Somocoelia triplehorni Merkl and Egorov (Coleoptera: Tenebrionidae), the First Species of Platyscelidini in Iran

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Abstract

Somocoelia triplehorni Merkl and Egorov, **new species,** is described from Iran (Eastern Alborz Mts.). This is the first species of the tribe Platyscelidini from Iran. *Somocoelia gracilipes* Kaszab, 1940, **new status**, is re-elevated to species rank.

Key Words: taxonomy, darkling beetles, Alborz, Golestan, new species, Chuck Triplehorn

The tribe Platyscelidini of the subfamily Tenebrioninae comprises 190 valid species assigned to eight genera (Egorov 2004, 2008, 2009a, b; Li *et al*. 2013). Distributed in the southern Palaearctic, it is most diverse in the Central Asian mountain ranges and in the Himalayas, with only four species reaching Europe (Kaszab 1940; Egorov 2006). The most speciose genera are *Bioramix* Bates, 1879 (115 species), *Oodescelis* Motschulsky, 1845 (42 species), and *Platyscelis* Latreille, 1818 (21 species). The remaining five genera contain a total of 12 species. Until now, the tribe was unknown from Iran.

Parts of the Tenebrionidae collection of the late Stanislav Kadlec (Litvínov, Czech Republic), a well-known specialist on Palaearctic Cerambycidae, are now the property of the National Museum, Prague and were sent for identification to the first author. In the Iranian material, specimens apparently belonging to the tribe Platyscelidini were found. Their habitus seemed to be intermediate between *Somocoelia pinguis* Kraatz, 1882 and *Somocoelia arnoldii* Egorov, 1992. Investigation of the relevant details and discussion between the two authors led to the conclusion that these specimens represent a new species.

Material and Methods

The material studied was examined under a Leica MZ 95 stereomicroscope. The illustrations were prepared using a Nikon D5200 camera supplemented with AF Micro-Nikkor 60 mm f/2.8D lens (habitus) or Mitutoyo M Plan Apo 5X microscope lens (tarsomeres and aedeagi). Zerene Stacker software was used to align and stack serial microphotographs.

The pronotal index is the measurement of (width of the pronotum at its widest ÷ length of the pronotum along the midline) × 100. The elytral index is the measurement of (combined width of the elytra at their widest ÷ length of the elytra along the suture) × 100.

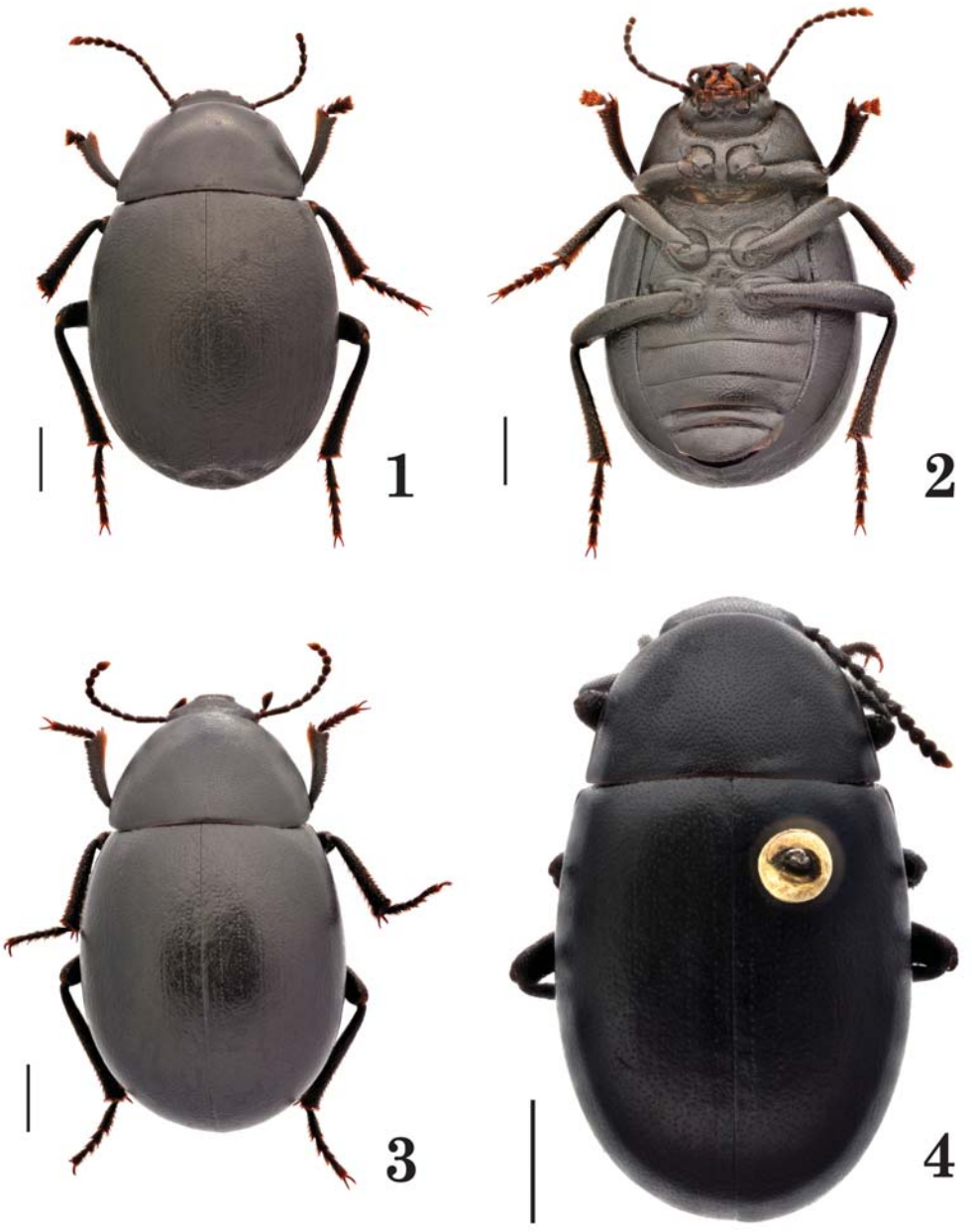
Exact label data are cited for the type material. A forward slash (/) separates different lines and a double slash (//) different labels of data.

