

The Newsletter of the IUCN/SSC Mollusc Specialist Group  
Species Survival Commission • IUCN - The World Conservation Union

# TENTACLE



## Editorial

This issue marks a small change in the layout of *Tentacle*. *Tentacle* began in 1989 as the newsletter of the Mollusc Specialist Group of the Species Survival Commission of IUCN, and it still is this Group's newsletter. However, it now reaches a far wider audience than just the members of the Mollusc Specialist Group, and this can only be considered a good thing. However, because of this, I feel that it is the news articles about molluscs and their conservation, contributed from far and wide by this expanded readership, that should be most prominent in the newsletter. So these articles will now appear at the start of the newsletter. The sections dealing with IUCN and SSC news, and other items of information (meetings, internet resources), that formerly occupied the first few pages are now moved to the last pages of the newsletter, not because they are unimportant, but because they are probably of less immediate interest to this new wider readership of *Tentacle*. Making *Tentacle* a more attractive read, even in a small way, can only help its purpose, which is to inform as widely as possible about mollusc conservation.

One highlight since the last issue of *Tentacle* is the publication in the April 2004 issue of *BioScience* of an article authored by Charles Lydeard and a number of IUCN Mollusc Specialist Group members entitled "The global decline of nonmarine mollusks". It is available on line either directly on the *BioScience* website (<http://www.aibs.org/bioscience/>) or via a link on the website of the American Malacological Society (<http://erato.acnatsci.org/ams/>). I encourage everyone to take a look at it. In addition, the proceedings of two notable symposia are now published: *Molluscan Biodiversity and Conservation*, from the World Congress of Malacology in Vienna in 2001, and *The Biology and Conservation of Freshwater Gastropods*, from the American Malacological Society's annual meeting in Charleston in 2002; details are given in the list of recent publications on p. 23.

All issues of *Tentacle* are available on the web at <http://www.hawaii.edu/cowielab>. Note that this is a new web address. However, because of very limited resources, hard copies are now only sent to those people on the distribution list for whom I do not have e-mail addresses. I announce the publication of each new issue to all who are on the e-mail

distribution list, so please keep me updated with your current e-mail addresses so that you do not drop off the list. I also announce the availability of each issue, as it appears, on the MOLLUSCA listserv (for details, see page 27).

As always, I reiterate that the content of *Tentacle* depends

## In this issue:

- News: Possible abalone fishing ban in South Africa
- Freshwater bivalves in North America: New position paper, Hickorynut mussel under scrutiny in Canada
- The Gatineau tadpole snail (Physidae) in Canada
- Carychium nannodes* in Pennsylvania
- Stygobite hydrobioids in France
- Habitats Directive species in Slovakia
- Invasion of a North American planorbid in the Balkans
- Non-toxic slug repellants
- Giant African snail widespread in Brasil
- Heleobia annandalei* rediscovered in Israel
- Pomatias elegans* in Turkey
- Endangered helminthoglyptid land snail in California
- Patagonian mussel extremely rare
- Land snails of the Argentine pampas
- Threatened molluscs of Poland
- Pacific island land snails: Land snails under threat from development in Palau; *Oxychilus allarius* preys on native Hawaiian snails; conservation status of Pacific succineids
- Marine matters: Important paper from Tasmania, Purple dye snail in Mexico, Dwarf *Charonia variegata* in the Levant, West Indian topshell in Bermuda
- Book reviews and \*\*SPECIAL OFFER\*\*
- Recent publications relevant to mollusc conservation
- IUCN and SSC News
- Meetings 2005-2006
- Internet resources: lists and websites
- Members of the Mollusc Specialist Group

Preston (1913) described two hydrobiid species, *Bythinella annandalei* and *Bythinella vexillum*, from the same spring complex near Tabgha, including the Octogon pool and two additional localities. These additional localities have disappeared because of overpumping of the Lake Tiberias; however, the species might still be present in karstic springs on the bottom of the Lake, but these are inaccessible. Mienis & Ortal (1994) transferred *B. annandalei* to the genus *Heleobia* and considered it an endangered species because of its very small and uncertain range.

