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Two new species and a new name of *Cordalia* JACOBS, 1925 from Turkey and China (Insecta: Coleoptera: Staphylinidae: Aleocharinae)

With 13 figures

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Abstract. *Cordalia anatolica* sp. n. and *C. schuelkei* sp. n. are described from southern Anatolia and China (Shaanxi), respectively, and compared with related congeners, especially *C. obscura* (GRAVENHORST, 1802). The primary and secondary sexual characters are figured. *C. pacei* nom. n. is proposed for *C. rougemonti* PACE, 1993 (nec *C. rougemonti* PACE, 1991).

Key words Coleoptera, Staphylinidae, Aleocharinae, Falagriini, *Cordalia*, Palaearctic, Europe, Turkey, China, taxonomy, new species, nomen novum.

Introduction

Worldwide, 34 valid species of *Cordalia* JACOBS are currently known, with the greatest species diversity in the Ethiopian region (23 species), in the Himalayas (4 species), and in China (5 species). One species, *C. vestita* (BOHEMAN) is widespread in the Oriental region. In the Western Palaearctic, the only known representative of the genus is the common and widespread *C. obscura* (GRAVENHORST), which also occurs in North America, where it may have been introduced. *Falagria crassiuscula* HOCHHUTH, 1871 (a junior primary homonym of *F. crassiuscula* AUBÉ, 1850), which was described from the Ukraine, was synonymized with *C. obscura* by BERNHAUER & SCHEERPELTZ (1926); the correctness of this synonymy was later confirmed by GUSAROV (1992). Staphylinid material from southern Anatolia recently collected and kindly given to me by Heinrich MEYBOHM, Stelle, and Volker BRACHAT, Geretsried, contained several specimens of an undescribed species of *Cordalia*, the second representative of the genus in the Western Palaearctic region. Another new species was discovered among falagriine material from China in the collection of Michael SCHÜLKE, Berlin.

Cordalia anatolica sp. n.

Holotype ♂: N 37°37′ E 30°51′, Türkei, Umg. Egirdir, Kovada G. Umg. 1000 m, MEYBOHM, 13.5.2000 / Holotypus ♂ *Cordalia anatolica* sp. n. det. V. ASSING 2000 (coll. ASSING).
Paratypes: 1 ♂, 2 ♀♀: TR-Südküste, Str. Antalya/Saklikent, 1200 m; 10.5.2000, MEYBOHM/ BRACHAT; 1 ♂: Türkei, Umg. Antalya, Straße nach Saklikent, 2000 m, Eichenstreu, MEYBOHM, 11.5.2000; 2 ♀♀: Türkei, Umg. Antalya, Straße n. Saklikent, 1200 m, Platanenlaub, MEYBOHM, 10.5.2000; 1 ♀: TR-Südküste, Umgeb. Egirdir, Kovada Nat. Park, 13.5.2000, MEYBOHM/ BRACHAT. (Paratypes in coll. ASSING and in Staatliches Museum für Tierkunde, Dresden).

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Description:
Measurements (in mm) and ratios (range; n = 8): length of antennae: 1.07–1.22; head length from anterior margin of clypeus to neck (HL): 0.41–0.44; head width (HW): 0.42–0.47; pronotal length (PL): 0.42–0.47; pronotal width (PW): 0.44–0.48; length of elytra from apex of scutellum to hind margin (EL): 0.44–0.47; length of metatibia (MTi): 0.56–0.60; length of metatarsus (MTa): 0.44–0.51; length of aedeagus from base to apex of ventral process: 0.53–0.59; total length: 2.6–3.2; HW/HL: 1.04–1.09; PW/HW: 1.00–1.07; PW/PL: 1.00–1.08; EL/PL: 1.00–1.07; MTa/MTi: 0.77–0.85.
Externally very similar to *C. obscura*, but distinguished as follows:
Of somewhat larger size (see measurements). Body less distinctly bicoloured than in average *C. obscura*, elytra and pronotum brown, the former not lighter than the latter.
Head of similar outline as in *C. obscura*, but puncturation on average more distinct and slightly denser; in ♂ posteriorly with shallower sulcate impression than in average *C. obscura*; antennae slightly longer and more slender, antennomere X weakly transverse.
Pronotum in ♂ with broader and deeper sulcate impression, denser and more distinct puncturation, and with pubescence in anterior half directed transversely mediad (in *C. obscura* diagonally medio-caudad; in ♀ with more distinct and posteriorly longer median sulcus. Legs relatively longer and more slender.
Abdomen with slightly denser and coarser puncturation and therefore less shine; tergum VIII in both sexes with long impunctate median keel, its hind margin with longer and denser fimbriae than in *C. obscura* (fig. 4)
♂: posterior margin of sternum VIII weakly convex (fig. 5); aedeagus distinctly larger than in *C. obscura*; median lobe of distinctive shape; sclerotized internal structures long (figs. 1–2).
♀: posterior margin of sternum VIII weakly convex, with row of short modified setae, and with very short and sparse micropubescence (fig. 6); spermatheca relatively small, proximally only weakly dilated (fig. 3).

