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Revision of the *Cousya* species of the West Palaearctic Region (Coleoptera: Staphylinidae: Aleocharinae)

Volker Assing

Abstract

Species of the genus *Cousya* Mulsant & Rey, 1875 and five previously unrevised species of *Ocyusa* Kraatz, 1856 of the West Palaearctic region including Middle Asia are revised. In total, 19 species of *Cousya* are recognized, with one additional species of which no material was available of doubtful identity and generic affiliations. Three or four additional species remain unnamed for want of males. Only two species, *O. maura* (Erichson, 1837) and *O. picina* (Aubé, 1850), remain in *Ocyusa*. Four species are newly described: *Cousya acris* **n. sp.** (South Greece, South Turkey, Cyprus, Lebanon); *C. struyvei* **n. sp.** (South Spain); *C. pauli* **n. sp.** (Southwest Turkey); *C. sufflata* **n. sp.** (Greece: South Pelopónnisos). Redescriptions are provided for *Cousya* and ten of its species. All the *Cousya* species and most of the species moved to other genera are illustrated. Eleven synonymies are proposed: *Cousya bicolor* (Bernhauer, 1900) = *C. mirabilis* Assing, 2011, **n. syn.**; *C. defecta* (Mulsant & Rey, 1875) = *C. humicola* Fagel, 1965, **n. syn.**; *C. longitarsis* (Thomson, 1867) = *C. rugipennis* (J. Sahlberg, 1890) **n. syn.** (previously a synonym of *Oxypoda funebris* Kraatz, 1856), = *C. peezi* Scheerpeltz, 1957, **n. syn.**; *C. nigrata* (Fairmaire & Laboulbène, 1856) = *C. cephallenica* (Scheerpeltz, 1931), **n. syn.**, = *C. nitidiventris* Fagel, 1958, **n. syn.**, = *C. lakloukensis* Fagel, 1965, **n. syn.**; *C. schuelkei* Assing, 2007 = *C. planicollis* Assing, 2011, **n. syn.**; *C. bimaculata* (Fauvel, 1899) = *C. vaulogeri* (Bernhauer, 1936), **n. syn.**; *Oxypoda flavicornis* Kraatz, 1856 = *Ocyusa beieri* Scheerpeltz, 1931, **n. syn.**; *Ocyusa pellax* Peyerimhoff, 1919 = *Oxypoda argus* Normand, 1935, **n. syn.** Six new binomina are established: *Cousya dissoluta* (Eppelsheim, 1888), **n. comb.** (ex *Ocyusa*); *C. praecox* (Eppelsheim, 1888), **n. comb.** (ex *Ocyusa*); *Oxypoda picta* Mulsant & Rey, 1875, **n. comb.** (ex *Cousya*); *Oxypoda pellax* (Peyerimhoff, 1919), **n. comb.** (ex *Ocyusa*); *Oxypoda heydeni* (Eppelsheim, 1879), **n. comb.** (ex *Ocyusa*); *Tectusa uhligi* (Pace, 1987), **n. comb.** (ex *Cousya*). The material labelled as types of *Cousya uhligi* is composed of three species, all of them belonging to *Tectusa* Bernhauer, 1899. One of them is *Tectusa pirinica* **n. sp.** (Bulgaria: Pirin Planina). Four Bulgarian species of *Tectusa*, including *T. pirinica*, are illustrated. "*Ocyusa*" *apicalis* Normand, 1935 is not congeneric with the type species of *Ocyusa* and treated as Oxypodina incertae sedis. A neotype is designated for *Ocyusa defecta* Mulsant & Rey, 1875. Lectotypes are designated for *Cousya peezi* Scheerpeltz, 1957, *Ocyusa eppelsheimi* Bernhauer, 1902, *O. araxis* Bernhauer, 1902, *O. bicolor* Bernhauer, 1900, *Homalota dissoluta* Eppelsheim, 1888, *H. praecox* Eppelsheim, 1888, and *Ocyusa ferdinandicoburgi* Rambousek, 1909. A catalogue and a key to the *Cousya* species of the West Palaearctic region are provided. The species of *Cousya* are assigned to two species groups, the *C. nigrata* group (eleven species) and the *C. crocea* group (eight species). While the species of the *C. nigrata* group are fully winged and widespread, those of the *C. crocea* group are partly incapable of flight and have restricted distributions; six of them have been recorded only from their respective type localities. The distributions of all the *Cousya* species are mapped. Available evidence suggests that at least the species of the *C. nigrata* group reproduce in autumn (most species in a subterranean habitat), have their preimaginal development in winter and early spring, emerge from the pupa and disperse in spring, and spend the warmer seasons either in estivation or in a subterranean habitat. A biased sex ratio (males rarer than females) was observed in two species. It is particularly pronounced in *C. nigrata*: only 15 % of the sexed specimens are males. Not a single male was found in the north of its range, suggesting that the species is parthenogenetic in this region.

Keywords: Coleoptera, Staphylinidae, Aleocharinae, Oxypodini, Oxypodina, *Cousya*, *Ocyusa*, *Tectusa*, West Palaearctic region, Middle Asia, taxonomy, new species, new synonymies, new combinations, neotype designation, lectotype designations, distribution maps, key to species, catalogue, natural history, sex ratio, parthenogenesis

Zusammenfassung

Arten der Gattung *Cousya* Mulsant & Rey, 1875 und fünf zuvor unrevidierte Arten der Gattung *Ocyusa* Kraatz, 1856 der Westpaläarktis einschließlich Mittelasiens werden revidiert. Ingesamt werden 19 *Cousya*-Arten erkannt; die Identität und Gattungszugehörigkeit einer weiteren Art, von der kein Material verfügbar war, ist unklar. Drei bis vier Arten bleiben unbenannt, da Männchen bisher unbekannt sind. Lediglich zwei Arten, *O. maura* (Erichson, 1837) und *O. picina* (Aubé, 1850), verbleiben in *Ocyusa*. Vier Arten werden erstmals beschrieben: *Cousya acris* **n. sp.** (Südgriechenland, Südtürkei, Zypern, Libanon); *C. struyvei* **n. sp.** (Südspanien); *C. pauli* **n. sp.** (Südwesttürkei); *C. sufflata* **n. sp.** (Griechenland: südliche Peloponnes). Die Gattung *Cousya* und zehn ihrer Arten werden redeskribiert. Alle *Cousya*-Arten und die meisten neu kombinierten Arten werden abgebildet. Elf Namen werden synonymisiert: *Cousya bicolor* (Bernhauer, 1900) = *C. mirabilis* Assing, 2011, **n. syn.**; *C. defecta* (Mulsant & Rey, 1875) = *C. humicola* Fagel, 1965, **n. syn.**; *C. longitarsis* (Thomson, 1867) = *C. rugipennis* (J. Sahlberg, 1890) **n. syn.** (bisher Synonym von *Oxypoda funebris* Kraatz, 1856), = *C. peezi* Scheerpeltz, 1957, **n. syn.**; *C. nigrata* (Fairmaire & Laboulbène, 1856) = *C. cephallenica* (Scheerpeltz, 1931), **n. syn.**, = *C. nitidiventris* Fagel, 1958, **n. syn.**, = *C.*

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lakloukensis Fagel, 1965, **n. syn.**; *C. schuelkei* Assing, 2007 = *C. planicollis* Assing, 2011, **n. syn.**; *C. bimaculata* (Fauvel, 1899) = *C. vaulogeri* (Bernhauer, 1936), **n. syn.**; *Oxypoda flavicornis* Kraatz, 1856 = *Ocyusa beieri* Scheerpeltz, 1931, **n. syn.**; *Ocyusa pellax* Peyerimhoff, 1919 = *Oxypoda argus* Normand, 1935, **n. syn.** Sechs Arten werden neu kombiniert: *Cousya dissoluta* (Eppelsheim, 1888), **n. comb.** (ex *Ocyusa*); *C. praecox* (Eppelsheim, 1888), **n. comb.** (ex *Ocyusa*); *Oxypoda picta* Mulsant & Rey, 1875, **n. comb.** (ex *Cousya*); *Oxypoda pellax* (Peyerimhoff, 1919), **n. comb.** (ex *Ocyusa*); *Oxypoda heydeni* (Eppelsheim, 1879), **n. comb.** (ex *Ocyusa*); *Tectusa uhligi* (Pace, 1987), **n. comb.** (ex *Cousya*). Das als Typen von *Cousya uhligi* etikettierte Material setzt sich aus drei Arten zusammen, die alle in die Gattung *Tectusa* Bernhauer, 1899 gehören. Eine davon ist *Tectusa pirinica* **n. sp.** (Bulgarien: Pirin Planina). Vier bulgarische Arten der Gattung *Tectusa*, einschließlich *T. pirinica*, werden abgebildet."*Ocyusa*" *apicalis* Normand, 1935 gehört nicht in die Gattung *Ocyusa* und wird als Oxypodina incertae sedis betrachtet. Für *Ocyusa defecta* Mulsant & Rey, 1875 wird ein Neotypus, für *Cousya peezi* Scheerpeltz, 1957, *Ocyusa eppelsheimi* Bernhauer, 1902, *O. araxis* Bernhauer, 1902, *O. bicolor* Bernhauer, 1900, *Homalota dissoluta* Eppelsheim, 1888, *H. praecox* Eppelsheim, 1888 und *Tectusa ferdinandicoburgi* Rambousek, 1909 werden Lektotypen designiert. Ein Katalog und eine Bestimmungstabelle der *Cousya*-Arten der Westpaläarktis werden erstellt. Die Arten werden zwei Artengruppen zugeordnet. Die elf Arten der *C. nigrata*-Gruppe besitzen voll entwickelte Flügel und sind mehr oder weniger weit verbreitet, während die acht Arten der *C. crocea*-Gruppe teilweise flugunfähig und lokal verbreitet sind; sechs von ihnen sind bisher nur von ihrer jeweiligen Typuslokalität bekannt. Die derzeit bekannten Verbreitungsgebiete aller *Cousya*-Arten werden anhand von Karten illustriert. Nach jetzigem Kenntnisstand liegt die Reproduktionsperiode zumindest der Arten der *C. nigrata*-Gruppe im Herbst und Frühwinter (meist in einem unterirdischen Habitat) und die Präimaginalentwicklung im Winter. Nach Ende des Pupalstadiums im Frühjahr breiten sich die Imagines aus und verbringen die warme Jahreszeit entweder in Ästivation oder in einem unterirdischen Habitat. Ein ungleiches Geschlechterverhältnis (Männchen seltener als Weibchen) wurde bei zwei Arten beobachtet. Bei *C. nigrata* ist es besonders ausgeprägt: nur 15 % der untersuchten Individuen sind Männchen. Nicht ein einziges Männchen ist aus dem Norden des Verbreitungsgebiets bekannt, ein Hinweis auf parthenogenetische Fortpflanzung in dieser Region.

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1 Introduction and taxonomic history

Mulsant & Rey (1875) originally described *Cousya* as a subgenus in a key to the French species of *Ocyusa* Kraatz, 1856, together with another subgenus, *Mniusa* Mulsant & Rey, 1874. They assigned three species to *Cousya*: *Ocyusa* (*Cousya*) *nigrata* (Fairmaire & Laboulbène, 1856), *O.* (*C.*) *procidua* (Erichson, 1837), and the newly described *O.* (*C.*) *defecta* Mulsant & Rey, 1875. Fenyes (1918) subsequently designated *O. nigrata* as the type species of *Cousya*.

In a comprehensive treatment of the Palaearctic representatives of what was then considered Aleocharini, Bernhauer (1902) proposed an intrageneric system of *Ocyusa* with 21 species in seven subgenera, including the nominal subgenus (one species: *O. maura* (Erichson, 1837)), *Mniusa* (two species: *O. incrassata* (Mulsant & Rey, 1852); *O. grandiceps* (J. Sahlberg, 1876)), *Parocyusa* Bernhauer, 1902 (one species: *O. holdhausi* Bernhauer, 1902), *Zoosetha* Mulsant & Rey, 1874 (two species: *O. inconspicua* (Erichson, 1839); *O. salomonis* (Saulcy, 1865)), *Poromniusa* Ganglbauer, 1895 (three species: *O. bimaculata* Fauvel, 1899; *O. procidua* (Erichson, 1837); *O. fortepunctata* Bernhauer, 1902), *Leptusina* Bernhauer, 1900 (four species: *O. bosnica* Bernhauer, 1900; *O. caucasica* Bernhauer, 1902; *O. longicollis* Eppelsheim, 1899; *O. cartusiana* Fauvel, 1900), and *Cousya* (eight species: *O. nigrata*; *O. defecta*; *O. laticollis* (Thomson, 1871); *O. nivicola* (Thomson, 1871); *O. araxis* Bernhauer, 1902; *O. bicolor* Bernhauer, 1900; *O. picta* (Mulsant & Rey, 1875); *O. fauveli* Ragusa, 1891). He transferred *Calodera picina* Aubé, 1850, which had been included in *Ocyusa* by Mulsant & Rey (1875), to a separate genus, *Deubelia* Bernhauer, 1899.

In a comprehensive catalogue of the Staphylinidae of the world, Bernhauer & Scheerpeltz (1926) principally adopted the system of Bernhauer (1902) with some additions for the Palaearctic region: *Ocyusa* (*Leptusina*) *ferdinandicoburgi* Rambousek, 1909, *O.* (*L.*) *leonhardi* Bernhauer, 1912, *O.* (*Parocyusa*) *knabli* Bernhauer, 1914, *O.* (*Cousya*) *kelecsenyi* Bernhauer, 1914, and *O.* (*C.*) *pellax* Peyerimhoff, 1919.

In a key to the *Cousya* species of the Balkans, Scheerpeltz (1931) retained *Cousya* as a subgenus of *Ocyusa* and recognized seven species: *O. nigrata*, *O. defecta*, *O. picta*, *O. kelecsenyi* Bernhauer, 1914, *O. densepunctata* Scheerpeltz, 1931, *O. beieri* Scheerpeltz, 1931, and *O. cephallenica* Scheerpeltz, 1931.

Fagel (1958, 1965) treated *Cousya* as a distinct genus and described three additional species from Spain and Lebanon: *Cousya nitidiventris* Fagel, 1958, *C. humicola* Fagel, 1965, and *C. lakloukensis* Fagel, 1965.

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Primarily based on a study of the mouthparts and of the ventral aspect of the thorax, as well as on the presence or absence of an anterior basal impression on the abdominal tergite VI, Lohse (1971) subsequently recognized *Cousya* as a polyphyletic genus and assigned three species previously attributed to *Cousya* (*C. hibernica, longitarsis, tullgreni*) to other genera. He moved *Ocyusa nivicola* to *Cephalocousya* Lohse, 1971, *O. hibernica* (Rye, 1876) (previously a junior synonym of *O. laticollis*) to *Chilomorpha* Krása, 1914, and *O. tullgreni* Palm, 1939 to *Ischnoglossa* Kraatz, 1856. Today, the latter species is a junior synonym of *Chanoma vorbringeri* (Bernhauer, 1907).

Several previously and newly proposed changes were incorporated in a key to the Oxypodini of Central Europe (Lohse 1974). *Chilomorpha hibernica* was placed in synonymy with *C. longitarsis* (Thomson, 1867), *Parocyusa* was included in *Chilopora* Kraatz, 1856, *Poromniusa* was treated as a junior synonym of *Zoosetha*, and *Cousya* was synonymized with *Ocyusa*.

Zoosetha and *Poromniusa* were revised, and the latter reinstated as a valid genus, by Assing (1998), who also moved *Ocyusa bimaculata* to *Cousya*.

Assing & Schülke (2001) synonymized *Deubelia* with *Ocyusa* and formally revalidated *Cousya* as a distinct genus. Assing & Schülke (2007) placed *Chilomorpha* in synonymy with *Cousya*.

Regarding the taxa relevant for the present study, a phylogenetic study of Oxypodini based on molecular data (Osswald et al. 2013) yielded the following results: a) the speciose genus *Oxypoda* Mannerheim, 1830 is paraphyletic, its clade also including genera such as *Ocyusa*, *Ilyobates* Kraatz, 1856, and *Tetralaucopora*; b) among the taxa examined, *Ocyusa* is most closely allied to *Oxypoda lentula* Erichson, 1837; c) *Ocyusa* and *Mniusa* belong to different clades. Unfortunately, species of *Cousya*, *Zoosetha*, and *Poromniusa* were not included in this study.

Additional species of *Cousya* were described from the West Palaearctic region (including Middle Asia) recently by Assing (2004a, b, 2006, 2007, 2010, 2011a, 2013) and Pace (1987).

The recent edition of the Palaearctic Catalogue (Schülke & Smetana 2015) lists 39 species of *Cousya*, 26 of them from the West Palaearctic and 13 from the East Palaearctic regions, and 14 species of *Ocyusa*, seven from the West Palaearctic and seven from the East Palaearctic regions.

In summary, the history and respective status of *Cousya*, *Ocyusa*, and other genus-group names have been subject to continuous change and considerable confusion. Moreover, owing to the absence of modern revisions, including studies and illustrations of the sexual characters, a reliable identification of *Cousya* species, except *C. longitarsis* and some recently described local Mediterranean species, was practically impossible. Consequently, the actual diversity of *Cousya* in the West Palaearctic region was as obscure as the distributions of individual species. It is the primary objective of the present revision to clarify the identities and taxonomy of the species assigned to *Cousya*, as well as their natural history and zoogeography. For fully resolving the inter- and intrageneric phylogenetic affiliations within an intricate taxon such as the subtribe Oxypodina a comprehensive study including also molecular data would be required.

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2 Material and methods

The public and private collections referred to in this study are abbreviated as follows:

BMNH	The Natural History Museum, London (M. Barclay)
FMNH	Field Museum of Natural History, Chicago (C. Maier)
IRSNB	Institut Royal des Sciences Naturelles de Belgique, Bruxelles (Y. Gérard)
MHNG	Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)
MNB	Museum für Naturkunde, Berlin (including coll. Schülke; J. Frisch, M. Schülke)
MNHL	Muséum d'Histoire Naturelle, Lyon (H. Labrique)
MNHNP	Muséum National d'Histoire Naturelle, Paris (A. Taghavian)
MZH	Finnish Museum of Natural History, Zoological Museum, Helsinki (J. Mattila)
NHMW	Naturhistorisches Museum Wien (H. Schillhammer)
NMP	National Museum of Natural History, Praha (J. Hájek)
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg (L. Behne)
TLFI	Tiroler Landesmuseum Ferdinandeum, Innsbruck (M. Kahlen)
cAss	author´s private collection
cFel	private collection Benedikt Feldmann, Münster
cKle	private collection Andreas Kleeberg, Berlin
cKoc	private collection Matúš Kocian, Prague
cMey	private collection Heinrich Meybohm, Großhansdorf
cStr	private collection Tim Struyve, Mechelen
cTro	private collection Marc Tronquet, Molitg-les-Bains
cVav	private collection Jiří Vávra, Ostrava
cWun	private collection Paul Wunderle, Mönchengladbach
cZan	private collection Adriano Zanetti, Verona

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The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss), a Discovery V12 microscope (Zeiss), and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software, a digital camera (Nikon Coolpix 995), and Axiocam ERc 5s. The maps were created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the labrum to the abdominal apex, the length of the forebody from the anterior margin of the labrum to the posterior margin of the elytra, head length from the anterior margin of the 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 (at the suture), and the length of the median lobe of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. 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.

Zoogeographic categories and terminology are based on Lattin (1967). The limits of the zoogeographic regions are in accordance with those used in Schülke & Smetana (2015).

The individual labels of type specimens are separated by slashes; they are cited in the original spelling and format, except that slashes were replaced with commas and that capitalized geographic names of countries are given in standard format (i.e., "Turkey" rather than "TURKEY"). Moreover, the following adaptations were made according to the general format requirements of the journal: names of persons (except authors of species) in small capitals, scientific names of genera and species in italics, dates with the months always in Roman numbers.

3 Results

3.1 The genus *Cousya* Mulsant & Rey, 1875

Cousya Mulsant & Rey, 1875: 420. Type species: *Calodera nigrata* Fairmaire & Laboulbène, 1856

Chilomorpha Krása, 1914: 146. Type species: *Chilomorpha bernhaueri* Krása, 1914.

Diagnosis

Species of small to intermediate size, body length 1.6–4.8 mm; length of forebody 0.8–1.9 mm. Coloration variable. Habitus slender. Punctation of forebody extremely fine to fine (Figs 1, 14).

Head weakly oblong to weakly transverse (Figs 1, 14, 53–54, 68). Eyes rather large and composed of numerous ommatidia, weakly to moderately convex. Gular sutures broadly separated. Genae fully, finely to distinctly carinate ventrally. Antennae weakly to moderately incrassate, without distinct modifications (Figs 34, 37, 55). Mouthparts as in Figs 2–4, without distinct modifications; ligula apically bifid.

Pronotum (Figs 1, 14, 33, 36, 53–54, 68) very weakly to moderately transverse, often small in relation to head, 1.03–1.25 times as broad as long and 1.05–1.30 times as broad as head; maximal width in, or anterior to middle. Pubescence of midline directed posteriad, rarely anteriad in anterior third of midline. Hypomera narrowly visible in lateral view. Prosternum sharply carinate (*C. nigrata* group) or strongly bulging (*C. crocea* group) in the middle. Posterior process of mesoventrite acute, very long and nearly extending to anterior process of metaventrite (*C. nigrata* group) or moderately long (*C. crocea* group).

Legs moderately to very slender. Metatarsomere I at least as long as the combined length of metatarsomeres II and III, sometimes even slightly longer than the combined length of metatarsomeres II–IV.

Abdominal tergites III–V with, tergite VI without anterior impressions (Figs 5, 15). Posterior margin of tergite VIII convex, without evident sexual dimorphism. Sternite VIII with sexual dimorphism, in male more or less distinctly produced posteriorly (e.g., Fig. 6) and with long thin marginal setae, in female broadly convex and with stouter marginal setae.

Median lobe of aedeagus of compact (e.g., Figs 80–81) to slender shape (e.g., Figs 7–10), internal structures weakly to moderately sclerotized. Paramere (Figs 11, 24–25) distinctly longer than median lobe and with moderately to very slender, sometimes basally dilated apical lobe. Spermatheca often weakly sclerotized and with very long and slender proximal portion (e.g., Figs 12–13).

Comparative notes and comment

Cousya is generally identified and distinguished from similar genera of Oxypodina by the combination of a slender habitus, a relatively small and weakly to moderately transverse pronotum, and a finely punctate forebody. While there is little doubt that the species allied to *C. nigrata* (see below) form a monophyletic group, as is suggested primarily by the derived morphology of the aedeagus (long and slender ventral process; weakly sclerotized internal structures) and the spermatheca (weakly sclerotized; long and slender proximal portion), as well as by their natural history, the same cannot be said for the genus as a whole. Not a single synapomorphy constituting the monophyly of the genus and clearly separating it from *Oxypoda* and *Zoosetha* was found. In fact, based on differences in the structure of the ventral aspect of the thorax (shapes of prosternum and of posterior process of the mesoventrite) and in the morphology of the primary sexual characters, *Cousya* may even be polyphyletic and similarities in external characters may be the result of convergent evolution. However, as mentioned before, a morphology-based analysis is insufficient for a resolution of the phylogenetic affiliations in Oxypodina. Thus, for the purpose of the present study, a conservative and pragmatic approach is adopted and the status of *Cousya* is retained in accordance with the traditional interpretation of the genus, thus minimalizing the number of necessary taxonomic acts and nomenclatural changes (replacement names; new binomina).

