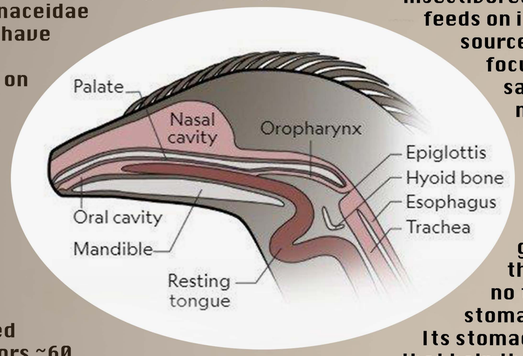
SMUTSIA TEMMINCKII

THE AFRICAN GROUND PANGOLIN

BY JACQUELINE FILLIPOW

EVOLUTION

The best way to understand the pangolin is by starting with their evolutionary history and origin. Those will help one understand why the ground pangolin evolved the way it did. After the classification of mammals, more diversity in origin size features appear. The ground pangolin is classified under the superorder Laurasiatheria, which consists of the orders Cetacea (aquatic), Artiodactyla (even-toed ungulates), Perissodactyla (odd-toed ungulates), Carnivora (carnivores), Pholidota (Pangolins), Chiroptera (bats), Soricomorpha (shrews), and Erinaceomorpha (hedgehogs). All of these orders demonstrate some similarities which contributed to the theories for evolution of the ground pangolin. For example, in the Erinaceidae family, hedgehogs have poor vision so the elongated rostrum on the allows them to rely on their scent. Similarly, the ground pangolins have poor vision and also rely more on their scent.



The Smutsia temminckii evolved from their ancestors ~60 million years ago. When this happened, hairy animals were just beginning to replace the reigning reptilian giants. Although it's thought that the ground pangolin evolved from anteaters, it is now understood that their closest relatives are the carnivores. The ground pangolin is in the Pholidota family. Pholidota is the only family that consists of mammals covered in epidermal scales. Pholidota family which consists of other pangolins as well. This Pholidota is the only family that consists of mammals with covered epidermal scales.

FORM & FUNCTION

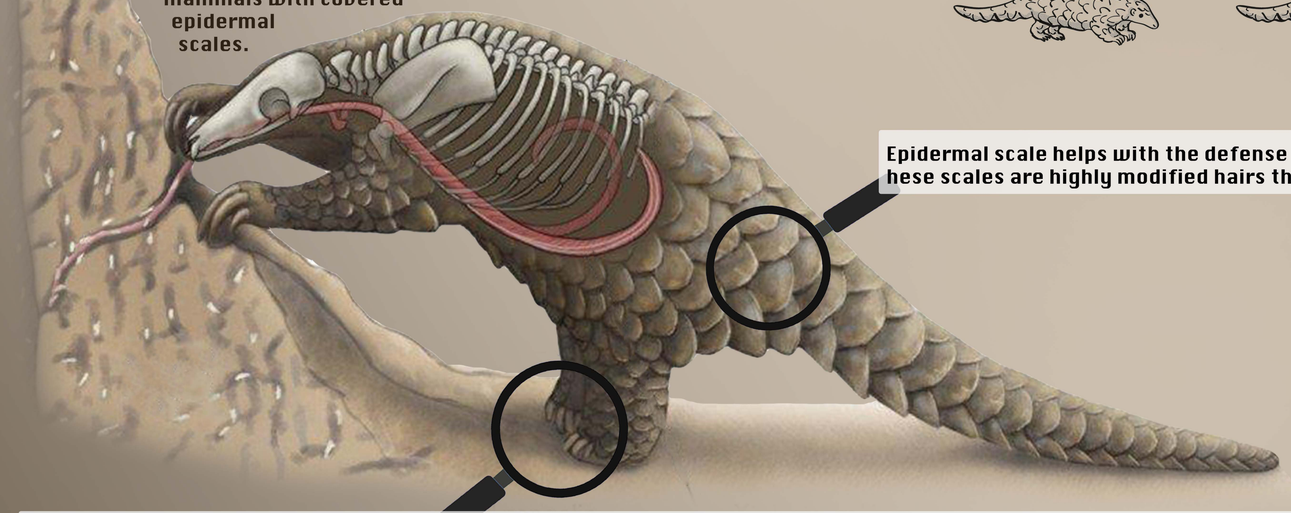
Many people have referred to the Smutsia temminckii as a scaly anteater and although many different things separate the two they are both insectivores. An insectivore means that mainly feeds on insects so that would be their main source of nutrients, and the ground pangolin focuses on ants and termites. That being said, they will need specific modifications on their body that give them the advantage of feeding on insects, and the ground pangolin perfectly adapted to that. Smutsia temminckii tongue is slimy with a flat top and can project up to 14 inches and go back into a specific cavity that's in the abdomen. The ground pangolin has no teeth, therefore, they have to use its stomach to digest its food in a special way. Its stomach contains rocks and little pebbles that help them be able to crush and digest its food so it can process it. When looking at The ground pangolin you can see shorter forelimbs that have very long claws or nails, batsed on their diet and locomotion there is most likely aiding that pangolin in breaking or tearing open nests to feed. All pangolins have very bad eyesight because of their tiny eyes they have to have a great source of smell to seek out termites and ant mounds.

BEHAVIORAL ECOLOGY

Pangolins are solitary creatures so they only come together to mate, but there is no specific mating period so they have to somehow find each other. The male pangolins will mark their location with their urine so the females can locate them and can mate. The only downside to this method is if there are multiple males in the same area as a female they will fight to the death over the female. They can fight using their heavy scaly tails. After they have mated the males and females will not stay together, they will go their separate ways. The mother pangolin will have a gestation period of about 140 days before giving birth to only one baby pangolin, and pangolins have a live birth. The baby pangolin will way anywhere from 10 ounces to 20 ounces with soft white scales. Because their scales will not have fully developed yet it makes them more prone to get killed by predators because it's their only means of defense. Then, after a couple of days, the scales will start to turn brown and harden. The mother and baby will stay in their burrows to nurse until they have developed these scales to stay away from danger, after about a month they will wander out of the burrow to hunt for termites and ants. The mother and baby pangolin will stay together for around 2 years, which is their sexual maturity, and then the mother will leave the young on their own.

CONSERVATION

The ground pangolin is the most poached animal in the world yet many people don't even know they exist. Up to 200,000 pangolins are killed every year and they number is increasing rapidly. Most are hunted because their scales and blood are thought to have healing remedies in them for common illnesses and diseases. The conservation efforts going into saving the pangolins before they go into extinction range from rehabilitation to training rangers and wildlife specialists on how to prevent poachers. But the main thing that is being done to help the ground pangolins is the overall education of them to the public. Because many people have little to zero knowledge on them, educating people on them could help create more research studies on them so scientists can figure out more about their form and function to behavioral ecology. Finding out more about the ground pangolin can help save their species in the end.



Epidermal scale helps with the defense and protection against predators. T
hese scales are highly modified hairs that evolved into scales for the protection for the ground pangolin.

The ground pangolin has flat hindlimbs with short nails and short forelimbs with longer nails for digging and tearing up ant and termite nests.
The ground pangolin had flat feet so that would mean it has a plantigrade foot stance. The ground pangolin has curved and shorter forelimbs
so this means they do not fully rely on them for their locomotion. This would mean they have bipedal hindlimbs that help with their ambulatory locomotion.