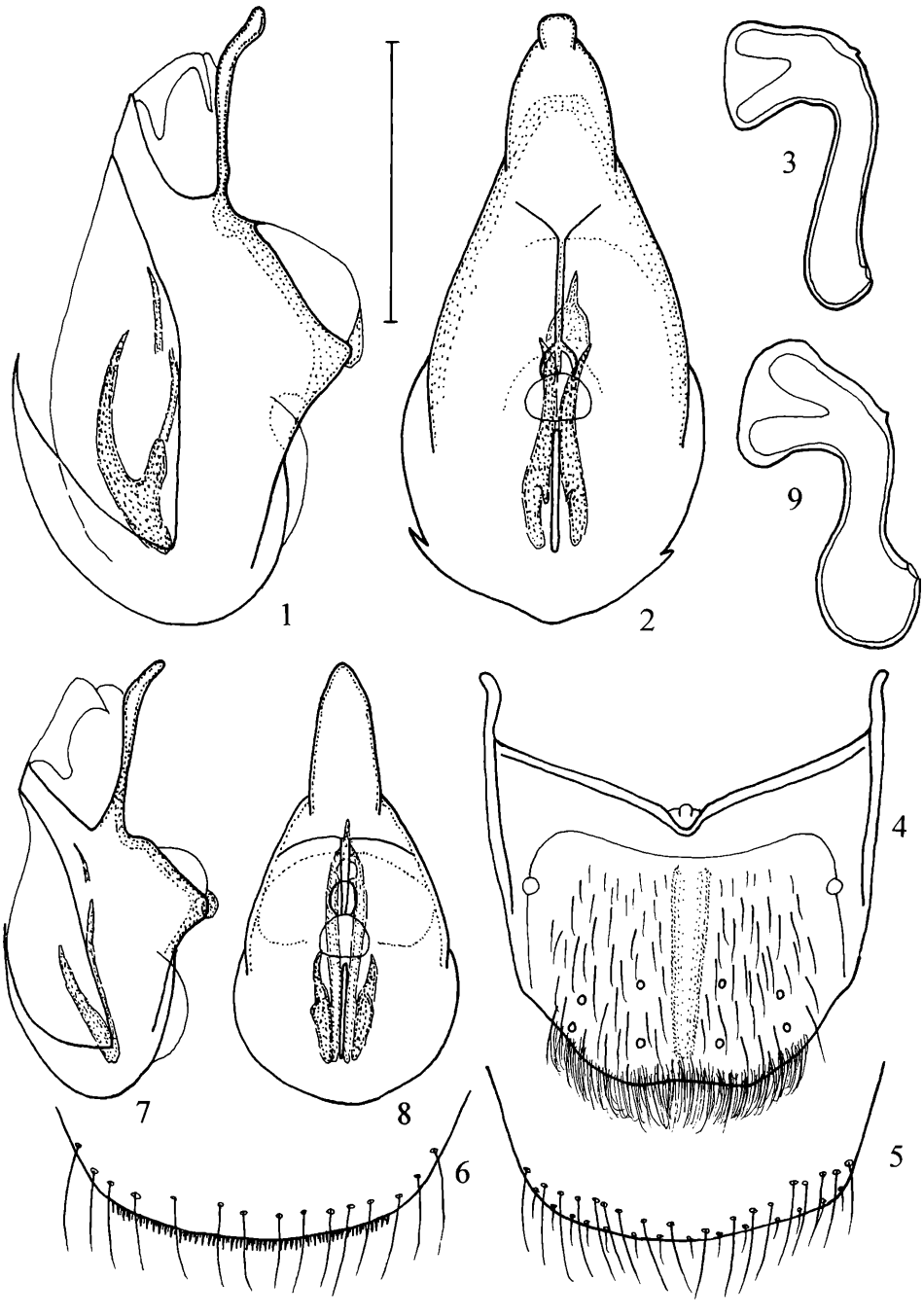
Comparative notes
From the similar *C. obscura*, the new species is readily separated especially by the larger size, the different ♂ secondary sexual characters on head and pronotum, the presence of a median keel on the abdominal tergum VIII, and the different morphology of the primary sexual characters (see description above). For drawings of the aedeagus and spermatheca of *C. obscura* see figs. 7–9. More illustrations of various body parts, among them tergum VIII, can be found in HOEBEKE (1985).
In *C. rougemonti* PACE from Yemen, the geographically nearest congener from the Ethiopian region, and the widespread Oriental *C. vestita* (BOHEMAN), the genitalia are of completely different morphology; for figures see PACE (1991, 1992, 1993).

