# Distribution of the tiger beetle *Megacephala (Grammognatha) euphratica* in Egypt, the Middle East and Central Asia (Coleoptera: Cicindelidae)

**by Michael Franzen**

**Abstract:** The distribution of the tiger beetle *Megacephala euphratica* in Egypt, the Middle East and Central Asia is analysed and localities are listed by subspecies. New locality records are presented for *M. e. euphratica* from Turkey (Aegean coast in the Izmir-Selçuk area, Mediterranean coast within the deltas of Göksu, Seyhan/Ceyhan and Asi nehri), Syria (Dayr az Zawar), inland Saudi Arabia (Riyâd and Buraydah) and for *M. e. armeniaca* from Kazakhstan (Lake Aydarkul').

**Kurzfassung:** Die Verbreitung des Sandlaufkäfers *Megacephala euphratica* in Ägypten, dem Mittleren Osten und Zentralasien wird analysiert und mit einer nach Unterarten geordneten Fundortliste aufgezeigt. Neue Fundorte von *M. e. euphratica* werden aus der Türkei (Ägäisküste im Gebiet Izmir - Selçuk, Mittelmeerküste in den Delten des Göksu, Seyhan/Ceyhan und Orontes), Syrien (Dayr az Zawar), dem inneren Saudi-Arabien (Riyâd und Buraydah) sowie von *M. e. armeniaca* aus Kasachstan (Aydarkul'-See) präsentiert.

**Key words:** Coleoptera, Cicindelidae, *Megacephala euphratica euphratica*, *Megacephala euphratica armeniaca*, distribution, Egypt, Middle East, Central Asia.

## Introduction

Most recently the Mediterranean and North African distribution of *Megacephala euphratica* has been revised by CASSOLA (1981). However, CASSOLA's distribution map covers only the western part (reaching from Morocco and Spain to Israel) of the huge range of this conspicuous tiger beetle species. Within the eastern Mediterranean region, CASSOLA gave only a few records from Greece, Cyprus, Israel and Egypt. The aim of the present work is to provide a synopsis of the numerous and widely scattered distribution data, and thereby to give an overview of the eastern range of the species.

## Methods

Regarding the subspecific division, I follow WERNER (1999) who recently synonymized *Tetracha euphratica* var. *nigra* Horn, 1899 (type locality: Cairo) and *Megacephala euphratica aida* Mandl, 1959 (type locality: Djibouti) with the nominate subspecies. Accordingly, *M. euphratica* comprises only two subspecies, the Mediterranean-Arabian nominate subspecies and the predominantly Central Asian *M. e. armeniaca* Castelnau, 1834. Both subspecies are distinguished by their dorsal colouration, which is metallic green in *M. e. euphratica* and bluish-green in *M. e. armeniaca*.

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The data are arranged as follows: The locality is usually followed only by the source (collection acronym or citation); if necessary, modern locality names are given in brackets. More detailed collection data (date, collector, number of specimens) are only given if the records are considerable range extensions. Localities are shown in Fig. 1. Abbreviations: CFO: coll. M. FRANZEN, Oberneuching; CWW: coll. J. WIESNER, Wolfsburg; SMNS: Staatliches Museum für Naturkunde Stuttgart; ZSM: Zoologische Staatssammlung München.

## *Megacephala euphratica euphratica* Latreille & Dejean, 1822

**Greece.** Crete: Palaiókastron (CASSOLA 1981); Rhodes, without exact locality (HORN 1910). A recent occurrence on Rhodes island has not been confirmed by the surveys of WIESNER (1990, 1994).

