

# 10. Dasyurids

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## 1 TAXONOMY, DISTRIBUTION AND BIOLOGY

The Order Dasyuromorphia are the carnivorous marsupials. They are characterised by having three pairs of approximately equal sized lower incisors and an absence of fusion between the second and third digits of the hind foot (Strahan 1995). The Order is divided into three Families: Thylacinidae, which contains the extinct thylacine (*Thylacinus cynocephalus*); Myrmecobiidae, which contains the numbat (*Myrmecobius fasciatus*); and Dasyuridae, which contains the remaining 66 species. This group includes the Tasmanian devil (*Sarcophilus harrisii*), quolls, antechinus, dunnarts, kowari (*Dasyuroides byrnei*) and phascogales (Krajewski & Westerman 2003). Its members are found throughout Australia and New Guinea occupying all environments ranging from high alpine regions (agile antechinus [*Antechinus agilis*], spot-tailed quoll [*Dasyurus maculatus*]) to coastal forests (quolls, Tasmanian devils, antechinus, phascogales) and deserts (mulgara [*Dasyercus cristicauda*], little red kaluta [*Dasykaluta rosamondae*], kowari).

Dasyurids range in size from the narrow-nosed planigale (*Planigale tenuirostris*) (4–9 g) to the Tasmanian devil (up to 10 kg). They were initially thought to be predominantly nocturnal, however, continued investigation has demonstrated that many species also forage during the day. Many species of dasyurids are arboreal while others are both arboreal and terrestrial and some are completely terrestrial.

The eastern quoll (*D. viverrinus*) and Tasmanian devil, once widespread throughout the Australian mainland, are now found only in Tasmania. Due to a combination of habitat destruction and introduced predators, such as the dingo and the fox, most dasyurid populations have declined since European settlement.

Dasyurids are not long-lived. Tasmanian devil life expectancy is up to 6 yr in the wild and 8 yr in captivity. Quolls can be expected to live up to 6 yr in captivity and 3 yr in the wild. The smaller dasyurids generally live for no more than 5 yr in captivity, usually up to 2 in the wild and occasionally up to 3. Males of some groups, such as the antechinus, all die in the wild after their first year (Table 10.1).

## 2 ANATOMY AND PHYSIOLOGY

Similar to the situation with eutherian carnivores, apart from size there is little variation in the body shape and anatomy of dasyurids. The most extreme variation in body shape of dasyurids is found in the kultarr (*Antechinomys laniger*). This species has elongated hind limbs and a long tufted tail.

### 2.1 Dentition

Dasyurids are polyprotodont marsupials as they have three pairs of lower incisors, unlike the diprotodonts which have only a single pair. Dasyurids also have four pairs of pointed upper incisors, well-developed upper and lower canines, two or three pairs of upper and lower blade-like premolars and four pairs of upper and