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Cousya in the present sense is distinguished from similar genera of Oxypodina as follows:

from *Oxypoda* by a more slender habitus, a smaller and less transverse pronotum with its maximal width in, or anterior to middle, and with the hypomera narrowly visible in lateral view;

from *Zoosetha* particularly by the fine punctation of the forebody (*Zoosetha*: head and pronotum with rather coarse punctation), additionally by a usually more slender habitus, a usually less broad and less transverse pronotum (but note that there is some overlap), generally less strongly incrassate antennae with a usually more slender antennomere III and a longer antennomere XI (*Zoosetha*: antennomere XI shorter than the combined length of antennomeres IX and X), the absence of styliform appendices on the apices of the ligula, a less transverse labrum, a longer metatarsomere I (*Zoosetha*: metatarsomere I usually shorter than the combined length of metatarsomeres II and III);

from *Poromniusa* by fine punctation of the forebody, a longer and more slender, apically distinctly bifid ligula (*Poromniusa*: ligula apically indistinctly incised at most), an oblong labial palpomere II (transverse in *Poromniusa*), the chaetotaxy of the female sternite VIII (*Poromniusa*: posterior margin with conspicuously stout dark marginal setae), by the morphology of the median lobe of the aedeagus (*Poromniusa*: ventral process distincly modified; crista apicalis with pair of long appendices in ventral view), and additionally by a distinctly more slender habitus, generally less incrassate antennae with a longer antennomere XI, and a more slender maxillary palpomere III;

from *Ocyusa* by a much less convex pronotum and elytra, a posteriorly less strongly tapering pronotum, finely carinate genae (*Ocyusa*: genae with pronounced ventral carina), the absence of a median carina on the mesoventrite (present in *Ocyusa*), a less strongly transverse labrum, the morphology of the paramere (*Ocyusa*: apical lobe conspicuously long and slender, basally with a pronounced, acutely triangular process), and by a different natural history (*Ocyusa*: less rare, epigeic wetland species). As a result of the present revision, only two of the previously seven *Ocyusa* species of the West Palaearctic region, *O. maura* and *O. picina*, remain in *Ocyusa*. The remainder belongs to *Cousya* and other genera (see below), suggesting that the generic assignment of the seven unrevised *Ocyusa* species from the East Palaearctic is doubtful, too.

For illustrations of the mouthparts and other relevant morphological characters of *Zoosetha* and *Poromniusa* see Assing (1998).

Species groups

The *Cousya* species of the West Palaearctic region are assigned to two species groups distinguished not only by morphological characters, but also by their zoogeography and possibly their natural history.

The *C. nigrata* groups includes eleven species: *C. nigrata*, *C. defecta*, *C. longitarsis*, *C. densepunctata*, *C. struyvei*, *C. acris*, *C. araxis*, *C. schuelkei*, *C. pauli*, *C. bimaculata*, and *C. bicolor*. The monophyly of this group is constituted by the slender aedeagus with rather weakly sclerotized internal structures and by a generally weakly sclerotized spermatheca with a long and slender proximal portion. In addition, the species of this group are characterized by larger size, a carinate prosternum, a long posterior process of the mesoventrite, dark coloration (exception: *C. bimaculata*), and a more slender habitus with a generally more slender pronotum and with longer and more slender legs and antennae. They are fully winged and widespread. *Cousya pauli* and *C. struyvei* may currently be known only from their respective type localities, but it can be inferred from the presence of functional hind wings and from the distributions of their less rare relatives that they are probably widespread, too.

The remaining eight revised species are assigned to the *C. crocea* group: *C. crocea*, *C. deminuta*, *C. dimorpha*, *C. dissoluta*, *C. kelecsenyi*, *C. microdotoides*, *C. praecox*, *C. sufflata*. They are morphologically distinguished from the species of the *C. nigrata* group by a robust median lobe of the aedeagus with a rather short and stout ventral process and a generally more distinctly sclerotized spermatheca with a shorter and stouter proximal portion. In addition, they differ from the species of the *C. nigrata* group by small body size, often paler coloration, a more transverse pronotum, shorter and less slender legs and antennae, and often hind wings of more or less reduced, or dimorphic length.

The status of *C. fauveli*, an unrevised species of doubtful identity, can be clarified only when material is available.

Taxonomy

A revision of available types and additional material revealed a taxonomic confusion of considerable dimensions. In all, 19 valid species of *Cousya* are recognized in the West Palaearctic region, four of them are newly described. Three or four additional species of the *C. crocea* group from the Mediterranean are currently represented exclusively by females and consequently not named. One additional described species of which no material was available remains of doubtful status both regarding its specific identity and its generic assignment. Eleven new synonymies and five new binomina (new generic assignments) are proposed. Only two West Palaearctic species, *Ocyusa maura* and *O. picina*, remain in the genus *Ocyusa*.

Identification

While some species are reliably identified based on conspicuous external characters alone (*C. bimaculata*,

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C. bicolor, *C. nigrata*, *C. longitarsis*, *C. densepunctata*, *C. crocea*), the identification of the remaining species requires the examination of the male primary sexual characters. The spermatheca of only three species (*C. schuelkei*, *C. crocea*, *C. sufflata*) is sufficiently distinctive for an unambiguous identification. In the West Mediterranean eastwards to Italy, where the diversity is much lower, *Cousya* species are reliably identified based on external characters alone.

In the collections examined, *Cousya* species were commonly misidentified, often also confused with species of other genera such as *Oxypoda* (especially *O. flavicornis* Kraatz, 1856, *O. haemorrhoa* (Mannerheim, 1839), species of the subgenus *Mycetodrepa* Thomson, 1859), *Cephalocousya nivicola*, and *Ocalea* spp. Therefore, all older literature records must be considered doubtful, except for some records of *C. longitarsis* and some recent records of *C. nigrata* from the north of its range.

Diversity and zoogeography

Disregarding the two species of doubtful identity, *Cousya* is currently represented in the West Palaearctic region including Middle Asia by 19 species. Diversity is greatest in the East Mediterranean from the Balkans to the Middle East. The species of the *C. nigrata* group are more or less widespread (but see note on *C. pauli* and *C. struyvei* above) and represent different distribution patterns: Mauretanian (*C. bimaculata*; Fig. 136), Holo-Mediterranean (*C. nigrata*; Fig. 134), Ponto-Mediterranean (*C. defecta*; Fig. 136), Siberian (*C. longitarsis*; Fig. 138), and Syrian (*C. araxis* and probably *C. acris*; Figs 140–141). More records of the other species are needed to clarify their respective distribution types. The species of the *C. crocea* group appear to have restricted distributions. Except for *C. crocea*, they are currently known only from their respective type localities (one species also from the immediate vicinity), and most of them have been recorded only once.

Natural history

Available evidence suggests that, except perhaps for *C. longitarsis*, the species of the *C. nigrata* group seem to spend most of their lives in a subterranean habitat. First, they are usually found on calcareous or other stony substrates. Second, despite partly vast distributions, records of these species are rare and most likely accidental. However, several otherwise rarely recorded species were collected in remarkably large numbers in central southern Anatolia, a region dominated by limestone soil. Finally, the vast majority of specimens, many of them more or less distinctly teneral, was collected in spring; records during other times of the year are exceptional. Flying beetles were mostly taken in spring, more rarely in autumn. Based on these observations, reproduction (mating, oviposition) takes place in a subterranean habitat in autumn, possibly also early winter, larval development and pupation occur in winter, pupal emergence in spring, followed by above-ground dispersal. The habitat of *C. longitarsis* may be of a different nature, since this species also occurs on sandy soils and is epigeically active both in autumn and in spring.

Owing to the extreme rarity of records, next to nothing is known about the natural history of the species of the *C. crocea* group. Except for *C. crocea*, these species have been found only once (six species) or very few times (one species), suggesting that these records are accidental and they live in a subterranean habitat, too. The phenology of *C. crocea* appears to be different from that of the species of the *C. nigrata* group, since teneral adults were observed in autumn.

3.2 The *Cousya* species of the West Palaearctic region

Catalogue

The species are arranged in aphabetical order. Species of doubtful identity are marked with an asterisk. Except for *C. longitarsis*, the revised distribution is based exclusively on examined records.

Species	Revised distribution
acris **n. sp.**	Probably Syrian: South Greece; South Turkey; Cyprus; Lebanon
araxis (Bernhauer, 1902)	Syrian: Greece (Rhodos); Turkey; Cyprus; Syria; Israel; Jordan; Iraq; Iran; Armenia; Azerbaijan
bicolor (Bernhauer, 1900) = *mirabilis* Assing, 2011; **n. syn.**	Turkey; Israel; Iran; Turkmenistan; Kazakhstan; Afghanistan
bimaculata (Fauvel, 1899) = *vaulogeri* (Bernhauer, 1936); **n. syn.**	Mauretanian: Algeria; Tunisia
crocea Assing, 2004	South Turkey; Lebanon
defecta (Mulsant & Rey, 1875) = *humicola* Fagel, 1965; **n. syn.**	Ponto-Mediterranean: Lebanon; Turkey; Greece; Macedonia; Albania; Bosnia-Herzegovina; Croatia; Italy; South France
deminuta Assing, 2010	Spain: Murcia
densepunctata (Scheerpeltz, 1931)	Romania; Bosnia-Herzegovina; Greece
dimorpha Assing, 2006	North Greece
dissoluta (Eppelsheim, 1888), **n. comb.**	Turkmenistan

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Species	Revised distribution
**fauveli* (Ragusa, 1891)	Sicily; Algeria
kelecsenyi (Bernhauer, 1914)	Greece: Paxos
longitarsis (Thomson, 1867) = *hibernica* (Rye, 1876) = *rugipennis* (J. Sahlberg, 1890); **n. syn.** = *bernhaueri* (Krása, 1914) = *peezi* Scheerpeltz, 1957; **n. syn.**	Siberian: Sweden; Finland; Norway; British Isles (Ireland, Scotland, England); North Germany; Switzerland; North Italy; Austria; Czech Republic; Estonia; Lithuania; Belarus?; West Russia?
microdotoides Assing, 2011	Turkey: Adana
nigrata (Fairmaire & Laboulbène, 1856) = *eppelsheimi* (Bernhauer, 1902) = *cephallenica* (Scheerpeltz, 1931); **n. syn.** = *nitidiventris* Fagel, 1958; **n. syn.** = *lakloukensis* Fagel, 1965; **n. syn.**	Holo-Mediterranean: Algeria; Spain; Malta; France; England; Germany; Switzerland; Austria, Italy; Hungary; Bosnia-Herzegovina; Montenegro; Albania; Greece (incl. Crete); Turkey; Cyprus; Lebanon
pauli **n. sp.**	Turkey: Afyon
praecox (Eppelsheim, 1888), **n. comb.**	Turkmenistan
schuelkei Assing, 2007 = *planicollis* Assing, 2011; **n. syn.**	Turkey; Georgia; Armenia; Iran
struyvei **n. sp.**	South Spain
sufflata **n. sp.**	Greece: Pelopónnisos

Key to species

The following key does not account for the doubtful *Cousya fauveli*.

1 Larger species: length of forebody 1.1–1.9 mm, mostly 1.3–1.9 mm. Colour of body more or less uniformly blackish, except for one reddish species from North Africa and one large species with partly reddish elytra. Habitus slender; pronotum significantly narrower than elytra and usually 1.05–1.20 times as broad as long, only in one species of "*Atheta*-like" habitus and with a weakly convex (cross-section) and extremely finely punctate pronotum occasionally more transverse. Legs and antennae slender. Median lobe of aedeagus with long and slender ventral process and with rather weakly sclerotized internal structures. Spermatheca with long and slender proximal portion (e.g., Figs 12–13). Mostly widespread species. ***Cousya nigrata group*** **2**

– Smaller species length of forebody 0.8–1.2 mm, except for one slightly larger, predominantly reddish species from South Turkey and Lebanon. Habitus generally less slender; pronotum at least 1.2 times as broad as long (exception: *C. crocea*); pronotum mostly nearly as broad as the elytra. Legs often short and antennae often strongly incrassate apically. Median lobe of aedeagus with short and stout ventral process and with more strongly sclerotized internal structures. Spermatheca with shorter and less slender proximal portion (e.g., Figs 85–86, 89). Species with restricted distributions. *Cousya crocea* group. **12**

2 Bicoloured species, at least the elytra partly reddish. **3**

– Body more or less uniformly blackish-brown to black. **4**

3 Large species; length of forebody 1.6–1.9 mm. Body black, except for a more or less extensive reddish spot in the posterior portion of the elytra. Elytra at least as long as pronotum (Fig. 74). Aedeagus and spermatheca as in Figs 77–79. Distribution extending from Turkey and the Middle East to Middle Asia (Fig. 143). ..... ***bicolor***

– Smaller species; length of forebody approximately 1.3 mm. Body reddish, with parts of the elytra and the preapical abdominal segments more or less distinctly infuscate, sometimes also the head and pronotum and the middle of the anterior abdominal tergites somewhat darker. Elytra slightly shorter than pronotum (Figs 71, 122). Aedeagus as in Figs 72–73, 129–130. North Africa (Algeria, Tunisia) (Fig. 136). ..... ***bimaculata***

4 Anterior impressions of abdominal segments III–V with dense and distinct punctation and glossy (Figs 5, 35). Maxillary palpomere III conspicuously elongate and slender, at least approximately four times as long as broad (Fig. 2). **5**

– Anterior impressions of abdominal segments III–V with sparse and extremely fine, barely noticeable punctation and often matt (Fig. 15). Maxillary palpomere III less elongate, approximately three times as long as broad. **6**

5 Basal antennomeres yellowish to reddish; legs uniformly yellow. On average larger species, length of forebody usually 1.5–1.8 mm, rarely smaller. Legs and antennae very long and slender; antennomere X less than 1.5 times as broad as long (Fig. 34). Maxillary palpomere III more than four times as long as broad. Median lobe of aedeagus as in Figs 29–30. Spermatheca as in Fig. 32. Distribution: North and northern Central Europe, Switzerland, Austria, South Alps, Czech Republic, probably also Belarus and West Russia (Fig. 138). ..... ***longitarsis***

– Basal antennomeres dark-brown to blackish; legs usually with at least the femora weakly infuscate, often more extensively darker. Legs and antennae shorter and less slender; antennomere X at least approximately 1.5 times as broad as long. Maxillary palpomere approximately four times as long as broad (Fig. 2). Median lobe of aedeagus as in Figs 7–10. Spermatheca as in Figs 12–13. Widespread Holo-Mediterranean species, northwards to the south of Great Britain and to North Germany (Fig. 134). ..... ***nigrata***

6 Basal antennomeres yellowish to reddish, distinctly contrasting with the dark-brown to blackish apical antenno-

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meres; legs mostly uniformly yellow, rarely with somewhat infuscate meso- and metafemora. Pronotum and elytra with very dense, fine but distinct punctation (Fig. 36). Aedeagus and spermatheca as in Figs 40–42, 44. Balkans and Romania (Fig. 140); very rare. ..... ***densepunctata***

– Basal antennomeres dark-brown to blackish, not distinctly contrasting with the remainder of the antennae; legs usually at least partly darker. **7**

7 Known distribution confined to South Spain. Head and pronotum with pronounced microsculpture. Pronotum on average rather large, 1.2–1.3 times as broad as head. Median lobe of aedeagus as in Figs 124–126. ..... ***struyvei***

– Absent from South Spain. Head and pronotum usually with less pronounced microsculpture. Pronotum mostly smaller in relation to head. Median lobe of aedeagus of different shape. **8**

9 Head weakly transverse (Fig. 68). Pronotum weakly convex in cross-section. Head and pronotum with dense and extremely fine, barely noticeable punctation and matt. Abdomen with very dense and fine punctation. Habitus "*Atheta*-like". Distribution westwards to West Turkey. **9**

– Head usually as long as broad (e.g., Fig. 14). Pronotum more strongly convex in cross-section (e.g., Fig. 14). Head and pronotum mostly with more distinct punctation and mostly with subdued shine. Abdomen with less dense punctation... ..... **10**

9 Pronotum larger and more transverse, 1.15–1.20 times as broad as long and 1.20–1.25 times as broad as head. Median lobe of aedeagus larger, > 0.4 mm long, and with ventral process shaped as in Figs 63–65; apical lobe of paramere shorter (less than one-third the length of whole paramere) (Fig. 66). Spermatheca with rather long and slender distal portion and with rather stout proximal portion (Fig. 67). Turkey, Caucasus region, Iran (Fig. 142). ..... ***schuelkei***

– Pronotum smaller and less transverse, 1.15 times as broad as long and 1.08 times as broad as head (Fig. 68). Median lobe of aedeagus much smaller, 0.3 mm long, and with ventral process shaped as in Figs 69–70; apical lobe of paramere very long (more than one-third the length of whole paramere). West Turkey (Fig. 141). ..... ***pauli***

10 Legs usually of darker coloration; all femora and tibiae usually blackish-brown to blackish, tarsi brown to dark-brown. Aedeagus and spermatheca as in Figs 58–60, 62. Distributed from Turkey and Rhodos to the Middle East, Iraq, Iran, Armenia, and Azerbaijan (Fig. 141). ..... ***araxis***

– Legs usually at least partly paler; tarsi yellowish. Two species that are reliably distinguished only based on the shape of the aedeagus. 11

11 Antennae on average slightly shorter; pronotum on average more slender; microsculpture on average less pronounced. Ventral process of aedeagus apically very acute in lateral view (Figs 45–49). Spermatheca as in Fig. 50. Distributed from the Middle East westwards to South Greece (Fig. 140). ..... ***acris***

– Antennae on average slightly longer; pronotum on average less slender; microsculpture on average more pronounced (Fig. 143). Ventral process of aedeagus much larger and of completely different shape (Fig. 16–23). Spermatheca as in Figs 26–28. Widespread from the Middle East to South France (Fig. 136). ..... ***defecta***

12 Slightly larger species; length of forebody at least approximately 1.2 mm. Pronotum more slender, approximately 1.1 times as broad as long. Bicoloured, body reddish with the head and the preapical abdominal segments infuscate. Aedeagus and spermatheca as in Figs 80–83. South Turkey, Lebanon (Fig. 144). ..... ***crocea***

– Smaller species; length of forebody 1.2 mm at most. Pronotum more transverse, at least approximately 1.2 times as broad as long. Coloration different. Primary sexual characters of different shapes. **13**

13 Species from Middle Asia (Turkmenistan). **14**

– Distribution different. **15**

14 Body yellowish-red with the preapical abdominal segments somewhat infuscate. Median lobe of aedeagus as in Figs 102–103. ..... ***praecox***

– Coloration darker: head and pronotum dark-brown; elytra reddish-brown; abdomen blackish with reddish-yellow apex. Aedeagus and spermatheca as in Figs 98–100. ..... ***dissoluta***

15 Pronotum small in relation to head, approximately 1.15 times as broad as head, and nearly as broad as the relatively small elytra. Habitus subparallel, i.e., pronotum, elytra, and abdomen of nearly equal width. Median lobe of aedeagus as in Fig. 91. South Spain (Fig. 145). ..... ***deminuta***

– Pronotum larger in relation to head, at least approximately 1.25 times as broad as head (e.g., Fig. 90) and distinctly narrower than elytra. Habitus different. Distribution confined to the East Mediterranean. **16**

16 Pronotum reddish; elytra pale-reddish. Spermatheca as in Fig. 86. Greece: Paxos (Fig. 145). ..... ***kelecsenyi***

– Pronotum and elytra of darker coloration. **17**

17 Aedeagus and spermatheca as in Figs 92–96. Central southern Anatolia (Fig. 145). ..... ***microdotoides***

– Primary sexual characters different. Species from Greece. **18**

18 Wing-dimorphic species. Pronotum weakly convex in cross-section. Body uniformly blackish, except for the abdominal apex. Aedeagus and spermatheca as in Figs 84–85. North Greece: Oros Vitsi (Florina) (Fig. 145). ..... ***dimorpha***

– Fully winged species. Pronotum strongly convex in cross-section. Pronotum and elytra brown, slightly paler than the blackish-brown to blackish head and abdomen. Aedeagus as in Figs 87–88; spermatheca proximally distinctly dilated (Fig. 89). South Greece: South Pelopónnisos (Fig. 145). ..... ***sufflata***

3.2.1 The species of the *Cousya nigrata* group

Cousya nigrata (Fairmaire & Laboulbène, 1856)
(Figs 1–13, 134–135)

Calodera nigrata Fairmaire & Laboulbène, 1856: 380.
Ocyusa nigrata eppelsheimi Bernhauer, 1902: 227.
Ocyusa cephallenica Scheerpeltz, 1931: 445 ff.; **n. syn.**
Cousya nitidiventris Fagel, 1958: 247 f.; **n. syn.**
Cousya lakloukensis Fagel, 1965: 258 ff.; **n. syn.**

Type material examined

Calodera nigrata: see Assing & Schülke (2007).

Ocyusa nigrata eppelsheimi:

Lectotype: ♀, present designation: "Buda [part of Budapest west of Danube river], Polinszky / *Eppelsheimi* Brh., det. Bernhauer / c. Epplsh Steind. d. / Lectotypus ♀ *Ocyusa nigrata eppelsheimi* Bernhauer, desig. V. Assing 2017 / *Cousya nigrata* (Fairm. & Laboulb.), det. V. Assing 2017" (NHMW).

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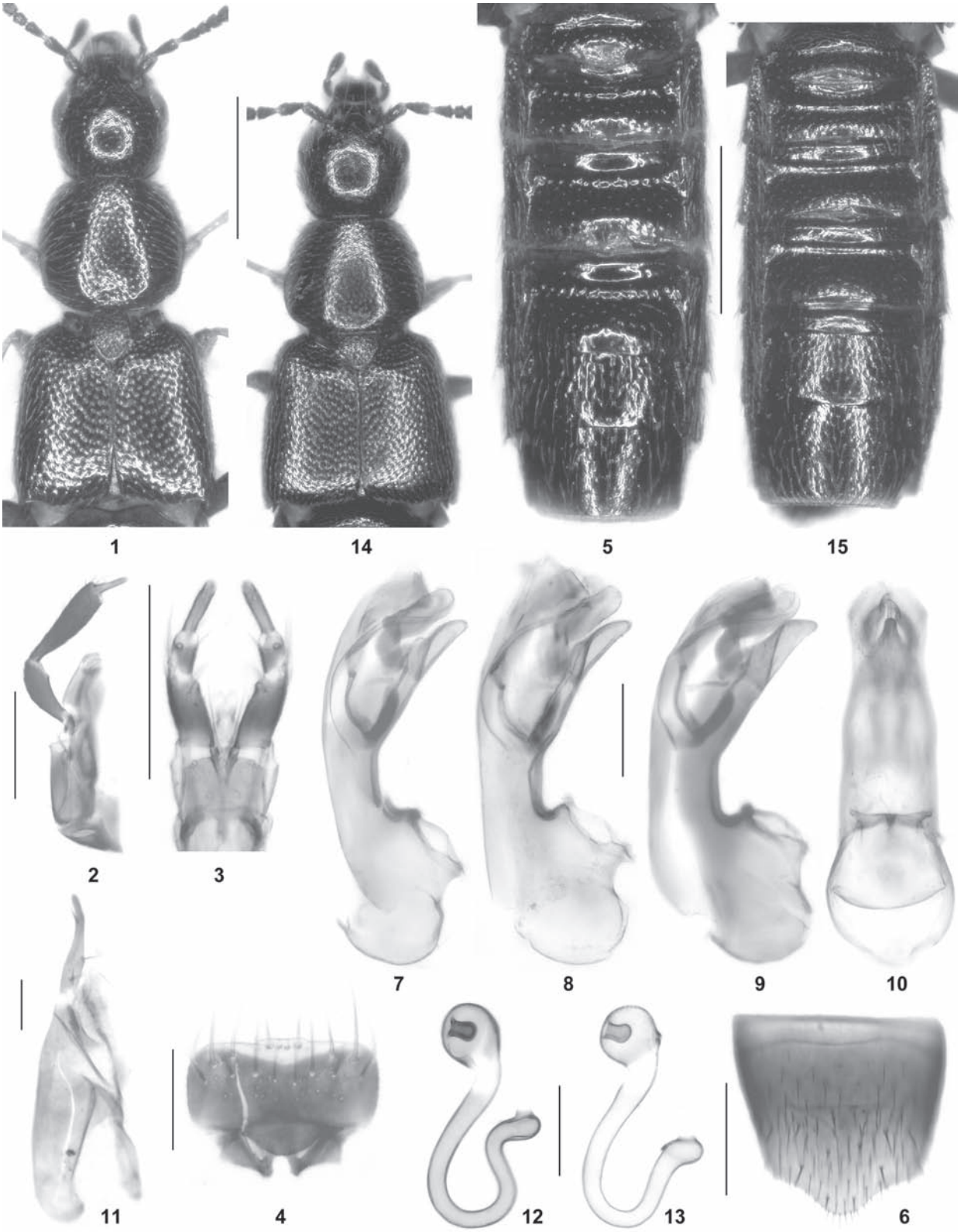

Figs 1–15. *Cousya nigrata* (**1–13**) and *C. defecta* (**14–15**). – **1, 14**. Forebody. **2**. Maxilla. **3**. Labium. **4**. Labrum. **5, 15**. Abdomen. **6**. Male sternite VIII. **7–10**. Median lobe of aedeagus in lateral and in ventral view (9: aberrant specimen from Sierra Aitana, South Spain). **11**. Paramere. **12–13**. Spermatheca. – Scale bars: 0.5 mm (1, 5, 14–15), 0.2 mm (2, 6), 0.1 mm (3–4, 7–13).