Acronyms used are HNHM = Hungarian Natural History Museum, Budapest, Hungary; MNHP = Muséum National d'Histoire Naturelle, Paris, France; NMPC = National Museum, Prague, Czech Republic.

Somocoelia triplehorni Merkl and Egorov, new species

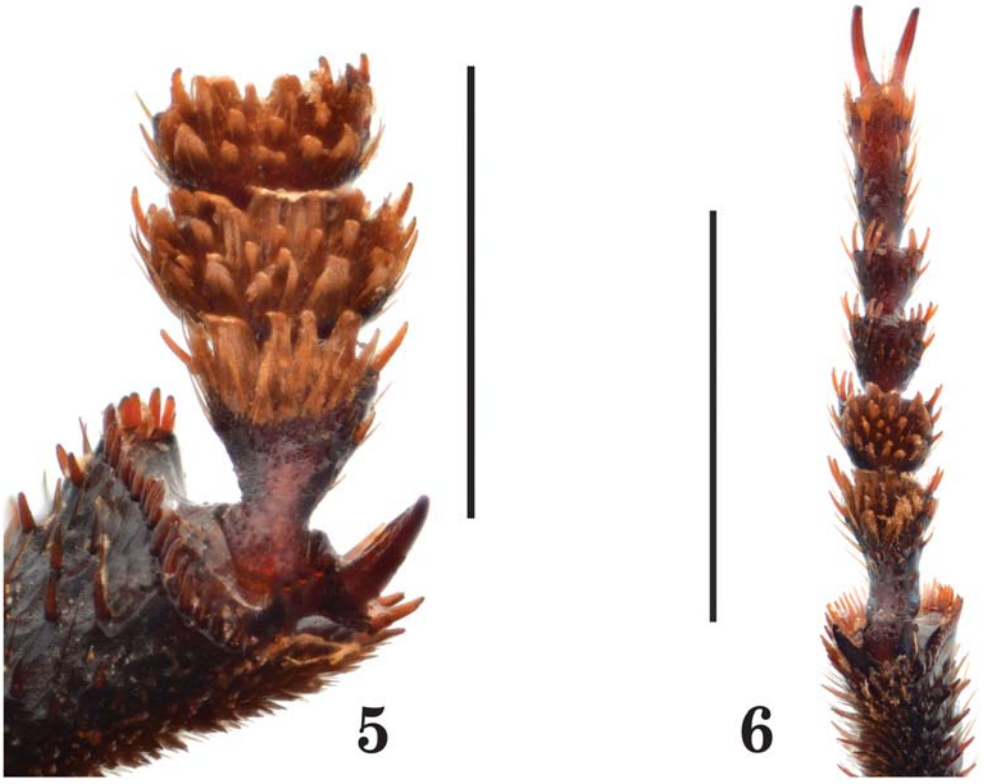
(Figs. 1–3, 5–9)

