THE LAND SNAILS OF KÂHTA, ADIYAMAN, TURKEY (MOLLUSCA: GASTROPODA: PULMONATA)

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ABSTRACT: The results of the malacofaunal studies in Kâhta, Adıyaman, Turkey are given.

KEYWORDS: Mollusca, land snails, Kâhta, Adıyaman, Turkey.

Turkey is an important zoogeographical region of the Western Palaearctic, situated on the gateway between Europe and Asia and has affinities with the European, Caucasian, Turanian, and Eremial faunas. Owing to this, the Turkish fauna shows external penetration with some local radiation (Cook, 1997). In addition, it has an interesting aquatic and terrestrial mollusc fauna, which is richer than the adjacent areas of Europe and other countries (Demirsoy, 1999). From this point of view the author has started her malacological surveys all around her country in order to contribute additional data to the Turkish malacofauna since 2000. The malacofaunal data reported from the study area was obtained from the author's malacological survey in company with her sister in 2002.

Turkish malacofauna attracted the foreign scientists at the beginning of the 18th century. Some Turkish malacologists have also been publishing the results of their malacofaunal studies in recent years. Meanwhile, there are international joint projects running about the Turkish malacofauna.

The terrestrial gastropods (Mollusca, Gastropoda, Pulmonata) live under the ground litter in the woods, and in the crevices of limestone rocks, castlean walls, and under stones, occasionally in beach debris. Some species prefer damp shady places whereas other species prefer to aestivate on limestone outcrops exposed to sunlight. The troglobiotic and the troglophilic landsnails inhabit the caves. Some of the Blind Snails (Ferussaciidae) are usually found in subterranean environment and they intrusively feed on fungi, molds, algae and decaying organisms (Mienis, 1992; Schütt, 2005).

Since the landsnails are sensetive to climatic and ecological changes, they can be used as indicators of natural climatic conditions. Thus, they are useful for reconstructing past environments (Bar-Yosef Mayer, 2002; Gümüş, 2009). In addition, the malacofaunal data is being used for the studies in the fields of biogeography, phylogeography, biodiversity, ecology and bio-conservation.

The administrative district of Kâhta (Arsemania), is an important archaeological site located in the northeast of Adıyaman. It has an 1488 m^2 area bordering to Gerger (Adıyaman) in the east, Şanlıurfa in the south, and Malatya in the northeast. The streams of Kâhta and Kalburlu reach Atatürk Dam that was built on the valley of Fırat River.

MATERIAL AND METHODS

The gastropod specimens collected from the study area were identified using the existing literature (Schnell, 1979; Gittenberger & Menkhorst, 1991; 1993; Hausdorf, 1996; Neubert et al., 2000; Şeşen & Schütt, 2003; Schütt, 2005). The specimens collected, identified and labelled are being preserved in the author's special mollusc collection. The study area is located at a high altitute of 2500 metres above sea level and surrounded with limestone rocks. The vegetation is consisted of shrubs, brushwood, pistachio, and pine trees. The gastropod species identified during this study are listed below.

Gastropoda, Pulmonata (=Euthyneura), Stylommatophora

Pupilloidea, Orculidae, Orculinae STEENBERG, 1925
***Orculella* STEENBERG, 1925**
***Orculella sirianocoriensis* (MOUSSON, 1854)**

Distribution in Turkey: The Mediterranean, the Eastern, and the Southeast Anatolia regions (İçel, Adana, Hatay, Kahramanmaraş, Gaziantep, Adıyaman, Urfa, Diyarbakır, Mardin, Siirt, Bitlis, Van, Hakkâri).
Range: Cyprus, Turkey, Israel, Lebanon, Syria, Iraq, Iran.
Habitat: On limestone in highlands (Hausdorf, 1996; Schütt, 2005).

Enoidea, Enidae, Eninae, Enini B. B. WOODWARD, 1903 (1880)
***Turanena* LINDHOLM, 1922**
***Turanena forcartiana* P. SCHNELL, 1979**

Distribution in Turkey: The Inner, the Western Black Sea, and the Eastern Anatolia regions (Çorum, Sivas, Kayseri, Malatya, Kâhta-Adıyaman, Tokat).
Range: It is an endemic species for Turkey, and Kâhta-Adıyaman is the "type locality" of this species.
Habitat: In the crevices of the limestone rocks (Schnell, 1979; Gittenberger & Menkhorst, 1993; Schütt, 2005).

