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## **On the genus *Crataraea* (Coleoptera: Staphylinidae: Aleocharinae: Oxypodini)**

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**A b s t r a c t :** Three species previously attributed to the *Crataraea* THOMSON, 1858, subtribe Microglottina, are revised and illustrated. Only one of them, *C. solskyi* (EPPELSHEIM, 1888), is retained in the genus. Two species are moved to *Aleochara* GRAVENHORST 1802: *Aleochara (Xenochara) rubripennis* (FAUVEL, 1872), nov.comb., and *A. (X.) eremita* (PEYERIMHOFF, 1931), nov.comb. The previous synonym *Aleochara rubripes* BLATCHLEY, 1910 is revalidated to replace the secondary junior homonym *Aleochara rubripennis* (CASEY, 1906). A lectotype is designated for *Crataraea rubripennis* FAUVEL, 1872. *Crataraea* now includes three species native in the Palaearctic region, with one species adventive in North America. A key to species is provided.

**K e y w o r d s :** Coleoptera, Staphylinidae, Aleocharinae, *Crataraea*, *Aleochara*, Palaearctic region, taxonomy, revalidation, homonymy, lectotype designation, new combinations.

### **Introduction**

According to ASSING (2014), the oxypodine genus *Crataraea* THOMSON, 1858 was previously represented by five species, all of them native to the Palaearctic region and one of them adventive in North America. Three species, however, had not been revised. Two of these species, *C. eremita* PEYERIMHOFF, 1931 and *C. rubripennis* FAUVEL, 1872, were described from Algeria and one, *C. solskyi* (EPPELSHEIM, 1888), from Uzbekistan.

The present paper aims at clarifying the identities of these three species. An examination of the respective type material revealed that the generic assignment of two species was erroneous. For additional information on the systematics, taxonomy, and natural history of the genus and the two previously studied species, *C. suturalis* (MANNERHEIM, 1830) and *C. myrmecophila* ASSING, 2014, see ASSING (2014).

### **Material and methods**

The material treated in this study is deposited in the following collections:  
 IRSNB..... Institut royal des Sciences naturelles de Belgique (Y. Gérard)  
 MNHNP ..... Muséum national d'Histoire naturelle Paris (A. Taghavian)  
 NHMW ..... Naturhistorisches Museum Wien (H. Schilhammer)

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images of the habitus and the forebody were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. A digital camera (Nikon Coolpix 995) was used for the remaining photographs.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the clypeus (without ante-clypeus) to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the median lobe. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

## Results

### *Crataraea solskyi* (EPPELSHEIM, 1888) (Figs 1-4)

*Microglossa* (*Crataraea*) *solskyi* EPPELSHEIM, 1888: 49 f.

Type material examined: **Syntypes**: 1♂: "Tashk. / Solskyi mihi. Taschkent. ded. Faust. / c. Eplsh. Steind. d. / Solskyi Epp., Deut. Ent. Zeit. 1888. p. 49. / Typus / Crataraea solskyi ♀ (Eppelsheim), det. V. Assing 2014" (NHMW); 1♂: "Solskyi mihi. Taschkent. ded. Faust. / c. Eplsh. Steind. d. / Typus / Crataraea solskyi ♀ (Eppelsheim), det. V. Assing 2014" (NHMW); 1♂: "Solskyi Epp. Taschkent. Leder. / c. Eplsh. Steind. d. / Cotypus / Crataraea solskyi ♀ (Eppelsheim), det. V. Assing 2014" (NHMW).

