

Lesser Tenrec

Echinops telfairi

Class: Mammalia **Order:** Afrosoricida (golden moles & tenrecs) **Family:** Tenrecidae (tenrecs) **Subfamily:** Spiny tenrecs

Other names: Lesser Hedgehog Tenrec; Lesser Madagascar hedgehog tenrec

Other subspecies:

Other Relatives: It is the only species in the genus *Echinops* [1]

There are more than 25 species of tenrecs, adapted for living in trees, water and on the ground. Most live in Madagascar, but some can be found on mainland Africa and the Comoro Islands [2].

The largest species of spiny tenrec is the tailless tenrec, *Tenrec ecaudatus*, which weighs up to 1 kg. Other spiny tenrecs are the two species of hedgehog tenrec (*Setifer setosus* and *Echinops telfairi*) and the two species of streaked tenrec (*Hemicentetes semispinosus* and *H. nigriceps*) [3]



Zoo Tenrecs 1.1

Tahiry 0.1 – female, B: 6/30/2013 Aq: 4/27/2014 Weight: 160g

Name comes from “tehirizina” meaning to keep precious in Malagasy; also a nature reserve,

Tahiry Nanaharin Betampona, in Toamasina which is in a region of Madagascar.

Marco 1.0 – male, B: 7/11/2013 Aq: 4/5/2014 Weight: 140g

Named after Marco Polo, who named Madagascar

Status Least Concern [4]

Geographic Region:

Generally distributed in southern and south-western Madagascar. It has recently been recorded in south-eastern Madagascar [4].

Habitat

Most species of tenrec are adapted to forested areas, by *Echinops* is adapted to the arid, spiny desert of Madagascar [3].

Dry deciduous forest areas of western Madagascar and the xerophytic spiny forest and gallery regions of southwest Madagascar. It has also has been found in open grasslands tens of kilometres from forest, including in disturbed habitats of non-native vegetation [4].

Characteristics

Size: *Length:* 5 - 6.8 in. (head and body) [2] *Weight:* 7 oz. [2]

Longevity: **Wild:** 3 – 8 years **Captivity:** 10 in captivity

Physical Description

- Subfamily *Tenrecinae* has lots of signs of primitive mammals - cloaca, unstable body temperature, zalambdodont teeth, testes in abdominal cavity, lots of them are active during night, in some species exist special communication "stridulation" and echolocation, long term gravidity, born blind and underdeveloped young. They have also poor eyesight and a dependence on their sense of smell and hearing [5]. They also have relatively low metabolic rates relative to their body size..
- It is the smallest species of the sub-family Tenrecidae [5]
- Sharp spines cover the **dorsal** side, including its head. The spines are modified hairs.
- Unlike most mammals, tenrecs have a **cloaca**.
- Lesser and greater hedgehog tenrecs are the only tenrec species that are completely covered with spines including the head [2].
- It depends on its good sense of smell and hearing because of poor eyesight [2].
- Lesser hedgehog tenrecs look similar to African hedgehogs, but are not related. A difference between tenrecs and hedgehogs is that the tenrec will not hiss at an animal when rolled in a spiky ball. Instead, it will come out of its ball and attack the animals with its powerful jaw muscles [2].

Dimorphism

Male:

Female: females typically larger

Diet: Insectivores/Omnivores

It usually forages alone except for a mother with young.

Diet in the Wild: Tenrec's diet is based primarily on invertebrates. Insects and their larvae are the most commonly consumed prey. However larger tenrecs may eat some small vertebrates, such as amphibians.

Diet in the Zoo: insectivore pelleted diet and mealworms

Behavior

- *Nocturnal*, night active

- *Arboreal & terrestrial* It is an excellent climber and will often spend daytime hours resting in a hollow tree

Social Structure & Communication

- *Solitary* [5]
- Their spiny coat is vibrated for communication with other tenrecs [6].

Environmental Adaptations

- During dry seasons, when food is scarce, it may become torpid this can last for periods of three to five months, helping it to conserve energy [6]. While in **torpor**, the tenrecs have a lower body temperature and metabolic rate are greatly reduced in an effort to conserve energy. Torpor is driven by ambient temperature and food availability; hibernation is associated with day length and hormone changes.

Defense Mechanisms

- Its spiny coat is used to deter predators. When threatened, the lesser tenrec will roll into a ball, hiss and grind its teeth. If bitten, the spines stick into the mouth and muzzle of the predator [6]. By rolling into a ball, they protect their soft underside.
- They may also charge with an intention to bite or spine the predator.

Ecosystem Role

- These small mammals are adapted to fill the role of mice, hedgehogs, shrews, and opossums found in other parts of the world [6]

Reproduction

- *Placental mammal*
- Breeding generally occurs in October but can vary depending on warmth and food supply.
- All species of tenrecs have generally long gestation lengths than can take up to eight weeks. A lesser tenrec will have up to 10 young per litter. Mothers and their young will feed together.
- Gestation is 62-65 days. 1-10 offspring, avg 5 – 7 per litter [2]
- Most tenrec young develop relatively slowly (**altricial**).

Conservation

- **Use & Trade**
 - Tenrecs are occasionally kept as pets, though are not commonly found.
 - This species is the one most frequently kept in zoological gardens.
- **Threats:**
 - Habitat loss is the largest threat to tenrec species. The Madagascar forests are continually being taken down for slash and burn agriculture. Other threats include introduced species of different shrew, and carnivores. In 2003, Madagascar's President Marc Ravalomanana committed to triple the island's protected area coverage, adding a further 5 million hectares, and placing more than two-thirds of the country's remaining forest under formal protection.
 - Although tenrecs have lived on Madagascar for some 60 million years, it is possible that some will not survive more than a few decades more. Habitat loss is the greatest threat to this and other tenrec species [6].
- **Predators**
 - Birds of prey and viverrid carnivores (civets) to snakes; some small shrew tenrecs (*Microgale* spp.) may even be attacked by larger species of their own genus [3].

Did you know?/Fun Facts

- Tenrecs resemble hedgehogs because of convergent evolution.
- Their closest relatives are golden moles and elephant shrews.
- The lesser tenrec is one of 16 animals to have its genome completely sequenced as part of the Mammalian Genome Project.
- The Malagasy word for tenrec is tandraka [6].

Glossary

Altricial - hatched or born in an undeveloped state and requiring care and feeding by the parents.

Cloaca - the posterior opening that serves as the only opening for the intestinal, reproductive, and urinary tracts of certain animal species.

Dorsal - of, on, or relating to the upper side or back of an animal, plant, or organ.

Torpor a state in which its body temperature drops and its metabolism slows dramatically

References

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