Distribution and ecology
C. anatolica sp. n. was collected in southern Anatolia (Isparta, Antalya), where it was sifted from *Quercus* and *Platanus* leaf litter at altitudes of 1000–1200 m. It seems very likely that this species is more widespread than currently known, but has previously been confused with the similar *C. obscura*.

***Cordalia pacei* nom. n.**

Cordalia rougemonti PACE, 1993: 82 (nec *C. rougemonti* PACE, 1991)

While reviewing the literature on *Cordalia*, I became aware of a primary homonymy: PACE (1991) described a *C. rougemonti* from Yemen and two years later another species under the same name from China (PACE 1993). Therefore, I here propose the name *C. pacei* nom. n. for *C. rougemonti* PACE, 1993 (nec *C. rougemonti* PACE, 1991).



Figs. 1–9: *Cordalia anatolica* sp. n. (1–6) and *C. obscura* (GRAVENHORST) (7–9): 1, 7: median lobe of aedeagus in lateral view; 2, 8: median lobe of aedeagus in ventral view; 3, 9: spermatheca; 4: ♂ tergum VIII, long setae omitted; 5: posterior margin of ♂ sternum VIII; 6: posterior margin of ♀ sternum VIII. Scale: 0.25 mm

Cordalia schuelkei sp. n.

Holotype ♂: China: Shaanxi, Qin Ling Shan, 108.49 E, 33.55 N, River Valley 40 km S Xian, Autoroute km 50, River bank, 1200 m, 31.08.1995, leg. M. SCHÜLKE / Holotypus ♂ *Cordalia schuelkei* sp. n. det. V. ASSING 2000 (coll. ASSING).

Description

Measurements (in mm) and ratios (holotype): length of antennae: 0.97; head length from anterior margin of clypeus to neck (HL): 0.33; head width (HW): 0.36; pronotal length (PL): 0.32; pronotal width (PW): 0.38; length of elytra from apex of scutellum to hind margin (EL): 0.34; length of metatibia (MTi): 0.51; length of aedeagus from base to apex of ventral process: 0.33; total length: 23; HW/HL: 1.09; PW/HW: 1.04; PW/PL: 1.16; EL/PL: 1.05.

In size and coloration similar to small *C. obscura*. Head dark brown, pronotum and elytra light brown, abdominal segments III–V brown, VI–VII blackish, legs yellowish brown, palpi and antennae dark brown with annennomeres I, II, and XI lighter.

Head weakly transverse, outline subrectangular, similar to *C. obscura*, with the posterior angles rounded, but noticeable; eyes large, approximately as long as postgenae in dorsal view; posteriorly with shallow impression (much smaller and weaker than in ♂ *C. obscura*); puncturation very fine; microsculpture absent; antennae long and slender, antennomeres I–III distinctly oblong and of subequal length, IV much shorter and weakly oblong, V and VI subquadrate, VII–X weakly transverse, and XI as long as the combined length of IX–X.

Pronotum moderately transverse and slightly wider than head (see ratios PW/PL and PW/HW); in posterior half strongly tapering (but less so than in *C. obscura*) and with almost straight lateral margins (dorsal view); hind margin ± truncate (in *C. obscura* distinctly convex); in cross-section less convex than in *C. obscura*; median impression very shallow, barely noticeable in anterior two thirds of midline, near posterior margin slightly deeper, wider, and with small and deep, subcircular impression; pubescence short and decumbent; puncturation very fine; microsculpture absent.

Elytra wider than and at suture approximately as long as pronotum; pubescence slightly more erect, longer, and puncturation even finer than on pronotum; hind wings fully developed. Legs longer and more slender than in *C. obscura*; first metatarsomere extremely long, approximately as long as the combined length of the remaining four tarsomeres.

Abdomen, even in anterior impressions of terga III–V, with fine and moderately dense puncturation; microsculpture absent; posterior margin of tergum VIII weakly and broadly concave, fimbriate, but fimbriae much less dense than in *C. obscura* (fig. 12).

♂: sternum VIII of characteristic shape, posteriorly pointed, but in the middle truncate (fig. 13); aedeagus with ventral process of median lobe in ventral view relatively broad and apically rounded (figs. 10–11).