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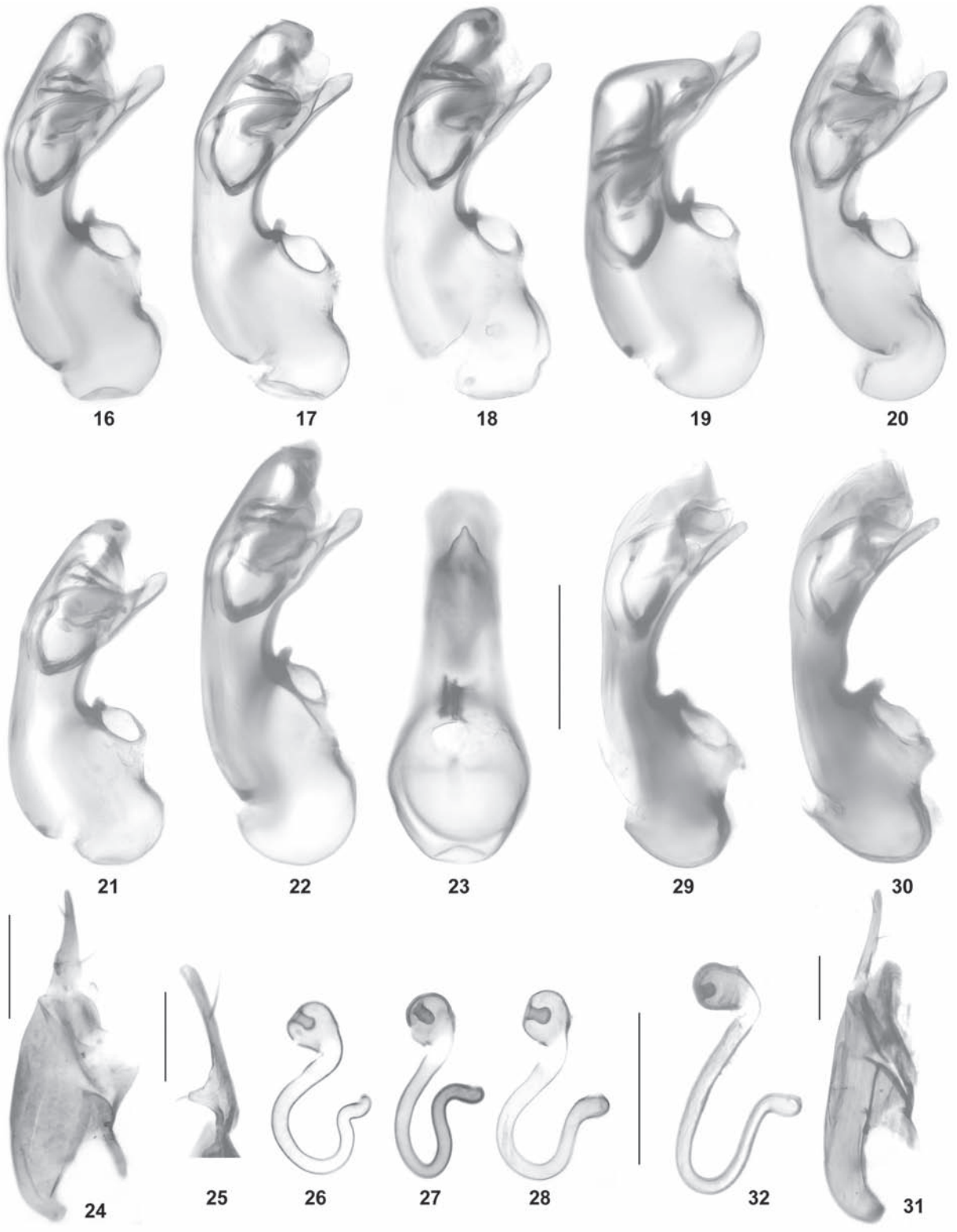

Figs 16–32. *Cousya defecta* (**16–28**; 16, 23: Albania; 17: Crete; 18: holotype of *C. humicola*; 19: South France; 20: Kefallonia; 21: Karpathos; 22: Pyrenées) and *C. longitarsis* (**29–32**). – **16–23, 29–30**. Median lobe of aedeagus in lateral and in ventral view. **24, 31**. Paramere. **25**. Apical lobe of paramere. **26–28, 32**. Spermatheca. – Scale bars: 0.2 mm (16–24, 26–32), 0.1 mm (25).

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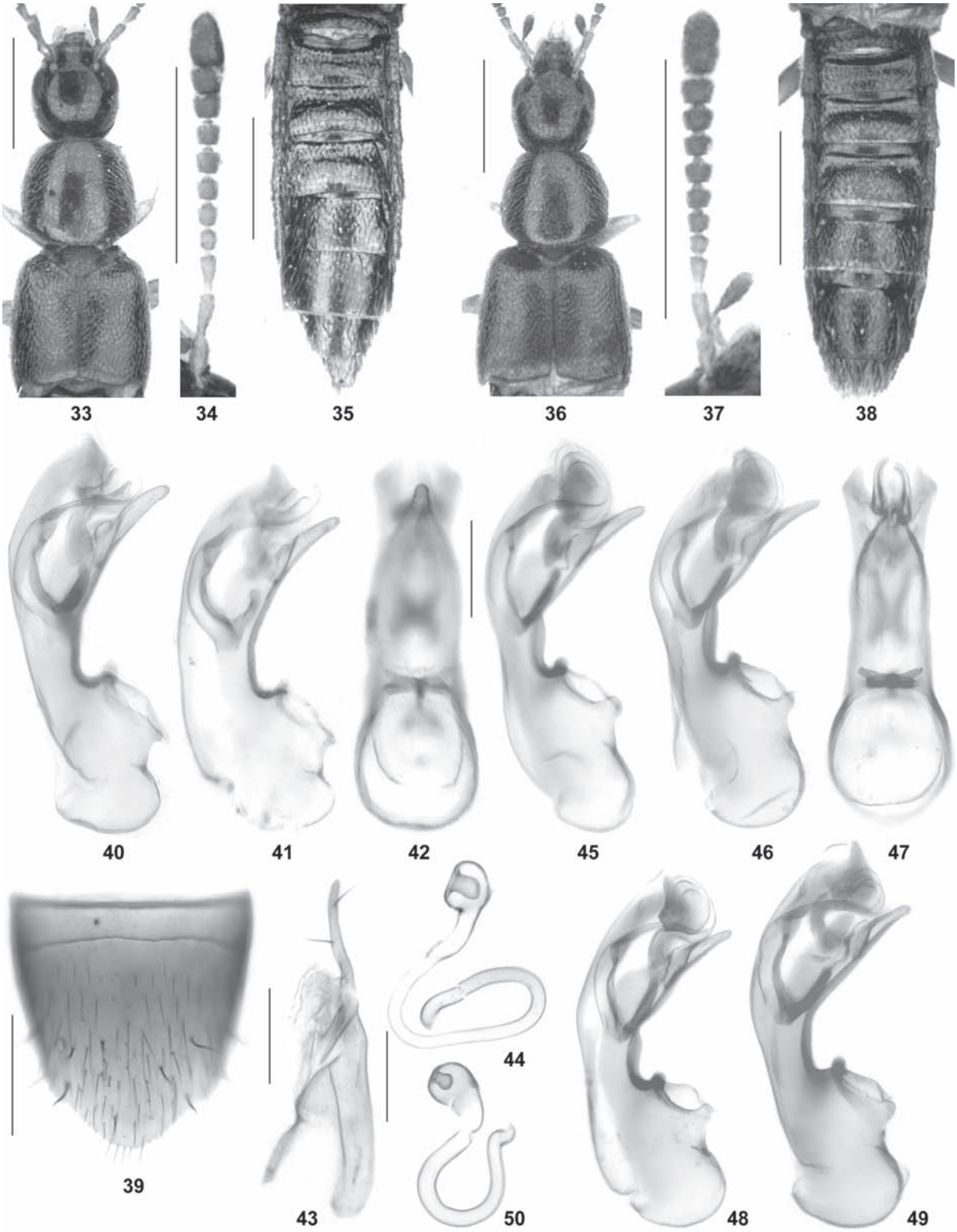

Figs 33–50. *Cousya longitarsis* (**33–35**), *C. densepunctata* (**36–44**), and *C. acris* (**45–50**; 45: paratype of *C. humicola*; 46: holotype; 48: West Turkey; 49: Greece). – **33, 36**. Forebody. **34, 37**. Antenna. **35, 38**. Abdomen. **39**. Male sternite VIII. **40–42, 45–49**. Median lobe of aedeagus in lateral and in ventral view. **43**. Paramere. **44, 50**. Spermatheca. – Scale bars: 0.5 mm (33–38), 0.2 mm (39, 43), 0.1 mm (40–42, 44–50).

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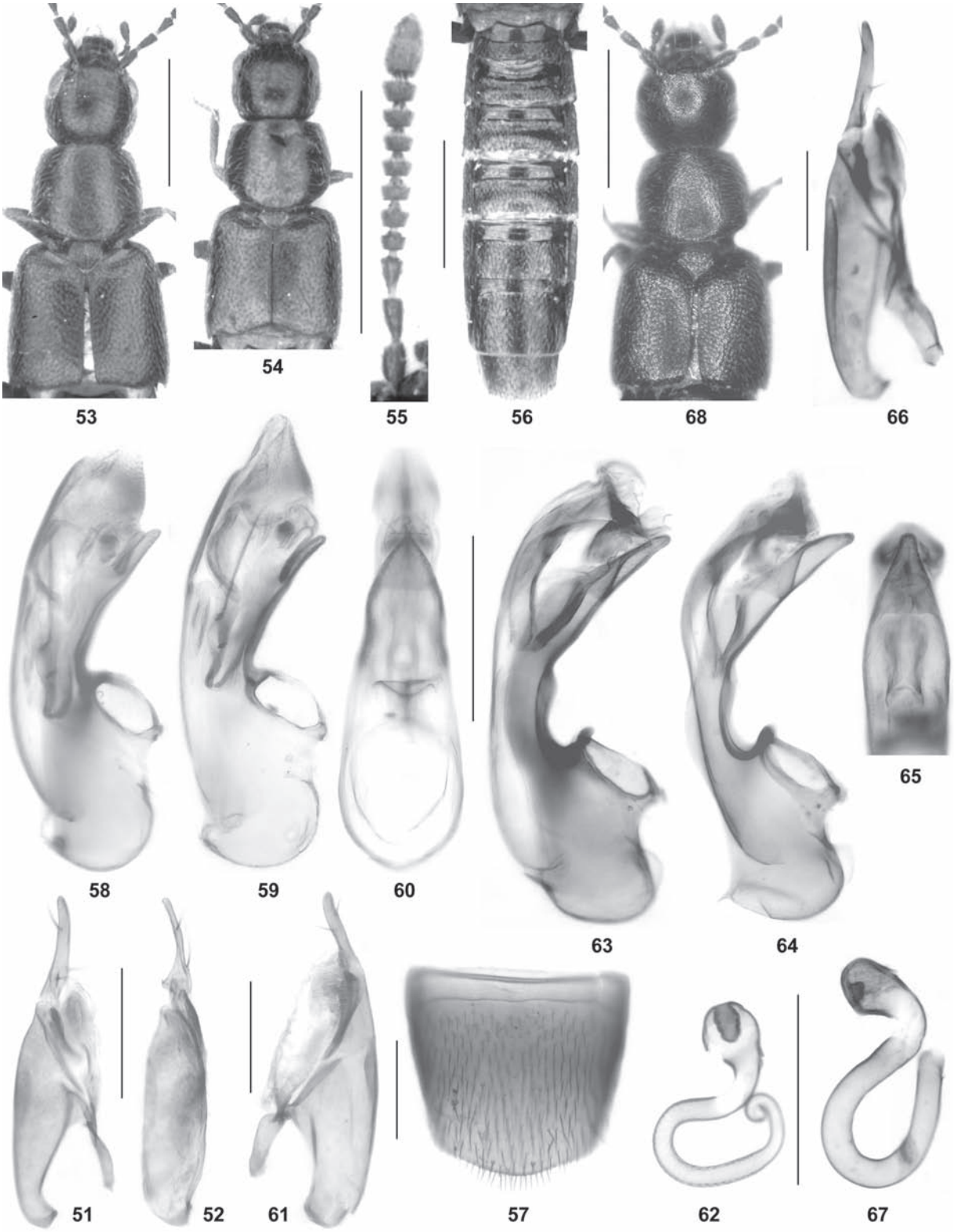

Figs 51–68. *Cousya acris* (**51–52**), *C. araxis* (**53–62**), *C. schuelkei* (**63–67**; 63: holotype of *C. schuelkei*; 64: paratype of *C. planicollis*), and *C. pauli* (**68**). – **51–52, 61, 66**. Paramere. **53–54, 68**. Forebody. **55**. Antenna. **56**. Abdomen. **57**. Male sternite VIII. **58–60, 63–64**. Median lobe of aedeagus in lateral and in ventral view. **62, 67**. Spermatheca. **65**. Apical portion of ventral process of aedeagus in ventral view. – Scale bars: 0.5 mm (53–56, 68), 0.2 mm (51–52, 57–67).

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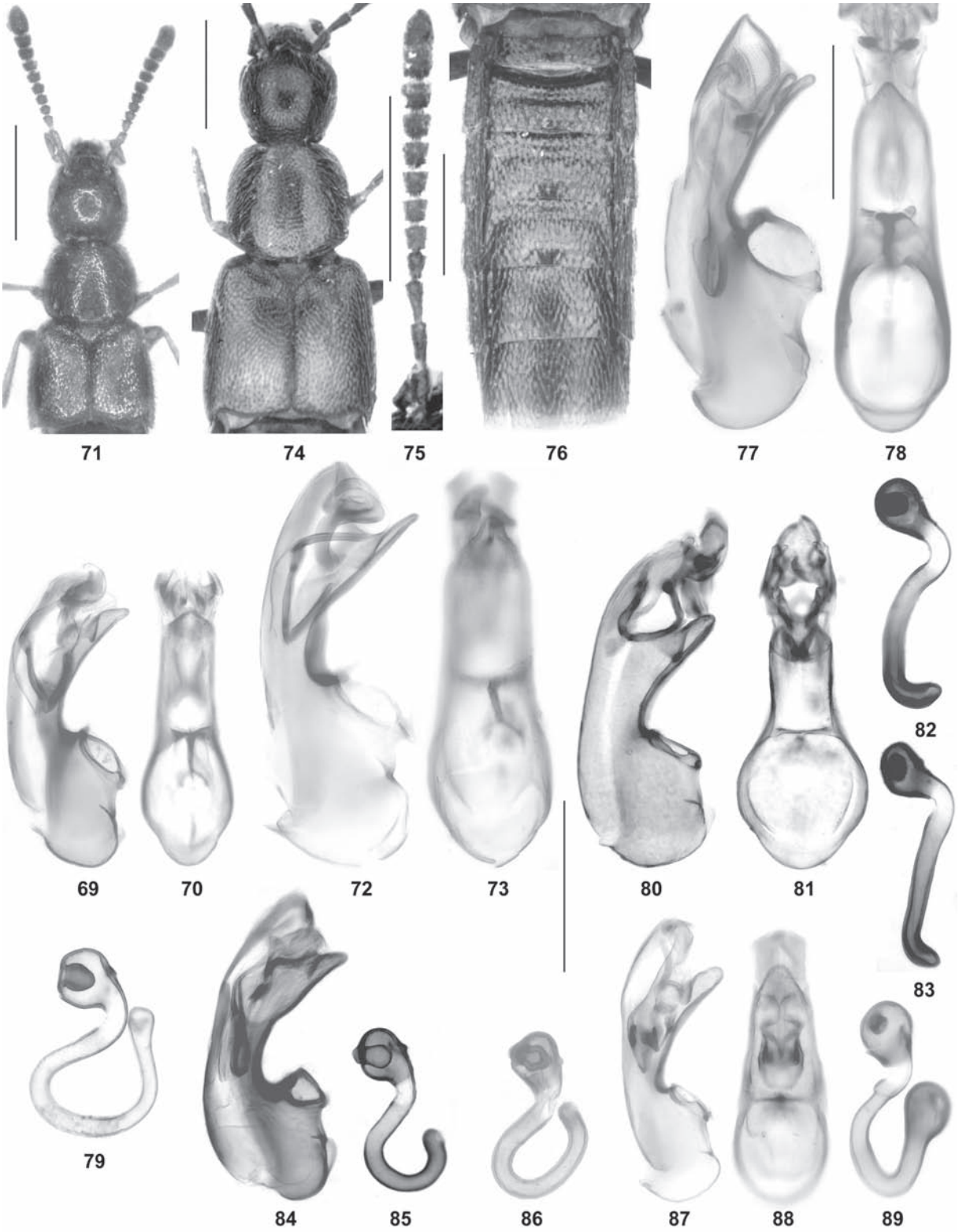

Figs 69–89. *Cousya pauli* (**69–70**), *C. bimaculata* (**71–73**), *C. bicolor* (**74–79**; 77: lectotype), *C. crocea* (**80–83**), *C. dimorpha* (**84–85**), *C. kelecsenyi*, holotype(**86**), and *C. sufflata* (**87–89**). – **69–70, 72–73, 77–78, 80–81, 84, 87–88**. Median lobe of aedeagus in lateral and in ventral view. **71, 74**. Forebody. **75**. Antenna. **76**. Abdomen.**79, 82–83, 85–86, 89**. Spermatheca. – Scale bars: 0.5 mm (71, 74–76), 0.2 mm (69–70, 72–73, 77–89).

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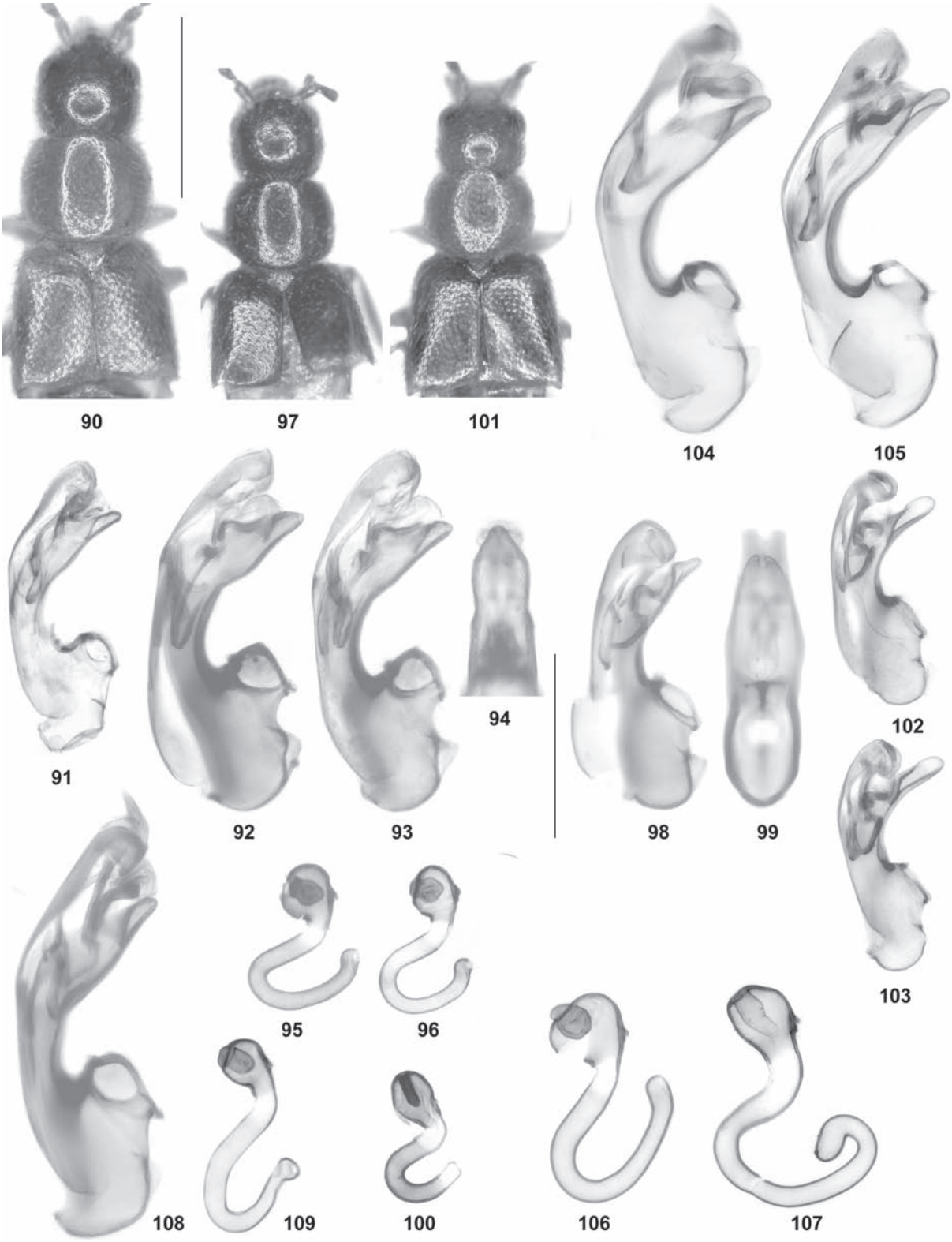

Figs 90–109. *Cousya kelecsenyi*, holotype (**90**), *C. deminuata*, holotype (**91**), *C. microdotoides* (**92–96**), *C. dissoluta* (**97–100**), *C. praecox* (**101–103**), *Oxypoda pellax* (**104–106**; 106: holotype), *O. heydeni* (**107**), and *O. picta* (**108–109**). – **90, 97, 101**. Forebody. **91–93, 98–99, 102–105, 108**. Median lobe of aedeagus in lateral and in ventral view. **94**. Apical portion of median lobe of aedeagus in ventral view. **95–96, 100, 106–107, 109**. Spermatheca. – Scale bars: 0.5 mm (90, 97, 101), 0.2 mm (91–96, 98–100, 102–109).