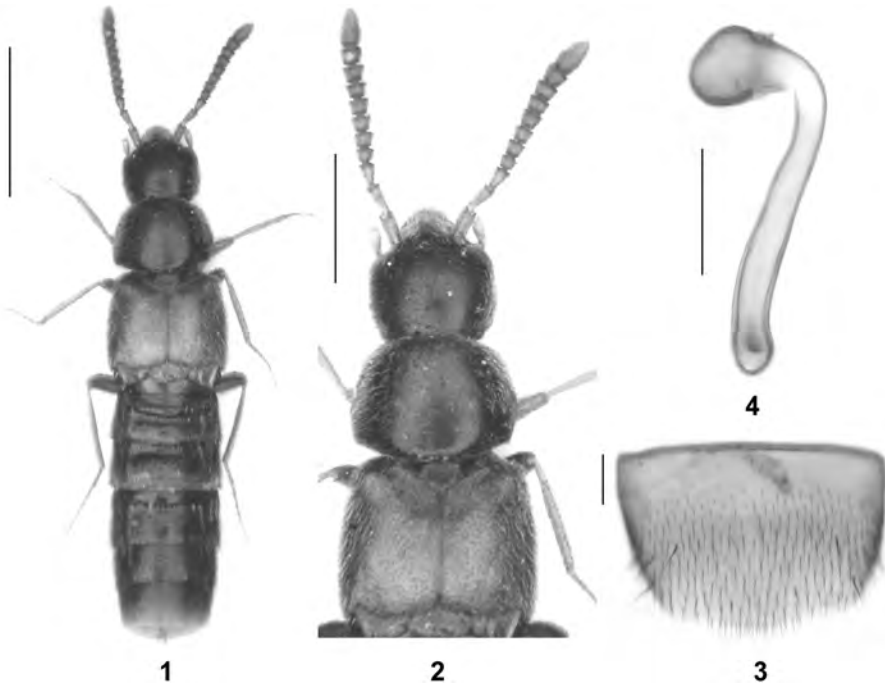
Additional material examined: 1♂: "Solskyi Epp. Taschkent. Leder. / c. Eplsh. Steind. d. / Cotypus" (NHMW).

**Comment**: The original description is based on two syntypes "von Taschkent, von Herrn Akinin durch die freundliche Vermittlung Faust's erhalten" (EPPELSHEIM 1888). Both syntypes are females and deposited in the Eppelsheim collection at the NHMW. A third female in the Eppelsheim collection does not have type status, despite the type label attached to it.

**Redescription**: Body length 3.2-3.8 mm; length of forebody 1.6 mm. Habitus as in Fig. 1. Coloration: head and pronotum brown to dark-brown; elytra reddish, anteriorly narrowly and weakly infuscate; abdomen blackish-brown, with the posterior margins of segments III-VI, the posterior portion of segment VII, and segments VIII-X yellowish; legs yellowish to yellowish-brown; antennae reddish.

Head (Fig. 2) very weakly transverse; punctuation moderately dense and fine, barely noticeable in the pronounced microreticulation. Eyes weakly convex, slightly shorter than postocular region in dorsal view. Antenna incrassate apically; antennomeres IV-X strongly transverse, IV-X approximately 1.5 times as wide as long.

Pronotum (Fig. 2) strongly transverse, approximately 1.35 times as broad as long and 1.3 times as broad as head; punctuation and microreticulation similar to those of head.



**Figs 1-4:** *Crataraea solskyi* (EPELSHEIM): (1) habitus; (2) forebody; (3) female sternite VIII; (4) spermatheca. Scale bars: 1: 1.0 mm; 2: 0.5 mm; 3-4: 0.1 mm.

Elytra (Fig. 2) approximately as long as pronotum, or nearly so; punctuation somewhat more distinct than that of head and pronotum; interstices with shallow microsculpture. Hind wings fully developed. Metatarsomere I longer than the combined length of II and III.

Abdomen narrower than elytra; punctuation moderately dense and moderately fine; tergites III-V shallowly impressed anteriorly; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex.

♂: unknown.

♀: sternite VIII (Fig. 3) distinctly transverse, posterior margin convex and with row of modified marginal setae in the middle; spermatheca as in Fig. 4.