Description. Body entirely black, rounded, convex. **Male** (Figs. 1–2) body length 11–12 mm (n = 2). Head moderately coarsely, evenly punctate, punctures separated by distance 1.5–2.0X puncture diameter on frons and genae, 1.0–1.5X on clypeus. Antennomere 3 elongate, about 3X as long as antennomere 2 and 2X as long as antennomere 4. Pronotum narrower than elytra, transverse, widest at base, pronotal index 168.2; surface finely, sparsely, evenly punctate on disc (sparser than on head), punctures separated by distance 1.5–4.0X puncture



Figs. 1–4. *Somocoelia* species, habitus. **1)** *S. triplehorni*, male, dorsal view; **2)** *S. triplehorni*, male, ventral view; **3)** *S. triplehorni*, female, dorsal view; **4)** *S. arnoldii*, male, dorsal view. Scale bar = 2.0 mm.

diameter, tending smaller, denser toward lateral, anterior, posterior portions; puncture interspaces smooth, dull; lateral margins finely beaded, slightly arched from posterior to anterior corners, outline with weak concavity in anterior 1/3; anterior margin with bead restricted to lateral 1/4; posterior margin without bead. Prothoracic hypomeron finely rugose-granulate; apex of prosternal process beaded, with minute, shiny median tubercle. Elytra subglobose, evenly convex, widest at middle; elytral index 83.0; surface finely, sparsely, and irregularly punctate on disc (sparser than on pronotum), smaller punctures



Figs. 5–9. *Somocoelia triplehorni*, male structures. **5)** Right protarsomeres 1–3, ventral view; **6)** Right mesotarsus, ventral view; **7)** Aedeagus, ventral view; **8)** Aedeagus, left lateral view; **9)** Aedeagus, right lateral view. Scale bar = 2.0 mm.

separated by distance 3–5X puncture diameter, larger punctures arranged into hardly discernible rows becoming obsolete toward apex; puncture interspaces slightly rugose, dull; lateral margins evenly arched from humeral angle to apex, visible only just posterior to humeral angle; humeral angle rectangular, humeral callosity absent. Elytral epipleura punctate and rugose as disc. Ventral sclerites of meso- and metathorax finely rugose-granulate. Abdominal ventrites with punctation as sparse as but coarser than on elytra. Legs coarsely and densely punctate. Protarsomeres 1–3 (Fig. 5) and mesotarsomeres 1–2 (Fig. 6) with dense ventral pad of reddish setae. Inner margin of apical 1/3 of protibiae fringed with reddish hairs. Aedeagus with apicale elongate triangular, pointed at apex, with straight sides (Figs. 7–9). **Female** (Fig. 3) body length 11–13 mm (n = 7). Similar to male, but larger on average. All tarsomeres without ventral pad of setae.

Type Material. Holotype, male (NMPC): "IRAN – Golestan Prov. / 50 km NE MINUDASHT / Golestan Forest, 700 m, / S. Kadlec leg. 20.vi.2000 // HOLOTYPUS ♂ // *Somocoelia triplehorni* // Merkl et Egorov, 2015 [printed on red paper]". Paratypes: "IRAN – Golestan Prov. / 50 km NE MINUDASHT / Golestan Forest, 700 m, / S. Kadlec leg. 20.vi.2000 // PARATYPUS ♀ // *Somocoelia triplehorni* // Merkl et Egorov, 2015 [printed on yellow paper] " (2 females, HNHM, 6 females, NMPC); "IRAN / Bojnourd / 30-4 // MUSEUM PARIS / Mission /Franco-Iranienne / 1963 // PARATYPUS ♂ // *Somocoelia triplehorni* // Merkl et Egorov, 2015 [printed on yellow paper]" (1 male, MNHP). The holotype lacks the left protarsomeres 3–5, the right protarsomeres 4 and 5, and left mesotarsus.

Distribution. Iran, Golestan Province. The species is known from two localities: 50 km NE Minūdasht (*ca*. 37.44° N, 55.81° E) and Bojnurd (*ca*. 37.47° N, 57.32° E).