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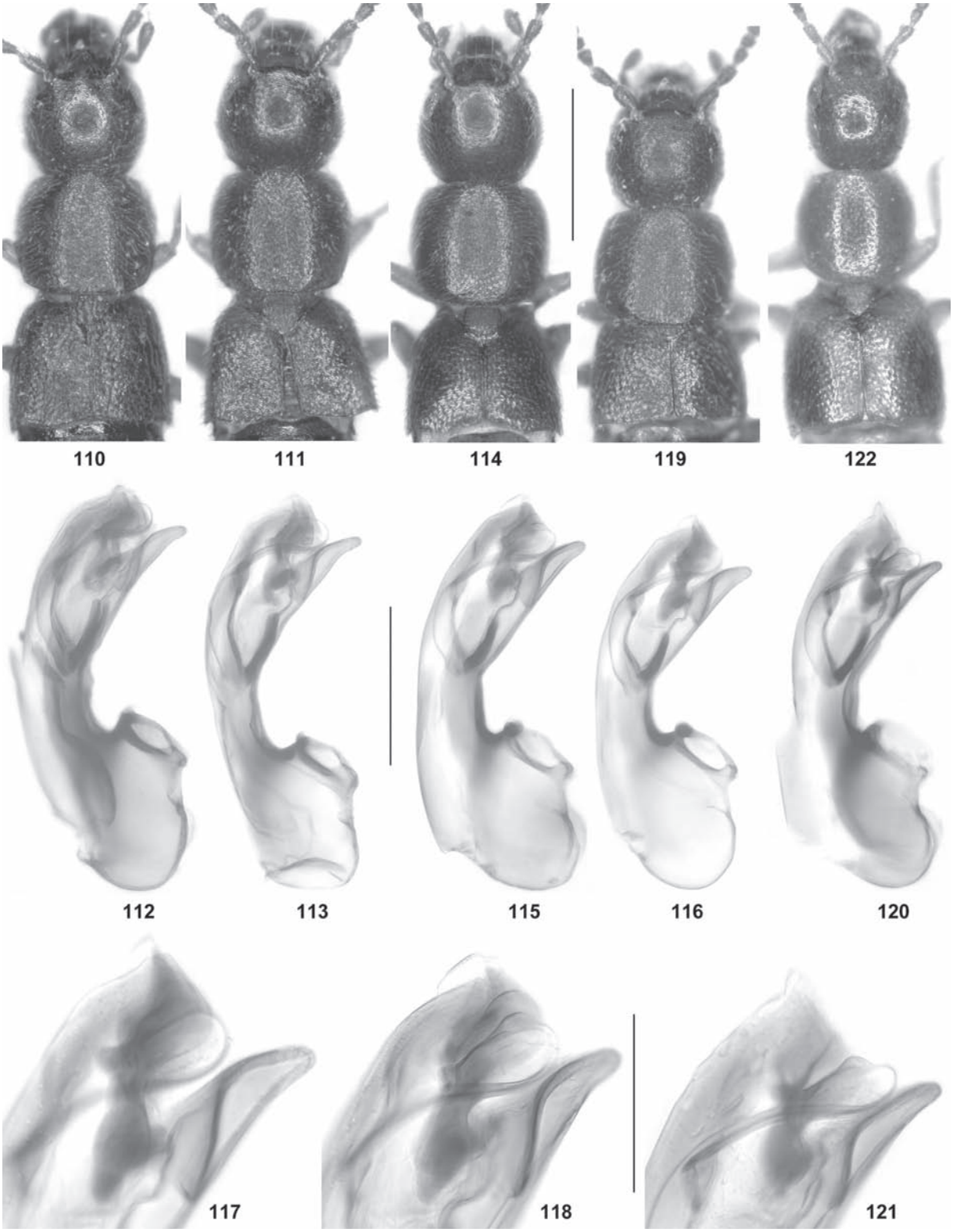

Figs 110–122. *Tectusa uhligi*, holotype (**110**), *T.* cf. *regisborisi* (paratypes of *Cousya uhligi*) (**111–113**), *T. ferdinandicoburgi* (**114–118**), *T. pirinica* (**119–121**), and *Cousya bimaculata* (holotype of *Ocyusa vaulogeri*) (**122**). – **110, 111, 114, 119, 122**. Forebody. **112–113, 115–116, 120**. Median lobe of aedeagus in lateral view. **117–118, 121**. Apical portion of median lobe of aedeagus in lateral view. – Scale bars: 0.5 mm (110, 111, 114, 119, 122), 0.2 mm (112–113, 115–116, 120), 0.1 mm (117–118, 121).

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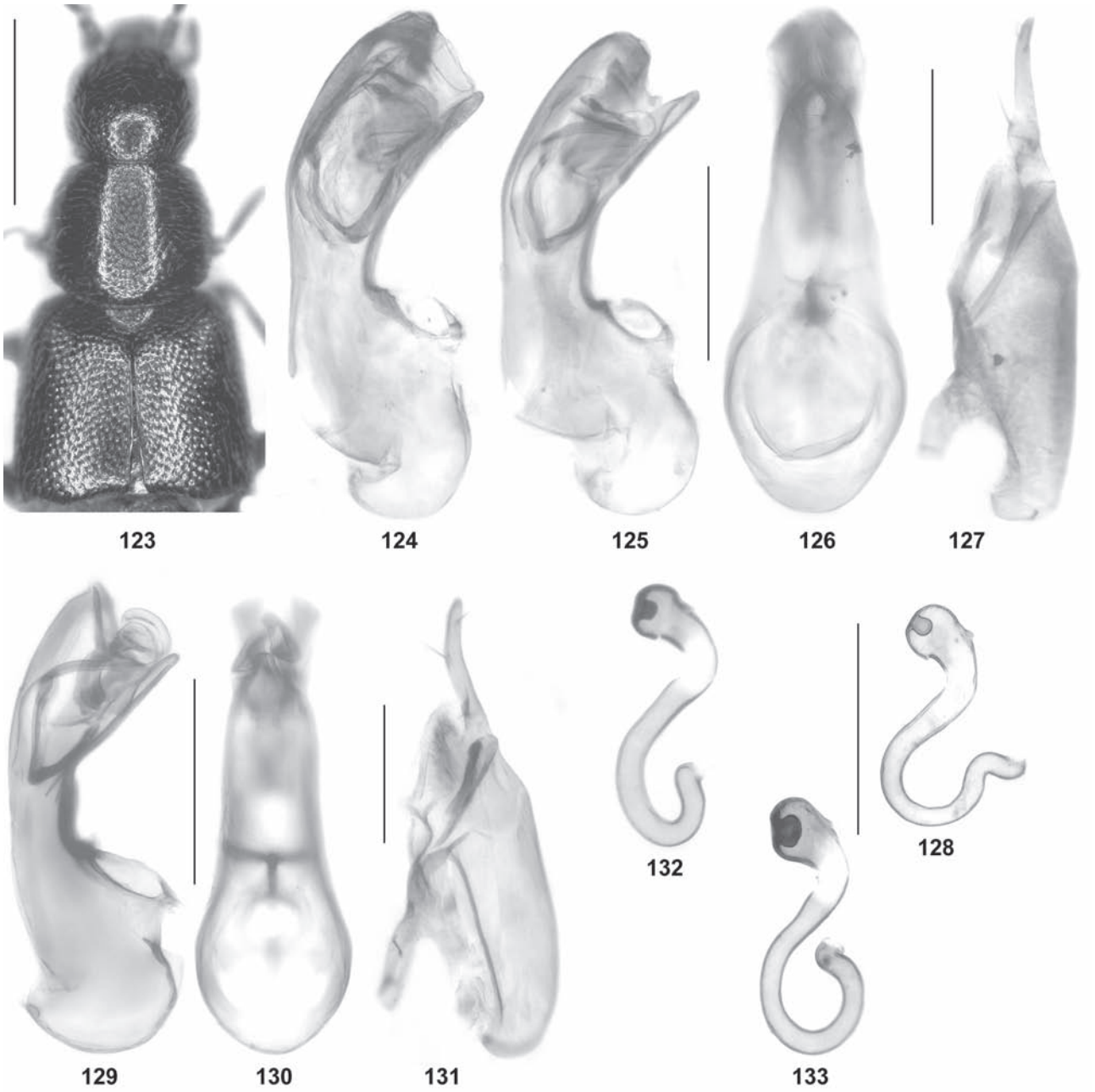

Figs 123–133. *Cousya struyvei* (**123–128**), *C. bimaculata* (holotype of *Ocyusa vaulogeri*) (**129-131**), *Tectusa* cf. *regisborisi* (paratype of *Cousya uhligi*) (**132**), and *T. pirinica* (**133**). – **123**. Forebody. **124–126, 129–130**. Median lobe of aedeagus in lateral and in ventral view. 128, **132–133**. Spermatheca. – Scale bars: 0.5 mm (123), 0.2 mm (124–133).

Paralectotypes: 1♀: "Kaluoza [?], [collector illegible] / 80 / *Eppelsheimi* Brh., det. Bernhauer / c. Epplsh Steind. d." (NHMW); 1♀ [in very poor condition, head and pronotum missing]: "*nigrata* Frm., Attica, v. Oertzen / Eppelsh. don. 1893 / *nigrata* / *Eppelsheimi* Brh., det. Bernhauer" (NHMW).

Ocyusa cephallenica:

Holotype ♀: "Aenos, Kephal., 1000–1600 m /10-13-V.29. Beier / Photographiert 6.IV.1931. O. Scheerpeltz / ex coll. Scheerpeltz / Typus *Ocyusa cephallenica* O. Scheerpeltz / *Cousya nigrata* (Fairm. & Laboulb.), det. V. Assing 2017" (NHMW).

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Cousya nitidiventris:

Holotype ♀: "♀ / Espagne: Castille, Puerto de Bejar, 800–1400 m, V–VI.1957 G. Fagel / G. Fagel det. *Cousya nitidiventris* n. sp. / Type / *Cousya nigrata* (Fairm. & Laboulb.), det. V. Assing 2017" (IRSNB).

Cousya lakloukensis:

Holotype ♀: "Liban: Laklouk, 1500–1800 m, V.1964 – G. Fagel / G. Fagel det. *Cousya lakloukensis* n. sp. / Type / *Cousya nigrata* (Fairm. & Laboulb.), det. V. Assing 2017" (IRSNB).

Comment

Calodera nigrata was described from "2 individus" collected in "Charenton, au bord de la Seine et bois de Boulogne" by "C. Brisout de Barneville" (Faimaire & Laboulbène 1856). One of the syntypes, a female from Charenton deposited in MNHNP, was examined and designated as the lectotype by Assing & Schülke (2007). The type material was looked for, but not found, by the curator in charge at the MNHNP (Taghavian, e-mail 19 May, 2017), where the Brisout collection is deposited, suggesting that the lectotype still is in an unopened box and was not returned to the collection after it had been returned ten years ago. The whereabouts of the second syntype are unknown. It was found neither in the collections of the MNHNP nor in those of the IRSNB (Gérard, e-mail 23 May, 2017).

Ocyusa eppelsheimi was described as a subspecies of *C. nigrata* based on an unspecified number of syntypes from "Ungarn, Bosnien und Griechenland") (Bernhauer 1902). The specimens referred to in the original description are probably the three syntypes in the Eppelsheim collection (NHMW) listed above, all of them females and with Bernhauer´s original identification label. At least those from "Buda" and "Kaluoza" (it can be inferred from the original description that the latter locality is probably in Bosnia-Herzegovina) are clearly conspecific with *Cousya nigrata*; the specific identity of the third, badly damaged specimen is uncertain. The female from "Buda" is designated as the lectotype.

The original description of *Ocyusa cephallenica* is based on a unique specimen from "Aeneos, Kephallinia" (Scheerpeltz 1931). The holotype, a female, is conspecific with *Cousya nigrata*.

The original description of *Cousya nitidiventris* is based on a holotype from "Castille, Puerto de Bejar, 1200 m" and a paratype from "Madrid" (Fagel 1958), that of *C. lakloukensis* on a unique holotype from "Liban : Laklouk, 1700 m, sous des pierres sur le sol mouillé de neige fondante" (Fagel 1965). An examination of these holotypes, both of them females, as well as of additional material collected in the vicinity of the respective type localities revealed that *C. nitidiventris* and *C. lakloukensis* are conspecific with *C. nigrata*. The synonymy of *C. nitidiventris* with *C. nigrata* was already suspected by Assing & Schülke (2007).

Additional material examined

Algeria: 1♀, Adekar, V.1935, leg. Normand (cTro).

Spain: 1♂ [teneral], 3♀♀, Zaragoza, Sierra del Moncayo, Agramonte, 1600 m, sifted, 20.V.1999, leg. Feldmann (cFel, cAss); 3♂♂ [partly teneral], Castilla-La Mancha, Sierra de Segura, Sierra de Cujón, 38°28'N, 02°21'W, 1460 m, grass and moss near rocks sifted, 15.III.2008, leg. Assing (cAss); 1♂, Alicante, Sierra de Aitana, 38°39'N, 0°16'W, 1350 m, 7.X.2008, leg. Meybohm (cAss); 1♂, Valencia, Jativa, 15.VI.1959, leg. Besuchet (MHNG); 1♂ [teneral], Murcia, Jumilla, Volcan de la Celia, 38°28'N, 1°28'W, 630 m, III–IV.2013, leg. Lencina (cAss); 1♀, Murcia, Jumilla, 38°36'N, 1°25'W, 690 m, I–II.2011, leg. Lencina & Sanchez (cAss); 1♂, 1♀, Andalucía, Sierra de Alhamilla, car-net, 20.III.1994, leg. Wunderle (cWun); 1♀, Andalucía, Sierra de Segura, 15 km S Pontones, 38°03'N, 02°42'W, 1700 m, N-slope, partly near snow, 8.IV.2006, leg. Wunderle (cAss); 4♀♀, Andalucía, Granada, Sierra de Santa Barbara [37°23'N, 2°51'W], 18.IV.1993, leg. Tronquet (cTro); 3♀♀, Andalucia, Sierra de Cazorla, 37°54'N, 2°54'W, car-net, leg. Struyve (cStr, cAss); 1♀, Granada, Sierra de Baza, 1850 m, leaf litter and moss, 21.IV.2000, leg. Tronquet (cTro); 1♂ [teneral], same data, but under stones, 20.V.2000 (cTro); 3♂♂, 2♀♀, Granada, Sierra de la Sagra, 2300–2380 m, 30.IV.1991, leg. Tronquet (cTro, cAss).

France: 2♀♀, Pyrenées-Orientales, Sournia–Molitg, 450–990 m, car-net, 14.X.2006, leg. Tronquet (cTro); 1♀, same data, but 12.IV.2011 (cTro); 1♀, Provence, Vaucluse, Avignon env., Mont Ventoux, 1700–1800 m, 1.IV.1994, leg. Assing (cAss); 1♀, Nice, leg. Sainte-Claire Deville (NHMW).

Malta: 1♂, locality not specified (BMNH).

United Kingdom: 10♀♀, London, Merton Park, John Innes Hort. Inst., in cold frames, III.1939 (BMNH); 1♀, Leicestershire, Big Pits [52°43'N, 0°35'W], 23.IX.1987, leg. Lott (BMNH); 5♀♀, Leicestershire, Leicester, Central Electricity Generating Board [52°37'N, 1°09'W], V.1992, leg. Down (BMNH); 1♀, Warwickshire, Charlton, roots of herbage, 14.V.1977, leg. Allen (BMNH); 1 ex. [apex of abdomen missing], Kent, Maidstone, Lees chalk pit, pitfall trap, 30.V.1977, leg. Williams (BMNH).

Germany: 1♀, Schleswig-Holstein, Kreis Itzehoe, Lägerdorf, chalk pit, car-net, 13.V.1997, leg. Meybohm (cMey); 1♀, Schleswig-Holstein, Ostholstein, Johannistal, pit, 11.IX.2008, leg. Meybohm (cMey); 1♀, Hannover, Ronnenberg, potash works, saline habitat, pitfall trap, 2.VI.1995, leg. Schmidt (cAss); 1♀, Brandenburg, Havelland, Döberitzer Heide, sand pit east of Naturschutzzentrum near B5, shore, 14.V.2003, leg. Wrase (MNB).

Austria: 1♀, Tirol, Unterland, Margreid, Fenner-Schlucht, 500 m, debris at stream bank, 30.IV.2017, leg. Kahlen (TLFI).

Italy: 3♀♀, Toscana, Lano env., 43°30'N, 10°52'E, 200–300 m, 13.X.2007, leg. Meybohm (cAss); 1♀, Emilia-Romagna, Riccione, leg. Strupi (NHMW); 1♀, Marche, 28.X.1951, leg. Zeccmini (cZan); 1♀, Puglia, Monte Gargano, leg. Paganetti (NHMW); 1♀, Sicilia, Ragusa env., Ombla spring, leg. Natterer (NHMW).

Montenegro: 1♀, Radostak [42°30'N, 18°34'E], 1907, leg. Moczarski (NHMW); 1♀, Llogora, 1958, leg. Smetana (NHMW) .

Albania: 3♀♀, Tormor [40°41'N, 20°05'E], Kulmak, V.1931, leg. Winkler, Lona & Bischoff (NHMW); 1♀, Krujë, leg. Mader (NHMW).

Greece: Mainland: 1♀, Chalkidiki, Kassandra, Polichoro env., wet car tracks, 20.III.1989, leg. Assing (cAss); 1♀, Chalkidiki, Cholomon, 1100 m, under stone, 30.III.1989, leg. Assing (cAss); 1♀, Florina, 15 km W Florina, Oros Varnous, 40°48'N, 21°15'E, 1600 m, 23.IV.2000, leg. Assing (cAss); 1♀, Florina,

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ca. 20 km SSW Florina, Oros Vitsi, 40°39'N, 21°24'E, N-slope, 2040 m, edge of snowfield, 22.V.2005, leg. Wunderle (cWun); 1♀, N-Pindos, ca. 40 km NNE Konitsa, Oros Gramos range, S Oros Arénes, SE Aetomilitsa, 40°18'N, 20°53'E, 1650 m, beech forest, sifted, 25.V.2005, leg. Wunderle (cWun); 1♀, Fthiótida, road Paúliani – Oiti – Sliithro, 38°43–44'N, 22°21–24'E, 740–960 m, fir and oak forests, car-net, 9.IV.2017, leg. Schülke (MNB); 1♀, Evvoia, Oros Dirfys, N Kato Steni, 38°37'N, 23°52'E, 1120 m, *Abies* forest, 8.IV.2001, leg. Assing (cAss). **Pelopónnisos:** 5♀♀, W Pteri, 38°09'N, 22°04'E, 1200 m, N-slope with bushes, moss and grass on soil with gravel sifted, 14.IV.2017, leg. Brachat & Meybohm (cAss). **Crete:** 1♂ [teneral], Dikti, N-slope of Katharo plateau, 1000 m, 15.IV.2000, leg. Meybohm (cAss); 1♀, Lassithi, Selia Afhin, 35°11'N, 25°31'E, 1000 m, 10.III.2001, leg. Meybohm (cAss); 1♂, Psiloritis, 1550 m, 10.X.1991, leg. Wunderle (cAss); 1♀, "Creta", leg. Rost (NHMW). **Locality ambiguous:** 1♀, Livadhákion, 9.IV.1981, leg. Tronquet (cTro).

Cyprus: 2♀♀, Olympos, 1900 m, N-slope, sifted, 1.IV.1995, leg. Assing & Wunderle (cAss, cWun); 1♀, Troodos, S Prodhromos, 1350 m, stream valley, pine forest, floated from litter near stream, 1.IV.1995, leg. Wunderle (cWun).

Turkey: Istanbul: 1♀, Belgrad Ormanı [41°12'N, 28°57'E], IV.1959, leg. Schubert (NHMW). **Bartin:** 1♂, 1♀, road Kakraz – Topallar, 41°46'N, 32°29'E, 25 m, mixed forest, 25.IV.2006, leg. Ribera (cAss). **Bursa:** 1♀, Samanlı Dağları, NE Iznik, 40°28'N, 29°49'E, 780 m, 19.IV.2010, leg. Brachat & Meybohm (cAss). **Muğla:** 3♀♀, ca. 20 km SW Muğla, N Meke, 37°13'N, 28°12'E, 590 m, pasture with stones at roadside, sifted and under stones, 12.IV.2006, leg. Assing & Wunderle (cAss, cWun). **Konya:** 1♀, Akşehir env., Sultan Dağları, in moss, 24.IV.1960, leg. Petrowitz & Ressl (NHMW). **Mersin:** 1♀, N Silifke, 33 km N Silifke, 36°36'N, 33°54'E, 1270 m, 18.IV.2005, leg. Brachat & Meybohm (cAss). **Bingöl/Muş:** 1♀, Buğlan Geçidi, 1640 m, pitfall, 21.IV.–11.V.2014, leg. Reuter (cFel). **Kahramanmaraş:** 1♀, ca. 50 km W Kahramanmaraş, 8 km SSE Andırın, Toplar env., 37°33'N, 36°26'E, 1110 m, litter of beech, oak, and other deciduous trees, and on pasture under stones, 19.III.2005, leg. Assing (cAss); 1♀, 30 km W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°34'E, 1270 m, 28.IV.2004, leg. Besuchet & Meybohm (cFel); 1♀, Ahır Dağı, 11 km NE Kahramanmaraş, 37°41'N, 36°02'E, 1580 m, N-slope, shrub litter and roots sifted, 11.IV.2004, leg. Schülke (MNB); 1 ex., Ahır Dağı, 10 km WNW Kahramanmaraş, 37°39'N, 36°50'E, 815 m, shrub litter and roots sifted, 11.IV.2004, leg. Schülke (MNB). **Hatay:** 1♂, Nur Dağları, 10 km S Iskenderun, W Soğukoluk, 36°29'N, 36°09'E, 760 m, ruderal pine forest with oak, 4.IV.2004, leg. Assing (cAss); 2♀♀, 3 exs., Nur Dağları, 9 km SE Iskenderun, 6 km NE Belen, 36°32'N, 36°15'E, 1480 m, edge of snowfield, under stones and sifted, 4.IV.2004, leg. Assing & Schülke (cAss, MNB); 1 ex., Nur Dağları, 9 km SE Iskenderun, 5 km NE Belen, 36°31'N, 36°15'E, 1240 m, mixed oak and beech forest, 4.IV.2004, leg. Schülke (MNB); 3 exs., 22 km S Antakya, SW Şenköy, 36°01'N, 36°07'E, 940 m, oak and laurel litter, 2.IV.2004, leg. Schülke (MNB, cAss); 3 exs., 19 km S Antakya, SW Şenköy, 36°02'N, 36°07'E, 880 m, pasture, under stones and grass sifted, 5.IV.2004, leg. Schülke (MNB). **Gaziantep:** 2♀♀ [1 teneral], Kartal Dağı, 25 km WNW Gaziantep, 37°11'N, 37°08'E, 1070 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing (cAss); 1♂, Kartal Dağı, 30 km WNW Gaziantep, 37°10'N, 37°04'E, 1200 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing (cAss); 8♀♀, 33 km E Osmaniye, NE Nurdağı Geçidi, 37°08'N, 36°37'E, 1520 m, NW slope with oak and beech, roots sifted and under stones, 8.IV.2004, leg. Assing & Schülke (cAss, MNB). **Adıyaman:** 1♀, ca. 50 km NE Adıyaman, Nemrut Dağı, 8 km NE Narince, 37°55'N, 38°49'E, 870 m, N-slope with rocks and oak, sifted, 24.III.2005, leg. Assing (cAss).

Redescription

Body length 2.8–4.3 mm; length of forebody 1.3–1.6 mm. Coloration: body blackish (in teneral specimens often partly paler blackish brown); legs yellowish, often with the femora and the meso- and metatibiae brown to dark-brown; antennae and maxillary palpi blackish-brown to black.

Head (Fig. 1) approximately as long as broad; punctation distinct, moderately sparse to moderately dense; microreticulation distinct to shallow, sometimes nearly obsolete. Eyes at least slightly longer than postocular region in dorsal view. Antennae slender, weakly incrassate apically; antennomeres III approximately twice as long as broad, IV as broad as long or weakly transverse, V–X gradually increasing in width and increasingly transverse, X approximately 1.5 times as broad as long, and XI as long as, or slightly longer than the combined length of IX and X. Maxillary palpus (Fig. 2) elongate and very slender; palpomere III approximately four times as long as broad. Other mouthparts as in Figs 3–4.

