

An Annotated Checklist and Review of the Tiger Beetles (Coleoptera: Cicindelidae) of the Syrian Arab Republic with New Locality Records¹

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Abstract An annotated list of the tiger beetles (Coleoptera: Cicindelidae) reported from the Syrian Arab Republic was developed from existing literature and collections. Thirteen species/subspecies representing 7 genera are confirmed as occurring in modern-day Syria. These are differentiated from those reported from regions adjacent to the Syrian borders and likely to occur in Syria and from those reported from ancient Syria and likely do not occur in modern-day Syria. Habitat and distribution records along with other available remarks are provided for each species listed. These data further clarify the occurrence of tiger beetles in the Syrian Arab Republic and its environs.

Key Words Coleoptera, Cicindelidae, tiger beetles, Syria

Since its founding as the Syrian Arab Republic in 1946, Syria has occupied 185,170 km² in the middle-East region. Changes in its borders through history have caused some confusion over the occurrence of organisms within the country. Of specific interest and importance are those that may prove as pests to humans and their food and fiber as well as any beneficial organisms. Among these latter organisms are the tiger beetles (Coleoptera: Cicindelidae) that are predators of a variety of crop insect pests. The tiger beetle fauna of modern-day Syria is poorly known. Records of tiger beetle occurrence in Syria are limited, and many refer to the geographical region prior to the founding of the Syrian Arab Republic with its current borders. Our objective herein is to provide a checklist of tiger beetle species and subspecies that we have identified as being known from modern-day Syria with new locality records of the species. Where possible, we have annotated this list with distribution and other information on individual species. The systematic arrangement that we have used follows that of Wiesner (1992).

The overall list is separated into 3 categories of recorded occurrence: (1) Species recorded from modern-day Syria; (2) Species recorded from areas adjacent to and likely occur in modern-day Syria, and; (3) Species recorded from ancient "Syria" but likely do not occur in modern-day Syria.

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Species recorded from modern-day Syria

We identified 13 species/subspecies representing 7 genera as being known from modern-day Syria.

***Grammognatha euphratica euphratica* (Latreille & Dejean, 1822)**

Habitat: On open ground with low vegetation on saline substrate near the water's edge. **Geographical distribution:** Spain, Morocco, Algeria, Tunisia, Libya, Senegal, Greece, Cyprus, Turkey, Egypt, Israel, Jordan, Lebanon, Syria, Iraq, Yemen, Kuwait, Saudi Arabia, United Arab Emirates, Oman, Djibouti, Iran, Pakistan. **Records from Syria:** Banks of Euphrates River (de la Brûlerie 1876); Dayr az Zawar = Deir-ez-Zoor (Franzen 2001); Chatunije = Khatuniyah (Horn 1927); 1998, Syria septentrionale, Buhayrat al Asad, Ath Thawrah, 323 m, leg. P. Kabátek (in coll. P. Kabátek and coll. J. Gebert).

***Cicindela (Cicindela) thughurica* Franzen, 2007**

Habitat: On clay substrate interspersed with small stones and no or very sparse vegetation as cover. **Geographical distribution:** Turkey, Syria. **Records from Syria:** 6. 2006, Bludan, leg. K. Deneš, P. Kabátek and V. Skoupý (in coll. K. Deneš, M. Franzen, J. Gebert, P. Kabátek and V. Skoupý). **Remarks:** Franzen (2007) described *Cicindela (Cicindela) thughurica* from southern Turkey and separated it from *Cicindela (Cicindela) herbacea* Klug, 1832. Old records of the latter from the localities "Northern Syria" (de la Brûlerie 1876), "Marasch" (Werner 1991: plate 20, Fig. 157) and "Akbes" (in the second author's collection and in coll. Senckenberg Naturhistorische Sammlungen Dresden) are today within Turkey and represent *C. thughurica* not *C. herbacea*.

***Calomera concolor rouxi* (Barthelemy, 1835)**

Habitat: On seashores. **Geographical distribution:** Cyprus, Syria, Turkey. **Records from Syria:** Latakia (Franzen 1999).

***Calomera fischeri fischeri* (Adams, 1817)**

Habitat: On humid sandy areas in river beds. **Geographical distribution:** Bulgaria, Azerbaijan, Armenia, Macedonia, Albania, Greece, Cyprus, Turkey, Israel, Jordan, Lebanon, Syria, N Iran. **Remarks:** A. Korell collected *C. fischeri* together with *Lophyra hilariola* at River Afrin (Aleppo), 11. - 15. 5. 1997 (Korell in litt. to M. Franzen).

***Calomera littoralis aulicoides* (Sahlberg, 1913)**

Habitat: On muddy and sandy soil near freshwater pools. **Geographical distribution:** Egypt, Israel, Jordan, Syria, Turkey, Iraq, Saudi Arabia, Iran. **Records from Syria:** Deir-ez-Zoor (Korell 1984); 16. 6. 1980, Syria orientale, Deir-ez-Zoor, am Euphrat, leg. H. Mühle, 1 male, 1 female (in the second author's collection).