The correct systematic position of *B. vexillum* has remained unclear. Its dark yellowish brown shell ornamented with axial lines of reddish chestnut is very unlike any hydrobiid species known from the Levant or elsewhere in the Palaearctic.

Prof. Bella Galil visited En Sheva on 1 November 2004 in order to make a video film of the blind prawn in its natural habitat. She took the opportunity to sample the pool and the entrance to the subterranean cave for the presence of molluscs. Three species were encountered: *Theodoxus (Neritaea)* sp., *Melanopsis buccinoidea* (Olivier, 1801) and *Heleobia annandalei* (Preston, 1913). Unfortunately not a single specimen was found of *B. vexillum*.

The unknown species of *Theodoxus* is very similar in form, size and colour to *Theodoxus (Neritaea) subterrelictus* Schuett, 1963, a species described from subterranean caves in the former Yugoslavia. *Melanopsis buccinoidea* is a common species in almost every spring and stream throughout the Levant. *Heleobia annandalei* was encountered in fairly large numbers. In the wake of the rediscovery of *H. annandalei*, two samples collected in Tabgha some 40 yr ago were also recognized as belonging to that species.

According to our data the population of *Heleobia annandalei* in En Sheva seems still to be healthy. Since entrance to the pool and the cave is strictly forbidden, as they are situated on private property of a monastery, the species seems to be well protected at the moment as long as the water table in the area does not change. The status of *Bythinella vexillum* remains, however, a riddle.

I thank Prof. Bella Galil of the Israel Oceanographic & Limnological Research Institute, Shiqmona-Haifa, for donating the material discussed to the National Mollusc Collection of the Tel Aviv University.

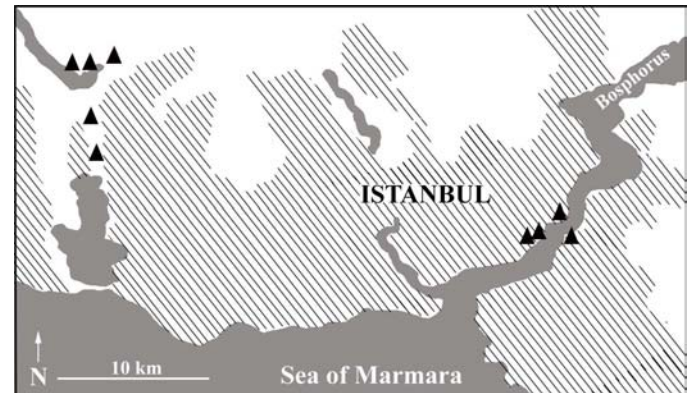
- Holthuis, L.B. 1956. An enumeration of the Crustacea Decapoda Natantia inhabiting subterranean waters. *Vie et Milieu* 7: 43-76.
- Mienis, H.K. & Ortal, R. 1994. The names of the inland aquatic and terrestrial molluscs of Israel (including the categories of the threatened species). *Nature Conservation in Israel, Research and Surveys, Supplement* 2: 1-9 + I-VII + 1-8.
- Por, F.D. 1963. The relict aquatic fauna of the Jordan Rift Valley (new contributions and review). *Israel Journal of Zoology* 12: 47-58.
- Preston, H.B. 1913. A molluscan faunal list of the Lake of Tiberias, with descriptions of new species. *Journal of the Asiatic Society of Bengal (NS)* 9: 467-475, pl. 27.
- Schuett, H. 1963. Vier bemerkenswerte Hoehlenschnecken. *Archiv für Molluskenkunde* 92: 205-213.

Henk K. Mienis, National Mollusc Collection, Zoological Museum, Tel Aviv University, IL-69978 Tel Aviv, Israel. mienis@netzer.org.il

## THE STATUS OF *POMATIAS ELEGANS* IN ISTANBUL, TURKEY

By Aydin Örstan

The earliest records of the terrestrial caenogastropod *Pomatias elegans* (Müller, 1774) from around Istanbul date back to the 19th century, for example, Sturany (1894). Although a recent map of the approximate distribution range of *P. elegans* did not include the Istanbul area (Fig. 1 in Jordaens et al., 2001), the species has been found in the city within the last 4 years in cemeteries (Örstan, 2004) and wooded lots on both sides of the Bosphorus as well as on limestone meadows on the western outskirts of the city.



