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Three new species, redescriptions, a new synonymy, and additional records of *Cypha* from the West Palaearctic region (Coleoptera: Staphylinidae: Aleocharinae)

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A b s t r a c t : Five species of *Cypha* LEACH, 1819 from the West Palaearctic region are (re-)described and illustrated: *Cypha rubripennis* (PANDELLÉ, 1869) (France, Spain, Morocco); *C. rubicunda* (REITTER, 1887) (Turkmenistan); *C. truncata* nov.sp. (Ukraine); *C. prominens* nov.sp. (Tunisia); *C. persica* nov.sp. (Iran). *Cypha tbilisiensis* DAUPHIN, 2005 nov.syn. is placed in synonymy with *C. tarsalis* (LUZE, 1902). Several new country records are reported. The genus is now represented in the Palaearctic region by 50 described species.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, *Cypha*, West Palaearctic, taxonomy, description, redescription, new species, new synonymy.

Introduction

The genus *Cypha* LEACH, 1819 of the tribe Hypocyphtini was previously represented in the Palaearctic region by 48 species. Thirty-seven species had been recorded only from the West Palaearctic (including Middle Asia) and eleven from the East Palaearctic regions (ASSING 2010). A considerable number of these species were described based exclusively on external characters. A reliable identification, however, requires a study of the aedeagus. Most, but not all, of the species recorded from the West Palaearctic region have been revised relatively recently (ASSING 2005, 2010; DAUPHIN 2004).

The present paper is based on material that has become available since the latest contribution to the taxonomy of *Cypha* (ASSING 2010). In order to clarify the identity of some of the material, the type material of previously revised and unrevised species had to be (re-)examined.

Material and methods

The material treated in this study is deposited in the following public and private collections:

HNHM..... Hungarian Natural History Museum, Budapest (Gy. Makranczy, G. Szél)

MNHNP Muséum National d'Histoire Naturelle, Paris (A. Taghavian)

MNHUB Museum für Naturkunde der Humboldt-Universität Berlin (J. Frisch, J. Willers)

NHMW..... Naturhistorisches Museum Wien (H. Schillhammer)
 SDEI..... Senckenberg Deutsches Entomologisches Institut (J. Behne)
 cAss..... author's private collection
 cSch..... private collection Michael Schülke, Berlin

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

Cypha spathulata ASSING, 2007

Material examined: Italy: 1♂, Abruzzo, Palena (CH), Valico Forchetta, 1270 m, beech forest, 1.VIII.2002, leg. Angelini (cAss); 1♂, Basilicata, Pignola, Ris. WWF L. Pignola (PZ), 700 m, 27.X.1995, leg. Angelini (cAss); 1♂, Calabria, Aspromonte, San Luca (RC), 200 m, grassland, 28.IV.2002, leg. Angelini (cAss).

Comment: *Cypha spathulata* was previously known from Turkey, Spain, and Portugal (ASSING 2007). The possibility that the name is synonymic with *C. lindbergi* (PALM, 1935), which was originally described from Morocco, cannot be ruled out with certainty. The illustrations of the aedeagus of *C. lindbergi* provided in the original description, particularly that of the median lobe of the aedeagus in lateral view, are too poor for a reliable identification. A revision of the type material is required to clarify the identity of *C. lindbergi*. The above males are distinguished from material seen from other regions by slight differences in the shape of the ventral process of the aedeagus (subapically more slender, apex shorter and more transverse in ventral view). In the three Italian males, the shape of the aedeagus is constant. Nevertheless, until more material suggesting otherwise is available, the observed differences are attributed to intraspecific variation.

Cypha bifida ASSING, 2004

Material examined: Spain: 1♂, Murcia, Jumilla, Sierra del Carche, 38°26'N, 1°19'W, 1280 m, pitfall, V-VII.2012, leg. Lencina (cAss).

Comment: The above specimen represents the first record since the original description, which is based on a unique male from the Sierra de Ancares in northwestern Spain (ASSING 2004b).