***Calomera littoralis winkleri* (Mandl, 1934)**

Habitat: On moist sandbanks in riverbeds and on sandy shores of the coast. **Geographical distribution:** Greece, Cyprus, Turkey, Lebanon, Israel, Syria, Jordan, Iraq, Iran, Afghanistan, Armenia, Azerbaijan, Turkmenistan. **Records from Syria:** Latakia (Mandl 1981). **Remarks:** Franzen in litt.: "I am extremely skeptical about the current subspecific allocation of *littoralis* specimens, and especially of *mandli*. I tentatively treat southern and eastern populations of this taxon as *winkleri*, whereas Central Anatolian populations may represent a separate subspecies. Since the type locality of *mandli* is in extreme eastern Turkey (Ercek gölü, east of Lake Van), *mandli* would thus be a synonym of *winkleri* (I checked topotypic specimens)."

***Calomera aulica aulica* (Dejean, 1831)**

Habitat: On sandy soil covered with plants (Werner 1991). **Geographical distribution:** Greece, Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Djibouti, Israel, Lebanon,

Jordan, Syria, Saudi Arabia, Yemen, Bahrain, United Arab Emirates, Oman, Iraq, Somalia, Iran, Pakistan, Senegal, Gambia, Guinea Bissau, Guinea, Chad, Cap Verde, Angola, Kenya. **Records from Syria:** No local records available (Putchkov and Matalin 2003).

***Calomera aphrodisia aphrodisia* (Baudi, 1864)**

Habitat: Near the sea among rocks. **Geographical distribution:** Syria, Turkey. **Records from Syria:** Latakia, N Syria (Horn 1931).

***Lophyra (Lophyra) hilariola* (Bates, 1874)**

Habitat: On sandbanks and muddy islands of rivers. **Geographical distribution:** Turkey, Syria, Iran, Iraq. **Records from Syria:** 20 km WSW Ar-Raqqah, southern banks of Euphrates River (Franzen and Bischoff 1995); 11. - 15. 5. 1997, Syria (Aleppo), approx. 10 km S. Afrin: River Afrin, approx. 200 - 300 m, leg. A. Korell & J. Frisch, 1 male, 1 female (in the second author's collection).

***Cephalota (Taenidia) zarudniana vartianorum* (Mandl, 1967)**

Habitat: On muddy and saline soil. **Geographical distribution:** Iraq, Iran, Syria, Israel, Jordan. **Records from Syria:** Deir-ez-Zoor (Korell 1984); 1998, Syria sept. Buhayrat al Asad, Ath Thawrah, 323 m, leg. P. Kabátek & K. Denes (in coll. P. Kabátek and coll. J. Gebert).

***Homodela ismenia kilikiensis* (Mandl, 1961)**

Habitat: In open woods and on sunny slopes. **Geographical distribution:** Turkey, Syria. **Records from Syria:** Ziyaret dağı, Kartal dağı, 45 km NE Latakia (Franzen 2003).

***Myriochila (Myriochila) orientalis* (Dejean, 1825)**

Habitat: On saline soil (Korell 1984). **Geographical distribution:** Turkey, Iran, Iraq, Syria, Georgia, Armenia, Azerbaijan, Russia (S. European Territory), Turkmenistan, Tadjikistan, Kyrgyzstan, Kazakhstan, Uzbekistan, China (Xinjiang). **Records from Syria:** Deir-ez-Zoor (Korell 1984).

***Myriochila (Myriochila) melancholica melancholica* (Fabricius, 1798)**

Habitat: On sand and mud from small pools next to the seashore. **Geographical distribution:** Portugal, Spain, Malta, France, Italy, Albania, Greece, Cyprus, Turkey, Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Jordan, Lebanon, Saudi Arabia, Yemen, Kuwait, Bahrain, United Arab Emirates, Oman, Iran, Syria, Iraq, Azerbaijan, Georgia, Kazakhstan, Armenia, Kyrgyzstan, Tadjikistan, Turkmenistan, Uzbekistan, Pakistan, Afghanistan, Nepal, India, China (Xinjiang), Cape Verde Is, Senegal, Gambia, Sierra Leone, Guinea Bissau, Guinea, Chad, Ivory Coast, Togo, Ghana, Nigeria, Cameroon, Sao Tomé and Príncipe, Equatorial Guinea, Central African Republic, Congo, Democratic Republic of Congo, Tanzania, Kenya, Somalia, Ethiopia, Sudan, Zimbabwe, Malawi, Mozambique, Burkina Faso, Angola, Namibia, Botswana, Zambia, Swaziland, South Africa, Madagascar, Seychelles. **Records from Syria:** Deir-ez-Zoor (Korell 1984); 1998, Syria sept. Buhayrat al Asad, Ath Thawrah, 323 m, leg. P. Kabátek & K. Denes (in coll. P. Kabátek and coll. J. Gebert); 1998, Syria sept. Buhayrat al Asad, Ath Thawrah, 323 m, leg. P. Kabátek & K. Denes (in coll. P. Kabátek and coll. J. Gebert); 24. 06. 1998, Syria centr, Palmyra, leg. P. Kabátek (in coll. P. Kabátek and J. Gebert).