**D i s t r i b u t i o n :** *Crataraea solskyi* has been recorded only from the type locality in Uzbekistan.

### Key to the species of *Crataraea*

- 1 Pronotum less transverse, approximately 1.35 times as broad as long and 1.3 times as broad as head (Figs 1-2). Elytra bright reddish, strongly contrasting with the brown to dark-brown pronotum. Antennae with antennomeres IV-X less transverse (Fig. 2). ♂: unknown. ♀: spermatheca with less slender and shorter distal portion (Fig. 4). Uzbekistan. .... *C. solskyi* (EPELSHEIM)

- Pronotum more transverse, approximately 1.5 times as broad as long and 1.4 times as broad as head. Elytra of similar coloration as pronotum, but often reddish at suture and/or at posterior margin. Antennae with antennomeres IV-X more transverse. ♀: spermatheca with more slender and longer distal portion. ....2
- 2 Head, pronotum, and abdomen with very shallow microsculpture and rather glossy. Antennae shorter and with more transverse antennomeres IV-X. ♂: sternite VIII posteriorly more broadly and less strongly produced (ASSING 2014: figure 10); median lobe of aedeagus shaped as in ASSING (2014: figures 4-6). ♀: spermatheca shaped as in ASSING (2014: figure 7). China: Qinghai. Myrmecophilous; associated with *Formica chinensis*. ....*C. myrmecophila* ASSING
- Head, pronotum, and abdomen with pronounced microsculpture; head and pronotum nearly matt. Antennae longer and with less transverser antennomeres IV-X. ♂: sternite VIII posteriorly more acutely and more strongly produced; median lobe of aedeagus shaped as in KLIMASZEWSKI et al. (2013: figures 192a-b). ♀: spermatheca shaped as in KLIMASZEWSKI et al. (2013: figure 192c). West Palaearctic region; adventive in North America. ....*C. suturalis* (MANNERHEIM)

### Species excluded from *Crataraea*

#### ***Aleochara (Xenochara) rubripennis* (FAUVEL, 1872), nov.comb. (Figs 5-11)**

*Crataraea rubripennis* FAUVEL, 1872: 28 f.

Type material examined: Lectotype ♀, present designation: "Biskra / Coll. R. I. Sc. N. B. / rubripennis Fvl. / Lectotypus ♀ *Crataraea rubripennis* Fauvel, desig. V. Assing 2014 / *Aleochara rubripennis* (Fauvel), det. V. Assing 2014" (IRSNB).

