

Notes on the genus *Laccobius* ERICHSON, 1837 in Jordan (Coleoptera, Hydrophilidae)

Elio Gentili & Jörg Gebert

Abstract

Before now, only one species of the genus *Laccobius* was known from the kingdom of Jordan. The study of newly collected specimens, mainly by a German team guided by T. ASSMANN (Leuphana UNIVERSITY - Lüneburg) in 2016, increased the number to five. A key to all known species of *Laccobius* from Jordan is provided.

Zusammenfassung

Bisher war aus dem Königreich Jordanien lediglich eine Art der Gattung *Laccobius* bekannt. Die Untersuchung kürzlich gemachter Aufsammlungen erhöhte diese Zahl auf fünf. Ein Bestimmungsschlüssel zu allen bekannten jordanischen *Laccobius* wird bereitgestellt.

Keywords

Aquatic insects, Hydrophilidae, *Laccobius*, faunistics, Kingdom of Jordan.

Introduction

Only one species of *Laccobius* was so far recorded from Jordan: *L. syriacus* Guillebeau, 1896 (GENTILI 1979: 49). The recent Catalogues of HANSEN (1999: 142) and LÖBL & LÖBL (2015: 43) confirm the knowledge of only *L. syriacus* in Jordan. For comparison, 17 species have been reported from the adjoining territory of Israel by HEBAUER (1994: 79). Certainly, *Laccobius* is represented by more than one species in Jordan. We had the opportunity of studying at least four species differing from *L. syriacus*, namely *L. arabicus* GENTILI, 1980; *L. exilis* GENTILI, 1974; *L. praecipuus* KUWERT, 1890; *L. scutellaris* Motschulsky, 1855. These new data are based on unpublished studies of the first author, who had the opportunity to examine specimens collected by J. & F. BEČVÁŘ (1994), P. CHVOJKA (2005), SCHNITTER & SCHELLHORN (2010), and on recent collecting trips by the second author J. GEBERT (2016).

During the spring of 2016, at the beginning of a three-week exploration trip through Jordan, a team of entomologists and biology students of Leuphana University, Lüneburg (Germany) arrived at the southernmost part of Jordan, the Wadi Rum Desert. There, in the Jebel Al Quattar (Ain Qattar) – rock massive is

a deep humid, shaded canyon. It is only open to the northeast. It has typical vegetation of bushes, smaller trees and moss close to the wet areas. After rainfall during the winter season, water aggregates in small rock basins. Most of the water drains into the local wadis. In these small water bodies some *Laccobius* species occur, including *L. syriacus*. At this collecting site, the second author collected at least three very small species.

Material and methods

Our study is based on the literature cited above, and on unpublished data obtained by the first author studying specimens collected by J. & F. BEČVÁŘ, P. CHVOJKA, SCHNITTER & SCHELLHORN, and by the team from Leuphana University.

Studied specimens are in the following collections:

CSHG: Collection A. Skale, Hof, Germany
CGDG: Collection J. Gebert, Dresden, Germany
CWVA: Collection G. Wewalka, Vienna, Austria
MHNL: Muséum d'Histoire Naturelle, Lyon, France

MHNP: Muséum d'Histoire Naturelle, Paris, France
 MSNV: Museo di Storia Naturale, Verona, Italy
 MUSM: State University Lomonosov Museum
 Moscow, Russia
 NHML: Natural History Museum London, Great
 Britain
 NHMP: Národní Muzeum, Prague, Czech Republic
 NHMW: Naturhistorisches Museum Wien, Vienna,
 Austria

Results

At the end of our research, five species of the genus *Laccobius*, representing three subgenera, are known from the Kingdom of Jordan.

