

# TERMITE MOUNDS: A MICROCOSM

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One of the most conspicuous features of the Orange Free State landscape are the dome-shaped mounds of the Snouted harvester termite (Miershooptermiet), *Trinervitermes trinervoides*. These vary considerably in size and may attain dimensions of up to 9 m in circumference and 1 m high, and extend to a depth of 300 mm below ground level.

Within these mounds, "little worlds" or microcosms exist. Well known in this regard is Eugene Marais' description of the inhabitants of similar mounds from his acclaimed "Die siel van die mier". Incidentally, Marais and others, colloquially refer to termites as ants, but this is misleading as termites are not in any way related to ants but are, in fact, closely related to cockroaches.

The microcosm I wish to describe is not akin to Marais', but refers to one occurring in mounds devoid of all termites. Termite mounds become disused (dead) through severe drought conditions and because of the invasion by ants which are alleged to be the termite's main enemy. It is within these dead mounds that new microcosms are created.

Research which is currently being undertaken by the Department of Mammalogy at the National Museum established that the Lesser dwarf shrew, *Suncus varilla*, which is one of the smallest mammals in the world and having a mass of c. 3,5 g, is the only mammal known to make exclusive use of dead termite mounds in which to nest, raise its young, and take cover. This means that nearly its entire life is spent within them. There are of course several other mammal species such as the Black-footed cat, Genet, Aardwolf and others which also use dead mounds but then only partially or intermittently.

Within these miniature worlds the Lesser dwarf shrew builds its tennis ball-shaped and -sized grass nest, gives birth and raises its young. Movement through the maze of honey-combed cells and connecting passages, built by the former occupants, testify of the minute size and

agility of this shrew. With Houdinian movements it easily traverses the round 10 mm wide tunnels and 7 x 20 mm oblong passages.

However, dead termite mounds are also the abodes of a variety of other fauna which either co-inhabit or live separately within them. Inhabitants of these mounds include at least 30 species of invertebrates, such as scorpions, beetles, fishmoths, woodlice, spiders and centipedes. Six species of toads and frogs, one gecko species, three kinds of lizards and 22 species of snakes. The most frequently found snakes were the Centipede-eater and Egg-eater while occupants such as the exceptionally rare Variable Quill-snouted snake have also been collected (see Museum News No. 30).

"Why choose an old termite mound to live in?" one might ask. There are probably different reasons for each species. For the Lesser dwarf shrew, mounds act as a substitute for alternative cover such as rocks and bushes, they provide



*A section through a dead termite mound indicating the position of a shrew nest and the maze of honey-combed cells and connecting passages through which the shrew moves.*



*A female Lesser dwarf shrew and three young, dwarfed by a human finger.*



*Prior to excavating a termite mound for research purposes, various dimensions are recorded.*

very suitable protection against veld fires, and probably most important, is the ideal microclimate they provide.

Within these little worlds the shrew has a home for all seasons. This is made possible in that many of these mounds have more than one nest situated at varying horizontal and vertical distances. It is therefore postulated that nests which are built in the middle of the mound have a relatively constant climatic environment and are occupied throughout the year while those situated on the northern and western sides of the termite mound are ideally suited for a winter resident and those on the southern and eastern sides for a summer dweller. Similarly the height of the nest within the mound also appears to have relevance. For example during prolonged wet periods a nest situated at ground level or below ground level might become too damp and be vacated for one higher in the mound while during droughts or dry seasons the shrew might seek a more humid climate and occupy a nest below ground level.

How this symbiotic relationship (partnership) between the Snouted harvester termite and Lesser dwarf shrew arose is speculative but that these conspicuous domed features of the Orange Free State landscape be considered anew and that they deserve recognition is undisputable. In this regard, perhaps Eugene Marais's title should appropriately be amended to "Die siel van die dooie termiethoop".



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