***Cypha tenuicornis* (KRAATZ, 1857)** (Fig. 1)*Hypocyptus tenuicornis* KRAATZ, 1857: 388 (footnote).

Type material examined: Syntype ♀: "Graecia / v. Ksw. / Holotypus [sic] / tenuicornis mihi / Coll. Kraatz / DEI Müncheberg Col - 04292 / Syntypus Hypocyptus tenuicornis Kraatz, rev. V. Assing 2014 / *Cypha tenuicornis* (Kraatz), det. V. Assing 2014" (SDEI).

Comment: The original description is based on an unspecified number of syntypes, probably a single specimen, from "Griechenland" (KRAATZ 1857). One syntype, unfortunately a female, was located in the Kraatz collection at the SDEI; it is illustrated in Fig. 1. The species is characterized by its coloration (head and pronotum blackish-brown, the latter with yellowish margins; elytra dark-reddish; abdomen black; legs yellowish-brown; antennae pale-brown, with the basal 5-6 antennomeres yellowish), slender antennae (0.55 mm long; antennomeres VIII-X forming a distinct club; VIII and IX oblong; X elongated, approximately as long as the combined length of VII-IX), rather shiny appearance, and relatively small size (length of forebody 0.8 mm). Based on the external characters, the examined type specimen is conspecific with neither *C. graeca* nor *C. spathulata*.

***Cypha tarsalis* (LUZE, 1902)** (Figs 2-5)*Hypocyptus tarsalis* LUZE, 1902: 180 f.*Cypha tbilisiensis* DAUPHIN, 2005: 301 f.; **nov.syn.**

Type material examined: *Hypocyptus tarsalis*: Holotype ♂: "laeviusculus Mnh., Gallia occ., Croissandeau. / Type tarsalis m., det. Luze / Typus / Holotypus Hypocyptus tarsalis Luze, rev. V. Assing 2014 / *Cypha tarsalis* (Luze), det. V. Assing 2014" (NHMW). Paratype ♂: "Gall. occ., Croissandeau / Type. tarsalis m., det. Luze / ex coll. Luze / Typus Hypocyptus tarsalis Luze / *Cypha tarsalis* (Luze), det. V. Assing 2014" (NHMW).

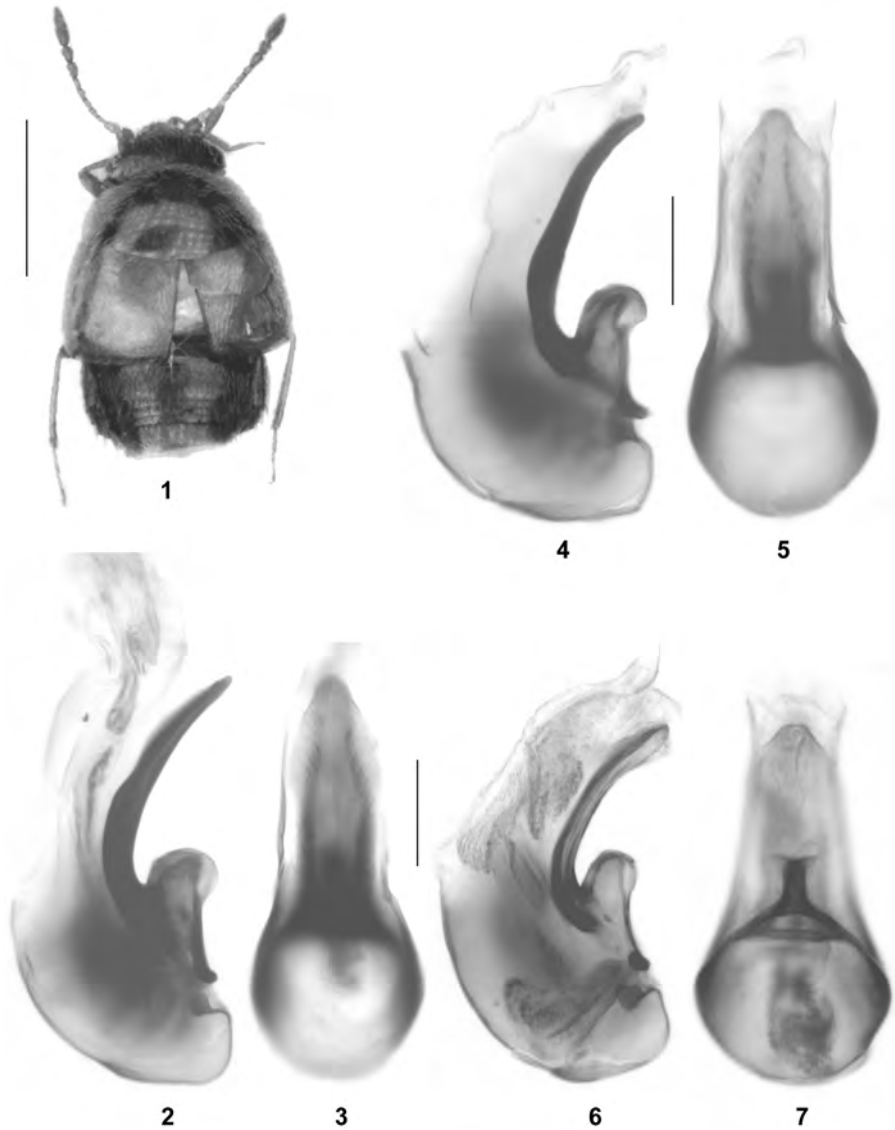
Cypha tbilisiensis: Holotype ♂: "Transcauc. Georgia, Mzcheta pr. Tbilisi, 25.VI.1988, leg. Wrase/Schülke / Holotypus / *Cypha tbilisiensis* n. sp., P. Dauphin det. 2005 / *Cypha tarsalis* (Luze), det. V. Assing 2014" (MNHUB).