Key to subgenera and species of *Laccobius* from the Kingdom of Jordan

- 1 Eyes transverse, in frontal view wider than long (*Cyclolaccobius* GENTILI, 1991). Body length 2.4–2.9 mm. Elytral punctures randomly arranged. Aedeagus as in Fig. 1.....*arabicus* GENTILI, 1980
- Eyes in frontal view nearly circular, as wide as long. Elytral punctures arranged in twenty longitudinal rows.....2
- 2 On average larger: 2.8–4.6 mm. Large punctures scattered between rows of small punctures and never forming on elytra rows similar to each other, in some cases not differing much in size. Anterior top of carina of mesoventrite normally provided with two lateral spurs. Specula often present in males (*Dimorpholaccobius* ZAITZEV, 1938)3
- On average smaller: 1.9–3.2 mm. Rows of elytral punctures alternating between small and large punctures. Specula always lacking in males. Anterior top of carina of mesoventrite simple (*Microloccobius* GENTILI, 1974).....4
- 3 Mentum moderately or weakly punctuate; surface never appearing granulate. Head and pronotum not shagreened. Preocular pale spots conspicuous. Aedeagus as in Fig. 3, Habitus Fig. 2.....*syriacus* GUILLEBEAU, 1896
- Mentum coarsely rugosely punctuate; surface appearing granulate because of closely spaced punctures. Head sometimes shagreened; pronotum not shagreened. Preocular pale spots lacking or hardly distinguishable. Aedeagus as in Fig. 2.....*scutellaris* MOTSCHULSKY, 1855

- 4 Body less convex. Anterior and lateral surface of pronotum paler (Fig. 7). Median lobe of aedeagus, in dorsal view, flat, apex transversely truncated, basal third regularly enlarging (Fig. 5).....*praecipuus* KUWERT, 1890
- Body more convex. Anterior and lateral surface of pronotum darker (Fig. 6). Median lobe of aedeagus, in dorsal view, cylindro-conical, apex rounded, basal third with a constriction (Fig. 4).....*exilis* GENTILI, 1974

Laccobius (Cyclolaccobius) arabicus GENTILI, 1980 (Fig. 1)

L. arabicus GENTILI 1980: 31 (Yemen South, Jebel Harir, holotype ♂ NHML); 1989: 96; 1991: 381; HANSEN 1999: 131; HEBAUER 1994: 106; LÖBL & LÖBL 2015: 41.

Material examined: JORDAN: Dhana, Nature Reserve, Juniperus/Quercus spp. Auf Sandstein JD 08 LF (at light), 30°38'35.2" N 35°36'52.1" E, leg. SCHNITTER/SCHELLHORN 07.05.2010, 1160 m üNN, 1 ♀ CSHG.

Distribution: Afrotropical: Eritrea, Ethiopia, Saudi Arabia, Yemen; Palearctic: Egypt, Israel, Jordan, Sinai. Species scattered in the Arabian Peninsula and neighbouring territories.

Laccobius (Dimorpholaccobius) scutellaris MOTSCHULSKY, 1855 (Fig. 2)

L. scutellaris MOTSCHULSKY 1855: 84 (Turkey, Izmir, lectotype ♀ MUSM, by GENTILI & CHIESA 1976: 94); HANSEN 1999: 140; HEBAUER 1994: 110; LÖBL & LÖBL 2015: 42.

Material examined: Jordan: Ma'an Governorate, Wadi Sabra & Tibn, 30°14'N 35°23'E, 630 m, 23.09.2005, P. Chvojka leg. 1 ♂ 4 ♀♀ NHMP, MSNV; id., Wadi Tibn, 30°15'N 35°24'E, 769 m, 2 ♂♂ 1 ♀ NHMP, MSNV; Jordan – Al Aqaba / Wadi Rum, Al Qatar (Ain Qattar), humid rift / 29.512N 35.3836E, 1166m / stony fresh water source / leg. J. GEBERT 21.03.2016 // E. GENTILI det. 2017 (CGDG, MSNV, NHMW): 10 ♂♂ 9 ♀♀; Jordan (Ma'an) / Petra, Archaeological area, Kings Graves, 885 m, 30°19'47"N 35°26'34"E / (under stones) / 24.03.2016 J. GEBERT [11], 1 ♂ (CGDG); Jordan (Tafilah) Wadi Al Hasā, W At-Tafilah, 742m / 30°57'E 35°46'E / (river bank, in gravel under / stones in flood deposit) / 20.03.2016 J. GEBERT [22], 1 ♀ (CGDG); Jordan (Amman), Wadi Hisbān, NW Ma'dabā / 681 m / 31°49.718N 35°47.673'E / (brook, slopes, field edges / under stones) / 01.04.2016 J. GEBERT [27], 1 ♂ (CGDG).

Distribution: Palaeartic: Azerbaijan, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Egypt, Greece, Israel, Jordan, Lebanon, Macedonia, Montenegro, Slovenia, Tunisia, Turkey. Widespread species in east Mediterranean territories.

