

# The Whole-Earth Ecology

*Building a better alien in the STAR FRONTIERS® game*

by Danny Kretzer

*Glakket and his Yazirian companion slashed their way through the dense jungle. Suddenly, a gigantic bird swooped down, claws flashing. In an instant, the Yazirian was gone, leaving the Vrusk explorer alone. . . .*

"Whaaaaat?!" cried the player. "How could a giant-sized bird even budge something with a Yazirian's mass? And how could it find room to fly, much less swoop, in the middle of a dense jungle?"

"Well, I guess there was a break in the branches," replied the referee, nervously ignoring the first question.

"This jungle is miles in diameter! Why would a creature spend time flying above it in hopes that another creature would be in one of the few clearings at the same time it flew over?"

The referee simply shrugged.

"Well, where is its natural habitat?"

"Um . . . in the mountains to the south. But sometimes it goes hunting over the woods," said the referee.

"So, it *does* fly over this extremely dense jungle in hopes that a meal will conveniently pass through the clearings. But it's a fact that birds need to eat their weight or more in food each day, so there's no way that a giant flying bird could survive in these circumstances and have strength to pick a hireling out of a jungle. In real life, that bird would not have the strength to lift its own head off the ground due to lack of nourishment!"

The referee sighed. Perhaps it was time to try a fantasy game. No one ever questioned giant flying birds *there*.

All too often in STAR FRONTIERS® games, I see creatures that are so poorly

adapted to their environment that players begin to wonder how these creatures manage to survive. Referees create exotic plants and animals which could never really live together in one environment. The presence of unrealistic alien ecologies often cause players to wonder if there is any special reason for the flaws they perceive. The first thing players will suspect is that Sathar may have tampered with the ecology of the planet, sending the PCs off the track of the actual adventure in search of a Sathar base. Keeping the game on track and keeping the game balanced and believable are good reasons for a well-planned ecology.

When designing other-worldly creatures, the referee should add the following guidelines to those given in the STAR FRONTIERS® Expanded Game Rules. Note that these are *very* general guidelines, and numerous exceptions could exist for each such suggestion.

**Appearance:** Creatures often have the same colors on their dorsal sides as their surroundings ("dorsal" means the back of a creature), with white or pale colors on their ventral sides (i.e., the underbelly of a creature). Many small creatures, such as insects, are brightly colored when concealment is of minor concern or color is important for social identification. How well any natural camouflage works is completely up to the referee, though it should usually be helpful.

Consider, too, the location of a creature's eyes. As a general biological rule, predators have eyes on the fronts of their heads (to coordinate their attacks with binocular vision), and their prey have eyes on the sides of their heads (to detect predators over wide visual areas). The location of the eyes helps the referee determine how easily a creature can be surprised.

Nearly every mammal has fur or hair, serving as insulation for the creature and, if thick enough, as armor (to a limited extent). Fish, birds, and amphibians have no fur, but the referee may wish to have lizards, for example, grow fur in arctic regions. Some dinosaurs are believed to have had fur or feathers.

**Physical form:** Certain creatures might not be completely solid in form. Invertebrates such as the slug, worm, jellyfish, and medusa have no rigid internal structure; some creatures could almost be liquids. Such creatures would usually dwell in oceans or other mediums which would support their weight.

**Attack forms:** Almost all creatures have one or more methods of attack. Carnivores would usually attack with jaws or claws, and sometimes with a tail slap or sting. Herbivores generally attack only with limbs (like a horse's hooves) or by ramming and goring (like a rhino's horn). Sometimes, if large enough, herbivores can trample. Herbivores may bite but rarely do so by preference.

Plants that attack might have mouthlike leaves like those on a Venus flytrap. Alien plants would likely "attack" with thorns (perhaps poisoned) or with poisonous spores.

The referee should feel encouraged to create brand new attack forms, such as an acid spray, special venom, or maybe a sonic boom. However, attack forms should be suited to the creature using them, and should reasonably be expected to work against the creature's worst biological enemy. Avoid completely ridiculous attack forms unless you can find an analog for them in Earthly biology.

**Defense forms:** All creatures have one form of defense or another. Herbivores and omnivores usually have more effective defenses since they need them the most. Defense forms include protective shells, thick hides, heavy fur, increased speed, and sharpened senses. The referee should decide what bonus the creature should get from a defense; for example, a creature with a fur coat 5 cm thick might get a bonus of -15 to the attacker's hit roll with melee weapons, and it could take 5 points off the damage roll from nonenergy weapons. Large carnivores living on a planet that has no intelligent weapon-wielding predators will likely not be well defended unless they need protecting from their preys' attacks or from other carnivores.

**Speed:** Small creatures would usually be fast or very fast. The referee should keep in mind that defenses like armor plating or heavy fur impede the speed of a creature and should only be given to large creatures that usually move slowly anyway.

Herbivores that are medium- to small-sized should never be any slower than medium speed, unless the predators are equally sluggish or unless the herbivores have a powerful defense form. Likewise, this rule should apply to carnivores. Giant- and large-sized creatures are usually slow-

er (unless they can fly), as are herbivores of this size, since they have more weight to move around.