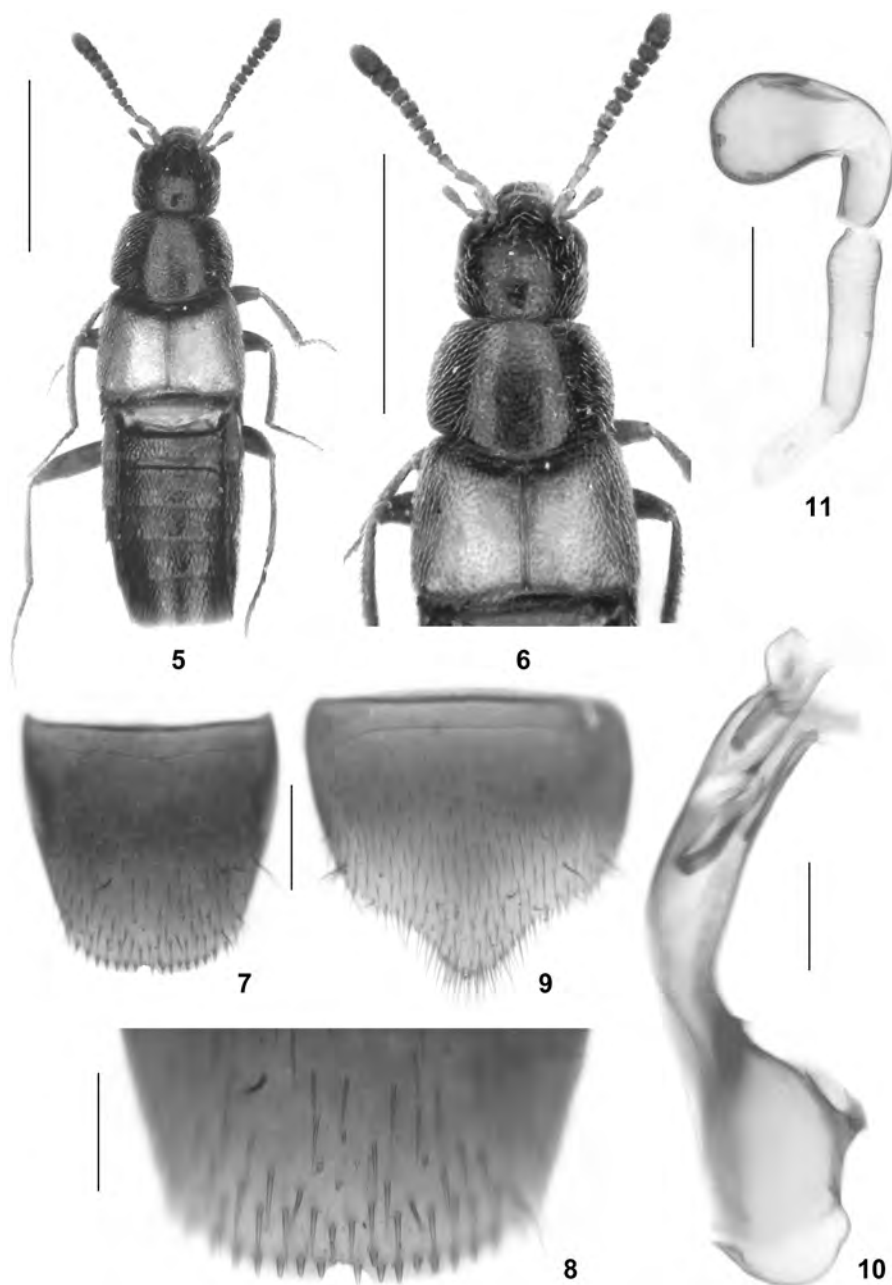
Additional material examined: Algeria: 1 ♀, Tougourt (IRSNB). Tunisia: 1 ♂ [with labels specifying two localities in Tunisia] (IRSNB); 1 ♀ [with labels specifying two localities in Tunisia] (IRSNB).

**Comment**: The original description is based on an unspecified number of syntypes from "Biskra" (FAUVEL 1872). Only one of the four specimens found in the Fauvel collection at the IRSNB has a label specifying this locality attached to it. This specimen, a female, is designated as the lectotype. An examination of the above type and non-type material revealed that the species belongs to the subgenus *Xenochara* MULSANT & REY, 1874 of the genus *Aleochara* GRAVENHORST, 1802.

The new combination renders *Aleochara (Calochara) rubripennis* (CASEY, 1906: 150) (original combination: *Calochara rubripennis*), a species distributed in North America, a secondary junior homonym. The previous synonym *Aleochara rubripes* BLATCHLEY, 1910 is revalidated to replace the preoccupied name *A. rubripennis* (CASEY, 1906).

**Redescription**: Body length 3.0-4.0 mm; length of forebody 1.5-1.7 mm. Habitus as in Fig. 5. Coloration: head, pronotum, and abdomen blackish-brown; elytra bright reddish, with narrowly infusate anterior margins; legs reddish-brown with paler tarsi; antennae brown with yellowish antennomeres I-III.

Head (Fig. 6) with very shallow, nearly obsolete microreticulation; punctation rather dense and moderately fine, distinct. Eyes moderately convex, slightly longer than post-ocular region in dorsal view. Antenna short, approximately 0.9 mm long; antennomere IV weakly transverse; V much broader than IV and distinctly transverse, approximately 1.5 times as broad as long; VI-X weakly increasing in width; X nearly twice as broad as long; XI slightly longer than the combined length of IX-X.



