MALTA'S UNIQUE LAND SNAILS

It is now generally accepted that flactuations in sea-level have connected the Maltese Islands to Sicily at various times during their evolution. A connection with North Africa is debatable but also possible. During these periods of physical contact with other land-masses, animals could pass over to the Maltese Islands. When later the Maltese Islands became completely separated from the surrounding lands, the animal populations on the Islands were stranded. Those species which were mobile or had easily dispersed propagules could cross the short distances to the surrounding land-masses relatively easily and interbreed with populations of the same species on the mainland. For sedentary species however, conditions were quite different and no interbreeding with mainland populations was possible. Such species formed inbreeding populations which with each generation became more and more different from their mainland ancestors as they adapted to the environmental conditions in the Maltese Islands. Some of these isolated species are now so different from their ancestors that they are considered to be distinct species in their own right. Others are not so different but different enough to be considered separate races from those of the mainland and are called subspecies ("species in the making"). Because of the unique conditions under which these Maltese species and subspecies originated, all of them are found only in the Maltese Islands and nowhere else in the world, that is, they are endemic to our Islands and therefore of great scientific interest.

Land snails are very slow moving and require rather special conditions; for example they can only live on calcareous soils because they need calcium to build their shells. It is hardly surprising therefore that of the 60 or so species known to occur in the Maltese Islands, some 20% are endemic.

One group of Maltese snails is particularly interesting. These are the Door Snails, known scientifically as the Clausiliidae. These snails have elongate shells, somewhat swollen in the middle and tapering at both ends. The mouth of the shell has a

Lampedusa mamotica, named after Giuseppe Mamo and found only in a single valley in Gozo Credit: P.J. Schembri

The endemic local race of the Round-mouthed Snail (*Pomatias sulcatus melitense*) Credit P.J. Schembri

complicated series of folds while the shell itself is often beautifully sculptured. Of the eight species of Door Snails found in the Maltese Islands, six are endemic. One species, *Lampedusa gattoi* named after its discoverer Count Alfredo Caruana Gatto, is found only on Filfla. Another, *Lampedusa mamotica*, named after the Maltese naturalist Giuseppe Mamo by Dr. Gavino Gulia in 1861, is found only in Gozo. The other four endemic species are found in Malta where each occurs in a narrowly defined locality; for example, one species *Lampedusa melitensis*, which was discovered, described and named by the eminent naturalist Count Alfredo Caruana Gatto, occurs only in the Rdum Dikkiena area.

Another group of Maltese land snails which contains many endemisms in the Helicidae. These are usually globular animals that close the mouth of their shell with a series of tough membranes during periods of drought. This group also includes some of the commonest Maltese snails such as the edible Common Snail (*Helix aspersa*, Maltese: "Għakruxa"). The majority of endemic helicids are however much smaller than the Common Snail and also much less common. These include *Trochoidea ogygiaca* which is found only in Gozo (and hence its name); *Trochoidea schembrii* named after the Maltese ornithologist Antonio Schembri, which is limited to Gozo, Comino, Cominotto and St. Paul's Islands; and *Trochoidea spratti* named after Captain T.A.B. Spratt, a pioneer in the study of Maltese geology and which is limited to Gozo, Comino and St. Paul's Islands. Other species such as *Marmorana melitensis* (Maltese: "Bebbuxa tal-Bejt" or "Bebbuxa tal-Kalli") and *Cernuella caruanae* (Maltese: "Bebbuxa tat-Torok"), another species named after Count Caruana Gatto, are common all over the Islands. In all about 9 out of some 23 species of Maltese helicids are endemic.

Endemisms are also found amongst the smaller and lesser known snails. Thus, no fewer than three out of the six species of Blind Snails (*Ceciliodes*) which occur in Malta are thought to be endemic. These snails are all very small (about 5mm high), transparent and live in soil. Of the six species of slugs which occur locally, two are endemic. One of these, *Lehmannia melitensis* has only been found in a few localities in Malta, the other, *Deroceras golcheri* was only described and named in 1962 and to date is known only from Il-Maqluba, near Qrendi. Better known is the Round-mouthed Snail (*Pomatias sulcatus*, Maltese: "Bebbuxa tal-Fossa") which is common all over Europe and is found also in North Africa but which occurs locally as a distinct race called *melitense*.

Few of the endemic Maltese land snails are at all common, the majority are rare and some are very rare indeed; for example none of the endemic species

A common endemic species, *Marmorana melitensis*
Credit: P.J. Schembri

A widespread endemic species, *Cernuella caruanae* named after Count Alfredo Caruana Gatto
Credit: P.J. Schembri

of *Ceciliodes* seem to have been found alive since their original description in the 1890's while other endemic snails have not been found alive since the 1930's.

This brings up the question of conservation. Most of the rarer endemic species are in a very precarious position indeed, particularly those which live in very restricted areas. One catastrophe, either natural or man-made may wipe out the entire population and because these snails are unique to the Maltese Islands this would not be simply the loss of part of our natural heritage but a loss to all mankind.

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FURTHER READING

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