***Laccobius (Dimorpholaccobius) syriacus* GUILLEBEAU, 1896 (Fig. 3)**

L. syriacus GUILLEBEAU 1896: 228 (Carmel, Syrie [now Israel], lectotype ♀ MHNL, Coll. GUILLEBEAU, by GENTILI & CHIESA 1976: 133); GENTILI 1979: 49; HANSEN 1999: 142; HEBAUER 1994: 110; LÖBL & LÖBL 2015: 43.

Material examined: El Kerak, Jebel Moab, 1 ex. MHNP, Coll. RÉGIMBART (GENTILI & CHIESA 1976); Jordan (Tafilah) Wadi Al Hasā, W At-Tafilah, 742m / 30°57'E 35°46'E / (river bank, in gravel under / stones in flood deposit) / 20.03.2016 J. GEBERT [22], 1 ♂ (CGDG); Jordan – Al Aqaba / Wadi Rum, Al Qatar (Ain Qattar), humid rift / 29.512N 35.3836E, 1166m / stony fresh water source / leg. J. GEBERT 21.03.2016 // E. GENTILI det. 2017, 2 ♀♀ (CGDG).

Distribution: Palaeartic: Afghanistan, Albania, Algeria, Armenia, Austria, Azerbaijan, Bosnia Herzegovina, Bulgaria, Cyprus, Czechia, Egypt, Georgia, Greece, Hungary, Iran, Iraq, Israel, Jordan, Kazakhstan, Kyrgyzstan, Lebanon, Macedonia, Montenegro, Romania, Slovakia, Serbia, Syria, Tadjikistan, Turkmenistan, Turkey, Ukraine; Oriental: India (Meghalaya). Common east Mediterranean species, reaching from central Europe to central Asia.

***Laccobius (Microlaccobius) exilis* GENTILI, 1974 (Figs 4, 6)**

L. exilis GENTILI, 1974: 560 (Afghanistan, Nuristan, Konar Province, Bashgul Valley; holotype ♂ MSNV); 1988: 44; GENTILI & CHIESA 1976: 70 (synonym of *orientalis* KNISCH, 1924).

Material examined: Ma'an Governorate, Wadi Tibn, 30°15'N 35°24'E, 769 m, 23.09.2005, P. CHVOJKA leg., 1♂ 1♀ NHMP; Karak Governorate, Wadi Hudeira & W. Mu'ta, 31°07'N 35°31'E, -324 m, 29.09.2005, P. CHVOJKA leg., 2♂♂ ♀♀ NHMP; Ma'an Governorate, Wadi Sabra & Tibn, Springs W Al Tayyiba, 23-24.09.2005, P. CHVOJKA leg., 5♀♀ NHMP; Dhana, Nature Reserve, Juniperus/Quercus spp. Auf Sandstein JD 08 LF, 30°38'35,2"N 35°36'52,1"E leg. SCHNITTER/SCHELLHORN 07.05.2010, 1160 m üNN, 1♂ CSHG; Dead Sea, Wadi Mujib, Schotterufer in Wadi, 31°27'55,5"N 35°34'29,4"E, -300 m üNN JD 09, leg. SCHNITTER/ SCHELLHORN 08.05.2010, 9♂ 3♀ CSHG.

Distribution: Palaeartic: Afghanistan, Bhutan, China, Cyprus, Iran, Jordan, Pakistan, Tadjikistan, Tur-

key, Turkmenistan, Uzbekistan; Oriental: India, Myanmar, Nepal. Species widespread in Asia east of Arabia.

***Laccobius (Microlaccobius) praecipuus* KUWERT, 1890 (Figs 5, 7)**

L. praecipuus KUWERT, 1890: 81 (Saudi Arabia, Hijaz, lectotype ♂ MHNP by GENTILI & CHIESA 1976, 79); FIKÁČEK & AL. 2010: 144; GENTILI 1988: 43; 1989: 97; GENTILI & CHIESA 1976: 70 (synonym of *gracilis* MOTSCHULSKY, 1855).

Material examined: Jordan bor. oc. / 12 km S Suweima / 31.3.1994 / 31,40 N 35,34 SE; - 300 m / lgt. S. BEČVÁR J. & S., 1♂ 3♀ MSNV; Al Aqaba, Wadi Rum, Al Qatar (Ain Qattar), humid rift, 29.512N 35.3836E, 1166m, stony fresh water source, leg. J. GEBERT 21.03.2016, 1♂; Tallah, Wadi Al-Hasā, W At-Tafilah, 742 m, 30°57'N 35°46'E (river bank, in gravel under stones in flood deposit) 29.03.2016 J. GEBERT (22), 1♂ 6♀.