**Figs 5-11:** *Aleochara rubripennis* (FAUVEL): (5) habitus; (6) forebody; (7) male tergite VIII; (8) posterior portion of male tergite VIII; (9) male sternite VIII; (10) median lobe of aedeagus in lateral view; (11) spermatheca. Scale bars: 5-6: 1.0 mm; 7, 9: 0.2 mm; 8, 10-11: 0.1 mm.

Pronotum (Fig. 6) approximately 1.3 times as broad as long and 1.4 times as broad as head; punctation dense and distinct; interstices without distinct microsculpture.

Elytra (Fig. 6) approximately 0.8 times as long as elytra; posterior margins not sinuate near posterior angles; punctation dense, less defined than that of pronotum. Legs long and slender; metatarsus slightly longer than metatibia; metatarsomere I longer than the combined length of II and III.

Abdomen with dense and coarse punctation, density of punctures decreasing towards posterior tergites; interstices without microsculpture and glossy; posterior margin of tergite VIII (Figs 7-8) with modified short and stout marginal setae.

♂: sternite VIII (Fig. 9) distinctly transverse, posterior margin distinctly produced and with long dense setae in the middle; median lobe of aedeagus (Fig. 10) 0.53 mm long and slender.

♀: spermatheca as in Fig. 11.

**Comparative notes:** For characters distinguishing *A. rubripennis* from the similar *A. eremita* see the comparative notes in the following section.

**Distribution and natural history:** Confirmed records are known from four localities in Algeria and Tunisia (new record). According to SMETANA (2004), the species has also been reported from the South European territory in Russia, but this record is zoogeographically not plausible and most likely based on a misidentification.

***Aleochara (Xenochara) eremita* (PEYERIMHOFF, 1931), nov.comb.** (Figs 12-14)

*Crataraea eremita* PEYERIMHOFF, 1931: 35 f.

**Type material examined:** Holotype ♂ [in poor condition]: "Mission du Hoggar, février-mai 1928 / Fort Lallemand, Sud d'Ouargla, 8 mai 1928, lumière / Type / *Crataraea eremita* Peymh. typ. unic. / Holotypus ♂ *Crataraea eremita* Peyerimhoff, rev. V. Assing 2014 / *Aleochara eremita* (Peyerimhoff), det. V. Assing 2014" (MNHN).

**Comment:** The original description is based on a single specimen from "Grand Erg oriental: Fort Lallemand, au sud d'Ouargla" collected at a light source (PEYERIMHOFF 1931). An examination of the holotype revealed that the species belongs to the subgenus *Xenochara* of the genus *Aleochara*.

**Redescription:** Body length ca. 2.9 mm; length of forebody ca. 1.6 mm. Coloration: head and pronotum dark-brown; elytra pale-yellowish, with narrowly infusate anterior margins; abdomen dark-brown with reddish apex; legs yellow; antennae brown, with yellowish antennomeres I-III.

