



Information about the Environment and for travellers in Crete:

About the Roman snails-Fauna of Crete (Helicidae)
Some are vermin – Some become eaten!



In the class of the snails (Gastropoda), category Eupulmonata (genuine lung snails), the Roman snails (to those also belong the kinds of the vineyard snails) are summarized in the family of the Helicidae. The snails of this family are, like most land snails, hermaphrodites, i.e. both males and females. The reproduction of the snails begins with the fact that the snails itself shoot a small lime arrow (“Cupid’s arrow”¹⁾) into the foot. With the following mating ritual the snails soar with the soles together and weigh thereby back and forth. The mating proceeds mutually; the snails can mate itself. Afterwards the snail digs a pit into the earth, into which it puts down the eggs. For their hibernation they prefer to bury oneself partly in earth. Therefore they put a lime cover (Epiphragma) at the entrance of their housing, which primarily protects against dehydration. In spring, when it becomes warmer again, the snail repels the lime cover again and shows up. With strong dryness in the summer and associated water shortages the Roman snails also hold a so called “dry sleep”, to which they often find together in “masses”. Most Roman snails are herbivore, which preferentially graze green, soft and damp plant parts (like e.g. Cucumbers and salad) with their radula.

¹⁾ The “Cubit’s arrows” develop on a papilla within the Cubit’s arrow bag, which represents beside the finger shaped glands and the sperm containing vascular (*Receptaculum seminis*) the third appendix organ of the Vagina and/or the atrium of certain snails. The hollow arrows consist of calcium carbonate, whereby the crystal structure after X-ray diffraction investigations consists of aragonite.

As “vermin” apply on Crete the Mediterranean coastal snail (*Theba pisana*), also known as sand-dune snail or grey filed slug. They occur in enormous amounts and become at some places as plague; in addition they found entrance into the literature as “snail pasana”. The snails of this kind reach a size of (diameter) of 12 to 15 mm and appear in numerous color forms (see fig.).



The picture left shows a "snail bar" with *Theba pisana* during „dry sleep“; found in May 2003 at Analipsi on the North coast of Crete. The below picture series show miscellaneous color forms; from left to right: equipped with a brown band, brownish color form; banded variant drawn with brown points; un-banded, light yellow to whitish color variation and a light spot impact color form. The different coloring does not have a systematic meaning; they are probably characteristic within the biotopes dependent on the habitat.



The accompanying fig. shows a housing in the side view; here the different banding und strike colors become particularly clearly.



Snails become “eaten” probably since the Young Stone Age (Neolithic Age). In the antique above all the vineyard snails were served as food. Vineyard snails (as food) are today bred to a large extent. For this the common edible



snail (*Helix pomatia*) serves first of all – therefore see the cover picture – and the **brown garden snail** (*Helix aspersa*), the latter primary in the Mediterranean countries (see fig.). It’s be found also on Crete and also still collected for consumption “in the free nature” (in Germany both kinds (living in the wild) are protected by the federal species protection regulation). The meat of snails contains very much protein, about five times as much as beef. Apart from the use as “delicate-eat” *Helix aspersa* also finds use in the cosmetics industry. The optimally well-matched contents materials of the snail secretion are provably suitable for the care and healthy maintenance of the human skin and help in natural way for many skin problems.

First **fossil** proofs of snails of the Helicellinae (*Candidula unifasciata*) in Europe are from the Pliocene age, approx. 3.2 million years before today. For the door-snail fauna of Crete see also our leaflet No. 116-05/E.

Snails belong to the Crete cuisine and the various snail dishes go back to the Minoan Crete; vessels with snails are pretty often occupied by archaeological finds. The “Chochli”, how they are called today on Crete based on classical Greek terms, was also a popular meal of the Cretans during the Byzantine time, which they, as even today, cooked with rice or milled wheat. Snails are prepared all over the year, since they can be kept in clean and because of the ventilation, in slack woven pouches. They must be well washed for preparation. In addition the mucous at the opening of the snail shell must be removed; therefore one pickles them in water for some time. The snails recover fast from their solidification and creep from their housing. Precooked with some salt a thorough clean-up (with the removing of the remaining mucous) can be made; afterwards they can be cooked or refined in the pan (according to the kind of preparing).



On the markets of the cities the “Chochli” are offered in small pouches or also in sacks; all finally land (mostly) in a hot pan with olive oil!

Pictures: (4858, 5504, 5506/20.07.2005) U. Kluge / (5210/20.07.2005) H. Eikamp