

Distribution of the tiger beetle *Lophyridia aphrodisia* (Baudi, 1864) on the Turkish Mediterranean coast (Coleoptera, Cicindelidae)

by Michael Franzen

Abstract. The tiger beetle *Lophyridia aphrodisia* is reported from several new localities along the Turkish Mediterranean coast. The Turkish distribution of the subspecies *cypricola* extends from Kalkan in the west to Boğsak near the Göksu delta in the east. The subspecies *aphrodisia* is known only from two localities in the eastern part of the Çukurova (Karataş and Yumurtalık). Habitats observed at the new localities correspond well with those reported in the literature.

Kurzfassung. Der Sandlaufkäfer *Lophyridia aphrodisia* wird von mehreren neuen Fundorten entlang der türkischen Mittelmeerküste gemeldet. Die türkische Verbreitung der Unterart *cypricola* reicht demnach von Kalkan im Westen bis nach Boğsak beim Göksu-Delta im Osten. Die Nominatunterart ist nur von zwei Fundorten aus der Osthälfte der Çukurova bekannt (Karataş und Yumurtalık). Die an den neuen Fundorten beobachteten Habitate stimmen gut mit den bisher bekannten Literaturdaten überein.

Key words. Habitat, distribution, Cyprus, Turkey, Syria, Middle East.

Introduction

The tiger beetle *Lophyridia aphrodisia*, a highly specialized inhabitant of seashore rocks (HORN 1931, CASSOLA 1983), has a small and apparently fragmented distribution in the eastern Mediterranean (Sicily, Rhodes, Cyprus, Mediterranean coast of Turkey and Syria; HORN 1931, CASSOLA 1983, WIESNER 1992, CASSOLA 1999). The species was first recorded from Turkey by CASSOLA (1983) at Karataş in the Seyhan-Ceyhan delta south of Adana. Subsequently it was also mentioned from Kalkan at the western part of the Mediterranean coast of Turkey (KORELL 1988, KORELL 1994). These two populations represent two subspecies: while the Karataş locality seems to be the westernmost outpost of the small distribution area of *L. aphrodisia aphrodisia* (Baudi, 1864) (reaching from Latakia in Syria into Turkey), specimens from Kalkan belong to *L. a. cypricola* (Mandl, 1981) which is known from Rhodes and Cyprus (KORELL 1988, KORELL 1994). The distribution gap between the two Turkish localities is approximately 520 km (air distance). I discovered several *Lophyridia aphrodisia* populations in that area during two field trips in 1996 and 1997, which now give us a better understanding of the distribution of the two subspecies along the Turkish Mediterranean coast.

Nomenclature and diagnostic characters

The nomenclatural problems concerning the use of the specific name of the taxon (*L. lugens* vs. *L. aphrodisia*: WIESNER 1992, CASSOLA 1999) were most recently discussed in detail by CASSOLA (1999). I follow CASSOLA's (1999) consistent argumentation for the use of *L. aphrodisia* as the specific name of the taxon.

KORELL (1994) mentioned the following morphological characters as useful for distinguishing *L. a. aphrodisia* and *L. a. cypricola*:

- *L. aphrodisia aphrodisia*: Colour entirely black. Middle band mostly interrupted; if complete, inner and outer parts of the band only finely joined. Elytra shiny, elytral sculpture comparatively rugose.
- *L. aphrodisia cypricola*: Colour of head, pronotum and anterior portions of elytra reddish coppery, darkening to almost black apically. Middle band complete or interrupted. Elytra distinctly less shiny with a silky lustre, elytral sculpture comparatively smooth.

With the exception of a considerable variation of the middle band, I found all the characters mentioned by KORELL to be consistent among my own material, thus enabling each individual specimen to be placed subspecifically without doubt.

Distribution

All localities of *L. aphrodisia* in Greece, Turkey, Cyprus, and Syria known to me are shown in Fig. 1. Exact data of localities and specimens are (CFO = Collection M. Franzen, Oberneuching):

***Lophyridia aphrodisia cypricola*. Greece:** 1 - Rhodes Island: five localities along the central and northern east coast (WIESNER 1990, 1994). 2 - "Castellosso" [= Kastellorizio, Megisti or Meis Island] (SCHATZMAYER 1935). – **Turkey, Antalya prov.:** 3 - W Kalkan, Marina, 2 specimens observed (28.6.1996, FRANZEN & RISCHHEL); Kalkan (KORELL 1988, 1994, CASSOLA 1999). 4 - 1 km W Kaş (road to ancient Antiphellos), 1 ♂ CFO (28.6.1996, FRANZEN & RISCHHEL leg.). 5 - 6 km W Konaklı (NW Alanya), 5 ♂, 4 ♀ (30.6.1996, FRANZEN & RISCHHEL leg.; 14.6.1997, FRANZEN leg.). – **Turkey, İçel prov.:** 6 - Ovacık, 1 ♂, 2 ♀ CFO (3.6.1994, BISCHOFF & BISCHOFF leg.); 1-3 km W Yeşilovacık, 5 ♂, 4 ♀ CFO (1.7.1994, FRANZEN & RISCHHEL leg.). 7 - 2 km E Boğsak (SW Silifke), 3 ♂, 1 ♀ (1.7.1996, FRANZEN & RISCHHEL leg.). – **Cyprus:** 8 - Paphos, western beach, 1 ♂, 1 ♀ CFO (12.-21.6.1993, A. KORELL leg.). 9 - Cap Gata (HORN 1931). 10 - "Kyrenia" [= Gırne] (CASSOLA 1983).