Additional material examined: Turkey: 1♂, Burdur, 17 km SE Burdur, N Çeltikçi geçidi, 37°36'N, 30°24'E, 1260 m, oak forest, sifted from moss, 16.II.2011, leg. Schülke (cSch).

Comment: In the original description of *Hypocyptus tarsalis*, LUZE (1902) explicitly designates a holotype ("Die Type besitzt das k. k. naturhistorische Hofmuseum in Wien"). In the collections of the NHMW, two specimens were located that had been seen by Luze and labelled by him as types. It can be inferred from the additional labels that the holotype is the specimen with the original locality label and the label "Type", and that Luze retained the other specimen for his own collection.

A comparison of the holotype of *C. tbilisiensis* with the types of *C. tarsalis* and additional material from Germany and Turkey yielded no evidence that it should represent a distinct species. The median lobe of the aedeagus is identical (Figs 2-5). The ventral process of *C. tarsalis* is slightly variable (more or less slender in ventral view), but this is interpreted as intraspecific variation.

Cypha tarsalis was only recently reported from Turkey (Bolu) for the first time (ASSING 2013).



Figs 1-7: *Cypha tenuicornis*, syntype (1), *C. tarsalis* (2-5; 2-3: holotype of *C. tarsalis*; 4-5: holotype of *C. ibilisiensis*), and *C. truncata*, holotype (6-7): (1) habitus; (2-7) median lobe of aedeagus in lateral and in ventral view. Scale bars: 1: 0.5 mm; 2-7: 0.1 mm.

***Cypha truncata* nov.sp.** (Figs 6-7)

Type material: Holotype ♂: "Ukraine, Odessa, Kuyalnik estuary opp. Protopopovka, 27.X.2005, leg. Gontarenko / Holotypus ♂ *Cypha truncata* sp. n. det. V. Assing 2014" (cAss).

Etymology: The specific epithet (Latin, adjective) alludes to apically truncate ventral process of the aedeagus.

Description: Body length 1.7 mm; length of forebody 0.8 mm; length of antenna 0.6 mm. External characters as in *C. tarsalis*, distinguished only by the morphology of the aedeagus.