**Turkey.** Izmir prov.: 10 km E Çamaltı, 10.6.1997, M. FRANZEN leg., 3 specimens (CFO); environments of Selçuk, 4.-22.6.1985, K. & S. WELLSCHMIED leg., 2 specimens (ZSM); 4 km W Selçuk, 25.6.1996, FRANZEN & RISCHEL leg., 20 specimens (CFO); 6.3 km W Selçuk, 26.6.1996, FRANZEN & RISCHEL leg., 5 specimens (CFO); 2.5 km N Pamucak, 26.6.1996, FRANZEN & RISCHEL leg., 12 specimens, 1 larva, (CFO). Içel prov.: Göksu Delta near Kurtuluş, 1.7.1996, FRANZEN & RISCHEL leg., 20 specimens (CFO). Adana prov.: 5 km E Tuzla (S Adana), 16.6.1997, M. FRANZEN leg., 20 specimens (CFO). Hatay prov.: Asi nehri Delta 1 km S of Samandağı beach, 20.6.1997, M. FRANZEN leg., 20 specimens (CFO). These are the first reliable records from Turkey (see also CASSOLA 1999). The species was first mentioned from this country by KORELL (1988), who found a pair of elytra in the Göksu Delta. In addition, the ZSM has two specimens which were collected near Selçuk on the Aegean coast in 1985. I visited both localities and other similar sites (salty coastal flats) along the southwestern and southern coasts in 1996 and 1997 and found the species to be locally common, being active after sunset. Although all currently known populations are dense and apparently stable, the distribution of *Megacephala euphratica* in Turkey seems to be strongly localized and restricted to isolated, undisturbed coastal salt flats. Copulating pairs were observed on 16.6.1997 (Tuzla), 26.6.1996 (Pamucak), and 1.7. 1996 (Silifke-Kurtuluş, Fig. 2).

**Cyprus.** "Cyprus", without exact locality (HORN 1910). To date there are no recent and precise locality records available from Cyprus. However, the occurrence of this species seems to be probable on the coastal salt plains near Larnaca and Limassol.

**Egypt.** Siwa (ALFIERI 1975); Alexandria (SCHATZMAYR 1936); Mex and Maryut (ALFIERI 1975); El Ma'mûra [= Ramleh] (SCHATZMAYR 1936); Damietta [= Dumyât] (SCHATZMAYR 1936); Ras el Barr (ALFIERI 1975); Shubra (ALFIERI 1975); Port Said (SCHATZMAYR 1936, ALFIERI 1975); Cairo (type locality of *Tetracha euphratica* var. *nigra*: HORN 1899); Lago Carum [= Birket Qârun] (SCHATZMAYR 1936); Al-Fayyum [= El Faiyûm] (ZSM); Heluan [= Helwân] (SCHATZMAYR 1936, ALFIERI 1975); El Tor [= El Tûr] (SCHATZMAYR 1936); Nabek [= Nabq] (NUSSBAUM 1987); Dahav (NUSSBAUM 1987); various unnamed localities along the Mediterranean coast of Sinai (Sabkhet el Bardali area and east of El Arish) in the distribution map of NUSSBAUM (1987).

**Djibouti.** Djibouti (type locality of *Megacephala euphratica aida*: MANDL 1959a); Gulf of Tadjurra [= Tadjoura] (MANDL 1959a).