Species recorded from regions adjacent to Syria and likely to occur in Syria

***Cicindela (Cicindela) asiatica asiatica* Audouin & Brullé, 1839**

Geographical distribution: Turkey, Iran, Iraq, Armenia, Azerbaijan. **Remarks:** There appear to be no reliable records from modern-day Syria of this species. Horn's

(1926) records may refer to Turkish localities because the species is common in the regions of Turkey formerly referred to as "Syria" (e.g., "Marasch" = Kahramanmaraş, "Akbez, Syr."). There are at least 3 recent records close to the Turkish/Syrian border which imply an occurrence in Syria: Kilis prov.: 5. 4. 1998, 3 km W Gülbaba/Martavan (Hassa-Kilis), Franzen & Gruber leg. (in coll. Franzen); 05. 04. 1998, Kilis prov.: near Kazikli (E Hassa), Franzen & Gruber leg. (in coll. Franzen); 13. 4. 1981, Antakya/Hatay prov.: W Yayladagi, at Syrian border, W. Heinz leg. (determined by Werner 1992, plate 42, Figs. 357, 358, as *Homodela ismenia* Gory) (Franzen in litt.).

***Cicindela (Cicindela) herbacea* Klug, 1832**

Geographical distribution: Turkey, Lebanon, ?Israel. **Remarks:** A single specimen with the label data "Aleppo, Syria" (= Halab) (det. W. Horn) is preserved in coll. Senckenberg Naturhistorische Sammlungen Dresden (Gebert in litt.).

***Calomera caucasica* (Adams, 1817)**

Habitat: On sandy river banks. **Geographical distribution:** Turkey, Iraq, Iran. **Remarks:** On the banks of the Euphrates River at Birecik, Turkey, upstream from the Syrian border (Cassola 1999).

***Cylindera (Eugrapha) pygmaea pygmaea* (Dejean, 1825)**

Habitat: On moist sandy spots along river banks. **Geographical distribution:** Turkey, Iran, Iraq, ?Saudi Arabia. **Remarks:** Nearest Turkish record: Euphrates River near Birecik (Cassola 1999).

Species recorded from "Syria" but likely do not occur in modern-day Syria

Ali (1978) listed 6 species from Syria: *Cicindela (Cicindela) lacteola* Pallas, 1776; *Calomera sturmii* (Menetries, 1832); *Cephalota (Taenidia) littorea littorea* (Forsk., 1775); *Cephalota (Taenidia) deserticola* (Faldermann, 1836); *Cylindera (Eugrapha) trisignata* (Dejean, 1822), and *Cylindera (Ifasina) rectangularis* (Klug, 1832). Their occurrence in modern-day Syria is very unlikely. Brûlerie (1876) also presumed that *Cephalota (Taenidia) littorea littorea* occurred in Syria, but Gebert (1991), in his revision, did not list *C. littorea* from Syria.

Wiesner (1992) reported *Cicindela (Cicindela) javettii* Chaudoir, 1861 from Syria. This species is known only from the holotype male preserved in the Muséum National d'Histoire Naturelle de Paris. It was from Albert Kindermann, who was alleged to have collected it in Syria. As stated by de la Brûlerie (1876), and later repeated by Horn and Roeschke (1891), this may be incorrect, as Kindermann assumed that Anatolian, Caucasian, and south European beetles came from Syria. Unless another *C. javettii* specimen from Syria can be found, the record must be considered unlikely.

Mandl (1944) recorded *Cicindela (Cicindela) campestris cyprensis* Hlisnikowski, 1929, from Syria. Records from the mainland opposite Cyprus may refer either to *C. thughurica* or *C. herbacea*. It is unlikely that a third closely-related green tiger beetle taxon co-occurs with *C. thughurica* and possibly *C. herbacea* in the Mediterranean area of the Levant (Franzen in litt.).

de la Brûlerie (1876) recorded *Lophyra (Lophyra) flexuosa flexuosa* (Fabricius, 1787) from Syria. The record refers to the southern Levantian populations from southern Israel.

Horn (1926) recorded *Cylindera (Cylindera) germanica germanica* (Linné, 1758) from Syria. Franzen in litt.: "Horn's record may refer to a locality in southern Turkey, but even I do not know of any localities in adjacent southern Turkey. However, suitable

habitats in Turkey and northwestern Syria may have existed in the past in the Amik plain (now drained and in heavy use as an agricultural area) and along the Orontes River.”

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