♂: median lobe of aedeagus (Figs 6-7) 0.35 mm long and compact; ventral process strongly curved (lateral view), relatively short in relation to basal portion of median lobe, and apically truncate (ventral view); crista apicalis strongly prominent.

Comparative notes: *Cypha truncata* is distinguished from the similar and evidently closely related *C. tarsalis* by the smaller median lobe of the aedeagus (*C. tarsalis*: approximately 0.4 mm), with a less strongly sclerotized, shorter, more strongly curved, subapically carinate (lateral view), and apically truncate ventral process.

Distribution and natural history: The type locality is situated in the Odessa region, Ukraine, close to the coast of the Black Sea.

***Cypha rubripennis* (PANDELLÉ, 1869)** (Figs 8-10)

Hypocypthus rubripennis PANDELLÉ, 1869: 283.

Material examined: Morocco: 1♂, Azrou, 1400-1900 m, leg. Alluaud (MNHN). Spain: 2♂♂, Murcia, Jumilla, Sierra del Carche, flight interception trap, 29.VIII.-25.X.2009, leg. Lencina (cAss); 1♀, Murcia, Sierra de Espuña, 1500 m, 7.VI.2003, leg. Forcke (cAss). France: 1♂, Var, Les Maures [?], XI.1915, leg. Fagniez (MNHN); 1 ex., Vitry-sur-Seine, 27.IX.1953 (MNHN); 1♂, "La Bonde (V^{sc}), Fagniez. Fév." (MNHN).

Comment: The original description is based on a female from Tarbes in Southwest France. Since an identification based on the rough sketch of the aedeagus and the descriptive details provided by DAUPHIN (2004) may be difficult, a redescription is given.

Redescription: Body length 1.5-1.8 mm; length of forebody 0.8-0.9 mm. Coloration: head, pronotum, and abdomen blackish-brown to blackish, except for the reddish-yellow lateral and posterior margins of the pronotum; elytra reddish; legs reddish to brown with paler tarsi; antennae reddish; mouthparts reddish, with maxillary palpomere III somewhat darker.

Head strongly transverse; punctation extremely fine and sparse; interstices with shallow microreticulation, rather glossy. Antenna approximately 0.6 mm long, with weakly marked club; antennomeres I and II large; III-VI moderately oblong and very weakly increasing in width; VII-IX moderately oblong and more distinctly increasing in width; X slightly more than twice as long as broad and approximately as long as the combined length of VIII and IX

