

The Aardwolf

Proteles cristata

Diet

The aardwolf is a myrmecophagous animal, meaning an animal that primarily eats termites and/or ants. The aardwolf in particular focuses on termites in the genus *Trinervitermes*. These termites are unique in that they primarily forage on the surface in dense congregations, meaning they are easily accessible en masse. The problem is the soldier termites produce a chemical defense called terpene. In most animals, this chemical causes damage to the digestive system, kidneys, and nervous system. The aardwolf has a high tolerance to this toxin and is able to eat up to 250,000 termites in a single night. Their snout is hairless to prevent this toxin from sticking to its face. Because they are on the surface, the aardwolf uses its sense of hearing and smell to find the termites. Once they have been located, the aardwolf is able to lap them up off the ground. Aardwolves have a wide palate to help them have room for the lapping of termites.

The problem with the termite *Trinervitermes* is that it goes mostly dormant during the dry season when there is no grass for it to collect. During this time, the aardwolf do not switch diets and, as a result, starve themselves. To help, they lower their metabolism, activity, and body temperature, but many aardwolves will lose up to 20% of their body weight during this time.

Because termites consist of up to 74% water, aardwolves get their water intake from their diet and very rarely need to drink water. When they do, aardwolves are not capable of lapping up water and instead awkwardly have to intake water by biting at the water. Signs of aardwolves drinking water is used as a bioindicator by scientists because it is such an infrequent occurrence.



Habitat

The aardwolf is found in Africa and has two distinct populations with one being in East Africa and the other in South Africa. Because there are such distinct populations, they are sometimes placed into two subspecies with the southern population being *Proteles cristatus cristatus* and the eastern population being *Proteles cristatus septentrionalis*.

The aardwolf is found primarily in open grasslands or bushlands, which is where the termites are located, and they will avoid mountainous, desert, and forested conditions.

Conservation

The aardwolf is currently classified as a species of Least Concern and appears to be maintaining a stable population. Protected lands and farms allow termites to be abundant enough for aardwolves to continue to flourish.

Aardwolves are occasionally killed by farmers being mistaken as a threat to livestock and poultry, and they are also killed through vehicle collisions. Climate change may in the long term harm their population by impacting the timing and availability of their food source.



