

# THE MALTESE TOP-SHELL

In 1851 the British malacologist A. Adams published a work on a rather primitive group of marine snails known as Top-Shells. In this Adams described many species for the first time, amongst which was one which he described as follows:

*“T. orbiculato-conoidea, umbilicata, cinerea, maculis nivosis subrotundatis picta, transversim sulcata, longitudinaliter substriata; apertura subrotundata; columella flexuosa, basi rotundata.”*

Adams named this species *Gibbula nivosa* because of the regularly spaced markings on the base of the shell which remind one of falling snowflakes. Unfortunately Adams did not figure this species nor say where the specimens on which he based his description came from.

Many years later it was noticed (exactly by whom is not known) that there occurs a species of *Gibbula* in the Maltese Islands which fits Adams' description of

*Gibbula nivosa* exactly. Comparison of specimens from Malta with the original specimens in Adams' collection showed the two species to be identical. The waters round the Maltese Islands were thus indicated as being the locality of occurrence of this species, and the first published record of this was due to W. Kobelt in 1888. Many other malacologists since that time have reported *Gibbula nivosa* from the Maltese Islands, including the Maltese naturalists Giuseppe Despott and Alfredo Caruana Gatto, so the occurrence of this species in the Maltese Islands is now firmly established.

What is interesting is that ever since its original description, and in spite of extensive and diligent collecting by many generations of malacologists, *Gibbula nivosa* has been found only around the Maltese Islands. It is now fairly certain that this species is limited to our Islands and it has been so reported in the most recent catalogue of Mediter-



The endemic Maltese Top-shell, *Gibbula nivosa*; Empty shells collected from a handful of sand

(Photo Credit: P.J. Schembri)



Maltese postage stamp featuring *Gibbula nivosa* issued on October 10th, 1979 as part of a set on Maltese marine life

(Photo Credit: P.J. Schembri)

ranean marine snails by the Italians Fernando Ghisotti and Giulio Cesare Melone (1972). Thus, *Gibbula nivosa*, perhaps the most beautiful of the Mediterranean Top-Shells, truly deserves the name of The Maltese Top-Shell.

Recently a lot of publicity has been given to the Maltese Top-Shell when it was featured on one of a set of four stamps depicting interesting Maltese marine animals issued by the Malta Post Office on October 10th, 1979.

Like other Top-Shells (scientifically known as the Trochacea), *Gibbula nivosa* has a pyramidal shell with a broad base. From this comes the popular name of the group, the shell looking like a small inverted top. All Top-Shells are herbivorous, feeding on microscopic plants encrusting the surfaces on which they live. The snails graze these encrusting plants by rasping them off with a horny tooth-bearing ribbon-like structure called the radula. The radula can be protruded through the mouth and is scraped hard against the substratum, material which is rasped off being passed back to the mouth as on a conveyor belt. As teeth are worn away, new ones are continuously added at the base.

The Maltese Top-Shell is not a common animal. In June 1977 the Italian malacologist Stefano Palazzi surveyed the distribution of *Gibbula nivosa* in Maltese waters and found that out of 13 different localities in which he looked for this species, it occurred in only 9. Moreover, with but a single exception, only empty shells were found. At St. Thomas Bay Palazzi found living specimens of the Maltese Top-Shell grazing small algae on the leaves of the sea-grass *Posidonia* (Maltese: "alka") at depths of 1–4 meters. The only living specimens of

*Gibbula nivosa* found by Caruana Gatto in 1919 also came from St. Thomas Bay as did living specimens collected more recently by other Maltese malacologists.

For a while it appeared that not only was the Maltese Top-Shell endemic to the Maltese Islands but moreover, it was restricted to a single bay in Malta! However, recently (1981) Charles Cachia reported finding living specimens in several other localities round the Islands. In spite of this *Gibbula nivosa* is by no means abundant. While a handful of sand from any of the localities where it is known to occur will usually yield several empty shells, the living animals are very much harder to find. In view of this it is a pity that *Gibbula nivosa* has started to appear in the catalogues of professional international shell dealers.

Since *Gibbula nivosa* occurs only in the Maltese Islands and nowhere else in the world, there can be little doubt where these shells are coming from. Moreover, professional dealers only trade in high quality shells and the best way of obtaining these is to capture the living animals and then remove the soft parts from the shell. Clearly a good case exists for making the Maltese Top-Shell a protected species.

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#### FURTHER READING

- Adams, A. (1851) Contributions towards a monograph of the Trochidae, a family of gastropodous Mollusca. *Proc. Zool. Soc. London* 14:150–192.
- Cachia, C. (1981) Notes on some uncommon species of molluscs from the Maltese Islands. *Boll. Malacol.* 17:291–294.
- Ghisotti, F. (1976) Considerazioni su *Gibbula nivosa* A. Adams, 1851. *Conchiglie* 12:79–88.
- Palazzi, S. (1978) Osservazioni sull'habitat di *Gibbula nivosa* A. Adams, 1851. *Conchiglie* 14:177–180.

