Arabia's Hedgehogs: Primitive but Successful

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Of all the mammals in Arabia, the hedgehogs are perhaps the most primitive. Little changed from their ancestors that lived in Africa some 20 million years ago, they have become well adapted to life in the arid climes that typify much of the Arabian peninsula.

Three species are present in the region. Of these the long-eared hedgehog (*Hemiechinus auritus*) is the one most associated with man. A loner by nature, it lives not in the true desert but on the margins where it spends the day secreted in burrows or hidden under stones. It leaves its lair at sunset and spends up to 80% of the night actively searching for food. With its long legs and delicate feet it is very much the distance athlete of the family and can cover in excess of one kilometre from dusk to dawn. Unlike its omnivorous cousin the European hedgehog (*Erinaceus europaeus*), it is essentially insectivorous, feeding on beetles, termites and crickets as well as being partial to snails. Its vision is poor but with its dog-like muzzle it searches for prey using its acute sense of smell.

Superficially similar to, but larger than, the long-eared hedgehog is the Ethiopian hedgehog (*Paraechinus aethiopicus*) which lives in the desert proper, albeit favouring the oasis and more vegetated wadis. As its name suggests this species is of African origin with a distribution extending across the Sahara from Morocco. Its distinguishing characters include a contrasted black and white muzzle and a naked forehead. This latter character is a particularly primitive one which is found in the young of all hedgehogs, although in *Hemiechinus* and the European hedgehogs, the spines subsequently grow to cover this bald patch. The spines themselves are hollow with the thin plates separating their internal air-spaces. Unlike many mammals that moult annually, spines last for several years and are shed and replaced on an individual basis.

In the mountains of southern Arabia lives the Asian representative of the genus *Paraechinus*, Brandt’s hedgehog (*P.hypomelas*). Like its African sister species, it too has a bald patch on its forehead. It has a characteristically dark, spiny carapace which is almost black in colour; the face is sooty black or blackish brown and the entire under surface of the body is a deep chocolate brown. Rarer than the other two species, it is apparently confined to the montane areas of Oman, UAE, southern Yemen and the Asir of Saudi Arabia. It can survive in extremely barren regions where it looks for natural shelters such as crevices between rocks or beneath an overhanging ledge. It is a voracious and aggressive feeder; its prey includes termites, beetles and locusts and much more surprisingly, venomous snakes. The snakes are tackled head on with an apparent total disregard for safety, the hedgehog relying on
its long spines for protection. Any part of the snake is grabbed in the mouth and the combat only ceases when the quarry is rendered immobile. This usually results from the snake’s spine being broken. Although not totally immune to snake bites, hedgehogs are remarkably tolerant to their venom, with a resistance thirty to forty times that of a rodent of equivalent size. Interestingly enough they are able to withstand numerous stings from insects such as bees, wasps, and hornets; showing few signs of distress.

Although the spines of hedgehogs make for a good defence against predators they are poor insulators against the cold. In consequence, even in Arabia, hedgehogs hibernate in the winter during periods of prolonged cooler weather. The long-eared hedgehog hibernates for up to forty days at a time. Its body becomes torpid with its internal temperature comparable to that of its surroundings. The breathing becomes shallow and less frequent and the body is contracted into a tightly rolled-up ball, with the spines erect and pointing in all directions. This strictly defensive posture contrasts sharply with its normal sleeping mode in which it lies on its side with its legs partly extended and with the spines lying flat on the back.

Studies suggest that in Arabia most breeding activity in hedgehogs takes place between May and June. Female long-eared hedgehogs have a pregnancy lasting about 36 days and give birth to between one and six offspring. In any one litter some die whilst others are deliberately cannibalised by the mother. The young are born deaf and blind and with a rather rubbery, bloated appearance. Even at this early stage, short soft spines are present on the back of the young; this is especially the case in Brandt’s hedgehog. However, for the sake of the mother these spines are retracted into the skin of the infant during the actual process of birth. Development of the young is rapid and after two or three weeks they are already feeding on a variety of foods in addition to the mother’s milk. By four to six weeks they appear as small but otherwise fully developed adults. Soon the mother will drive them away and the solitary life-style of these desert hedgehogs will begin again.

To date the hedgehog has proved a successful member of the rich mammal fauna of Arabia. Wandering the dunes and wadis, searching the mountains and deserts for its food, they have become well adapted to the harsh regimes of this arid land. Friendly and trusting, and with few natural predators, they look well set for many more years of nomadic existence.