Etymology. The new species is dedicated to Dr. Charles A. Triplehorn, Professor Emeritus of The Ohio State University (OSU) and Curator Emeritus of the Charles A. Triplehorn Insect Collection housed in the OSU.

Diagnosis. *Somocoelia triplehorni* differs from *S. arnoldii* (Fig. 4) in the characters summarized in Table 1.

Discussion

The genus *Somocoelia* Kraatz, 1882 was described as "einem grossen *Platyscelis* ähnlich" [similar to a large *Platyscelis*] (Kraatz in Heyden and Kraatz 1882) to include its type species (based on original monotypy), *Somocoelia pinguis* Kraatz, 1882. The genus was later assigned to Blaptini by Kaszab (1938), but was transferred back to Platyscelidini by Kaszab (1940).

The genus is distributed in two areas of Central Asia (Egorov 1998). One is the Pamir-Alay mountains, sympatric with *S. pinguis* and *Somocoelia gracilipes* Kaszab, 1940. *Somocoelia pinguis pinguis* occurs in the southern and western parts of the mountain system in the territory of Tajikistan and Uzbekistan, in the Zarafshan (Zarafshon), Gissar (Hisor), Karategin, Nuratau and Baisuntau (Boysuntov) ranges. *Somocoelia pinguis kuhitangi* Egorov, 1998 occurs in the Kugitangtau Range (Köýtendag) in the easternmost corner of Turkmenistan. *Somocoelia gracilipes* is more northerly in distribution; it inhabits the southern part of the Turkestan Range and the northern part of the Zarafshan range.

The other area is the Alborz and Kopet Dag (Köpet Dag) ranges. *Somocoelia arnoldii* was described (Egorov 1992) from Mount Shahshah (37.806111° N, 58.075278° E), which, with its 2,940 m height, is the highest elevation of the Turkmenian part of the Kopet Dag Range. Although *S. triplehorni* is very similar to *S. arnoldii*, it is considered as a distinct species. Apart from different stature and body proportions, this can be justified by the fact that *S. triplehorni* occurs in a mountain range (Eastern Alborz) that is separated from Kopet Dag.

While differentiating the species of *Somocoelia*, presence or absence of ventral setal pads of male tarsomeres is imperative. This is the reason why we give again species rank to *Somocoelia gracilipes*, **new status**, which was treated as a subspecies of

Table 1. Differences between *Somocoelia triplehorni* and *Somocoelia arnoldii*.

Character	*S. triplehorni*	*S. arnoldii*
Elytra, shape	much broader, nearly globose, evenly convex	much narrower, elongate oval, slightly depressed
Elytra, lateral margins	strongly rounded	slightly arcuate, nearly parallel-sided
Elytral index	83.0	80.0
Pronotum	arcuate narrowing from base	nearly straight in basal half, then arcuately narrowing
Pronotal index	168.2	188.0

S. pinguis by Egorov (1998). *Somocoelia pinguis* has no pads at all, while the other species have them at least on the protarsomeres.

Key to the Species of *Somocoelia*
(modified from Egorov 1998)

1. Plantar surface of male tarsomeres without dense setal pad. Subspecies of *S. pinguis*..... 2
1′. Plantar surface of male tarsomeres with dense setal pad at least on protarsi.....3
2. Apical antennomere more than 2X longer than wide. Eastern Turkmenistan (Kugitangtau) ..... ***S. pinguis kuhitangi***
2′. Apical antennomere less than 2X longer than wide. Tajikistan, Uzbekistan..... .....***S. pinguis pinguis***
3. Pronotum widest slightly before base, sides arcuately narrowed from base to apex. Plantar surface of male protarsomeres 1–3 with dense setal pad; mesotarsomeres without setal pads. Tajikistan.....***S. gracilipes***
3′. Pronotum widest at base. Plantar surface of male protarsomeres 1–3 and mesotarsomeres 1–2 with dense setal pad 4
4. Elytra much broader, nearly globose, evenly convex; sides of pronotum arcuate, narrowing from base. Iran (Western Alborz) ....***S. triplehorni***
4′. Elytra narrower, elongate oval, slightly depressed; sides of pronotum narrowed in almost straight line in basal half, then slightly arcuate. Turkmenistan (Kopet Dag)..... .....***S. arnoldii***

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