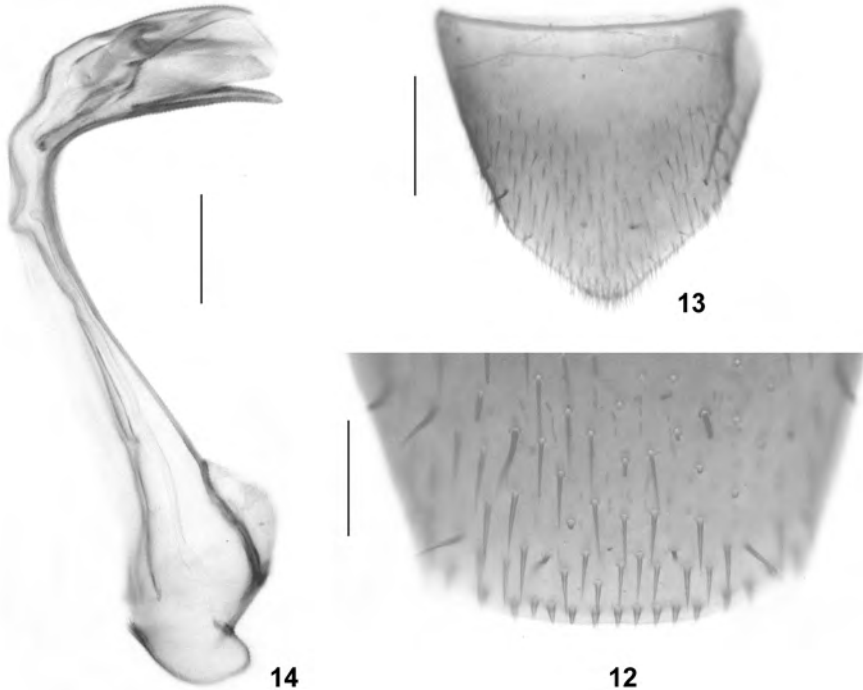
Head with pronounced microreticulation; punctation moderately dense and fine, barely visible in the microsculpture. Eyes weakly convex, approximately as long as postocular region in dorsal view. Antenna short; antennomere IV weakly transverse; V much broader than IV and distinctly transverse, approximately 1.5 times as broad as long; VI-X weakly increasing in width; X nearly twice as broad as long; XI nearly as long as the combined length of VIII-X.

Pronotum 1.25 times as broad as long and 1.3 times as broad as head; punctation fine and rather dense; interstices with pronounced microsculpture.

Elytra 0.75 times as long as elytra; posterior margins not sinuate near posterior angles; punctation defined, much more distinct than that of head and pronotum; interstices with shallow microsculpture. Legs long and slender; metatarsus as long as metatibia; metatarsomere I longer than the combined length of II and III.

Abdomen with rather dense and conspicuously distinct punctation; interstices with very shallow transverse microsculpture; posterior margin of tergite VIII (Fig. 12) with modified short and stout marginal setae.

♂: sternite VIII (Fig. 13) obtusely produced posteriorly, posterior margin with long and dense marginal setae in the middle; median lobe of aedeagus (Fig. 14) 0.53 mm long and of very distinctive morphology, with very slender and strongly curved ventral process in lateral view.



**Figs 12-14:** *Aleochara eremita* (PEYERIMHOFF): (12) posterior portion of male tergite VIII; (13) male sternite VIII; (14) median lobe of aedeagus in lateral view. Scale bars: 13: 0.2 mm; 12, 14: 0.1 mm.

**Comparative notes:** Based on the similar external characters, the similar chaetotaxy of tergite VIII, and the general morphology of the aedeagus, this species is closely allied to *A. rubripennis*, from which it differs by the longer antennomere XI, the finer punctation and more pronounced microsculpture of the forebody, the presence of microsculpture on the abdomen, the different shape of the male sternite VIII, and by the completely different shape of the median lobe of the aedeagus.

**Distribution and natural history:** The species is known only from the type locality in the Hoggar range, South Algeria.

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## Zusammenfassung

Drei bisher der Gattung *Crataraea* THOMSON, 1858, Subtribus Microglottina, zugeordnete Arten werden revidiert, redeskribiert und abgebildet. Nur eine davon, *C. solskyi* (EPPELSHEIM, 1888), verbleibt in der Gattung. Die übrigen zwei Arten werden in die Gattung *Aleochara* GRAVENHORST, 1802 gestellt: *Aleochara (Xenochara) rubripennis* (FAUVEL, 1872), nov.comb., und *A. (X.) eremita* (PEYERIMHOFF, 1931), nov.comb. *Aleochara rubripes* BLATCHLEY, 1910 ersetzt das sekundäre Homonym *Aleochara rubripennis* (CASEY, 1906). Für *Crataraea rubripennis* FAUVEL 1872 wird ein Lectotypus designiert. *Crataraea* enthält damit derzeit drei in der Paläarktis verbreitete Arten, von denen eine adventiv auch in Nordamerika vorkommt. Eine Bestimmungstabelle der *Crataraea*-Arten wird erstellt.

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