Typical Myrmecophagous Mammal vs. Aardwolf



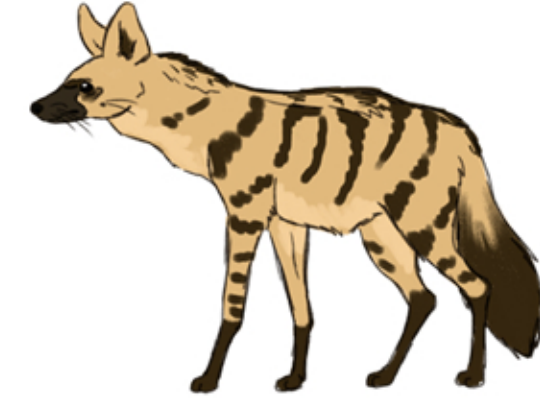
Long, narrow, toothless snout

Long, round, smooth tongue

Sticky saliva

Large foreclaws for digging into insect mounds

Access insects by breaking into mounds



Broad snout contains incisors, canines, and reduced cheekteeth

Long, flat tongue with modified papillae

Sticky saliva

Tiny delicate paws for running and walking

Access insects on the surface

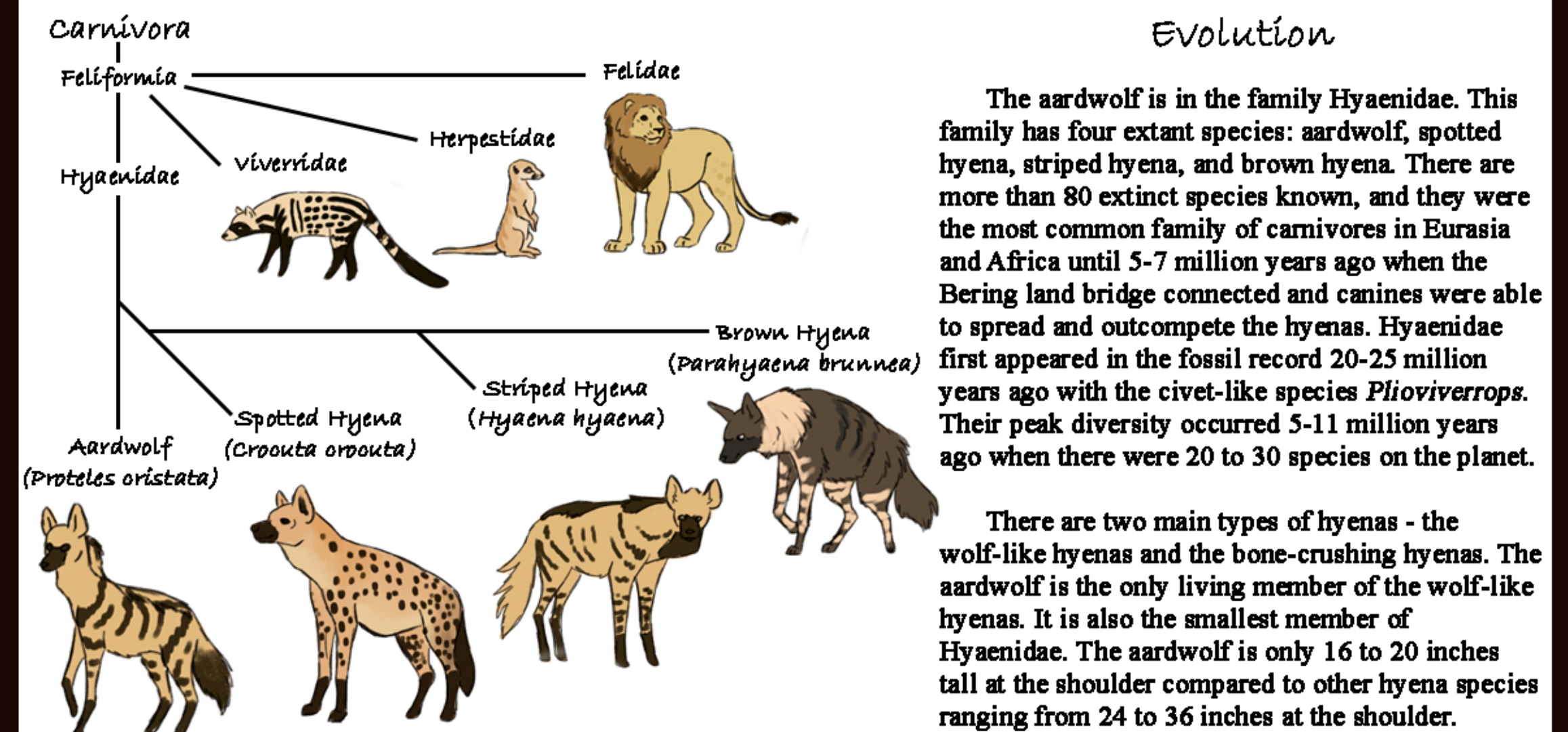
Reproduction

The breeding season of the aardwolf begins in the winter during late June or early July. Due to their seasonal diet, the aardwolf is the only member of Hyaenidae that has a strict breeding season. The female aardwolf will go into estrous for 1 to 3 days and can cycle a second time two weeks later if they were not fertilized during the first cycle.

Once fertilization has occurred, the gestation period lasts approximately 90 days, and the 1 to 5 cubs are born during October at the beginning of the wet season. The cubs are fully dependent on milk for four months before they are weaned off and begin following their parents around to feed on termites.

Aardwolves are socially monogamous. This is necessary because the female needs to go out nightly to feed, and termites are a food source that cannot be brought back to the den. The male will protect the cubs against predators during this time, with jackals being the most common threat.

Although they appear to be monogamous, it has been found that extra-pair copulations are quite common, with up to 40% of copulations being with a different aardwolf.



Evolution

The aardwolf is in the family Hyaenidae. This family has four extant species: aardwolf, spotted hyena, striped hyena, and brown hyena. There are more than 80 extinct species known, and they were the most common family of carnivores in Eurasia and Africa until 5-7 million years ago when the Bering land bridge connected and canines were able to spread and outcompete the hyenas. Hyaenidae first appeared in the fossil record 20-25 million years ago with the civet-like species *Plioiviverrops*. Their peak diversity occurred 5-11 million years ago when there were 20 to 30 species on the planet.

There are two main types of hyenas - the wolf-like hyenas and the bone-crushing hyenas. The aardwolf is the only living member of the wolf-like hyenas. It is also the smallest member of Hyaenidae. The aardwolf is only 16 to 20 inches tall at the shoulder compared to other hyena species ranging from 24 to 36 inches at the shoulder.

Territory

Aardwolves primarily protect their territories through scent marking. Both males and females will scent mark their territories, with males marking more frequently, especially during the breeding season.

Aardwolves scent mark by using what is called the anal pouch. This pouch can be everted and rubbed on grasses to leave behind a residue. This process is called pasting.

Behavior

Aardwolves are a shy and solitary creature. They only interact with their own species during the mating season and when a pair is raising cubs.

When threatened, they have a mane of fur on their neck, back, and tail that they can fluff up to appear nearly twice their actual size. They also have a range of vocalizations that can be made.

To escape the extreme heat of the environment, the aardwolf is nocturnal. It will take over abandoned dens of other animals such as springhares and aardvarks. They typically have to dig out these dens further, and they are also capable of digging a den from scratch if there are none available. A typical den has one entrance and is not lined with any fur or other insulation. They have several dens on their territory and will move between them every 6 to 8 weeks.