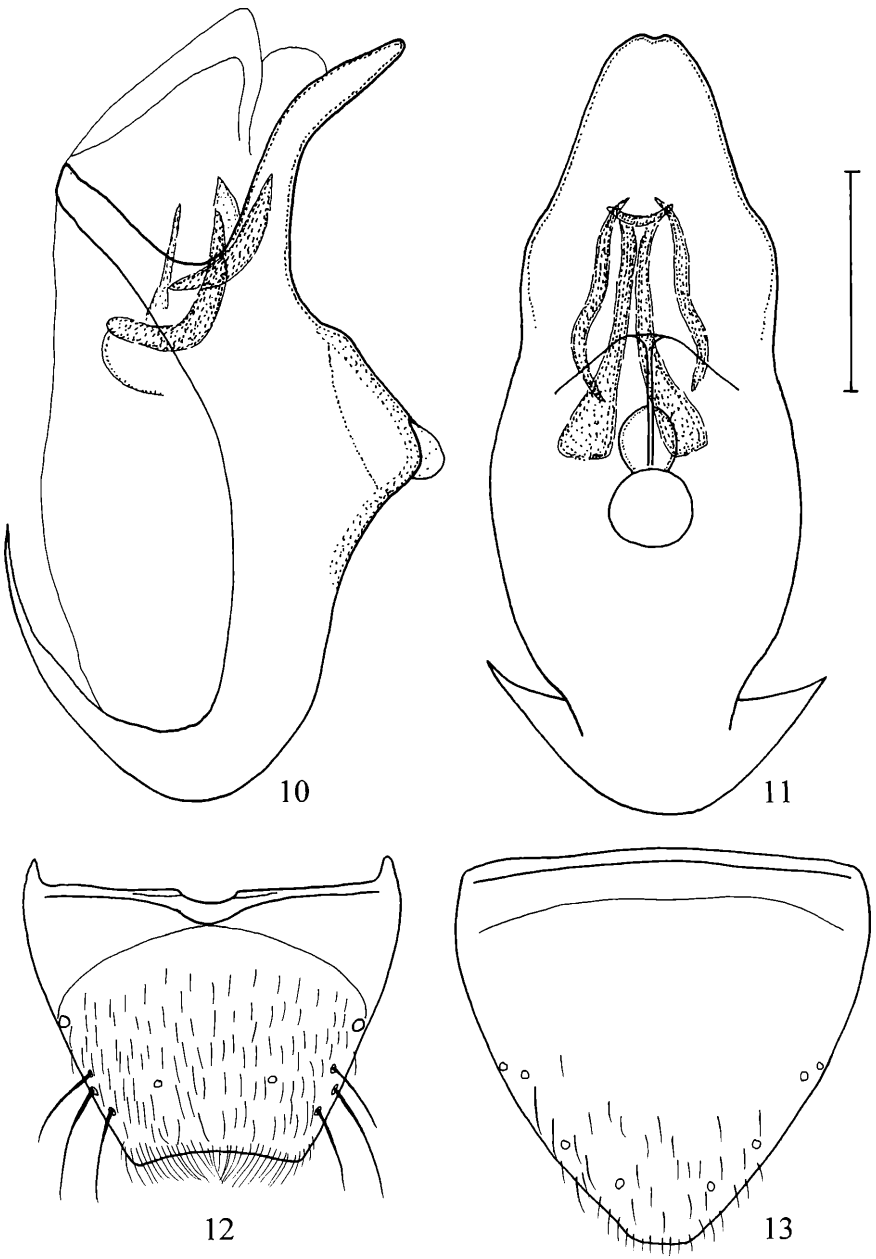
♀: unknown.

Derivatio nominis

The species is dedicated to my friend and colleague, Michael SCHÜLKE (Berlin), who collected the holotype.

Comparative notes

For distinction from *C. obscura* see description above. In *C. vestita*, the head is more transverse, the posterior angles of the head are almost obsolete, the hind margin of the pronotum is convex, the posterior angles of the pronotum are rounded, the median sulcus of the pronotum is longer and deeper, the elytra have impressions near the anterior margin, the first metatarsomere is shorter, the anterior impressions of the abdominal terga III–V are much more coarsely punctured, and the aedeagus is of different shape. Five species of *Cordalia* have been described from China: *C. chinensis* PACE, 1993, *C. pacei* nom. n. (see above), *C. occipitalis* PACE, 1998, *C. yunnanensis* PACE, 1998, and *C. funebris* PACE, 1998. *C. pacei* from the Tian Shan, the only species whose



Figs. 10–13: *Cordalia schuelkei* sp. n. (holotype): 10, 11: aedeagus in lateral and in ventral view; 12: ♂ tergum VIII; 13: ♂ sternum VIII (long setae omitted). Scale: 10, 11: 0.1 mm; 12, 13: 0.2 mm

male sexual characters are unknown, differs in the shorter antennae with more transverse antennomeres, a transverse antennomere IV, the posteriorly less strongly tapering pronotum, the more pronounced median impression on the pronotum, and a shorter first metatarsomere. In the remaining species known from China, the aedeagus is of different morphology, the pronotum is

posteriorly convex, and the first metatarsomere is shorter. Figures illustrating the facies and the sexual characters of *C. vestita* and other *Cordalia* known from China are given by PACE (1992, 1993, 1998).

Distribution

C. schuelkei sp. n. is known only from the type locality, the Qin Ling Shan in Shaanxi (China).

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