Recent records of *Pomatias elegans* (triangles) from Istanbul, Turkey. Hatched areas approximate the extent of the city and the surrounding communities.

The colonies of *Pomatias elegans* that are located on a few undeveloped and unprotected lots left within the city will be destroyed when such areas are eventually developed. Other colonies live in somewhat more protected areas, such as cemeteries and steep wooded slopes overlooking the Bosphorus. These colonies have become isolated from each other mostly within the last 100 yr when the city rapidly expanded. But how long can they last? Four characteristics of *P. elegans* seem to lessen its likelihood of long-term survival in urban habitats. First, *P. elegans* strictly requires calcareous substrates (Boycott, 1934). Second, it also requires loose soil into which it habitually buries. Third, it has been characterized as a poor disperser (Pfenninger, 2002). Thus, it would not come as a surprise if in a crowded, busy city like Istanbul, the buildings, roads, and non-calcareous or impenetrable soils surrounding even the closely located suitable habitats completely prevented migration between *P. elegans* colonies. This is supported by a study by Baur & Baur (1990) that showed that in Sweden roads curtailed migration between colonies of *Arianta arbustorum*. Even an unpaired 3 m wide track used only by walkers and cyclists was apparently crossed by only a few snails during a 3 month period. Finally, *P. elegans* cannot self-fertilize (Jordaens et al., 2001). The cumulative result could be the gradual extinction of isolated colonies as a result of inbreeding depression. Small colonies are also threatened by random catastrophic events, for example, fires or droughts, that could wipe them out.

There are also a few records of *Pomatias elegans* from the vicinity of Bursa across the Sea of Marmara, about 100 km south of Istanbul, for example, see Boettger (1957). The

colonies of *P. elegans* in the Istanbul-Bursa area appear to be at the easternmost limit of the range of this species. An analysis of range contractions of several animal groups (including *Achatinella* spp. in Hawaii) demonstrated that populations that persist the longest are peripheral populations on isolated and undisturbed islands, or at high elevations, where human activities that are mostly responsible for extinction are less severe or nonexistent (Channell & Lomolino, 2000). Unfortunately, in the case of *P. elegans* the peripheral colonies happen to be in a part of Turkey that is being continuously and severely disturbed by human activities. The snails are more likely to survive indefinitely only if more and larger areas are left aside as parks and reserves.

Baur, A. & Baur, B. 1990. Are roads barriers to dispersal in the land snail *Arianta arbustorum*? *Canadian Journal of Zoology* 68: 613-617.

Boettger, C. 1957. Über eine Ausbeute von Höhlenmollusken und einigen anderen Weichtieren aus der Türkei. *Archiv für Molluskenkunde* 86: 67-83.

Boycott, A.E. 1934. The habitats of land mollusca in Britain. *Journal of Ecology* 22: 1-38.

Channell, R. & Lomolino, M.V. 2000. Dynamic biogeography and conservation of endangered species. *Nature* 403: 84-86.

Jordaens, K., Platts, E. & Backeljau, T. 2001. Genetic and morphological variation in the land winkle *Pomatias elegans* (Müller) (Caenogastropoda, Pomatiidae). *Journal of Molluscan Studies* 67: 145-152.

Örstan, A. 2004. Cemeteries as refuges for native land snails in Istanbul, Turkey. *Tentacle* 12: 11-12.

Pfenninger, M. 2002. Relationship between microspatial population genetic structure and habitat heterogeneity in *Pomatias elegans* (O.F. Müller 1774) (Caenogastropoda, Pomatiidae). *Biological Journal of the Linnean Society* 76: 565-575.

Sturany, R. 1894. Zur Molluskenfauna der europäischen Türkei. *Annalen des K.K. Naturhistorischen Hofmuseums Wien* 9: 369-390.