***Lophyridia aphrodisia aphrodisia*. Turkey, Adana prov.:** 11 - 3 km E Karataş (CASSOLA 1983, KORELL 1988, KORELL 1994, CASSOLA 1999), 7 ♂, 5 ♀ CFO (7.3.1996, FRANZEN & RISCHHEL leg.; 17.6.1997, FRANZEN leg.); Isola Karataş (KORELL 1988). 12 - environment of Yumurталık, 1 ♂ CFO (20.6.1998, WERNER & LIZLER leg.). – **Syria:** 13 - Latakia (KORELL 1994).

Adult specimens of *L. aphrodisia* were found running on relatively flat seashore rocks, preferably around small rock pools (Fig. 2).

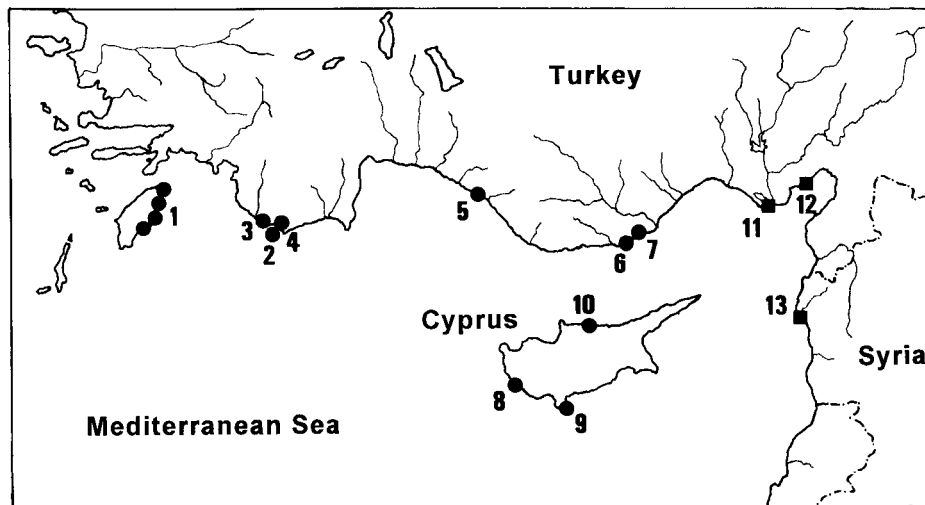


Fig. 1. Distribution of *Lophyridia aphrodisia aphrodisia* (squares) and *Lophyridia aphrodisia cypricola* (dots). One symbol may represent more than one locality. See text for a comprehensive list of localities.

Discussion

The new records at Kaş, Konaklı, Ovacık (Yeşilovacık), and Boğsak extend the known distribution of *L. a. cypricola* on the Turkish south coast some 360 km to the east with its easternmost locality near Boğsak, just west of the Göksu delta. Currently, this subspecies is known from six localities in Turkey, while there are only two of the nominate race (Karataş and Yumurtalık).

The distribution limit between *L. a. aphrodisia* and *L. a. cypricola* is now almost identical with that between the two subspecies of the second exclusively litoral Turkish tiger beetle species, the psammophilous *Lophyridia concolor*: while its nominate race ranges from the Aegean Sea to the Alanya region, the subspecies *L. c. rouxi* occurs in a small Levantine area between Latakia (Syria) and the Göksu delta. Unlike *L. aphrodisia*, *L. concolor* subspecies have large areas of intergradation along the central Turkish Mediterranean coast between Alanya and the Göksu delta and on Cyprus (FRANZEN 1999). Predominantly Levantine distribution areas (as in the case of *L. concolor rouxi* and *L. aphrodisia aphrodisia*) with a northwesternmost boundary between Göksu delta and Çukurova are well known for several amphibians and reptiles (e.g. *Salamandra infraimmaculata*, *Triturus vittatus*, *Lacerta laevis*, *Eirenis levantinus*, *Eirenis decemlineatus*: SCHMIDTLER 1998, FRANZEN & SCHMIDTLER 2000). However, the origin of such areas is completely unclear, but, in the case of tiger beetles, may be linked with climatic changes during glacial/interglacial periods, leaving climatically appropriate refugia on the northern Levantine coast and west of the Göksu delta.

The habitats observed at the new localities correspond well with literature data (HORN 1931, CASSOLA 1983, KORELL 1988, 1994). Considering habitat preferences and climatic parameters, the species should have a wider distribution along the Turkish Mediterranean



Fig. 2. Habitat of *Lophyridia aphrodisia cypricola* west of Yeşilovacık, Içel province.

coast, with a presumed northwestern distribution limit south of the Büyük Menderes delta. The more northerly İzmir region is a well known northern distribution limit for various Mediterranean faunal elements (tiger beetles: *Megacephala euphratica* [FRANZEN 2001] and *Lophyridia concolor* [FRANZEN 1999]). Since rocky seashore habitats predominate along the western and central Mediterranean coastal stretch, the distribution may be more or less continuous there. However, most of these areas are almost inaccessible to man and this may be the reason for the species' apparently fragmented distribution.

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