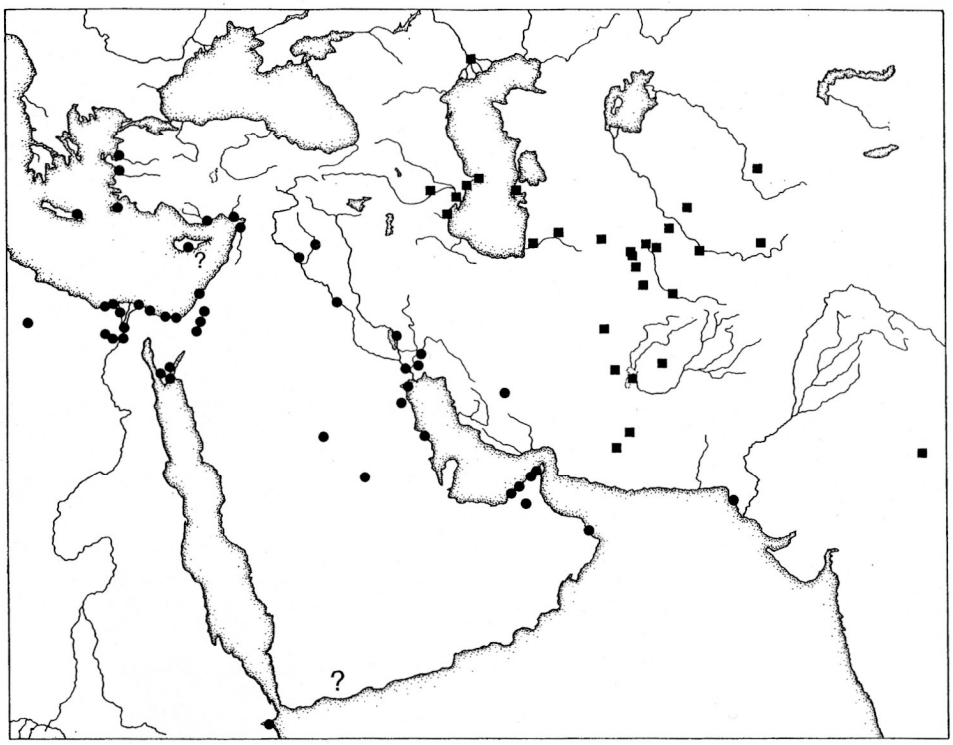


Fig. 1. Distribution of *Megacephala euphratica euphratica* (dots) and *M. e. armeniaca* (squares) in Egypt, the Middle East and Central Asia. See text for localities. Question marks indicate records without exact locality data. Symbols may represent either one or several nearby localities.

**Israel and West Bank.** Caifa [= Haifa] (BEDEL 1895-1914); Atlit salt pools (NUSSBAUM 1987, WERNER 1991; Kalia (NUSSBAUM 1987); Navit pools (NUSSBAUM 1987); Zohar salt flats (NUSSBAUM 1987); Neot-Hakikkar (NUSSBAUM 1987); Arava (NUSSBAUM 1987).

**Syria.** Dayr az Zawar (12.-13.6.1980, MÜHLE, pers. comm.); Chatunije [= Khatuniyah] (HORN 1927). See KORELL (1984) for the habitat near Dayr az Zawar. These seem to be the only reliable records from the territory of the modern Syrian Arab Republic. Though the species is regulary mentioned to occur in "Syria" (BEDEL 1895–1914, HORN 1910, CASSOLA 1981, WIESNER 1992) this seems to refer to the geographical region of "Syria" prior to the foundation of the Syrian Arab Republic in 1943 (which also included parts of southern Turkey, Lebanon and Israel) rather than to the territory of modern Syria.

**Iraq.** Ramadi [= Ar Ramadi] (MANDL 1967a); Tigris, Amara [= Al Amarah] (HORN 1927); Basra [= Al Basrah] (HORN 1927).

**Kuwait.** Jal al Zor [= Az Zawr] (AL-HOUTY 1989); Al Wafrah (AL-HOUTY 1989).

**Saudi Arabia.** Buraydah, 8.5.1976, R. MENRAD leg. (1 specimen ZSM, 1 specimen CWW); Riyadh region [Ar Riyâd], 1970-1971, leg. ABU YAMAN (2 specimens ZSM); Sabkhat al-Fasl near Juabil [= Al Jubayl], 27°02'46''N 49°29'04''E (CASSOLA & SCHNEIDER 1997). The species has most recently been recorded in Saudi Arabia from the Arabian Gulf coast (CASSOLA & SCHNEIDER 1997). However, the inland localities of Buraydah and Riyadh given here imply a far wider distribution within the Arabian deserts.

**United Arab Emirates.** Between Ras Sadr and Ras Hanjurah; 14 km SW Jebel Ali; Jebel Ali; Dubai [Dubayy]; 30 km SW Al Jazirat al Hamra; 36 km SW Ras al Khaimah [Ra 's al Khaymah]; Ain al Faydah [Al 'Ayn], all records according to WIESNER (1998). WIESNER (1998) presented an up-to-date list of tiger beetle localities in the United Arab Emirates. See also WIESNER (1993, 1996) and GILLETT (1995) for some additional information.