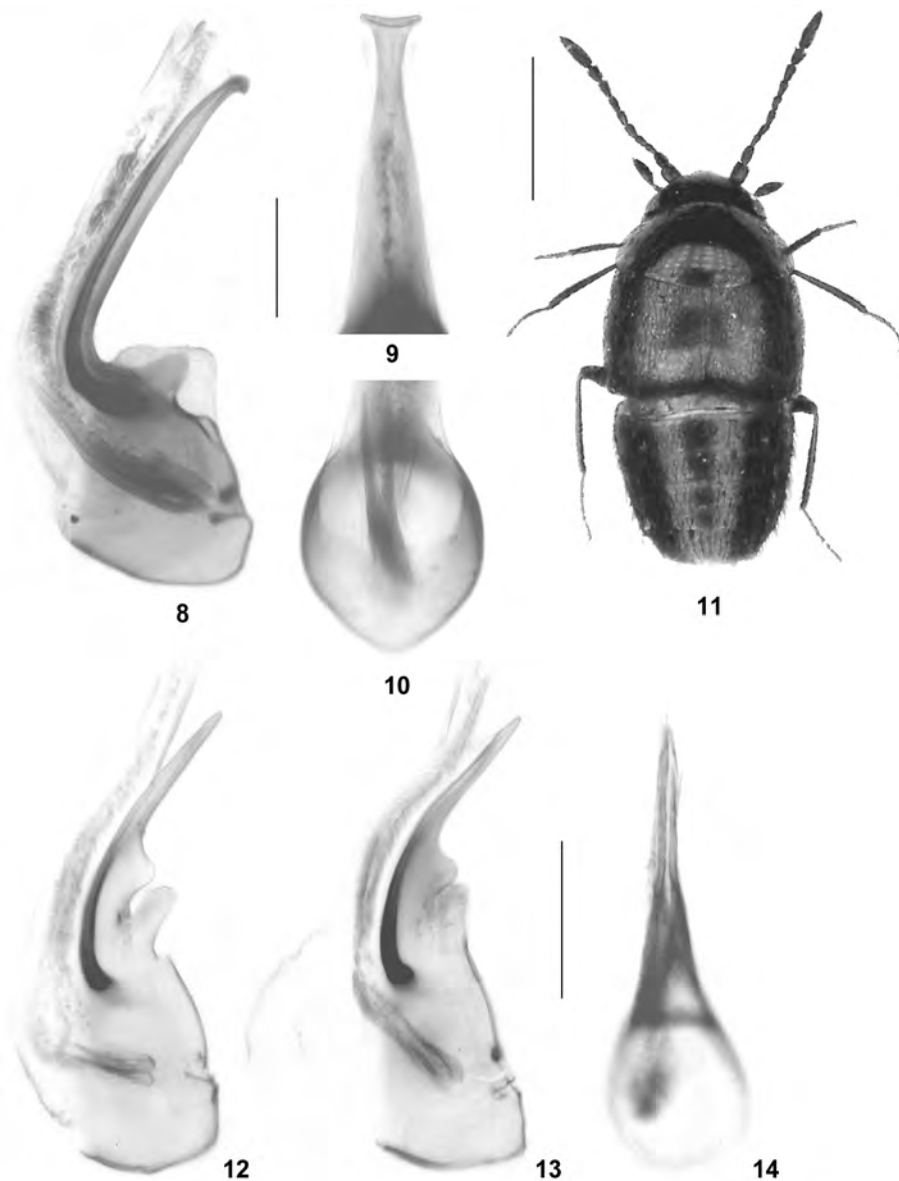
Pronotum 1.8-1.9 times as broad as long and 1.7-1.8 times as broad as head; punctation and microsculpture similar to those of head.

Elytra slightly shorter than pronotum; punctation fine, but slightly more distinct than that of pronotum; interstices with shallow microreticulation. Protarsomere I with sexual dimorphism.

Abdomen with sparse and rather fine punctation, and with distinct, but shallow microreticulation.

♂: protarsomere I elongated and enlarged; median lobe of aedeagus (Figs 8-10) approximately 0.45 mm long and of highly distinctive morphology; ventral process slender, nearly straight in lateral view, and apically widened in ventral view; internal sac with pair of very long spines.

♀: protarsomere I elongated, but less large than that of male.



Figs 8-14: *Cypha rubripennis* (8-10) and *C. prominens* (11-14): (8, 12-13): median lobe of aedeagus in lateral view; (9) ventral process of median lobe in ventral view; (10) basal portion of median lobe in dorsal view; (11) habitus; (14) median lobe of aedeagus in ventral view. Scale bars: 11: 0.5 mm; 8-10, 12-14: 0.1 mm.

Comparative notes: Based on the similar external characters (shape, size, coloration) and particularly on the similar general morphology of the median lobe of the aedeagus, *C. rubripennis* is closely allied to *C. suecica* (PALM, 1936) and *C. discoidea* (ERICHSON, 1839). It is reliably distinguished from these species by the differently shaped apex of the ventral process of the aedeagus and by the much longer spines in the internal sac, additionally also by the darker legs and antennae. For illustrations of the aedeagi of *C. suecica* and *C. discoidea* see PALM (1966) and ASSING (2004a).

Distribution and natural history: According to DAUPHIN (2004), *C. rubripennis* is distributed in "Europe, Afrique du Nord. France: Provence, Hautes-Pyrénées". However, no country other than France is specified. In SMETANA (2004), the species is listed only for France, suggesting that the above specimens from Morocco and Spain represent new country records.

The two males from Murcia were collected with flight interception traps; the female from Murcia was probably sifted at an altitude of 1500 m.