Pronotum (Fig. 1) distinctly convex in cross-section, weakly transverse, usually 1.05–1.10 times as broad as long and 1.15–1.25 times as broad as head, maximal width in anterior half; posterior angles moderately marked; punctation distinct, moderately dense to dense; interstices with distinct to nearly obsolete microreticulation; pubescence pale and depressed to suberect, directed transversely laterad to obliquely postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 1) approximately as long as pronotum; punctation at least slightly more distinct than that of pronotum and rather dense; interstices without, or with very shallow microreticulation; pubescence pale and depressed. Hind wings fully developed. Legs slender; metatarsomere I elongate, approximately as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 5) narrower than elytra; tergites III–V with rather deep anterior impressions; punctation moderately fine and distinct, sparser on posterior than on anterior tergites, rather coarse and dense in anterior impressions of tergites III–V and in anterior portion of tergite VI; interstices with distinct to nearly obsolete microreticulation; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII convex.

♂: posterior margin of sternite VIII convexly produced (Fig. 6); median lobe of aedeagus (Figs 7–10) 0.37–0.40 mm long; ventral process acute in ventral view; paramere (Fig. 11) approximately 0.65 mm long, its apical lobe long and slender, approximately one-third the length of paramere.

♀: posterior margin of sternite VIII broadly and weakly convex; spermatheca (Figs 12–13) with rather deep cuticular invagination and with long and slender proximal portion.

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Intraspecific variation

Cousya nigrata is subject to some variation of external characters such as size, coloration of the legs, punctation, and microsculpture. Remarkably, the ventral process of the aedeagus of a male from Sierra Aitana (South Spain) has an apex of different shape in lateral view (Fig. 9) than is usually the case in *C. nigrata*. Since no other significant distinguishing characters were found, this condition is attributed to intraspecific variation.

Comparative notes

Cousya nigrata is characterized particularly by the morphology of the aedeagus and additionally by strongly elongate maxillary palpi, rather coarse and dense punctation of the anterior impressions of tergites III–V and of the anterior portion of tergite VI (a character shared only with *C. longitarsis*), a slender habitus, usually distinct punctation of the forebody, and usually rather weakly pronounced microsculpture.

Distribution and natural history

Records of *C. nigrata* are remarkably rare and scattered. Based on revised material, the vast distribution (Fig. 134) ranges from North Africa (Algeria), West and Northwest Europe (Spain, Malta, France, England) across Central Europe, Italy, and the Balkans (Germany, Switzerland, Austria, Hungary, Bosnia-Herzegovina, Montenegro, Albania, Greece, including Crete) to the Middle East (Turkey, Cyprus, Lebanon), suggesting that it is of the Holo-Mediterranean type. For additional, zoogeographically plausible records (partly as *C. nitidiventris*) from Germany, Switzerland, and England see Brenner (2003), Callot (2015), Frank & Konzelmann (2002), Horion (1967), Köhler (1994), Kopetz et al. (2004), Lohse (1979), Luka et al. (2009), Vogel (1980), Welch (1986), and Williams (1979). The records from North Italy by Schatz (2012) refer to *C. longitarsis*. In view of the previous confusion regarding the identity and idenfication of this species, records from regions other than those indicated

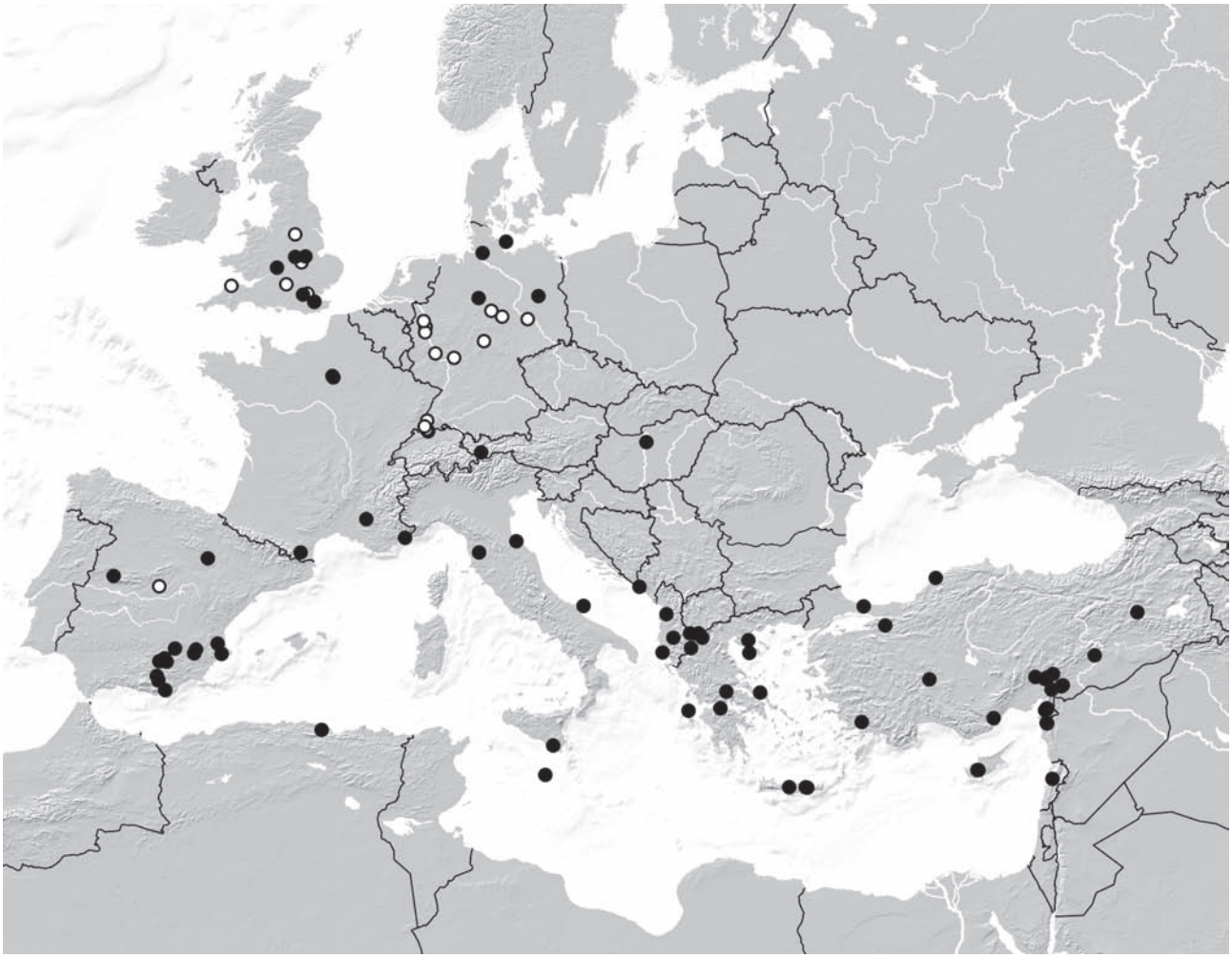

Fig. 134. Distribution of *Cousya nigrata* in the West Palaearctic region, based on revised (black circles) and selected literature records (white circles).

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above, i.e., regions where the distribution of *C. nigrata* overlaps with that of other similar species, are doubtful and require revision. For instance, Horion (1967) lists several records from Austria (Niederösterreich, Burgenland, Steiermark, Kärnten), stating that the voucher specimens were deposited in the Scheerpeltz collection ("Belege in coll. Scheerpeltz: i.l. 1966"). However, no such material was found in the collections of the NHMW. The record from Burgenland probably refers to *C. longitarsis* (see material section of *C. longitarsis*). Schülke & Smetana (2015) additionally list records from Slovakia, Croatia, Romania, and Serbia, but these may well refer to *C. defecta*.

In the Mediterranean, *C. nigrata* was collected in a variety of habitats such as bush and shrub habitats, various types of forest (beech, oak, laurel, fir, pine, mixed forests), grassland (pastures, meadows, subalpine habitats), mostly by sifting (leaf litter, grass roots, moss), more rarely by turning stones, and repeatedly near snowfields, often (or mostly?) in limestone regions. The altitudes of the Mediterranean records range from 25 to approximately 2350 m. In the north of its range (Central Europe, Britain), by contrast, specimens were found primarily in habitats of anthropogenous origin or strongly influenced by human activity and at low elevations: urban parks, cold frames, various kinds of dumps and pits (potash, chalk, sand, gravel), industrial sites, quarries, dry ponds and streambeds, dry heathland, often on limestone or gravel, on one occasion on saline soil (material examined and Brenner 2003, Köhler 1994, Kopetz et al. 2004, Lohse 1994, Vogel 1980, Welch 1986, Williams 1979). These observations suggest that in the north of its range, *C. nigrata* is probably confined to warm habitats. In principle, however, the true reproduction habitat of this species must be considered cryptic, a conclusion also supported by its epigeic phenology (see below). On at least three occasions, *C. nigrata* was collected together with the similar *C. defecta*.

The revised material with specified dates (months) was found in spring from March through June and in autumn (September–October), with the vast majority of specimens collected from March throug May (Fig. 135). Flying specimens were recorded with car-nets during the period from March through May and in October. Most of the beetles collected in spring are teneral. It can be inferred from these observations that pre-imaginal development takes place in the cold seasons, that on- or above-ground dispersal primarily occurs in spring, and that the reproduction habitat is subterranean. Additional evidence supporting this conclusion comes from the fact that *C. nigrata* is generally collected as singletons or in very small numbers and that consequently these records are accidental.

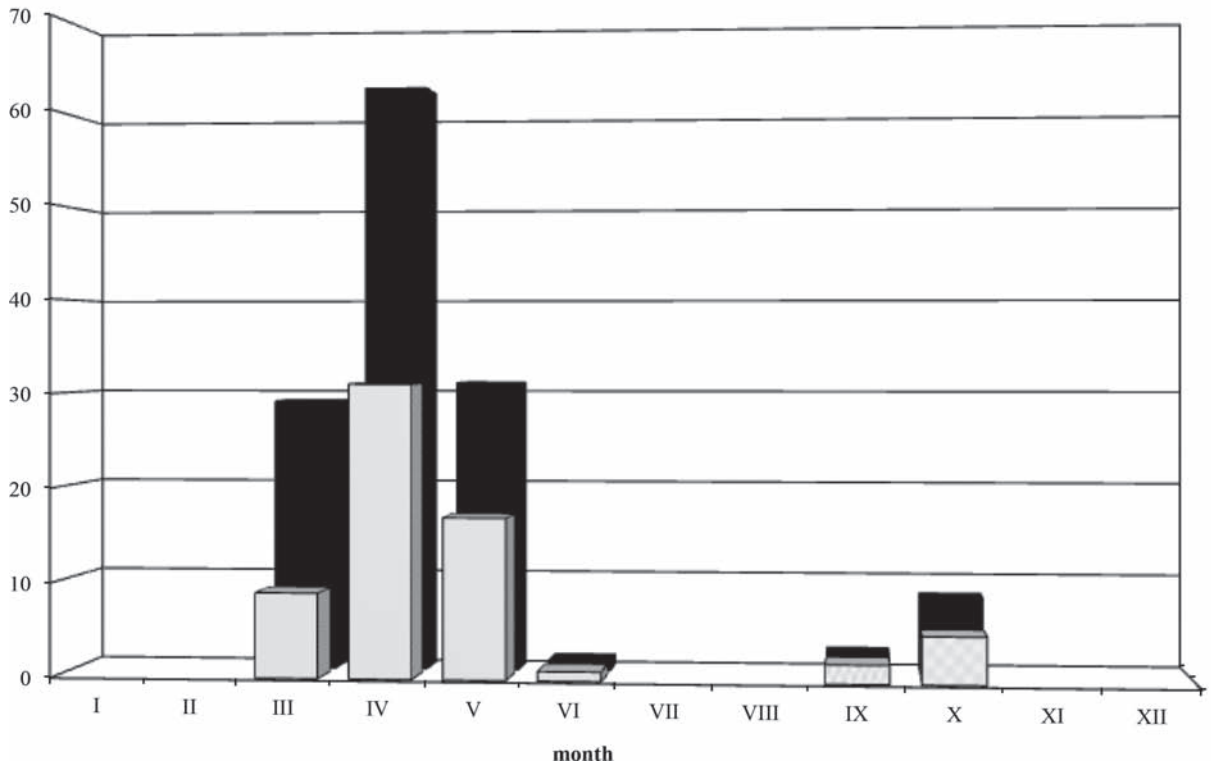

Fig. 135. Seasonal distribution of records (grey bars) and specimens (black bars) of *Cousya nigrata* based on examined material.

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The sex ratio is remarkably biased, particularly so in the north of the range. Only 19 (15 %) in a total of 126 sexed individuals are males, and they were exclusively collected in the Mediterranean. These data seem to suggest that the northern populations may be parthenogenetic. WILLIAMS (1979) provided a rough sketch of the aedeagus of what he identified as *Cousya nitidiventris*, but did not state where the corresponding male was from.

Cousya defecta (Mulsant & Rey, 1875) (Figs 14–28, 136–137)

Ocyusa (Cousya) defecta Mulsant & Rey, 1875: 427.
Cousya humicola Fagel, 1965: 260 f.; **n. syn.**

Type material examined

Ocyusa defecta:

Neotype: ♂, present designation: "F – Corse, Bocognano, au vol, 13.V.1972, leg. TRONQUET / Neotypus ♂ *Ocyusa defecta* Mulsant & Rey, desig. V. ASSING 2017 / *Cousya defecta* (Mulsant & Rey), det. V. ASSING 2017" (MNHL).

Cousya humicola:

Holotype: ♂: "Liban: Kartaba, 1200–1400 m, V.1964 – G. FAGEL / G. FAGEL det. *Cousya humicola* n. sp. / Type / *Cousya defecta* (Mulsant & Rey), det. V. ASSING 2017" (IRSNB).

Paratypes: 1♂, 1♀: same data as holotype, but "Paratype" (IRSNB); 11 exs.: same data as holotype, but "Paratype / Paratypus *Cousya acris* sp. n., det. V. ASSING 2017" (IRSNB).

Comment

The original description of *Ocyusa defecta* is based on a unique specimen from "environs de Corte en Corse (collection Revelière)" (MULSANT & REY 1875). According to an article by CLAUDIUS REY (1892) forwarded to me by MARC TRONQUET, the REVELIÈRE collection was passed on to F. DE SAULCY and subsequently dispersed, among others to CLAUDIUS REY. The holotype of *Ocyusa defecta*, however, is not in the REY collection (LABRIQUE, e-mail 11 May, 2017), so that its whereabouts are unknown. Since *Cousya defecta* has been recorded on numerous occasions from various localities, but is easily confused with other congeners, particularly *C. nigrata*, a neotype designation is indispensible in the interest of the stability of nomenclature. Therefore, a male from Corsica, which is in agreement with the previous interpretation of *C. defecta* and which was collected close to the type locality, is selected as the neotype.

The original description of *Cousya humicola* is based on a holotype from "Liban: Kartaba (vallée du Nahr Ibrahim)" and 13 paratypes from the same locality, but partly different sample data (FAGEL 1965). The type series is composed of two species: the holotype and two paratypes are conspecific with *C. defecta*, whereas the other eleven paratypes belong to *C. acris* n. sp. (see type material of *C. acris*).

Additional material examined

France: Pyrénées-Orientales: 1♂, Roc Jalère, D 619, km 30–40, 550–950 m, car-net, 13.XI.1997, leg. TRONQUET (cTro); 1♂ [teneral], secteur D6, R.N. Massane, sandy bank, 4.V.2003, leg. TRONQUET (cTro); 2♀♀, Vira–Sournia–Molitg, car-net, 450–1000 m, 15.V.2002, leg. TRONQUET (cTro); 1♀, same data, but 20.XI.2006, leg. TRONQUET (cTro); 1♀, Sournia–Molitg, 450–990 m, car-net, 14.X.2006, leg. TRONQUET (cTro); 1♀, same data, but 12.IV.2011 (cTro); 2♂♂, 2♀♀, Albères, between Tagnarède and St. Jean d'Albè, car-net, 23.V.1996, leg. TRONQUET (cTro, cAss). **Rhone-Alpes:** 1♂, Isère, St-Martin-en-Vercors a Villard. Bois Barbi, 900–1370 m, car-net, 3.VII.2014, leg. TRONQUET (cTro). **Corse:** 2♀♀, Col de Bavella [41°48'N, 9°13'E], 31.V.1987, leg. TRONQUET (cTro); 2♂♂, 4♀♀, Bocognano, car-net (evening), 22–23.V.1972, leg. TRONQUET (cTro); 1♀, Zicavo [41°54'N, 9°08'E], 1400 m, 21.V.1972, leg. TRONQUET (cTro); 2♂♂, Forêt de Valdu Niellu [42°17'N, 8°55'E], car-net (evening), 24–25.V.1972, leg. TRONQUET (cTro).

Italy: Piemonte: 1♀, Alpi Maritime, locality not specified, leg. BAUDI (NHMW). **Veneto:** 1♀, Colli Euganei, leg. MOCZARSKI (NHMW); 1♂, Verona, Soave–Montecchia di Crosara, car-net, 20.IV.1996, leg. Zanetti (cZan); 1♀, Verona, Vestenavecchia–Tregnago, car-net, 20.IV.1996, leg. Zanetti (cZan); 1♀, Verona, San Martino Buon Albergo, 26.IV.1991, leg. Lonardoni (cZan). **Toscana:** 1♂, Sarteano, leg. BARGAGLI (cAss); 1♀, Vallombrosa, leg. HOPFFGARTEN (NHMW); 1♀, Elba, Mt. Capanne, below Poggio, 100–200 m, leaf litter and roots sifted, 30.III.–13.IV.1921, leg. MOCZARSKI (NHMW). **Umbria:** 1♂, Ancona, Monti Sibillini, Rifugio NNE Passo di Gualdo, 1650 m, beech forest, 1.VI.2000, leg. WUNDERLE (cWun). **Puglia:** 1♀, Gargano, San Giovanni Rotondo, leg. HOLDHAUS (NHMW). **Lazio:** 1♀, Monti Aurunci, S Itri, S. Appia, 11.X.1924, leg. ZAMPETTI (cWun). **Molise:** 1♀, Monti del Matese, 41°27'N, 14°25'E, 1600 m, 29.IV.2014, leg. Tagliapietra & Zanetti (cZan). **Campania:** 1♂, Salerno, Rofrano–Sanza, 400–600 m, car-net, 11.IV.2004, leg. Zanetti (cZan). **Sardegna:** 5♂♂, 4♀♀, Catena del Marghine, Punta Palai [40°20'N, 8°55'E], 1000 m, plateau with small *Quercus ilex*, litter and moss between rocks sifted, 12.X.1989, leg. WUNDERLE (cWun, cAss). **Sicilia:** 1♀, Bosco di Malabotta, 30.V.1982, leg. BRANDMAYR (cWun).

Croatia: 1 ex., Metkovi, 1879, leg. REITTER (NHMW); 1♂, 9 exs., Učka ["Mte. Maggiore"; 45°15N, 14°12E], leg. BREIT (NHMW, cAss).

Bosnia-Herzegovina: 1 ex., Prozor (NHMW); 1♀, locality not specified (NHMW).

Macedonia: 1 ex. [apex of abdomen missing], SE Lake Ohrid, Galičica range, 1000–1200 m, beech forest, 15.VI.1960, leg. KNAPPE (NHMW).

Albania: 1♂, 2 exs., Korçë, 23 km N Korçë, Pllaja e Pusit, 40°49'N, 20°51'E, 1820 m, margin of snow field, sifted, 25.V.2010, leg. ASSING (cAss); 1♀, Korçë, 22 km N Korçë, Pllaja e Pusit, 40°49'N, 20°51'E, 1700–1750 m, swept from shrubs and on donkey dung, 25.V.2010, leg. ASSING (cAss); 2♀♀, Elbasan, 13 km SE Elbasan, Mali i Shpatit, 41°03'N, 20°13'E, 1500 m, beech forest margin, sifted, 22.V.2010, leg. SCHÜLKE (MNB); 1♀, Librazhd, 25 km ESE Elbasan, Mali i Polisit, 41°04'N, 20°23'E, 1460 m, forest track, floating on water, 23.V.2010, leg. SCHÜLKE (MNB); 1♂, Korçë, 10 km S Korçë, Mali i Gramozit, 40°32'N, 20°48'E, 1570 m, beech forest with poplar and juniper, sifted, 27.V.2010, leg. SCHÜLKE (MNB); 1♂, Krujë, leg. MADER (cAss); 1♀, Krujë env. (MHNG); 1♀, Tormor [40°41'N, 20°05'E], Kulmak, leg. WINKLER, LONA & BISCHOFF (NHMW); 1♀ [identified by SCHEERPELTZ as *C. densepunctata*], Llogora, 1958, leg. SMETANA (NHMW)..

Greece: Mainland: 1♀, Ioannina, 20 km SE Konitsa, Oros Timfi, 39°56'N, 20°50'E, 1750 m, 26.V.2005, leg. ASSING (cAss); 1 ex., Ipiros, Platanoússa, Oros Xerovuni [39°24'N, 20°59'E],

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900–1000 m, 14–15.VI.1932, leg. Scheerpeltz (NHMW); 1♀, Evrytania, 15 km SSW Karpenisi, Oros Kaliakouda, 38°48'N, 21°46'E, 1500 m, 14.IV.2000, leg. Assing (cAss); 1♀, Fokis, 45 km SW Lamia, Oros Vardousia, 38°42'N, 22°10'E, 1540 m, 18.IV.2000, leg. Assing (cAss); 1♀, Fthiotis, SSE Lamia, Oros Kallidromo, 38°45'N, 22°28'E, 940 m, *Abies* forest, 2.IV.2001, leg. Assing (cAss); 1♂, 2♀♀, Thessalía, Oros Pelion (NHMW); 1♀, Attika, Athina (NHMW); 1 ex., Athina env., Parnis, leg. Franz (NHMW); 2♂♂, 1♀, Evvoia, Oros Dirfys, N Kato Steni, 38°37'N, 23°52'E, 1120 m, *Abies* forest, 8.IV.2001, leg. Assing & Wunderle (cAss, cWun). **Pelopónnisos:** 1♀, Arkadia, Taygetos, 12 km SW Mistras, Anavriti env., 750 m, 29.IV.1999, leg. Brachat (cAss); 2♀♀, W Pteri, 38°09'N, 22°04'E, 1200 m, N-slope with bushes, moss and grass on soil with gravel sifted, 14.IV.2017, leg. Brachat & Meybohm (cAss); 3♀♀, Parnon, 25 km NE Sparti, S Katafigio Agrias Zois, 37°13'N, 22°37'E, 1440 m, fir and spruce forest, sifted, 23.IV.2015, leg. Schülke (MNB, cAss); 1♀, S Diakopto, road to Kalavrita, 38°08–10'N, 22°12–14'E, 50–850 m, stream valley, macchia, car-net, 2.IV.2016, leg. Schülke (MNB); 1♀, S Diakopto, road to Kalavrita, 38°04–10'N, 22°09–14'E, 50–690 m, stream valley, macchia, car-net, 2.IV.2016, leg. Schülke (MNB); 2♀♀, Aroania, E Kalavrita, road to ski resort, 38°00–01'N, 22°09–12'E, 1250–1640 m, fir forest, car-net, 2.IV.2016, leg. Schülke (MNB); 1♀, Erimanthos, above Kalentzi, 37°57'N, 21°56'E, 1200 m, fir forest, litter sifted, 7.IV.2016, leg. Schülke (MNB); 2♀♀, Killini, Ano Trikala, 2000 m, snow fields, 7.VI.1996, leg. Wunderle (cWun, cAss). **Corfu:** 1♂, 2 exs., Deka Oros (NHMW); 1♀, Canone, leg. Woerz (NHMW). **Levkás:** 1 ex., Megan Oros, 1000 m, 16.IV.1929, leg. Beier (NHMW). **Kefalonía:** 1♂, 4 exs., Aenos, 1000–1600 m, 10–13.V.1929, leg. Beier (NHMW, cAss); 5 exs., Megalovuni, 1905, leg. Leonhard (SDEI, cAss). **Rhodos:** 1♂ [teneral], Laerma, 36°09'N, 27°57'E, 260 m, *Mastix* litter, 7.IV.2012, leg. Meybohm (cAss); 1♀, Attaviros, 36°12'N, 27°51'E, 1000 m, 5.IV.2012, leg. Meybohm (cAss); 1♀, 4 km SW Embonas, Attaviros, 36°12'N, 27°52'E, 1030 m, pasture with scattered old *Quercus ilex*, litter and roots of grass and herbs under oak trees sifted, 22.III.2013, leg. Assing (cAss); 1♀, Salakos, Prof. Ilias, east of hotels, 500 m, 9.IV.1999, leg. Meybohm (cAss). **Samos:** 1♀, Oros Kerkis: Prof. Ilias, 37°44'N, 26°38'E, 1210 m, litter of *Quercus ilex*, *Juniperus*, and grass roots sifted, 7.IV.2017, leg. Assing (cAss). **Karpathos:** 1♂, 1♀, N-slope of Lastos, Oros Kolla, 600 m, 16.IV.1999, leg. Meybohm (cAss); 1♂, 1♀, Kali Limni, 1000 m, 21.IV.1999, leg. Meybohm (cAss). **Crete:** 1♀, Dikti, Selakano, 35°05'N, 25°32'E, 850 m, 9.III.2001, leg. Meybohm (cAss); 1♀, Lefka Ori, Omalos env., 35.360°N, 23.916°E, 1100 m, sifted, 20.IV.2015, leg. Kocian (cKoc); 1♂, Mourtzana, 35.358°N, 24.744°E, 120 m, riverside, leaf litter and dead wood sifted, 22.IV.2015, leg. Kocian (cAss); 1♀, Ida Oros, road between Anogia and Ida Andron cave, 1100–1200 m, 18.V.1999, leg. Ledoux (cTro).