**Oman.** N of Sur, Khwar Gkamah (CASSOLA & RIHANE 1996).

**Yemen.** CASSOLA & RIHANE (1996) and WIESNER (1998) mention the species without exact locality from "Yemen".

**Iran.** Khorramshahr (NAVIAUX 1983); Shadegan (MANDL 1959b); Ahwaz [= Ahvaz] (NAVIAUX 1983); Niriseeufer [Niris Lake, Daryacheh-ye Bakhtegan] (MANDL 1953).

**Pakistan.** Karachi (FOWLER 1912). WIESNER (1992) mentioned *M. e. armeniaca* from Karachi. However, FOWLER (1912) clearly stated that the nominate race occurs there.

## *Megacephala euphratica armeniaca* Castelnau, 1834

**Russia.** Astrachan [= Astrakhan], no other data (2 specimens ZSM). Although an occurrence in the Volga delta is not unlikely for ecological and zoogeographical reasons, the locality may refer to Astrakhan Bazar in southern Azerbaijan. The species is not mentioned from the desert steppe zone of the south Russian plain by KRYZHANOVSKIJ et al. (1995).

**Kazakhstan.** Lake Aydarkul' 50 km E Chardara, Arnasai (1 specimen CWW). Although labelled as a site in Uzbekistan ("USSR, Uzbekistan, 50 km E Chardara, Kyzylkum-Desert, Arnasai, Lake Airbakul, 8.5.1990, CECHOVSKY PETRT. leg.") the collecting locality is actually in Kazakhstan. This seems to be the first record for this country.

**Uzbekistan.** Kagan near Bukhara (1 specimen CWW).

**Tadzhikistan.** Vakhsh plain near Kalininabad (GEBERT 1991).

**Turkmenistan.** Krasnovodsk (1 specimen ZSM); Kyzyl-Atrek, Deleli (PUTCHKOV 1995); Kyzyl-Atrek, Chatly (PUTCHKOV 1995); Kopet-Dag: Garygala (CFO); 30 km east of Askhabad, Gijaurs (PUTCHKOV 1995); Tedzhen (ZSM); 30 km south of Tedzhen (PUTCHKOV 1995); Serachs [= Serakhs] (CFO); Badchyz (CWW); Merv [= Mary] (HORN 1926); Bayram-Ali (ZSM); Repetek (PUTCHKOV 1995); Kugitang, Charshanga, Karljuk (PUTCHKOV 1995).

**Azerbaijan.** Steppa Mil [= Mils'kaya Step], prov. Elisavetpol (LUTSHNIK 1915); Baku (WERNER 1991); Alyat (WERNER 1991); Saljen [= Salyan] (HORN 1926); Lenkoran (ZSM).

Fig. 2. *Megacephala e. euphratica* showing post-copulatory amplexus (Turkey, Içel prov.: Göksu Delta near Kurtuluş, 1.7.1996).

Two additional localities from Transcaucasia (probably within the territory of modern Azerbaijan), were given by LUTSHNIK (1915): "Bankovski-Promysel, distr. Dževat" and "Ares". I was not able to locate them on any maps.

**Iran.** "Sarhad: fontaine Tshaashei" [Sarhaad, Sarhad-e Bala] (TSCHITSCHÉRINE 1903); Bendan [= Bandān] (TSCHITSCHÉRINE 1903); Zābol (RIVALIER 1967, NAVIAUX 1983); Khāsh (RIVALIER 1967); Iranshar [= Irānshahr] (MANDL 1959b, SMNS). MANDL (1959b) did not mention the subspecies of the Irānshahr record. However, the SMNS collection houses a specimen of *M. euphratica* from Irānshahr (4.1953, SCHÄUFELE leg.) which clearly belongs to *M. e. armeniaca*.

**Afghanistan.** Bala Murghab, Herat prov. (MANDL 1967b); Dasht plain: Chah-i-anjeer [= Chāh-e Anjār] (ZSM).

**India.** "United Provinces: Agra" (FOWLER 1912).

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