***Cypha prominens* nov.sp.** (Figs 11-14)

Type material: Holotype ♂: "18.3.84 Tunesien, Umg. Teboursouk, leg. H. Meybohm / Holotypus ♂ *Cypha prominens* sp. n. det. V. Assing 2014" (cAss). Paratype ♂: same data as holotype (cAss).

Etymology: The specific epithet (Latin, adjective) alludes to the conspicuously prominent base of the ventral process of the aedeagus.

Description: Body length 1.3-1.5 mm; length of forebody 0.75-0.80 mm. Habitus as in Fig. 1. Coloration: whole body, including the mouthparts, legs, and antennae, black.

Head strongly transverse; punctation very fine and sparse; interstices with shallow microreticulation, glossy. Antenna approximately 0.65 mm long, without distinct club; antennomeres I and II large and somewhat flattened; III-IX distinctly oblong; VII-IX gradually increasing in width; X strongly elongated, approximately 3.5 times as long as broad and distinctly longer than the combined length of VIII and IX.

Body length 1.7 mm; length of forebody 0.8 mm; length of antenna 0.6 mm. External characters as in *C. tarsalis*, distinguished only by the morphology of the aedeagus.

Pronotum approximately 1.9 times as broad as long and 1.4 times as broad as head; punctation extremely fine and sparse; interstices with very shallow microreticulation and glossy.

Elytra slightly longer than pronotum; punctation and microreticulation more distinct than those of pronotum. Protarsomere I unmodified.

Abdomen with moderately sparse, fine punctation and with distinct, but shallow microreticulation.

♂: median lobe of aedeagus (Figs 12-14) 0.30-0.33 mm long and of highly distinctive morphology; ventral process weakly curved and basally conspicuously convexly produced in lateral view, slender and apically acute both in lateral and in ventral view; internal sac with pair of relatively short semi-transparent spines.

Comparative notes: The new species is distinguished from all its congeners particularly by the conspicuous shape of the ventral process of the aedeagus in lateral view, from the similarly dark *C. tenebricosa* ASSING, 2004 additionally by the longer and more slender antennae.

Distribution and natural history: The type locality is situated to the west of the Teboursouk pass (approximately 36°30'N, 9°10'E) in northern Tunisia. The specimens were collected from under stones on a grassy slope at an altitude of 700 m (MEYBOHM pers. comm.).

***Cypha rubicunda* (REITTER, 1887)** (Figs 15-18)

Hypocyptus rubicundus REITTER, 1887: 261.

Type material examined: Holotype ♂: "Turkmenia Semenov / Hypocyptus rubicundus m., Turkmenia Semenov / coll. Reitter / Monotypus [sic] Hypocyptus rubicundus Reitter 1887 / Holotypus Hypocyptus rubicundus Reitter, rev. V. Assing 2008 / *Cypha rubicunda* (Reitter), det. V. Assing 2008" (HNHM).

Additional material examined: Turkmenistan: 1♂, 1♀, "Krasnowodsk" (HNHM); 1 ex., Ashkhabad (HNHM).

Comment: The original description is based on "ein Exemplar aus Turcmenien" (REITTER 1887).

Redescription: Body length 2.3-2.5 mm. Body pale reddish; elytra yellowish.

Head with sharply angled posterior angles; microsculpture shallow; punctation fine and moderately dense. Eyes large, approximately three times as long as postocular region in dorsal view. Antennae (Fig. 15) long; all antennomeres distinctly longer than wide; IV-V more than 3 times as long as wide; IX approximately three times as long as wide; X conspicuously oblong, approximately as long as the combined length of the three preceding antennomeres.

Pronotum strongly transverse, 1.75-1.80 times as wide as long; maximal width in posterior half; posterior angles rounded, obsolete; microsculpture very shallow; punctation extremely fine.