Turkey: Çanakkale: 1♀, Kurucam Tepe, 39°43'N, 27°11'E, 430 m, 14.IV.2010, leg. Brachat & Meybohm (cAss). **Bursa:** 2♀♀, Bursa, Devecikonağı, 39°50'N, 28°26'E, 640 m, 16.IV.2010, leg. Brachat & Meybohm (cAss). **Izmir:** 1♀, Kemalpaşa env., Nif Dağı, 38°24'N, 27°24'E, 1010 m, 23.IV.2006, leg. Brachat & Meybohm (cAss); 3♀♀, Nif Dağı, 38°24'N, 27°24'E, 970 m, 24.IV.2006, leg. Brachat & Meybohm (cAss); 2♀♀, Karaburun, 38°35'N, 26°29'E, 550 m, 26.IV.2006, leg. Brachat & Meybohm (cAss). **Aydın:** 1♀, Bozdağ, 38°20'N, 28°06'E, 1300–1560 m, 21.IV.2006, leg. Brachat & Meybohm (cAss); 1♀, 20 km NE Kuyucak, Bayrak Tepe, 37°58'N, 28°34'E, 900 m, 7.IV.2006, leg. Assing (cAss). **Manisa:** 1♀, Sipil Dağı Milli Parkı, 38°33'N, 27°25'E, 1250 m, 25.IV.2006, leg. Brachat & Meybohm (cAss). **Isparta:** 1♂, Kovada Gölü, 37°37'N, 30°53'E, 930 m, oak forest, 15.IV.2008, leg. Brachat & Meybohm (cAss). **Konya:** 1♀, Akşehir env., Sultan Dağları, 15.IV.1960, leg. Petrowitz & Ressl (NHMW). **Mersin:** 1♂, Güzeloluk–Erdemlı, S Aydınlar, 36°45'N, 34°08'E, 1380 m, 4.V.2004, leg. Besuchet (cAss). **Adana:** 1♀, road Kamişli–Aladağ, 7 km E Kamişli, 37°32'N, 35°00'E, 1330 m, 26.IV.2011, leg. Brachat & Meybohm (cAss). **Kahramanmaraş:** 1♂, Cimerı Dağı, Elmacık, 37°31'N, 36°42'E, 820 m, 22.IV.2007, leg. Brachat & Meybohm (cAss); 1♀, 30 km W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°35'E, 1500 m, 28.IV.2004, leg. Brachat & Meybohm (cAss); 1♀, 30 km W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°34'E, 1270 m, 28.IV.2004, leg. Besuchet & Meybohm (cAss, cFel); 2♀♀, W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°35'E, 1450 m, 5.V.2005, leg. Brachat & Meybohm (cAss).

Locality illegible: 1♀, 11.IV.1883 (NHMW).

Redescription

Highly similar to *C. nigrata* in external and secondary sexual characters, except as follows:

On average smaller: body length 2.6–3.6 mm; length of forebody 1.2–1.5 mm. Legs on average of darker coloration, usually predominantly brown to blackish-brown with yellowish tarsi.

Antennomere IV distinctly transverse. Maxillary palpi less elongate; maxillary palpomere III approximately three times as long as broad. Forebody (Fig. 14) on average with finer, and on elytra also with denser punctation, and with on average more pronounced microreticulation.

Abdomen (Fig. 15) with distinctly finer and sparser punctation; punctation of anterior impressions of tergites III–V very fine and sparse, barely noticeable; anterior portion of tergite VI with fine and moderately dense punctation.

♂: median lobe of aedeagus (Figs 16–23) approximately 0.42–0.53 mm long and with ventral process of distinctive shape in lateral view; paramere (Figs 24–25) 0.65–0.70 mm long, apical lobe basally with pronounced triangular dilatation and apically acute, approximately one-third as long as whole paramere.

♀: spermatheca similar to that of *C. nigrata* (Figs 26–28).

Intraspecific variation

While external characters are moderately variable, the size of the aedeagus is subject to remarkable variation in size (Figs 16–22).

Comparative notes

Cousya defecta is characterized particularly by the distinctive shape of the ventral process of the relatively large aedeagus in lateral view. Based on external characters, it is always reliably distinguished from the largely sympatric and similar *C. nigrata* especially by much finer punctation of the anterior impressions of the abdominal tergites III–V, additionally also by finer punctation of the whole abdomen, shorter maxillary palpomeres III, and a

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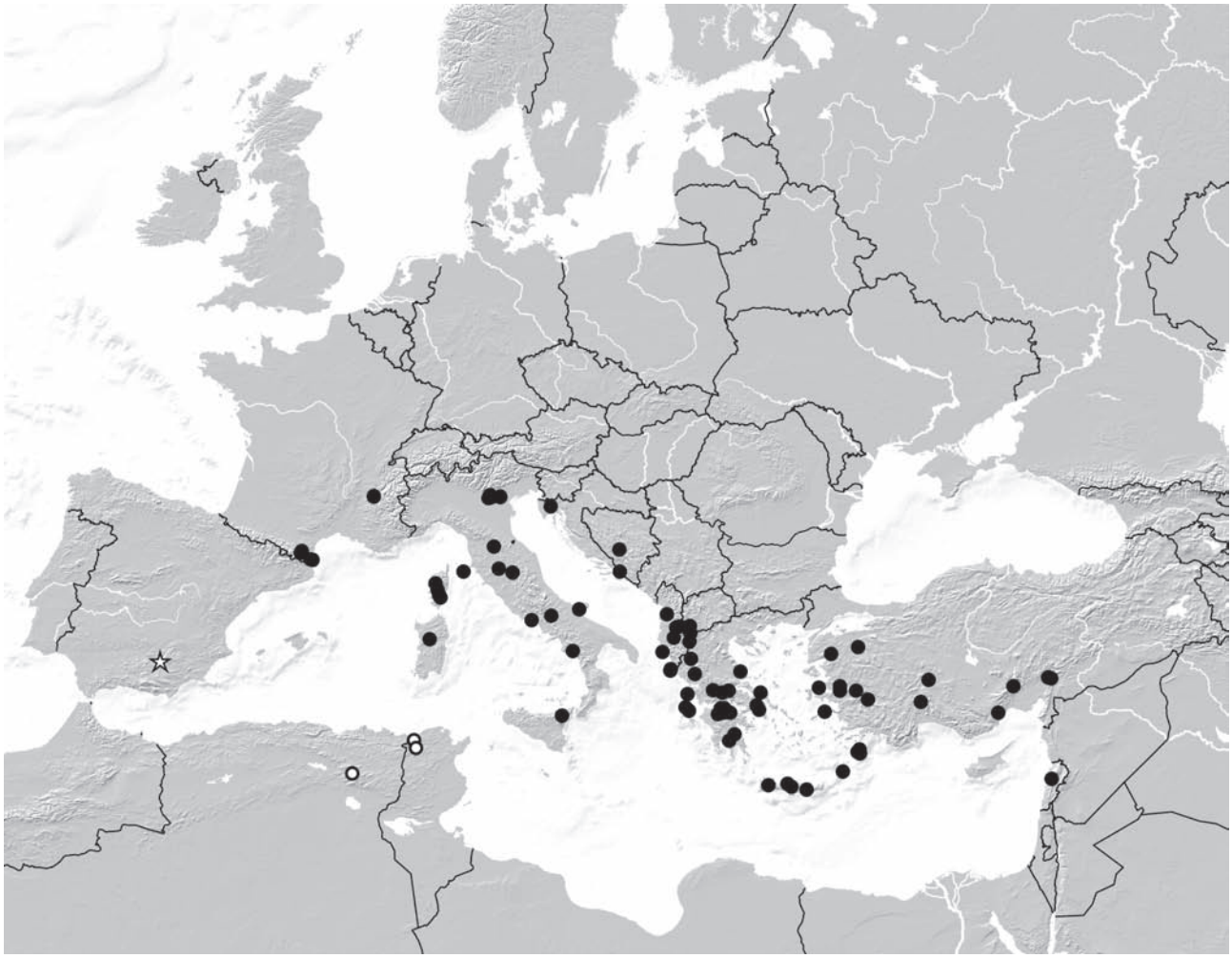

Fig. 136. Distributions of *Cousya defecta* (black circles; exclusively based on revised records), *C. struyvei* (white star), and *C. bimaculata* (white circles) in the West Palaearctic region.

more transverse antennomere IV. Regarding other characters (coloration, size, punctation of the forebody, microsculpture), however, there is some overlap.

From the similar, partly sympatric, and sometimes even syntopic *C. acris*, *C. defecta* additionally differs by a slightly longer antennomere XI, elytra with less fine punctation and less distinct microsculpture, and on average darker legs.

Distribution and natural history

Like *C. nigrata*, *C. defecta* has been collected rather rarely despite its vast distribution. Based on revised records, it ranges from the Middle East (Lebanon, Turkey) across the Balkans (Greece, Macedonia, Albania, Bosnia-Herzegovina, Croatia) and Italy to South France (Fig. 136). Hence, the distribution can be categorized as Ponto-Mediterranean. The species has been recorded also from numerous Mediterranean islands (Corsica, Sardinia, Elba, Sicily, Corfu, Levkas, Kefalonia, Samos, Rhodos, Karpathos, Crete). Records from Central and North Europe are absent. Schülke & Smetana (2015) additionally report *C. defecta* from Cyprus and North Africa (Algeria, Morocco), but these records are most likely based on misidentification. They probably refer to *C. nigrata* (North Africa) and *C. araxis* or *C. acris* (Cyprus), respectively.

The natural history of *C. defecta* seems to be similar to that of *C. nigrata*. The material was found in various forest (oak, beech, poplar, fir, etc.) and shrub habitats by sifting leaf litter, moss, and grass roots; repeatedly it was collected at the margin of snowfields. Most of the records are based on single specimens, so that it can be inferred that the reproduction habitat of this species is cryptic (subterranean), too. Numerous specimens were collected on the wing (car-nets), swept from vegetation, or found floating in puddles particularly in April and May, but also in October and November, suggesting that dispersal takes place

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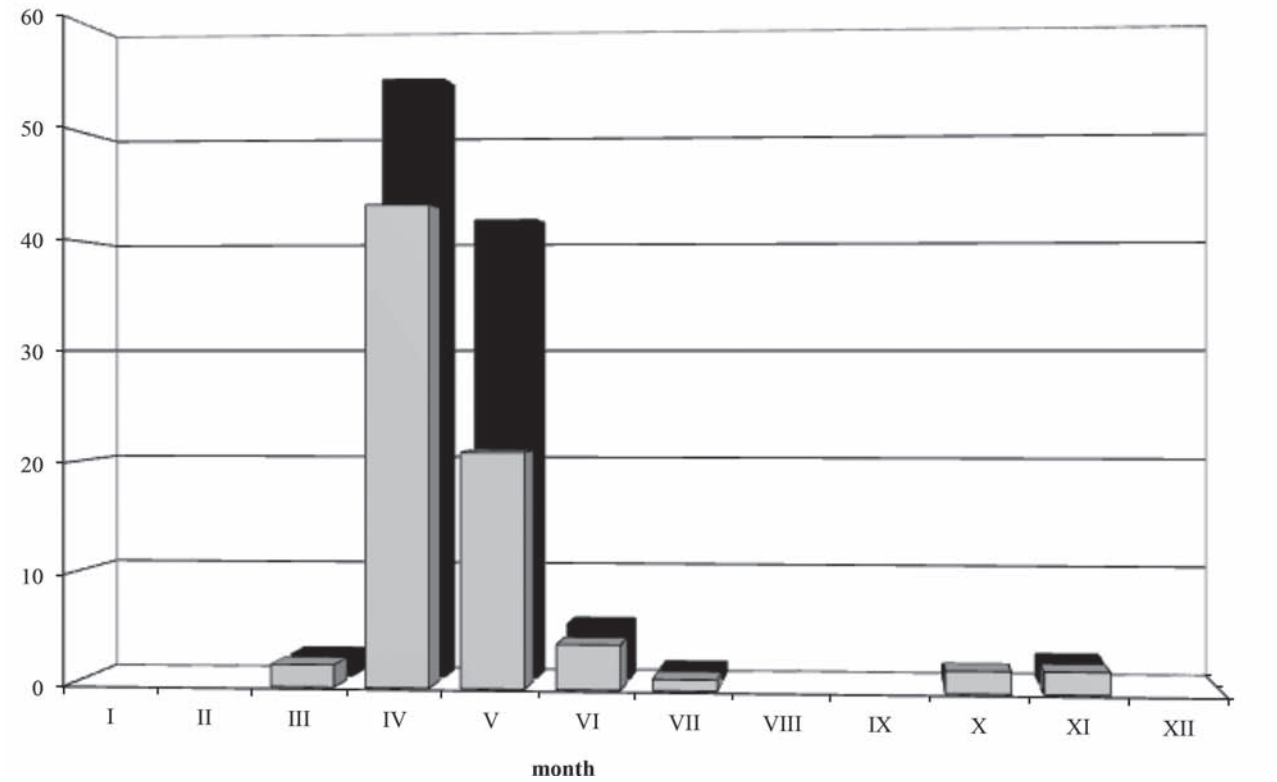

Fig. 137. Seasonal distribution of records (grey bars) and specimens (black bars) of *Cousya defecta* based on examined material.

in spring and autumn. Adult beetles were recorded from March through July and from October through November, with pronounced peaks in April and May (Fig. 137). Numerous teneral specimens were found in April and May. Based on these observations, pre-imaginal development occurs during winter and early spring.

The sex ratio is biased, though less so than in *C. nigrata*: 47 (36 %) in a total of 131 sexed specimens are males.

Cousya longitarsis (Thomson, 1867)
(Figs 29–35, 138–139)

Ocyusa longitarsis Thomson, 1867: 242.
Aleochara hibernica Rye, 1876: 175 f.
Chilopora rugipennis J. Sahlberg, 1890: 9 f.; **n. syn.**
Chilomorpha bernhaueri Krása, 1914: 147.
Cousya laticollis peezi Scheerpeltz, 1957: 491 f.; **n. syn.**

Type material examined

Aleochara hibernica:

Holotype: "Type / *Aleochara hibernica* Rye, type / *Ocyusa nigrata* Fairm var. (*Calod.*) / Ireland G.C.C. / Newcastle Co. Down, Ireland. G.C.C. / summit of Slieve Donard, 2500 ft. / *hibernica* / G.C. Champion, B.M. 1964 – 540. / *Cousya longitarsis* (Thomson), det. V. Assing 2017" (BMNH).

Chilopora rugipennis:

Holotype: ♂ [dissected prior to present study]: "Karislojo / J. Sahlb. / Spec. typ. / Mus. fenn. / Mus. Zool. H:fors, Spec. Typ. No 205, *Chilopora rugipennis* J. Sbg. / *Cousya longitarsis* Thoms (= *hibernica* Rye), = *Chilopora rugipennis* J. Sahlb. / http://id.luomus.fi/GZ.69, Finland Ab Lohja, Karjalohja, 60.2398 N, 23.7225 E, Sahlberg, John leg. / *Cousya longitarsis* (Thomson), det. V. Assing 2017" (MZH).

Cousya peezi:

Lectotype: ♂, present designation: "♀ / I. S. Tir. Brixen, Schiesstand, 29.IX.55. Peez / *Euryalea murina* Er. 6904 / ex coll. Scheerpeltz / Typus *Cousya peezi* O. Scheerpeltz / Lectotypus ♂ *Cousya peezi* Scheerpeltz, desig. V. Assing 2017 / *Cousya longitarsis* (Thomson), det. V. Assing 2017" (NHMW).

Paralectotype ♀: "♂ / I. S. Tir. Brixen, Schiesstand, 15.XI.54. Peez / ex coll. Scheerpeltz / Typus *Cousy peezi* O. Scheerpeltz" (NHMW).

Comment

The original description of *Ocyusa longitarsis* is based on an unspecified number of syntypes from "Wittsjö i norra Skane" (Thomson 1867), that of *Aleochara hibernica* on a unique specimen from "Slieve Donard ... Co. Down, Ireland" (Rye 1876), and that of *Chilomorpha bernhaueri* on "ein einziges Stück" from Central Bohemia, without specified locality (Krása 1914). The synonymies of *A. hibernica* and *C. bernhaueri* with *Cousya longitarsis* were established earlier (Lohse 1971).

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Chilopora rugipennis was described from a unique holotype specimen ("ett enda exemplar") from "Karislojo" (today Karjalohja; 60°14'N, 23°43'E), South Finland (SAHLBERG 1890). The holotype had evidently been examined prior to the present study by someone who correctly recognized the synonymy of *Chilopora rugipennis* with *Cousya longitarsis*. This synonymy, however, has apparently never been published. According to SCHÜLKE & SMETANA (2015), *C. rugipennis* was previously regarded as a junior synonym of *Oxypoda funebris* Kraatz, 1856.

The type material of *Cousya laticollis peezi* is composed of "1 ♂ und 1 ♀ (Typen) und 1 ♂ und 1 ♀ (Paratypen)" collected "in der nächsten Umgebung von Brixen" (SCHEERPELTZ 1957). Since a holotype is not designated, all four type specimens have syntype status. The male labelled by SCHEERPELTZ as "Typus" is designated as the lectotype. It is conspecific with *C. longitarsis*.

Additional material examined

Sweden: Skåne: 1♂ [dissected prior to present study; aedeagus missing]: Ignaberga, 24.V.1959, leg. ISRAELSON (MZH).

Finland: 1♀, Pälkäne (MZH); 1♀, Punkaharju, 10.VI.1971, leg. Kangas (MZH).

United Kingdom: Scotland: 1♀, River Dulnain [57°16'N, 3°53'W], 18.VIII.1997, leg. EYRE (BMNH); 1♀, Dorback Burn [57.473°N, 3.671°W], 18.VIII.1997, leg. EYRE (BMNH) ; 1 ex., Dorback Burn, VI.1952, leg. Ashe (BMNH); 1♀, Dorback Burn, 21.VI.1951, leg. Ashe (BMNH); 1 ex., Aviemore [57°12'N, 3°50'W], 4.IX[?].1910 (BMNH); 1 ex., locality not specified, leg. SHARP (BMNH). **England:** 3♂♂, 2♀♀, Cumbria, Dun Fell [54°42'N, 2°27'W], 850 m, 27.VIII.1978 (BMNH); 9♂♂, 4♀♀, same data, but 31.X.1978 (BMNH).

Germany: Hamburg: 1♀, Hamburg, Hohe Schaar, sandy wasteland, 20.V.1995, leg. MEYBOHM (cMey). **Niedersachsen:** 1♂, Lüneburger Heide, Niederhaverbeck, 2.VI.1993, leg. ASSING (cAss); 1♂, Lüneburger Heide, Schneverdingen, Tütsberg, pitfall trap, 2.VI.1997, leg. MELBER (cAss); 1♀, same data, but 1.XII.1997 (cAss); 1♂, same data, but 1.X.1997 (cAss); 1♂, same data, but 15.X.1997 (cAss); 1♂, Schneverdingen env., pitfall, 15.X.2001, leg. MELBER (cAss; only mounted specimens listed; additional specimens in alcohol); 1♀, same data, but 4.X.1998 (cAss); 1♂, same data, but 18.X.1998 (cAss); 1♀, same data, but 2.IX.1999 (cAss); 1♂, same data, but 1.X.1999 (cAss); 1♂, same data, but 15.X.1999 (cAss); 1♀, same data, but 4.XII.1998 (cAss); 1♀, same data, but 30.IV.1999 (cAss); 1♂, 1♀, same data, but 1.I.2000 (cAss); 1♂, same data, but 15.IV.2000 (cAss); 2♀♀, same data, but 15.V.2000 (cAss); 1♂, 2♀♀, same data, but 31.V.2000 (cAss); 1♂, same data, but 1.XI.2001 (cAss); 1♂, same data, but 31.V.2001 (cAss); 1♂, Gifhorn env., NSG "Heiliger Hain", heathland, pitfall trap, 14.X.1987 (cAss); 1♂, same data, but 1.VI.1987 (cAss); 2♀♀, same data, but 15.XI.1987 (cAss); 1♀, same data, but 17.XI.1986 (cAss). **Nordrhein-Westfalen:** 1♂, Barmen (SDEI). **Mecklenburg-Vorpommern:** 1♀, Neustrelitz, Solarpark, pitfall trap, 10.IX.-1.X.2012, leg. Teuscher (cKle). **Sachsen-Anhalt:** 1♂, Halle, Landkreis Merseburg, Schkopau, in gravel, V.1996, leg. SPRICK (cAss); 2♂♂, Gräfenhainichen, Dübener Heide, 24.X.1977, leg. STEINMETZGER (cAss, cWun). **Berlin/Brandenburg:** 1♂, 1♀, Berlin-Lankwitz, Pädagogische Hochschule, loamy fallow, pitfall trap, 25.IX.1970 (MNB); 1 ex., Berlin, Pfaueninsel, Corynephoretum, pitfall trap, 16.X.1970, leg. BARNDT & KORGE (MNB); 1 ex., Berlin, Pfaueninsel, 1.X.1970, leg. BARNDT & KORGE (MNB); 1♂, Berlin, Priesterweg, railroad site, 25.IX.1981 (MNB); 1 ex., same data, but 30.IX.1981 (MNB); 1 ex., Berlin-Zehlendorf, Museumsdorf Düppel, 10.V.1982, leg. KORGE (MNB); 1 ex., Berlin, Müllkippe Marienfelde, pitfall trap, 14.V.1972, leg. KORGE (MNB); 1 ex., same data, but 1.XI.1971 (MNB); 1♀, Berlin, Köpenick, Revier Müggelheim, Seddingrube, 20.V.–4.VI.1992, leg. SCHWARTZ (cAss); 1 ex., W Berlin, Truppenübungsplatz Döberitz, NW Kampnitz, *Calluna* heathland, 14.V.1992, leg. KORGE (MNB); 1 ex., same data, but 17.XII.1992 (MNB); 1 ex., Forst Dubrow, leg. Neresheimer (NHMW); 2 exs., Lebus, rye field, 21.XI.1996, leg. BARNDT (MNB); 11 exs., Rüdersdorf env., "Kalkberge", 7.IX.1941 (5 exs.), 5.IX.1943 (5 exs.), 14.V.1944 (1 ex.), leg. NERESHEIMER (MNB, NHMW, SDEI, cAss); 4♂♂, 1♀, Nord-Lausitz, Tagebau Schlabendorf-Süd, 1.X.2001, leg. STEINWARZ (cAss, cTro); 2♂♂, 1♀, same data, but 19.IX.2001 (cFel); 1♂, 17.X.2001 (cFel); 1♂, 2♀♀, same data, but 13.II.2002 (cFel); 1♂, same data, but 8.V.2002 (cFel). **Sachsen:** 1♂, Leipzig, parking lot, 15.V.1995, leg. SPRICK (cAss).

