

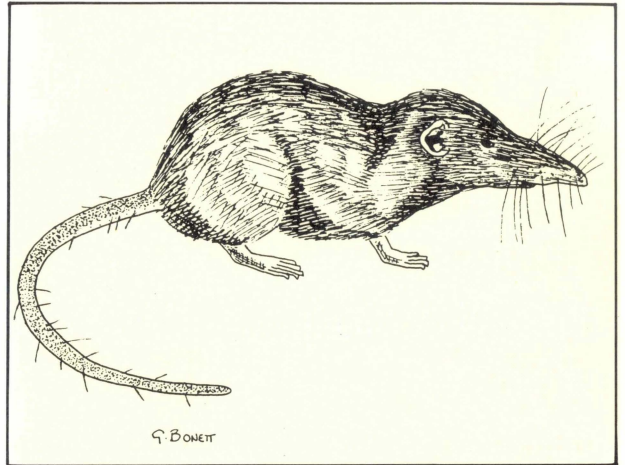
MALTESE SHREWS

Although not uncommon on our Islands, shrews are not familiar creatures to most people. This is reflected in the absence of any recorded Maltese popular name for these animals. In his work on Maltese mammals, Guido Lanfranco does not report any vernacular name and was constrained to coin one himself *Gurdien ta' Halqu Twil*. This describes exactly what shrews superficially most closely resemble: small mice with elongated snouts. However, shrews are not related to mice, being much more primitive mammals belonging to the order Insectivora.

The older works on Maltese natural history mention several species of shrews from our Islands. In most cases however, the names given are ambiguous or obvious mistakes. Guido Lanfranco has reviewed these older records and has come to the conclusion that only one species is represented locally: the Pygmy White-toothed Shrew (scientifically, *Suncus etruscus*). In 1971 however, Joe Sultana studying Barn Owls in Gozo came up with evidence that two other species of shrew may occur. To understand how a study of owls gives information on shrews, we must say something about the habits of these mammals.

Shrews are very small. The Pygmy White-toothed Shrew mentioned above has a body length of some 4cm and a tail length of about 2.5cm. An adult individual weighs less than 3gm and this species is the smallest mammal in the world. Other European shrews are not much bigger so it is hardly surprising that these animals are easily overlooked. Moreover, shrews are very agile and highly secretive, hardly ever crossing open ground but restricting their activities to well-defined trails in leaf litter or under thick vegetation. Most species are mainly active after dusk and around dawn, times when few people are about, so it is small wonder that these mammals are unfamiliar to many.

Owls are highly specialized nocturnal birds of prey. With their night vision, sensitive hearing and silent flight they are superbly adapted to prey on small nocturnal mammals and indeed they take large quantities of mice, rats – and shrews! The prey is swallowed whole and it is digested in the bird's gizzard. The fur and larger bones are a bit too much for the owl's digestive juices and when digestion of the soft parts is complete, the fur, skulls and other bones are regurgitated in the form of ovoid pellets and discarded. Examination of owl pellets therefore is an excellent way of finding out about the feeding habits of owls and also about which small mammals occur in the area.



The Pygmy White-toothed Shrew, an adult individual which measures only about 7cm, including the tail, and weighs less than 3gms making it one of the smallest mammals in the world.

(Drawing: Guido Bonetti)

This is precisely what Joe Sultana was doing. He collected Barn Owl pellets from Gozo and extracted the skulls from them. These were later sent to the Natural History Museum in London where they were identified. Amongst the skulls present were those of two species of shrews, the Lesser White-toothed Shrew (*Crocidula suaveolens*) and the Greater White-toothed Shrew (*Crocidula russula*). Another collection of Barn Owl pellets from Gozo studied by Stephen Schembri and Richard Cachia Zammit also yielded remains of the Lesser White-toothed Shrew, but none of the other species. It therefore appears that three species of shrew occur in the Maltese Islands: the Pygmy White-toothed Shrew in both Malta and Gozo, and the Lesser and Greater White-toothed Shrews, as far as is known, in Gozo only. Neither of the last two species named have been found alive. The Lesser White-toothed Shrew is known from skulls and a single carcass also found in Gozo and the Greater White-toothed Shrew only from skulls! In spite of this, the Lesser White-toothed Shrew at least cannot be a rare animal; a total of around 36 owl pellets examined have yielded the remains of 20 individuals.

Nothing is known about the biology of shrews under local conditions, even about that of the commonest species, the Pygmy White-toothed Shrew. This animal is very inquisitive and investigates any new object in its environment. Very often it manages to get itself trapped in old bottles, cans or other containers. The result is death within a few hours – of starvation! The reason for this has to do with the animal's small size. All mammals are warm-blooded, that is, they keep a constant body temper-

ature and to do this they “burn” food. Mammals lose heat from their body surface. For large mammals (such as ourselves) this is no problem; surface area is small compared to size (volume) and therefore heat is not lost at a very fast rate – one meal lasts for a long time. Not so for a mammal the size of a shrew. Compared to volume, the surface area is large and heat is lost at a high rate. To maintain its body temperature a shrew must feed almost constantly. For this reason shrews are active day and night alternating short periods of rest with periods of foraging and with peaks of activity around dawn and dusk. The Pygmy White-toothed Shrew feeds on insects and other invertebrates, at times as big or bigger than itself. Deprived of food for more than a couple of hours the animal dies. Shrews should therefore never be kept in captivity and certainly not as pets.

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FURTHER READING

Lanfranco, G. (1969) *Maltese mammals (Central Mediterranean)*. Malta, 28pp. + pls. I–VIII.
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 Schembri, S.P. & Cachia Zammit, R. (1979) Mammalian content of Barn Owl pellets from Gozo. *Il-Merill* 20: 20–21.
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Above: Mammalian remains recovered from a Barn Owl pellet from Gozo. The skull at the centre belongs to a Lesser White-toothed Shrew. (Photo credit: P.J. Schembri)

Below: Skulls of Lesser White-toothed Shrews. The skulls are only some 15mm in length. (Photo credit: P.J. Schembri)