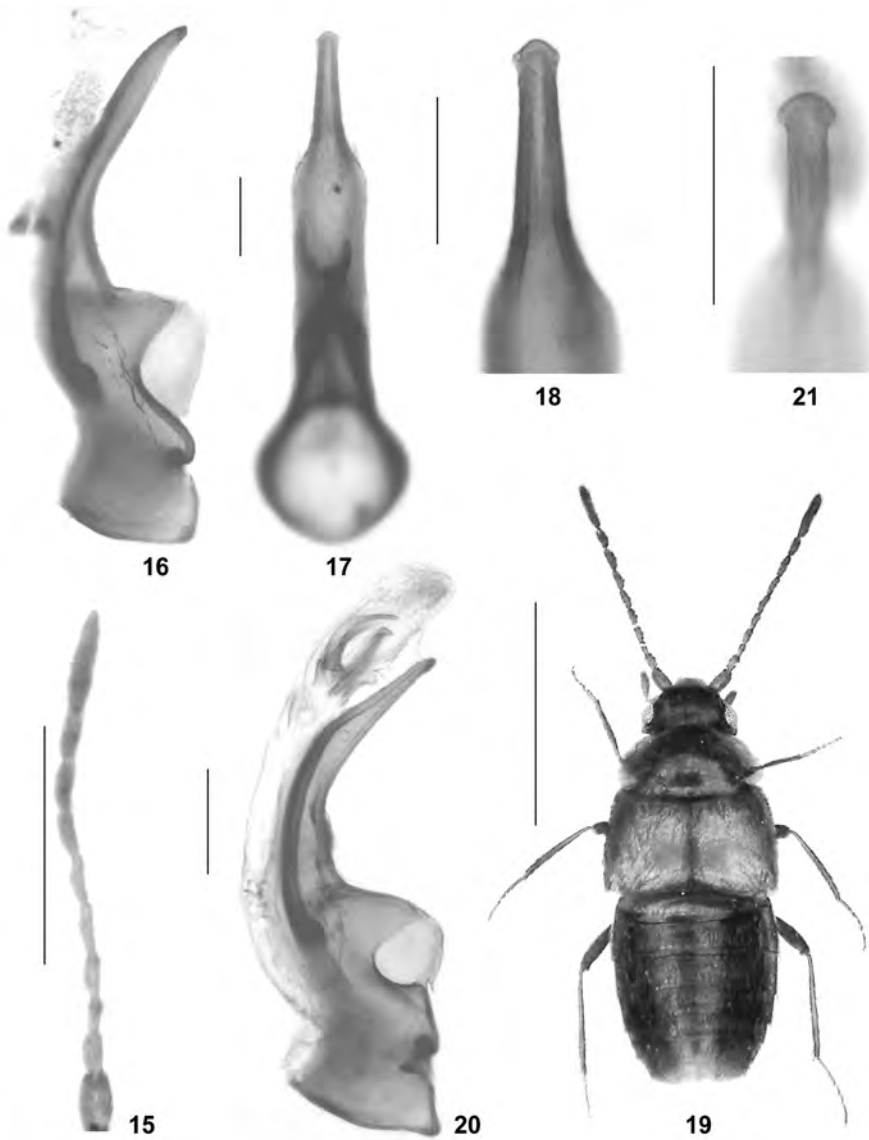
Elytra somewhat wider than pronotum and dilated posteriad, at suture approximately as long as pronotum; punctation extremely fine; microsculpture somewhat more distinct than that of pronotum. Hind wings fully developed. Metatarsomere I very long, longer than the combined length of II-IV.

Abdomen with extremely fine punctation; microsculpture distinct; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus of distinctive morphology (Figs 17-18); paramere conspicuously large, 1.1 mm long.

Comparative notes: The species is readily distinguished from its congeners especially by the pale coloration, the conspicuously long antennae, and by the distinctive shape of the aedeagus.

Distribution and natural history: *Cypha rubicunda* was previously known only from the vaguely specified type locality. It is here reported from two localities in Turkmenistan, one at the coast of the Caspian Sea and one near the northern slopes of the Kopetdagh mountains.