Switzerland: Aargau: 1 ex., Spreitenbach [47°25'N, 8°22'E], leg. TOUMAYEFF (NHMW).

Austria: Burgenland: 1♀, Siegendorf [47°46'N, 16°32'E] (NHMW).

Czech Republic: 1♂, Moravia, Hlučin env., Vřesina, 49.94°N, 18.17°E, sifted from detritus in a sand quarry in a pine forest, 8.XI.2008, leg. Vávra (cVav).

Italy: Trentino-Alto Adige: 1♂ [teneral], Bolzano env., Talfen, 10.IV.1929, leg. PECHLANER (NHMW); 2♀♀, Salurn, dam of Adige river, 11.207°N, 46.245°E, 210 m, grassland, pitfall traps, XI.2011-V.2012, leg. BALLINI (cSch); 1♀, Kurtinig, dam of Adige river, 11.226°N, 46.259°E, 210 m, grassland, pitfall traps, XI.2011-V.2012, leg. BALLINI (cSch); 1♀, Salurn, dam of Adige river, 11.197°N, 46.241°E, 210 m, grassland, pitfall traps, XI.2011-V.2012, leg. BALLINI (cSch). **Friuli-Venezia Giulia:** 1 ex. [det. ZANETTI; cited in TAGLIAPIETRA & ZANETTI 2012], Pordenone, Maniago, 280 m, dry gravel habitat, 24.IV.1977, leg. VISENTINI (cZan).

Redescription

Body length 2.7–4.3 mm; length of forebody 1.3–1.8 mm. Coloration: body blackish, with the elytra sometimes slightly paler; legs uniformly yellowish; antennae reddish to dark-brown, with the basal 2–3 antennomeres yellowish to reddish; maxillary dark-yellowish to dark-brown.

Head (Fig. 33) approximately as long as broad; punctation distinct, moderately sparse to moderately dense; interstices with usually shallow microsculpture and glossy. Eyes longer than postocular region in dorsal view. Antennae (Fig. 34) slender, very weakly incrassate apically; antennomeres III more than twice as long as broad, IV approximately as broad as long, V as broad as long or weakly transverse, VI–X gradually increasing in width, X less than 1.5 times as broad as long, and XI rather large and of ovoid shape, as long as, or slightly longer than the combined length of IX and X. Maxillary palpus elongate and very slender; palpomere III more than four times as long as broad.

Pronotum (Fig. 33) relatively large in relation to head and pronotum, distinctly convex in cross-section, weakly

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transverse, approximately 1.05 times as broad as long and at least about 1.3 times as broad as head, more than 0.8 times as broad as elytra; maximal width approximately in the middle; posterior angles moderately marked; punctation fine and usually dense, more rarely less dense; interstices with or without shallow microreticulation; pubescence pale and depressed, directed transversely laterad to obliquely postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 33) approximately 0.9 times as long as pronotum; punctation very dense, more distinct than that of pronotum; interstices without, or with very shallow microreticulation; pubescence pale and depressed. Hind wings fully developed. Legs very slender; metatarsus nearly as long as metatibia; metatarsomere I elongate, usually at least slightly longer than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 35) narrower than elytra; tergites III–V with moderately deep anterior impressions; punctation distinct, denser and more distinct in anterior than posterior portions of tergites and denser on anterior than on posterior tergites; punctation of anterior impressions of tergites III–V very dense and rather coarse; interstices with or without very shallow microsculpture, often visible only on posterior tergites; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII broadly convex.

♂: posterior margin of sternite VIII obtusely produced in the middle; median lobe of aedeagus (Figs 29–30) approximately 0.5 mm long; ventral process slender and smoothly curved in lateral view; paramere (Fig. 31) approximately 1.0 mm long, its apical lobe long and slender, approximately one-third the length of paramere.

♀: posterior margin of sternite VIII broadly and weakly convex; spermatheca (Fig. 32) with long and slender proximal portion, of generally similar shape as in *C. nigrata*, but slightly larger.

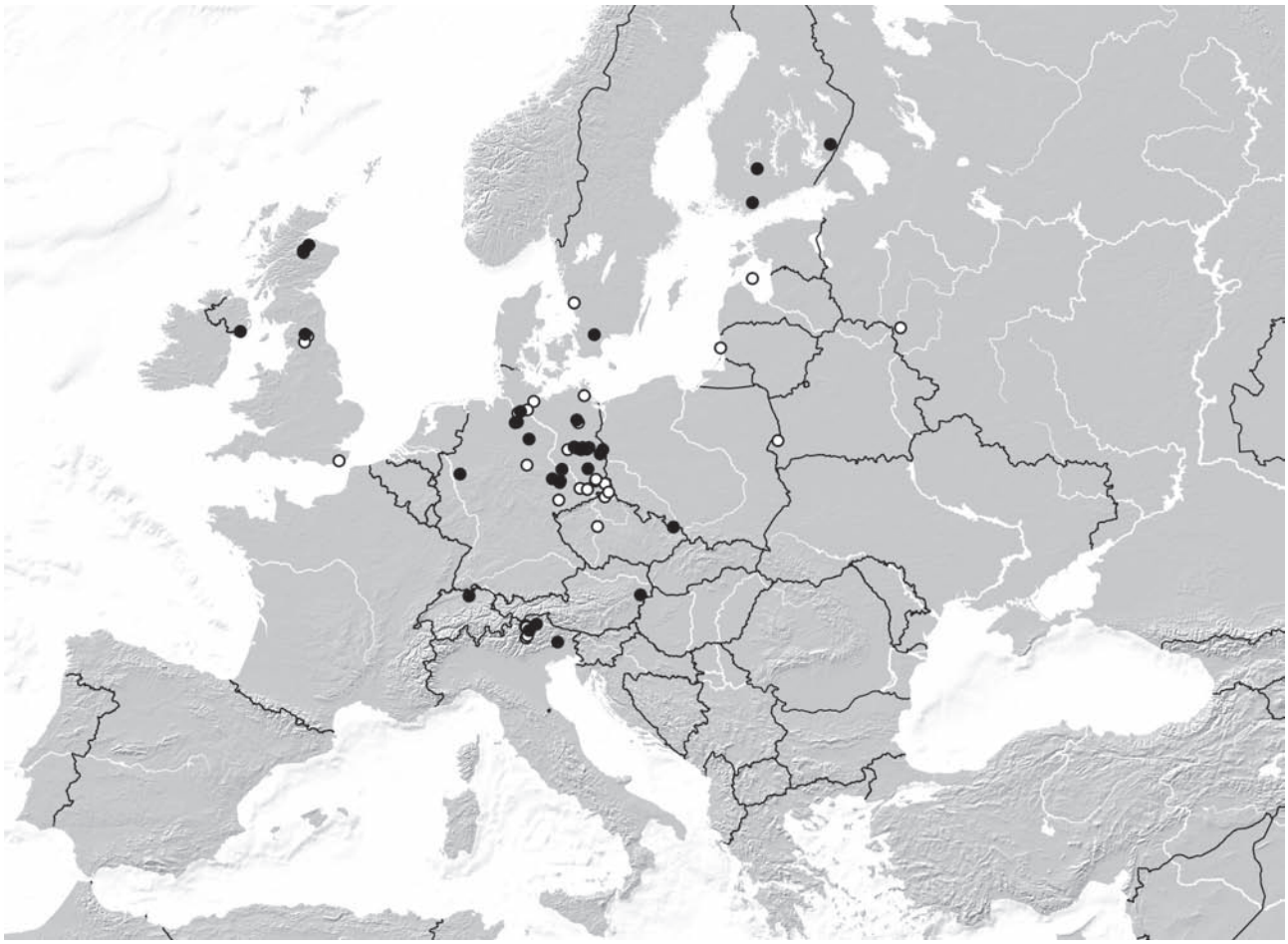

Fig. 138. Distribution of *Cousya longitarsis* in the West Palaearctic region, based on revised (black circles) and selected plausible literature records (white circles).

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Comparative notes

Cousya longitarsis is reliably distinguished from its congeners by the shape of the median lobe of the aedeagus, a relatively large pronotum with distinct fine and dense punctation, longer and more slender antennae and legs, and conspicuously elongate maxillary palpi. It additionally differs from *C. nigrata*, the only *Cousya* species whose distribution overlaps with that of *C. longitarsis*, by completely yellowish legs, yellowish to reddish basal antennomeres, and shorter elytra.

Distribution and natural history

Based on examined material, the partly discontinuous distribution of *C. longitarsis* extends from Northwest and North Europe (British Isles: Ireland, Scotland, England; Sweden; Finland) across Central Europe southwards to Switzerland, the Italian Alps, and Southeast Austria (Burgenland) (Fig. 138). The species has additionally been reported from Bohemia and Moravia in the Czech Republic (Krása 1914, Lohse 1974; localities not specified), the Estonian island Ruhnu (Haberman 1987), Lithuania (Ivinskis et al. 2010), and Norway (Hanssen et al. 1997). Thus, currently available evidence suggests that *C. longitarsis* represents a Siberian faunal element. Records from Belarus (Derunkov 2000) and Russia (Semenov et al. 2011, Starodubzeva 2008) would seem zoogeographically plausible, but nevertheless require confirmation. Records from Romania (Stan 2004) and Kazakhstan (Kashcheev & Konev 1984) may be based on misidentification and should be revised. For additional, probably reliable and/or zoogeographically plausible records from Germany, Great Britain, North Italy, and Sweden see Bauer (1989), Eyre et al. (2000), Gillerfors (1982), Hodge & Williams (2007), Keilbach (1989), Kleeberg (2016), Lohse (1967), Meybohm (2001), Schatz (2005, 2012), Scholze (2001), Uhlig & Zerche (1981), and Vogel (1998, 2010, 2013, 2017).

According to Horion (1967) and Lohse (1974), *C. longitarsis* is a very rare and local species. The examined material was collected primarily in more or less dry, unforested habitats with scattered vegetation (heathland, grassland) on sandy, calcareous, and gravel soils. Several records are from sparsely vegetated urban habitats such as fallows, railroad sites, dumps, wasteland, and a parking area, as well as from arable land (rye field), a sand quarry, and a surface mining area. According to literature records, *C. longitarsis* has also been found in coastal habitats (Hodge & Williams 2007, Keilbach 1989), in bogs and moorland (Bauer 1989, Eyre et al. 2000), in limestone habitat islands (Bauer 1989), on xerothermous slopes (Horion 1967, Lohse 1967), in dry grassland and a sand pit (Uhlig & Zerche 1981), in grassland near a river and

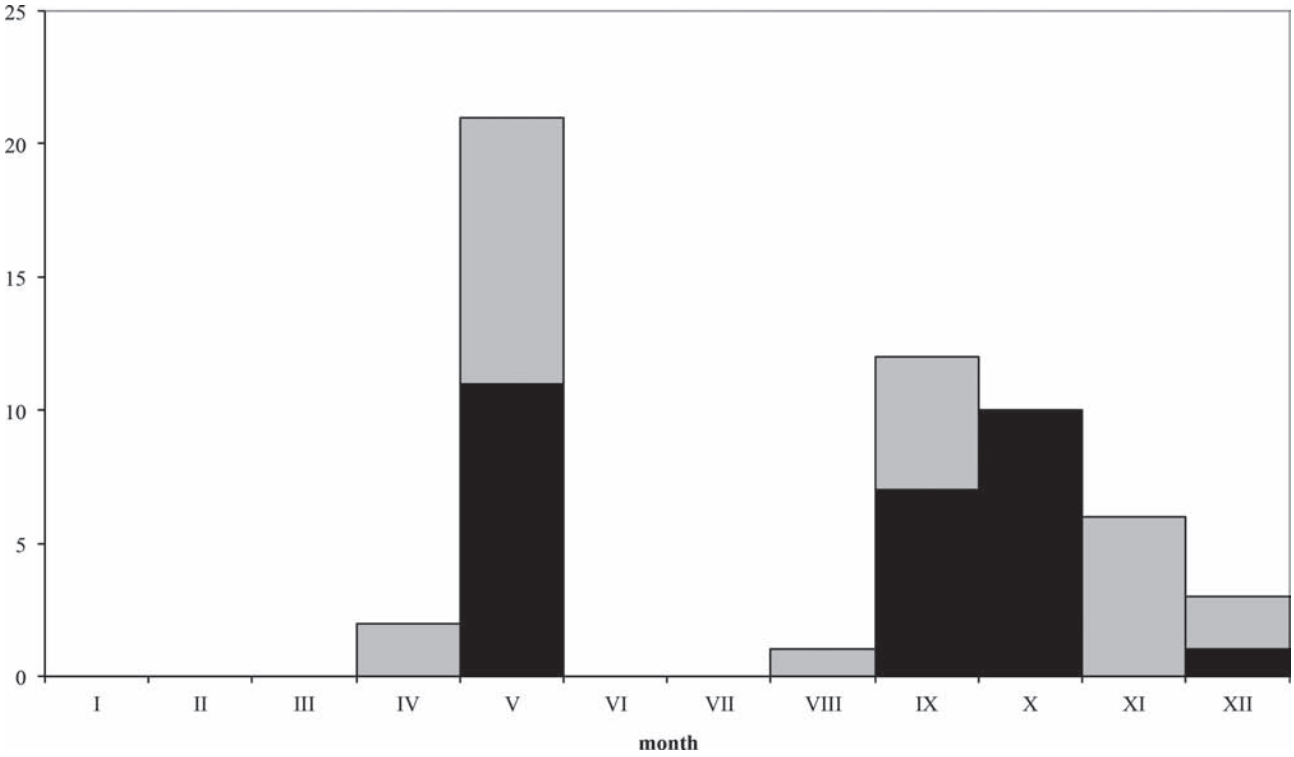

Fig. 139. Seasonal epigeic activity of males (black) and females (grey) of *Cousya longitarsis* based on all-year pitfall trap studies in North German heathlands.

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other anthropogenous riverine habitats (Eyre et al. 2000, Schatz 2005, 2012), *Calluna heathland* and pine forest (Vogel 1998, 2013), a gravel pit (Vogel 2013), in haystacks (Vogel 2017), fallow vegetion (Schatz 2005), in montane habitats (Eyre et al. 2000, Scholze 2001), and in a burnt forest (Ivinskis et al. 2010).

Most of the examined material was collected with pitfall traps, though not in great quantities. Similarly, the vast majority of literature records is based generally on few specimens from pitfall traps. It can be concluded therefore that *C. longitarsis* does not occur at high densities and that it is epigeically rather active, which would explain the conspicuously long and slender legs. Also, many of the habitats where the species was found do not allow for a subterranean life, except in holes and burrows formed by other animals such as earthworms or mammals.

All-year pitfall trap studies in North German heathlands revealed epigeic activity in spring (April, May) and from late summer to winter (August through December), with a maximum in September and October (Fig. 139). Six teneral adults were found in May. The abdomen of a dissected female collected in September contained a mature egg. These observations suggest the following: oviposition takes place in autumn, possibly also in early winter, larval and pupal development occur during winter and early spring, and dispersal in spring. Since no epigeic activity was recorded in summer, it can be concluded that adult beetles probably spend the hot season in inactivity (estivation) in the upper soil layer.

Flying *C. longitarsis* have not been observed, although several dissected individuals had fully developed flight muscles. The sex ratio appears to be unbiased.

Cousya densepunctata (Scheerpeltz, 1931) (Figs 36–44, 140)

Ocyusa densepunctata Scheerpeltz, 1931: 447 f.

Type material examined

Holotype: ♀ [damaged: antennomeres VII–XI of left antenna and VI–XI of right antenna missing]: "Voidia, Pelop., 1500–1927 m, / Beier. 23.V.29. / Photographiert 6.IV.1931. O. Scheerpeltz / ex coll. Scheerpeltz / Typus *Ocyusa densepunctata* O. Scheerpeltz / *Cousya densepunctata* (Scheerpeltz), det. V. Assing 2017" (NHMW).

Comment

The original description is based on a unique specimen from "Voidiastock, Peloponnes [= Panachaikó Oros]" (Scheerpeltz 1931).

Additional material examined

Romania: 1♂, Baile Herculane, leg. Winkler (NHMW).

Bosnia-Herzegovina: 1 ex. [apex of abdomen missing], Jablanica (NHMW); 1♂, Prozor, leg. Leonhard (cAss).

Greece: 1♂, 2♀♀ [somewhat teneral], Makhedonía, Olympos, near Refuge A, 40°05'N, 22°22'E, 2020 m, snowfield, 25.VII.2004, leg. Assing (cAss); 2♀♀, Zagori region, Vikos gorge, bank of Voidhomatis river, 5.V.2015, leg. Kleeberg (cKle, cAss).

Redescription

Body length 2.4–3.6 mm; length of forebody 1.3–1.6 mm. Coloration (note that old material is somewhat paler owing to post-mortem bleaching): head black; pronotum and elytra dark-brown to black; abdomen black with the posterior margins of segments VII and VIII paler; legs usually uniformly yellow, rarely with the meso- and metatibiae somewhat infuscate; antennae yellowish-brown to dark-brown with the basal antennomeres more or less extensively yellowish.

Head (Fig. 36) weakly oblong; punctation fine, shallow and dense; interstices with very shallow microreticulation. Eyes large, at least slightly longer than postocular region in dorsal view. Antennae (Fig. 37) weakly incrassate apically; antennomere III slender, approximately twice as long as broad; antennomere IV weakly transverse; antennomeres V–X of increasing width, IX less than twice as broad as long, X approximately 1.5 times as broad as long and somwhat longer than IX; antennomere XI longer than the combined length of IX and X. Maxillary palpus moderately slender; palpomere III moderately elongate, little more than three times as long as broad.

Pronotum (Fig. 36) slender, approximately 1.1 times as broad as long and 1.25–1.30 times as broad as head; punctation fine, but distinct, and very dense; interstices without microreticulation (traces of microsculpture may be visible near posterior margin); pubescence whitish and mostly depressed, directed diagonally postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 36) 1.0–1.1 times as long as pronotum; punctation very dense and more distinct than that of pronotum; microsculpture absent. Hind wings fully developed. Legs slender; metatarsus distinctly shorter than metatibia; metatarsomere I elongate, as long as the combined length of metatarsomeres II–IV.

Abdomen (Fig. 38) narrower than elytra; punctation moderately fine and very dense, somewhat less dense on tergites VII–VIII; anterior impressions of tergites III–V with extremely fine, barely noticeable punctation; interstices with or without shallow microsculpture; posterior margin of tergite VII with palisade fringe.

♂: male sternite (Fig. 39) obtusely produced posteriorly; median lobe of aedeagus (Figs 40–42) 0.33–0.36 mm long, with slender and acute ventral process; paramere (Fig. 43) approximately 0.6 mm long, its apical lobe elongate, nearly one-third the length of whole paramere.

♀: spermatheca (Fig. 44) with very long and slender proximal portion.

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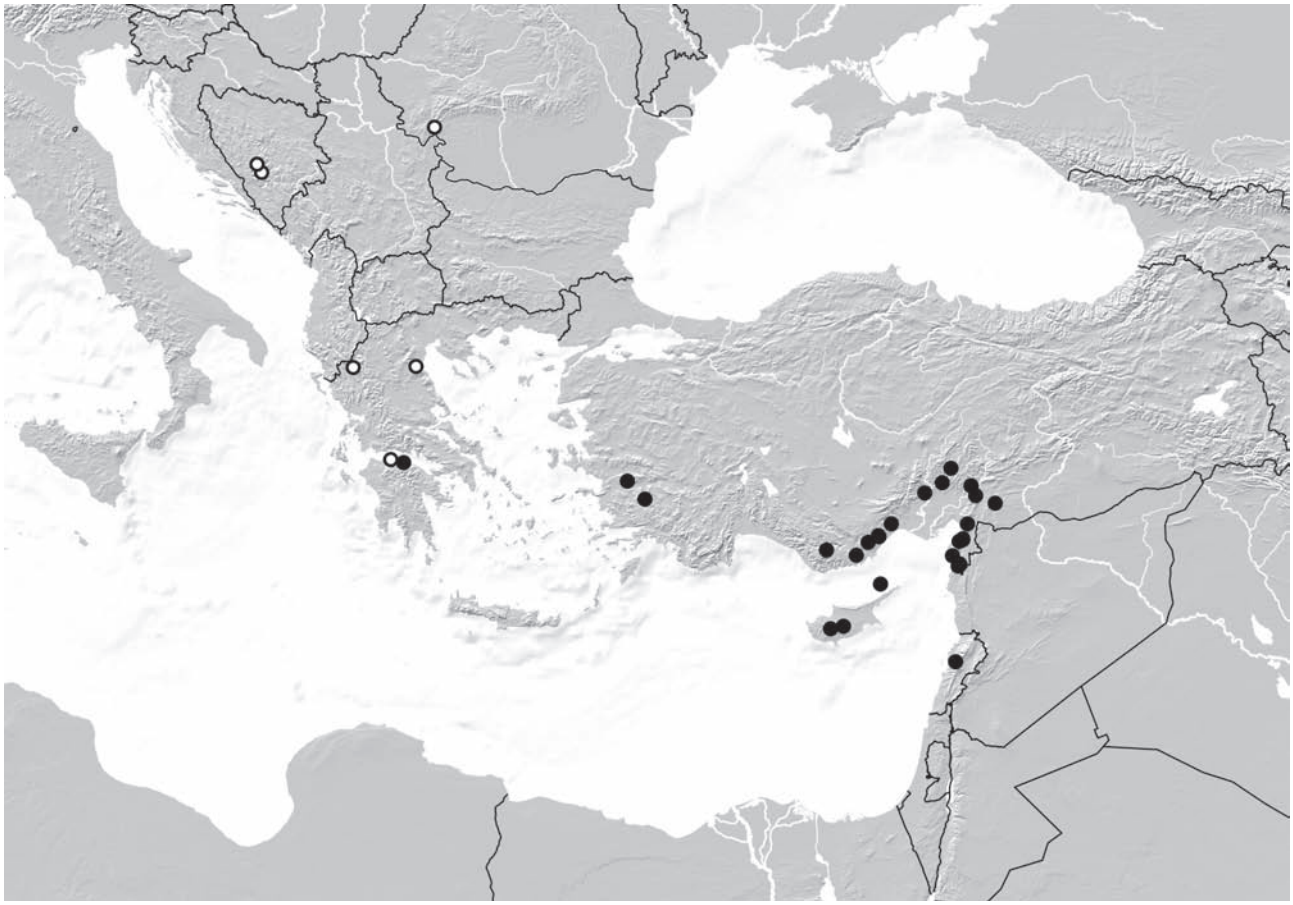

Fig. 140. Distributions of *Cousya densepunctata* (white circles) and *C. acris* (black circles) in the East Mediterranean region.

Comparative notes

Cousya densepunctata is distinguished from all its congeners by the shape of the aedeagus. It additionally differs from the similar and sympatric *C. nigrata* and *C. defecta* by completely yellow legs, yellowish basal antennomeres, from *C. nigrata* also by barely noticeable punctation in the anterior impressions of tergites III–V.

Distribution and natural history

The known distribution ranges from Romania across Bosnia-Herzegovina to southern Greece (Fig. 140). The slightly teneral specimens from Olympos (Greece) were sifted from debris at the margin of a snowfield at an altitude of 2020 m. Two specimens from North Greece were collected on a river bank.

Cousya struyvei **n. sp.**
(Figs 123–128, 136)

Type material

Holotype: ♂ "E - Andalucía, Sierra de Cazorla, 37.9N, 2.9W, car-net, 13.V.2009, Struyve / Holotypus ♂ *Cousya struyvei* sp. n., det. V. Assing 2017" (cAss).

Paratypes: 5♂♂, 8♀♀: same data as holotype (cStr, cAss).