*Flying:* Carnivorous flying creatures usually hunt prey on the open ground or on the surface of water. The terrain over which they are found usually helps determine their size. In the opening instance with the Yazirian-eating bird, the creature's size would impede its flight capability through the trees, and it couldn't see very well through the branches to catch its prey. In the woods, flying carnivores should never be larger than medium at best, and only that large in extreme cases. Larger flyers generally stick to the mountains or open areas. Smaller flyers will stay away from exceptionally windy areas, since they would be blown around like leaves. And please note that even the largest flying creatures in existence today would be unable to lift a medium-sized dog, much less a grouchy Yazirian with full combat/exploration gear!

*Numbers:* Tiny and small creatures are often found in large groups if they are social, especially if they have attack forms which can be combined to be dangerous to larger creatures. Medium-sized creatures might also be found in packs and herds. Medium carnivore numbers vary, since some travel in packs (like wolves) while others will hunt alone (like mountain lions). Hunting techniques may thus dictate group sizes.

Large- to giant-sized creatures might be found in smaller groups if they are herbivores, but carnivores will rarely be found in groups larger than packs or prides of eight individuals or less. This is because large carnivores that must hunt and bring down prey cannot stand great competition for food. Imagine the food requirements of a herd of tyrannosaurs!

On a planetary scale, there should be a great many small creatures serving as prey, a good number of medium prey and small predators, few large prey and medium predators, and very few large predators. The referee should remember this when he is making a random encounter table and make large predators a less likely encounter. This guideline, the food-chain ratio, is rarely applied but is critical if a realistic ecology is desired.

*Special abilities:* When a referee decides to give any creature a special ability, he should take into account the following: size, special attacks or defenses, intelligence, and dietary type (carnivore, herbivore, or omnivore). A large, intelligent carnivore with a poison sting should have few and limited (if any!) special abilities. A small herbivore of low intelligence without any attack or defense to speak of can have more and better special abilities. Herbivores or omnivores that are preyed upon will usually have special abilities keyed toward defense or camouflage.

*Restrictions:* Most, if not all, creatures have some type of restriction. If a carnivore has a restriction (which it should),

then its prey is bound to take advantage of it. To give a modern example, killer whales cannot survive on land. When one attacks a group of penguins, they quickly swim to land or a floating ice floe. This prevents the whale from completely wiping out the penguins, though a few penguins are usually caught anyway, thus allowing the orca to survive; both prey and predator benefit from the restriction, since a loss of prey means a loss of predators. The restrictions don't always have to be as obvious as this example. Restrictions should never allow every member of the prey's group to survive, or else the predator dies out. Of course, clever characters will observe the restrictions of different creatures and use them in their favor.

*Intelligence:* Almost every highly intelligent creature I've seen in any game adventure has been roughly man-sized and humanoid in design. Just because it happened that way on Earth doesn't mean it has to be that way on other planets. I've never seen a tiny creature or an aquatic or fishlike creature be the most intelligent race on a planet. And look at Vrusk and Dralasites! Challenge your players with a civilization of tiny lizard creatures that can talk and fight.

I've also rarely seen a newly created race of intelligent aliens that have developed firearms or motor-powered transports. It's likely that sooner or later the UPF will uncover a planet with beings that have developed technology to a point where they have sophisticated inventions and weapons or even early space exploration. Hours of exciting roleplaying are possible when a group of PCs uncovers a technologically advanced planet and tries to get them to join the UPF. For example, a group of PCs and NPCs exploring a remote star system in a game I ran discovered a crude exploration satellite with primitive photography equipment attached to it. This led them to a medium-sized planet, second from its sun. When they passed over it, they discovered the world was covered with settlements — some as large as cities. When they landed, the PCs met the planet's military forces. Once their poly-voxes were adjusted to the aliens' language and they had established their peaceful intentions, they were brought before the world's ruling council. This was an interesting point in the game, as the PCs discovered that they had allies and enemies on the council. They worked to convert those who were opposed to them. In the end, after much intrigue, the PCs got the planet to join the UPF. This got the PCs promoted in the UPF fleet. More important, it gave the players hours of fun. Now they knew how the aliens who come to Earth in the movies might feel!

The above example is one of several adventures in which I had the native aliens possess firearms. On another occasion, the Sathar got to the planet first and armed the natives, giving orders to kill anyone in UPF uniforms. To further com-

plete matters, the Sathar also told the natives that Sathars were gods who had to be obeyed. It was a challenge for the PCs to take on a bunch of armed alien religious fanatics who weren't talking and could easily beat the PCs in combat.

*Parasites:* Parasites are found on all planets. These are creatures that feed on larger creatures called hosts. Parasites have many ways of entering or attaching to a host; one way is through the digestive system (swallowing). Once inside, the parasite feeds off one or more of the host's natural features (blood, flesh, etc.). The parasite's feeding should affect the host in at least one way; for example, a parasite might lower a character's reaction speed by 10. The parasite should rarely be capable of killing its host, since this is against its best interests. If the host dies, then the parasite dies with it. Parasites should be a minor annoyance to the PCs and not a fatal threat.