Figs 15-21: *Cypha rubicunda*, holotype (15-18) and *C. persica*, holotype (19-21): (15) antenna; (16, 20) median lobe of aedeagus in lateral view; (17) median lobe of aedeagus in ventral view; (18, 21) apex of ventral process of median lobe in ventral view; (19) habitus. Scale bars: 19: 1.0 mm; 15: 0.5 mm; 16-18, 20-21: 0.1 mm.

***Cypha takhtajani* (IABLOKOFF-KHNZORIAN, 1961)**

Material examined: PAKISTAN: 22 exs., Balochistan, Sulaiman mountains, 1700 m, 8.V. [year not specified], leg. Gurko (cSch, cAss).

C o m m e n t : Previously, only the male holotype from Erevan, Armenia, was known; the specimen was revised and illustrated by ASSING (2005).

***Cypha persica* nov.sp.** (Figs 19-21)

T y p e m a t e r i a l : Holotype ♂: "Iran, Razavi Khorasan Prov., 20 km NW Torbat-e Heydariyeh: Senobar, 1730 m (Sorkh Mts), N 35°26'04" E 059°05'48", 28.05.2006, lg. Frisch & Serri / Holotypus ♂ *Cypha persica* sp. n. det. V. Assing 2014" (MNHUB).

E t y m o l o g y : The specific epithet (adjective) is derived from the ancient name of Iran.

D e s c r i p t i o n : Body length 2.0 mm; length of forebody 1.45 mm. Habitus as in Fig. 19. Coloration: head dark-brown; pronotum brown with broadly yellowish semi-transparent lateral margins; elytra reddish; abdomen brown with dark-yellowish apex; legs, antennae, and maxillary palpi brown.

Head strongly transverse; punctation extremely fine and sparse; interstices with very shallow microreticulation, glossy. Antenna conspicuously long, 1 mm long; without club; antennomeres I and II large; III-IX elongated, at least twice as long as broad; VII-IX almost three times as long as broad; X noticeably longer than the combined length of VIII and IX.

Pronotum 1.9 times as broad as long and 1.5 times as broad as head; punctation and microsculpture similar to those of head.

Elytra approximately 1.1 times as long as pronotum; punctation and microsculpture slightly more distinct than those of pronotum. Protarsomere I long, but not distinctly modified.

Abdomen broadest at segment IV, tapering from segment V to segment VIII, with moderately sparse and rather fine punctation, and with shallow microreticulation.

♂: median lobe of aedeagus (Figs 20-21) approximately 0.45 mm long and of distinctive morphology; base of aedeagal capsule acutely angled in lateral view; crista apicalis of distinctive shape; internal sac apically with several sclerotized spines.

C o m p a r a t i v e n o t e s : Based on the similarly derived external characters, particularly the morphology of the antennae (very long and slender, with very slender, elongated antennomeres IV-IX, and with conspicuously long antennomere X), and the similarly derived shape of the aedeagus (shape of crista apicalis; basally angled aedeagal capsule), *C. persica* is closely related to *C. rubicunda* and *C. takhtajani*, from which it differs by the different coloration (*C. takhtajani*: legs and antennae yellowish) and by the morphology of the aedeagus. For illustrations of *C. rubicunda* and *C. takhtajani* see Figs 16-18 and ASSING (2005), respectively.

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in Razavi Khorasan Province in northeastern Iran at an altitude of 1730 m.

Acknowledgements

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Zusammenfassung

Fünf Arten der Gattung *Cypha* LEACH, 1819 aus der Westpaläarktis werden beschrieben bzw. redeskribiert und abgebildet: *Cypha rubripennis* (PANDELLÉ, 1869) (Frankreich, Spanien, Marokko); *C. rubicunda* (REITTER, 1887) (Turkmenistan); *C. truncata* nov.sp. (Ukraine); *C. prominens* nov.sp. (Tunesien); *C. persica* nov.sp. (Iran). *Cypha tbilisiensis* DAUPHIN, 2005 nov.syn. wird mit *C. tarsalis* (LUZE, 1902) synonymisiert. Mehrere Erstnachweise werden gemeldet. Die Gattung ist derzeit mit 50 beschriebenen Arten in der Paläarktis vertreten.

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