Aydin Örstan, Section of Mollusks, Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, Pennsylvania 15213, USA. [pulmonate@earthlink.net](mailto:pulmonate@earthlink.net)

## NEW STUDY CONFIRMS RESTRICTED STATUS OF ENDANGERED CALIFORNIA LAND SNAIL

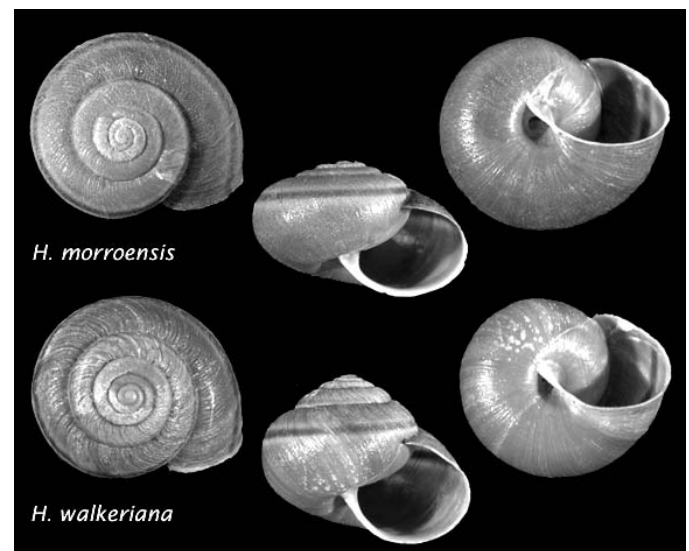
By Jeff Tupen & Barry Roth

The Morro shoulderband, *Helminthoglypta walkeriana* (Hemphill, 1911), is a narrowly distributed helminthoglyptid land snail limited to coastal dune scrub habitats and sandy soils near the city of Morro Bay, in central California. As in much of California, intensive residential development occurred in the Morro Bay region from the early 20th century on. With this increase in population came increases in the rate and magnitude of coastal scrub habitat degradation, resulting largely from land conversion, off-road recreation, and the introduction of invasive plants. Through time, the native habitat of *H. walkeriana* was substantially reduced.

Smith (1970) and Roth (1972) reported *H. walkeriana* as a species at risk because of its scarcity and limited range.

Literature records and museum collections indicated that the species historically ranged inland to San Luis Obispo (approximately 30 km east of Morro Bay) and north along the coast to Cayucos (approximately 4 km north of Morro Bay) (Roth, 1973). Roth (1985) was unable to locate *H. walkeriana* at these marginal locations during surveys conducted in 1984, and this result was interpreted by the United States Fish and Wildlife Service (USFWS) as evidence of a declining range. In 1994, the USFWS, as the main federal agency charged with protecting and conserving non-marine species, listed *H. walkeriana* as endangered under the Endangered Species Act (ESA) of 1973, as amended. This action afforded the species relatively staunch regulatory protection (USFWS, 1994). *H. walkeriana* is the only Californian land snail currently afforded legal protection under the ESA. In fact, it is one of only three mollusks in California receiving formal protection by either California state or federal law (the other two are the state threatened Trinity bristlesnail, *Monadenia infumata setosa* Talmadge, 1952, and the federally endangered white abalone, *Haliotis sorenseni* Bartsch, 1940).

When Hemphill (1911) originally described *H. walkeriana* (as *Helix walkeriana*), he also reported the existence of a “variety” (“*Helix* var. *morroensis*”) differing from typical *H. walkeriana* in sculptural features. Pilsbry (1939) and Roth (1973, 1985) were unable to clarify the relationship between *walkeriana* and *morroensis*. As a result, most malacologists continued to regard *morroensis* as simply a morphological variant of *H. walkeriana* lacking any significant taxonomic status.



*Helminthoglypta* from Morro Bay - San Luis Obispo region, central California. Upper figures: *H. morroensis* (Hemphill, 1911); shell diameter 23.1 mm. Lower figures: *H. walkeriana* (Hemphill, 1911); shell diameter 22.1 mm.

In 2001, we located a population of *Helminthoglypta* at the northern margin of the City of Morro Bay, presumably very near the historic Cayucos locality. All material at this site showed the *morroensis* features, especially weak to absent spiral grooves on the shell. We also noted that shells from this location were more depressed than typical *H. walkeriana*, and displayed profusely granular shell sculpture.

Since our original rediscovery of the *morroensis* form, we and