*Microorganisms:* Earth is crawling with bacteria and other organisms that are microscopic. It seems very likely that other planets would be host to similar organisms. Only a relative few microorganisms on Earth cause harm to humans; this resistance evolved over millions of years of exposure to these organisms. However, microorganisms on planets that humans or other PC races have never visited before have a greater likelihood of being harmful to PCs (remember *War of the Worlds*, by H.G. Wells?). I've only seen one occasion on which a microorganism was a threat to the PCs in a STAR FRONTIERS® game adventure.

Microorganisms can become a very interesting problem for the PCs and can affect them in several ways. The first and most obvious is to have an effect similar to poisons, diseases, or infections, as shown in the Expanded Rulebook. The second is to give exposure to the microorganisms a bizarre effect, such as causing insanity or psychological deterioration. The third and most terrifying effect is (obviously) swift onset of illness and death. This should only be used when the bacteria are in an area in which PCs wouldn't normally encounter them: a depressurized drifting hulk, for example. If this type of effect is used, the referee may wish to introduce new anticontamination equipment to the campaign. The effect should usually become obvious upon exposure to NPCs or lab animals (don't kill off PCs too rapidly). In a recent adventure I ran, the PCs discovered a hulk full of dead bodies. When they brought a corpse back to their own ship, a careless NPC exposed himself to the body and its bacteria, and subsequently died. The PCs spent the rest of the adventure fighting faulty equipment and each other in an attempt to find a cure for the disease.

The last type of effect that microorganisms can have is to damage equipment, weapons, or even starships. This can leave the PCs stranded on a planet if the referee

chooses. *The Andromeda Strain*, by Michael Crichton, makes useful reading.

Microorganisms don't have to affect all races. In fact, there may be a type of microorganism that only affects the Sathar. The UPF would want to get their hands on it so they could use it to make new weapons (like grenades) for the Star Law Rangers to use against their foes. Corporations may also want to market a new pesticide and send PCs to collect samples.

The native animals on certain planets should have a very small chance of being affected by the microorganisms of their own planet since they probably would have developed immunity. But, if exposed to PCs or brought to another planet, aliens may die from contact with seemingly harmless microorganisms (again, as in *War of the Worlds*).

Microorganisms are almost always found in great numbers, and they usually move by wind or water currents. Some microorganisms cause harm only under certain circumstances. For instance, an alien bacteria may only take effect when inhaled, but can attach itself to skin and be carried by the victim even if he is wearing a gas mask. Other microorganisms are only effective when they are swallowed or enter the bloodstream through a cut.

Not all microorganisms have to be dangerous. Some may act as a cure for the

damage done by others. They can even be a mixed blessing, like one that raises a PC's Stamina but impedes his vision ("Hey, who turned out the lights?").

**Lairs:** In nature, a lair usually serves as a place to raise young, sleep, and eat food. Some creatures may store items that they consider valuable in their lairs. If the creature lives on a planet where there are large deposits of a valuable mineral, it may collect that mineral and even compete with prospecting PCs for control of a mineral deposit. Unintelligent aliens might keep valuable items for odd reasons, like the Australia bowerbird that builds a nest of shiny objects to attract female bowerbirds.

**Uses:** When the referee creates a creature, he should decide if there are any possible ways in which PCs could use that creature. Wild animals could be ridden by the PCs or used as pack animals on overland trails. The referee should decide how fast a creature moves while burdened with a rider or gear (or both), and what penalties are assessed against encumbered beasts.

A creature can also be used for food. Some creatures that are preyed upon (most notably insects) have toxic chemicals in their bloodstreams that are most effective against their natural predators. These poisons may or may not affect the PCs. Intelligent creatures may act as guides

or mercenaries, but the PCs must have something of value with which to pay the creatures. Credits aren't likely to be accepted by aliens who have no contact with the UPF!

### Summary

By using the guidelines above, referees should be able to create more realistic alien lifeforms. The referee should use the following rules in particular:

1. There should be more weaker creatures than powerful ones in a world's ecology.
2. The ecology should allow both predator and prey to survive.
3. Intelligence should not be restricted to man-sized creatures, nor should technology be so restricted.
4. Most important, just because something hasn't happened on Earth doesn't mean that it can't happen on other planets. In other words, the referee should not allow his imagination to be limited by the way things are here on Earth. If a creature is believable and consistent in its own environment, the game will be improved.

(Note: One excellent reference book for ecology- and alien-builders is *Dougal Dixon's After Man* (New York: St. Martin's Press, 1981), which depicts a future ecology on Earth, 50 million years after the extinction of mankind. It's hard to beat for imagination and detail. — RM.)

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# Once upon a time...

...there were three adventurers.  
The first was a powerful fighter.  
He thought he could slash and hack  
his way out of anything...



He's dead now.

The second, a great magician, thought  
his spells would deal with any  
threat...



He's dead, too.

The third wasn't the best fighter, or  
the best magician. In fact, he wasn't  
the best at anything. But he read  
*Tricks of the Trade...*



And he lived happily  
ever after.



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