Enoidea, Enidae, Eninae, Enini B. B. WOODWARD, 1903 (1880)
***Pseudochondrula* P. HESSE, 1933**
***Pseudochondrula arctespira* (MOUSSON, 1874)**

Distribution in Turkey: The Eastern, and the Southeast Anatolia regions (Malatya, Elazığ, Adıyaman, Gaziantep, Şanlıurfa, Diyarbakır, Mardin).
Range: Between Aleppo (Syria) and the eastern regions of Turkey.
Habitat: Calcareous territories and relictary forests (Schütt, 2005).

Enoidea, Enidae, Buliminine KOBELT, 1880
***Buliminus* H. BECK, 1937**
***Buliminus alepensis* (L. PFEIFFER, 1841)**

Distribution in Turkey: The Mediterranean, the Eastern, and the Southeast Anatolia regions (Hatay, Malatya, Mardin, Elazığ, Siirt, Diyarbakır, Adıyaman, Gaziantep, Kahramanmaraş, Adana).
Range: Turkey, Northern Syria, Lebanon, Israel.
Habitat: Stony, summer-hot, dry localities (Şeşen & Schütt, 2003; Schütt, 2005).

Enoidea, Enidae, Buliminidae KOBELT, 1880
***Pene* PALLARY, 1929**
***Pene sidoniensis edessanus* (KOBELT, 1899)**

Distribution in Turkey: The Mediterranean, and the Southeast Anatolia regions (Adıyaman, Gaziantep, Kahramanmaraş, Şanlıurfa, Diyarbakır).
Range: It is an abundant and a widespread species in suitable habitats from Israel, Western Syria to the uppermost Fırat-Dicle area.
Habitat: Rocky scrub and brushwood, calcareous screes (Gittenberger & Menkhorst, 1991; Schütt, 2005).

Achatinoidea, Ferussaciidae, Ferussaciinae BOURGUIGNAT, 1833
***Cecilioides* FÉRUSSAC, 1814**
***Cecilioides minuta* (MOUSSON, 1874)**

Distribution in Turkey: The Mediterranean, and the Southeast Anatolia regions (Adana, Hatay, Şanlıurfa, Diyarbakır, Mardin). Kâhta, Adıyaman is recorded as "a new locality" for this species in the present study.
Range: Turkey and Syria.
Habitat: Subterranous species, in interstices of sandy soil, feeding on plant roots, mycel, or in the crevices of limestone rocks (Neubert et al., 2000; Schütt, 2005).

Helicoidea, Hygromiidae, Hygromiinae TRYON, 1866
***Xeropicta* MONTEROSATO, 1892**
***Xeropicta* cf. *derbentina* (KRYNICKI, 1836)**

Distribution in Turkey: The Aegean, The Mediterranean, the Inner, the Eastern, and the Southeast Anatolia regions.
Range: It is one of the most widespread and frequent species, unfortunately the boundaries are unknown, caused by uncertain differantiation of similar taxa. The taxa *X. krynickii, X. derbentina, X. vestalis* and *X. smyrnocretica* are closely related, and are possibly the members of a subspecies-complex, which still has to be investigated.
Habitat: This species inhabits of all nature and types, except extremely damp, or wet sites. The limestone soil is preferred (Schütt, 2005).

RESULTS

In conclusion, 6 species and 1 subspecies of land snails are investigated and recorded in this study. In addition, Kâhta, Adıyaman is recorded as "a new locality" for *Cecilioides minuta*. After examining the previous literature it appeared that no malacofaunal data except *Turanena forcartiana* had been recorded already from the study area. The rest of the taxa (*Orculella sirianocoriensis, Pseudochondrula arctespira, Buliminus alepensis, Pene sidoniensis edessanus, and Xeropicta* cf. *derbentina*) had been recorded from Adıyaman and its vicinities, besides the exact localities had not been given. Three species that had been recorded from Adıyaman; *Orculella heterostropha* (O. Boettger, 1905), *Eopolita derbentina* (O. Boettger, 1886), and *Assyriella guttata* (Olivier, 1804) were not found during the field surveys. The evaluation of the information coming from the habitats of the species distributed in the study area, confirms the geographical characteristics of the region. The distribution of the

species from the study area in Syria, Israel, Lebanon, Iran and Iraq indicates the penetration of the Turanian and the Eremial land snails into the Southeast Anatolia region.

The author hopes very much that this faunal study will be useful for the Turkish malacofaunal database and that there will be young biologists who are willing to study in the field of malacology in the near future in her country.

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