Distribution: Afrotropical: Angola, Cameroon, Congo, Ethiopia, Guinea, Kenya, Mauritania, Namibia, Oman, Saudi Arabia (south), South Africa, Sudan, Tanzania, Uganda, Yemen, Zimbabwe. Palaeartic: Algeria (?), Arab Emirates, Canary Islands (?), Egypt, Israel, Jordan, Qatar, Saudi Arabia (north). Widespread species in Arabian Peninsula, Africa northeast, central Africa.

Additional records

Further aquatic beetles as listed below, some of which are recognized as new for the Jordanian fauna. The second author collected these specimens at the same localities as the Hydrophilidae.

Dytiscidae

***Agabus (Gaurodytes) biguttatus* (Olivier, 1795)**

Material examined: Jordan Tallah, Wadi Al-Hasā, W At-Tafilah, 742 m, 30°57'N 35°46'E (river bank, in gravel under stones in flood deposit) 29.03.2016 J. GEBERT [22], 1♂ 1♀, WEWALKA det. (CGDG, CWVA). *Hydroporus tessellatus* (Drapiez, 1819)

Material examined: Jordan 1♂ 1♀ Al Aqaba, Wadi Rum, Al Qatar (Ain Qattar), humid rift, 29.512N 35.3836E, 1166m, stony fresh water source, leg. J. GEBERT 21.03.2016, WEWALKA det. (CGDG, CWVA)

***Nebrioporus (Nebrioporus) stearinus* (Kolenati, 1845)**

Material examined: Jordan 26 ex. (Tafilah) Wadi Al

Hasā, W At-Tafileh, 742m / 30°57'N 35°46'E / (river bank, in gravel under / stones in flood deposit) / 20.03.2016 J. GEBERT [22], (CGDG, NHMW)

Hydraenidae

Ochthebius (Ochthebius) ragusae KUWERT, 1887

Material examined: Jordan 12 ex. (Tafileh) Wadi Al Hasā, W At-Tafileh, 742m / 30°57'N 35°46'E / (river bank, in gravel under / stones in flood deposit) / 20.03.2016 J. Gebert [22], (2 ♂ 2♀ CGDG, 8 ex. NHMW).

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Author's addresses

Elio Gentili
Via S. Gottardo 37
I-21100 Varese
Italia
tel. 0332 225119, cell. 333 9413085;
Museo Scientifico-Naturalistico A. Stoppani, via Pio XI 32, Venegono Inferiore, I-21040 (VA), Italia, tel. 0331 867111
E-mail: elio.gentili32@alice.it

Jörg Gebert
Karl-Liebknecht-Straße 73
D-01109 Dresden
Germany
E-Mail: joerg.gebert@gmx.de



Figure 1 – *Laccobius arabicus*, aedeagus (scale 0,1 mm)



Figure 2 – *Laccobius scutellaris*, aedeagus (scale 0,1 mm)



Figure 3 – *Laccobius syriacus*, aedeagus, (scale 0,1 mm)



Figure 4 – *Laccobius exilis*, aedeagus, (scale 0,1 mm)

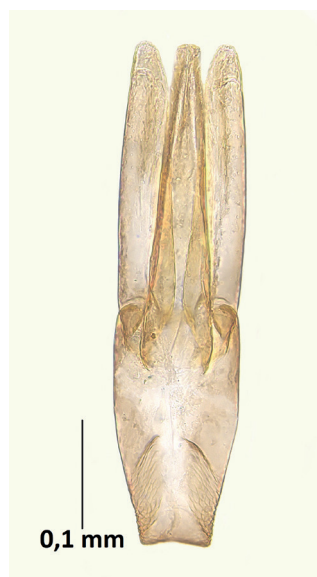


Figure 5 – *Laccobius praecipuus*, aedeagus (scale 0,1 mm)



Figure 6 - *Laccobius exilis*, habitus (scale 1mm)



Figure 7 – *Laccobius praecipuus*, habitus (scale 1 mm)



Figure 8 – *Laccobius syriacus*, habitus (scale 1 mm)



Figure 9 – Habitat: Jordan, Tallah, Wadi Al- Hasā, West of At-Tafilah (situation march 2016) with drinking goats