1-2 | Boat aground. Ten miles travel lost pulling it off. |
| 3 | Boat aground. One full travel period lost pulling it off. |
| 4 | Screw or rudder damaged. Speed halved until repaired. |
| 5 | Hull damaged. 1D6 flotation hits. |
| 6 | Hull crushed. The boat is grounded to avoid sinking. The boat cannot be refloated unless a large work crew and a vessel are brought to the site. |

## Navigation Hazards

| Die | Result |
|---|---|
| 1-4 | Submerged object |
| 5-6 | Storm |

In open sea, add 2 to the die roll.

# Character Record Sheet

Player _____  Gender _____  Throw Range _____

Character _____  Age _____  Initiative _____

_____  Weight _____  Load _____

---

## Attributes and Skills

**Strength** _____
Archery _____
Melee _____
Mechanic _____
Small Arms _____
Thrown Weapon _____
_____

**Education** _____
Biology _____
Chemistry _____
Engineer _____
Geology _____
Medical _____
Meteorology _____
Metallurgy _____
_____

**Constitution** _____
Riding _____
Mountaineering _____
Scuba _____
Swimming _____
_____
_____

**Charisma** _____
Disguise _____
Instruction _____
Interrogation _____
Leadership _____
Persuasion _____
Bargaining _____
_____

**Agility** _____
Electronics _____
Forgery _____
Gunsmith _____
Lockpick _____
Machinist _____
Small Boat _____
Stealth _____
Driving _____

**Intelligence** _____
Foraging _____
Farming _____
Fishing _____
Navigation _____
Observation _____
Scrounging _____
Tracking _____

---

## Contacts

## Base Hit Numbers

| Skill | Close (×2) | Medium (×1) | Long (×0.5) | Extreme (×0.25) |
|-------|------------|-------------|-------------|-----------------|
| Small Arms | ☐ | ☐ | ☐ | ☐ |
| Archery | ☐ | ☐ | ☐ | ☐ |
| Unarmed combat damage | ☐ | | | |

## Hit Capacity

☐ (Head)

☐ (Chest)

☐ (R. arm)     ☐ (L. arm)

☐ (Abdomen)

☐ (R. leg)     ☐ (L. leg)

## Equipment

Cr _____

# Skill List

| Skill | Associated Attribute | Definition |
|---|---|---|
| Archery | STR | Ability to use a long bow (hunting bow). |
| Bargaining | CHR | Ability to negotiate a favorable deal. |
| Biology | EDU | Knowledge of plant and animal biology. |
| Chemistry | EDU | Knowledge of chemical interactions and compounds. |
| Driving | AGL | Ability to drive a wheeled vehicle. |
| Disguise | CHR | Ability to alter appearance to avoid recognition. |
| Electronics | AGL | Ability to repair electronic devices. |
| Engineer | EDU | Ability to plan/supervise construction of buildings, roads and bridges, and use explosives. |
| Farming | INT | General knowledge of growing food crops and raising livestock. |
| Fishing | INT | Ability to catch fish, using hook and line or net. |
| Foraging | INT | Ability to find food in the wild, including knowledge of what plants are edible and where to find them, and the ability to set snares and traps. |
| Forgery | AGL | Ability to forge a signature or document and have it accepted as genuine. |
| Geology | EDU | Knowledge of rock formations and minerals. |
| Gunsmith | AGL | Ability to construct and repair weapons. |
| Instruction | CHR | Ability to teach skills. |
| Interrogation | CHR | Ability to persuade or force a prisoner to reveal information. |
| Leadership | CHR | Ability to inspire followers. |
| Lockpick | AGL | Ability to pick a lock. |
| Machinist | AGL | Ability to use machine tools (such as lathes, punch presses, etc.) to fabricate other machinery. |
| Mechanic | STR | Ability to maintain and repair vehicles and machinery. |
| Medical | EDU | Ability to render first aid/medical care to injured or sick characters. |
| Melee | STR | Ability to conduct hand-to-hand combat. |
| Metallurgy | EDU | Knowledge of smelting ore into metal, forming alloys, and fundamental metalworking. |
| Meteorology | EDU | Understanding of weather and the forces governing it. |
| Mountaineering | CON | Ability to climb steep slopes and sheer cliffs. |
| Navigation | INT | Ability to determine position and direction of travel using maps, compass, landmarks, the stars, etc. |
| Observation | INT | Ability to spot concealed enemies and avoid ambushes. |
| Persuasion | CHR | Ability to phrase arguments in ways best calculated to gain acceptance. |
| Riding | CON | Ability to ride a horse. |
| Scrounging | INT | Ability to find manufactured items such as spare parts, domestic food, ammunition, etc. |
| Scuba | CON | Ability to use an aqualung or rebreather. May not be purchased at a higher level than Swimming skill. |
| Small Arms | STR | Ability to use small arms (pistols, rifles, shotguns, etc.). |
| Small Boat | AGL | Ability to operate small boats, including oar-driven, wind-driven, and small (under 20-meter) motorboats. |
| Stealth | AGL | Ability to move silently and without being spotted. |
| Swimming | CON | Ability to swim. |
| Thrown Weapon | STR | Ability to hit a target with a thrown weapon, such as a knife, rock, or grenade. |
| Tracking | INT | Ability to follow vehicles, humans, or animals by the traces they leave behind them. |

### Background Skill List
- Swimming
- Melee
- Riding
- Fishing
- Small Boat
- Tracking
- Farming
- Small Arms

# Index

# A World Gone Mad!

Although the first signs of the cataclysm appeared in the mid-1980s, it was not until a decade later that the extent of the geological and ecological disaster became apparent. By the early 21st century, humankind had begun its retreat from an increasingly hostile surface to the safety of vast subterranean shelters. By AD 2020, the churning, spitting earth came to a boil. Billions died, and entire species were consumed. The few surviving humans huddled in their scattered iron and steel tombs and waited.

*Four hundred and fifty years* after it had sealed itself off, humanity returned to the daylight and was greeted by a radically altered world—a world that logically should not exist. A world populated by creatures from all of earth's past geologic eras.

The Xenozoic era is the brainchild of artist/writer Mark Schultz, and the extraordinary adventures of the surviving humans have been published in comic form by both Kitchen Sink Press and Epic Comics. Now the detailed and colorful background of the Xenozoic era combines with the critically acclaimed **Twilight: 2000** game system to provide you with a roleplaying extravaganza!

- A complete game—character generation, combat, tasks, equipment, dinosaurs, adventures, and much more!
- Compatible with **Twilight: 2000** and all its supplements and sourcebooks!
- A treasure-trove of background information for comic fans!
- Lavishly illustrated by Mark Schultz!



## Cadillacs and Dinosaurs
### The Roleplaying Game

GDW GAMES

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