Etymology

This species is dedicated to Tim Struyve, Mechelen, who collected the type series.

Description

Body length 2.2–2.7 mm; length of forebody 1.1–1.3 mm. Coloration: body blackish-brown to black; legs yellowish-brown to brown with paler tarsi; antennae dark-brown to blackish.

Head (Fig. 123) approximately as long as broad; punctation fine, shallow, moderately dense; interstices with pronounced microreticulation and subdued shine. Eyes large, longer than postocular region in dorsal view. Antennae moderately incrassate apically; antennomere III moderately slender, 1.5 times as long as broad; antennomere IV distinctly transverse, approximately 1.5 times as broad as long; antennomeres V–X of gradually increasing width, 1.5–2.0 times as broad as long, X slightly longer than IX, and XI longer than the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

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Pronotum (Fig. 123) of variable shape and relative size, mostly relatively large and broad, 1.07-1.22 times as broad as long and 1.20–1.30 times as broad as head, broadest usually in the middle, posterior angles obtusely marked; punctation shallow, rather dense, fine, and shallow, mostly indistinct in the pronounced microreticulation; pubescence whitish and moderately long, directed predominantly transversely laterad or weakly obliquely postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 123) 1.05–1.10 times as long as pronotum; punctation distinct and dense; interstices with shallow microsculpture. Hind wings fully developed. Legs slender; metatarsomere I approximately as long as the combined length of metatarsomeres II–IV.

Abdomen narrower than elytra; punctation fine and dense, sparser on tergite VII than on tergite III, anterior impressions of tergites III–V with extremely fine, barely noticeable punctation; microsculpture shallow posterior margin of tergite VII with palisade fringe.

♂: posterior margin of sternite VIII obtusely produced; median lobe of aedeagus (Figs 124–126) approximately 0.45 mm long, with very slender ventral process in lateral view; paramere (Fig. 127) approximately 0.65 mm long, apical lobe long (nearly one-third the length of whole paramere) and apically acute, of similar shape as that of *C. defecta*.

♀: posterior margin of sternite VIII distinctly convex in the middle and with rather long dark marginal setae; spermatheca as in Fig. 128.

Comparative notes

Cousya struyvei is reliably identified particularly based on the shape of the median lobe of the aedeagus. It is additionally distinguished from *C. nigrata*, the only other representative of the *C. nigrata* group recorded from South Spain, by much more pronounced microsculpture, finer and less distinct punctation of the less glossy forebody, and by nearly impunctate anterior impressions of the abdominal tergites III–V. The new species differs from the externally similar *C. defecta* by a larger and broader pronotum, usually more pronounced microsculpture on the head and pronotum, and longer marginal setae at the more distinctly convex posterior margin of the female sternite VIII. The aedeagus of *C. struyvei* is distinguished from that of *C. defecta* by distinctly smaller size and a much more slender ventral process in lateral view.

Distribution and natural history

The known distribution is confined to the type locality in Andalucía, South Spain (Fig. 136). The specimens were collected with a car-net in May, together with *C. nigrata* and *Oxypoda pellax*. Nearly all the specimens are more or less distinctly teneral.

Cousya acris **n. sp.**
(Figs 45–52, 140)

Type material

Holotype: ♂ "TR Karahmanmaras [sic] (24), 30 km W Baskonus Yaylasi, 1270 m / 37°33'58N 36°34'10E (24) 22.IV.2004, leg. Brachat & Meybohm / Holotypus ♂ *Cousya acris* sp. n., det. V. Assing 2017" (cAss).

Paratypes: 1♂, 3♀♀: same data as holotype (cAss); 1♂: "N37°35'29 E028°21'14 (5), Türkei Aydin Yatagan–Bozdogan 800 m, 19.IV.2006, l. Brachat & Meybohm" (cAss); 1♀: "TR Prov.: Aydin (8), N Aydin; Pasayaylasi, 1460 m, 20.IV.2006, N37°56'47", E27°53'53", leg. Meybohm & Brachat" (cAss); 1♀: "N36°29'00 E32°50'45 (30), TR Karaman Ermenek, Schlucht s Kazanki, 1390 m, Brachat & Meybohm 22.IV.2008" (cAss); 1♂: "TR – Mersin, road to Arslanköy, Aladag, 830 m, 36°56'20N, 34°30'12E, 2.V.2004, leg. Brachat" (cAss); 1♂: "TR. – Mersin [42], road Silifke – Gülnar, 1000 m, 6.V.2004, 36°20'37N, 33°35'17E, leg. Brachat & Meybohm" (cAss); 1♂: "TR Mersin (40), road to Güzeloluk, S Aydinlar 1110 m / 36°42'5N [sic] 34°9'56E (40) 4.V.2004, leg. Brachat & Meybohm" (cAss); 1♀: "TR Mersin (39), road to Güzeloluk, S Aydinlar 1220 m / 36°43'10N 34°9'39E (39), 4.V. 2004, leg. Brachat & Meybohm" (cAss); 1♀: "TR. – Mersin [38], Güzeloluk–Erdemli, S Aydinlar, 1380 m, 35°44'34N, 34°08E, 4.V.2004, C. Besuchet" (cAss); 1♂ [teneral], 1♀: "TR [5] – Mersin, 1270 m, 33 km N Silifke, 36°36'07N, 33°53'30E, 18.IV.2005, leg. Brachat & Meybohm" (cAss); 1♂ [teneral]: "TR [38] – Adana, Imamoğlu, SW Kazantı, 37°29'52N, 35°22'48E, 1110 m, 28.IV.2005, Brachat & Meybohm" (cAss); 1♂ [teneral]: "N37°40'39 E35°51'07 (13), TR Adana Kozan–Feke 775 m, 27 km von Kozan, Brachat & Meybohm 25.IV.2007" (cAss); 1♀: "TR [36] – Adana, NE Kozan, Pınarbaşı–Eyüplü, 37°56'45N, 36°06'22E, 1560 m, 27.IV.2005, Brachat & Meybohm" (cAss); 1♂, 1♀: "TR Kahramanmaras (21) ca. 35 km SW Doluca 1280 m / 37°22'3N 36°40'24E (21) 27.IV.2004 leg. Brachat & Meybohm" (cAss); 1♀ [abdomen filled with nematodes; spermatheca missing]: "N37°33'56 E36°33'38 (10), TR Karahmanmaras, Baskonus Yaylasi 1250 m / Brachat & Meybohm 24.IV.2007" (cAss); 1♂, 1♀: "TR – Kahramanmaraş [34], 30 km W Baskonus Yaylasi, 1270 m, 37°33'58N, 36°34'10E , 27.IV.2004, Besuchet" (cAss); 2♂♂, 2♀♀ [all teneral]: "TR. – Antakya [11], 1240 m, 9 km SE Iskenderun, 5 km NE Belen, forest, 36°31'19N, 36°14'50E, 4.IV.2004, leg. V. Assing" (cAss); 1♀: "TR – Antakya, 8, 25 km S Senköy, 914 m, edge of meadow, sifted, 36°01'58N, 36°07'11E, 26.IV.2002, Meybohm" (cAss); 1♀: "TR. – Antakya [1], S Antakya, W Senköy, 750 m, 36°01'08N, 36°07'19E, 21.IV.2004, Besuchet" (cAss); 1♀: "TR. – Antakya [13], 920 m, 19 km S Antakya, SW Şenköy, *Q. ilex* & laurel, 36°01'48N, 36°07'19E, 5.IV.2004, leg. V. Assing" (cAss); 1♀: "TR. – Antakya [3], S Antakya, Ziyaret Dağ, W Sungur, 760 m, 35°59'34N, 36°05'18E, 21.IV.2004, Besuchet" (cAss); 1♂: "Turkey (Antakya), Ziyaret Dağı, 22 km S Antakya, SW Şenköy, 940 m, 36°00'32''N, 36°07'13"E, N-slope, oak, beech & laurel shrubs, sifted, 2.IV.2004, leg. M. Schülke [T04-02]" (MNB); 1♂, 1♀: "Turkey (Antakya): Nur Dağl., 9 km SE Iskenderun, ca. 6 km NE Belen, N-slope, snowfield edge under stones, sifted, 1480 m, 36°31'39"N, 36°15'27"E, 1480 m, 4.IV.2004, leg. M. Schülke [T04-10]" (MNB); 1♂: "Turkey (Antakya): Nur Dağl., Kızıl Dağı, 20 km W Antakya, NW Teknepinar, 36°12'33"N, 35°57'30"E, 340 m, *Quercus* forest with *Pinus*, sifted, 3.IV.2004, leg. M. Schülke [T04-06]" (MNB); 1♀ [teneral]: "Turkey (Antakya): Nur Dağl., 10 km S Iskenderun, W Soğukoluk, ruderal *Pinus* forest with *Quercus*, 36°29'28"N, 36°09'17"E, 760 m, 4.IV.2004, leg. M. Schülke [T04-08]" (MNB); 1♀:

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"Türkei_32, Prov. Antakya, Nur Daglari, 14 rkm W. Hassa, Leg. A. Schulz, K. Vock, M. Sanetra" (cAss); 2♂♂, 1♀ [teneral]: "TR. – Gaziantep [30], 25 km WNW Gaziantep, Kartal Dağı, 1070 m, 37°10'53N, 37°08'29E, 9.IV.2004, leg. V. Assing" (cAss); 1♂: same data, but leg. Schülke (MNB); 1♂ [teneral]: "Zypern Nikosia (17), Machaira Lanzania 820 m, 30.III.2010 l. Meybohm, N34°56'47 E33°10'40" (cAss); 1♂: "Cyprus Troodos-Geb., Olympus 1900 m, *Pinus*, *Alnus*, 10.IV.1996 P. Wunderle" (cWun); 1♂: "Greece: Peloponnes, S Diakepto, Straße nach Kalavrita, 38°07'44"–10'26"N, 22°11'49"–14'17"E, 50–850 m, Bachtal, Macchie, Autokescher, 2.IV.2016, leg. M. Schülke [GR16-14]" (cAss). For additional paratypes see type material of *Cousya humicola*.

Etymology

The specific epithet (Latin, adjective: acute) alludes to the apically sharply pointed ventral process of the aedeagus.

Description

Body length 2.2–2.8 mm; length of forebody 1.1–1.4 mm. Coloration: body blackish; legs uniformly yellowish or with dark-brown femora, pale-brown tibiae, and yellowish tarsi; antennae dark-brown to blackish.

Head approximately as long as broad; punctation extremely fine and sparse to moderately dense, barely noticeable; interstices with rather shallow to distinct microreticulation, glossy or with subdued shine. Eyes large and distinctly convex, usually at least slightly longer than postocular region in dorsal view. Antennae moderately incrassate apically; antennomere III slender, approximately twice as long as broad; antennomere IV distinctly transverse, approximately 1.5 times as broad as long; antennomeres V–X of gradually increasing width, 1.5–2.0 times as broad as long, and XI approximately as long as the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

Pronotum of variable shape, 1.05–1.20 times as broad as long and 1.08–1.20 times as broad as head, posterior angles obtusely marked; punctation variable, fine, barely noticeable to distinct, and rather dense, denser than that of head; interstices with very shallow to distinct microreticulation; pubescence whitish and moderately long, directed predominantly transversely laterad in lateral portions and posteriad along midline.

Elytra 1.05–1.10 times as long as pronotum; punctation distinct and dense; interstices with or without microsculpture, glossy or with subdued shine. Hind wings fully developed. Legs slender; metatarsomere I approximately as long as the combined length of metatarsomeres II–IV.

Abdomen narrower than elytra; punctation fine and moderately dense to dense, slightly to distinctly sparser on tergite VII than on tergite III, anterior impressions of tergites III–V with extremely fine, barely noticeable punctation; microsculpture variable, rarely absent (except at anterior margins of tergites), usually more or less distinct; posterior margin of tergite VII with palisade fringe.

♂: posterior margin of sternite VIII moderately, obtusely produced in the middle; median lobe of aedeagus (Figs 45–49) approximately 0.35 mm long, with very slender and apically acute ventral process; paramere (Figs 51–52) approximately 0.55 mm long, with long apical lobe (nearly one-third the length of whole paramere).

♀: posterior margin of sternite VIII broadly convex and with rather long pale marginal setae; spermatheca as in Fig. 50.

Intraspecific variation

The male from Greece differs from the Turkish specimens by a more glossy forebody with less distinct punctation, darker legs, and the shape of the head. The aedeagus, however, is practically identical, so that the observed external differences are attributed to intraspecific variation.

Comparative notes

Cousya acris is reliably identified based on the shape of the median lobe of the aedeagus. In size, habitus, coloration, and punctation, this highly variable species is most similar to *C. defecta*, from which it is additionally distinguished by slightly shorter antennae, an on average more slender pronotum, and on average less pronounced microsculpture. The new species differs from the sympatric *C. araxis* by much paler legs alone. It is externally separated from the widespread *C. nigrita* by less distinct punctation of the forebody, much finer punctation of the abdomen (particularly of the anterior transverse impressions of tergites III–V), and a less slender maxillary palpomere III.

The shape of the median lobe of the aedeagus somewhat resembles that of *C. densepunctata*, from which *C. acris* differs by dark-coloured basal antennomeres, usually darker coloration of the legs, less dense and less distinct punctation of the forebody, the shape of the head (oblong in *C. densepunctata*), a more strongly bent ventral process of the aedeagus in lateral view, a relatively shorter apical lobe of the paramere, and a shorter proximal portion of the spermatheca.

Distribution and natural history

The known distribution ranges from South Greece (Pelopónnisos) across South Turkey (Aydın, Karaman, Mersin, Kahramanmaraş, Hatay, Gaziantep provinces) to Cyprus and Lebanon (Fig. 140), suggesting that it is probably of the Syrian type.

The vast majority of specimens was sifted from litter and debris in various forest (oak, laurel, pine, etc.) and shrub habitats, on one occasion near snow. The altitudes range from 340 to 1560 m. One specimen was collected on the wing in the beginning of April. Several teneral adults were found in April, suggesting that the life history of *C. acris* is similar to that of *C. defecta* and *C. nigrata*. One

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dissected female had the abdomen filled with nematodes; its spermatheca was missing. The sex ratio is unbiased.

Cousya araxis (Bernhauer, 1902)
(Figs 53–62, 141)

Ocyusa araxis Bernhauer, 1902: 225 f.

Type material examined

Lectotype: ♂ [without head], present designation: "Caucasus. Araxesthal. Leder. Reitter. / *defecta* Epp. ded. Reitter, vgl. m. Type Epp. / *araxis* Brnh. Type / Chicago NHMus, M.Bernhauer Collection / Lectotypus ♂ *Ocyusa araxis* Bernhauer, desig. V. Assing 2017 / *Cousya araxis* (Bernhauer), det. V. Assing 2017" (FMNH).

Paralectotype: ♀ [without head], "Caucasus. Araxesthal. Leder. Reitter. / *defecta* Epp. ded. Reitter, vgl. m. Type Epp. / *araxis* Brnh. Type / *nivicola* J. Sbg., det. Bernhau [sic] / Chicago NHMus, M.Bernhauer Collection" (FMNH).

Comment

The original description is based on an unspecified number of syntypes from "Caucasus (Araxes-Thal)" (Bernhauer 1902).

Additional material examined

Greece: Rhodos: 1♂, 4 km SW Embonas, Attaviros, 36°12'N, 27°50'E, 820 m, stony grassland, grass and herb roots sifted, 17.III.2013, leg. Assing (cAss); 1♂ [teneral], 4 km SW Embonas, Attaviros, 36°12'N, 27°52'E, 1030 m, pasture with scattered old *Quercus ilex*, litter and roots of grass and herbs under oak trees sifted, 22.III.2013, leg. Assing (cAss).

Turkey: Antalya: 1♂, 1♀, 11 km S Kızılcadağ, Akdağlar, 36°56'N, 29°59'E, 1630 m, cushion plants sifted, 16.II.2011, leg. Schülke (MNB, cAss). **Kahramanmaraş:** 1♂, 34 km SW Kahramanmaraş, SW Doluca, 37°22'N, 36°40'E, 1250 m, N-slope with oak trees, sifted, 27.III.2005, leg. Assing (cAss); 1♂, 50 km W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°35'E, 1450 m, 5.V.2005, leg. Brachat & Meybohm (cAss); 1♀, 30 km W Kahramanmaraş, Başkonuş Yaylası, 37°34'N, 36°35'E, 1500 m, 28.IV.2004, leg. Brachat & Meybohm (cAss); 2♂♂, 1♀, 34 km SW Kahramanmaraş, 37°23'N, 36°41'E, 1070 m, shrub litter and roots sifted, 12.IV.2004, leg. Assing & Schülke (cAss, MNB); 1♀, 35 km SW Doluca, 37°22'N, 36°40'E, 1280 m, 27.IV.2004, leg. Besuchet (cAss); 1♂, 2♀♀, 50 km NW Kahramanmaraş, 37°57'N, 36°34'E, 1360 m, NW-slope with old cedar, sifted, 10.IV.2004, leg. Assing (cAss); 1♂, 7 exs., Ahır Dağı, 11 km NE Kahramanmaraş, 37°41'N, 36°02'E, 1580 m, N-slope, shrub litter and roots sifted, 11.IV.2004, leg. Assing & Schülke (cAss, MNB); 1♂, Ahır Dağı, 10 km WNW Kahramanmaraş, 37°39'N, 36°50'E, 815 m, shrub litter and roots sifted, 11.IV.2004, leg. Assing (cAss); 1♂, 2♀♀, Ahır Dağı, 9 km ENE Kahramanmaraş, 37°38'N, 36°02'E, 1850 m, shrub and *Juniperus* litter, 11.IV.2004, leg. Assing & Schülke (cAss, MNB); 1♂, Ahır Dağı, 27 km ENE Kahramanmaras, 37°42'N, 37°13'E, 1400 m, N-slope with old cedar and *Juniperus*, 11.IV.2004, leg. Assing (cAss). **Osmaniye:** 1♀, 12.5 km NE Andırın, road to Geben, 37°39'N, 36°26'E, 1500 m, 3.V.2005, leg. Brachat & Meybohm (cAss); 1♀, Zorkum, 36°58'N, 36°22'E, 1670 m, 29.IV.2004, leg. Besuchet (cAss). **Hatay:** 1♂, 2 km S Antakya, SW Şenköy, 36°01'N, 36°07'E, 940 m, grass roots sifted, 2.IV.2004, leg. Assing (cAss); 1♂, 19 km S Antakya, SW Şenköy, 36°02'N, 36°07'E, 920 m, oak and laurel litter, 2.IV.2004, leg. Schülke (MNB); 1♀, same data, but laurel litter sifted (cAss); 1♂, 2 exs., 19 km S Antakya, SW Şenköy, 36°02'N, 36°07'E, 880 m, pasture, under stones and grass sifted, 5.IV.2004, leg. Assing & Schülke (cAss, MNB); 2♀♀, Nur Dağları, 8 km SE Iskenderun, 4 km NE Belen, 36°31'N, 36°14'E, 1130 m, pasture, under stones and sifted from grass, 4.IV.2004, leg. Assing & Schülke (cAss, MNB); 2♂♂, 2♀♀ [1♂ teneral], 3 exs., 9 km SE Iskenderun, 6 km NE Belen, 36°32N, 36°15'E, 1480 m, edge of snowfield, under stones and sifted, 4.IV.2004, leg. Assing & Schülke (cAss, MNB); 2♂♂, W Şenköy, Ziyaret Dağı, 36°01'N, 36°07'E, 750 m, 21.IV.2004, leg. Brachat & Meybohm (cAss). **Gaziantep:** 17♂♂, 15♀♀, 87 exs. [partly teneral], 33 km E Osmaniye, NE Nurdağı Geçidi, 37°08'N, 36°37'E, 1520 m, NW slope with oak and beech, roots sifted and under stones, 8.IV.2004, leg. Assing & Schülke (cAss, cFel, cWun, MNB); 6 exs., 32 km E Osmaniye, NE Nurdağı Geçidi, 37°07'N, 36°37'E, 1310 m, N-slope with shrubs, sifted roots, 8.IV.2004, leg. Assing & Schülke (cAss, MNB); 6♂♂, 2♀♀, 35 exs. [partly teneral], Kartal Dağı, 39 km WNW Gaziantep, 37°11'N, 36°59'E, 1110 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing & Schülke (cAss, MNB); 4♂♂ [teneral], 55 exs., Kartal Dağı, 28 km WNW Gaziantep, 37°10'N, 37°06'E, 1100 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing & Schülke (cAss, MNB); 7♂♂ [partly teneral], 158 exs., Kartal Dağı, 25 km WNW Gaziantep, 37°11'N, 37°08'E, 1070 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing & Schülke (cAss, MNB); 24 exs., Kartal Dağı, 30 km WNW Gaziantep, 37°10'N, 37°04'E, 1200 m, N-slope with oak, roots sifted, 9.IV.2004, leg. Assing & Schülke (cAss, MNB); 1♂, Kartal Dağı, W Işıklı, 37°08'N, 37°11'E, 1120 m, 25.IV.2004, leg. Brachat & Meybohm (cAss). **Adıyaman:** 1♂, ca. 50 km NE Adıyaman, S Sincik, 38°01'N, 38°37'E, 1330 m, N-slope with oak trees, grass, and shrubs, sifted, 23.III.2015, leg. Assing (cAss); 2♀♀, ca. 50 km NE Adıyaman, ca. 5 km N Sincik, intersection to Serince, 38°03'N, 38°36'E, 1470 m, N-slope with oak trees, sifted, partly near snow, 23.III.2005, leg. Assing & Wunderle (cAss, cWun); 5 exs., Nemrut Dağı, 2000 m, 29.V.1983 (cZan). **Malatya:** 1♀, ca. 50 km NW Adıyaman, Reşadiye Geçidi, 37°59'N, 38°00'E, 1450 m, N-slope with grass, sifted, 25.III.2005, leg. Wunderle (cAss).

Cyprus: 9♂♂, 11♀♀, Olympos, 1900 m, N-slope, litter sifted, 1.IV.1995, leg. Assing & Wunderle (cAss, cWun); 15♂♂, 15♀♀, same data, but 10.IV.1995 (cAss, cWun).

Syria: 1♂, Sabkhat al-Jaboul, northern shore of Jabbul salt lake, 18.IV.1996, leg. Sprick (cAss); 1♀, 20 km W Aleppo, Ainjara, 20.IV.1996, leg. Sprick (cAss).

Israel: 1♂, Hermon, 33°18'N, 35°47'E, 1900 m, leg. Assmann (cFel).

Jordan: 1♂, Ma'an, N Wadi Musa, 30°24'N, 35°30'E, 1670 m, 28.II.2014, leg. Meybohm (cAss); 1♀, Ma'an, N Wadi Musa, 30°25'N, 35°30'E, 1645 m, 9.III.2014, leg. Meybohm (cAss); 1♂, 4♀♀, Ma'an, pass S Wadi Musa, 30°10'N, 35°26'E, 1620 m, in nest of *Messor* sp., 10.III.2014, leg. Meybohm (cAss).

Azerbaijan: 1♂, 1♀, Ordubad ["Araxesthal"], leg. Leder & Reitter (NHMW).

Armenia: 3♂♂, 1♀, Sevani mountain range E Sevan lake, Tsapatagh env., 40°24'N, 45°30'E, 2025 m, oak forest margin, litter and roots sifted, 28.VI.2017, leg. Assing & Schülke (cAss, cSch); 1♂, pass road E Ijevan, 40°52'N, 45°13'E, 1790 m, forest with old *Quercus* and *Carpinus*, litter and roots sifted, 6.VII.2017, leg. Assing (cAss); 1♂, SW Goris, ESE Tatev, 39°22'N, 46°17'E, 1950 m, margin of mixed deciduous forest (*Quercus*, *Carpinus*, *Acer*, etc.), litter and roots sifted, 13.VII.2017, leg. Assing (cAss).

Iraq: 1♀, N Mossul, SW Hakkari, Al-Amadiya, 1200 m,

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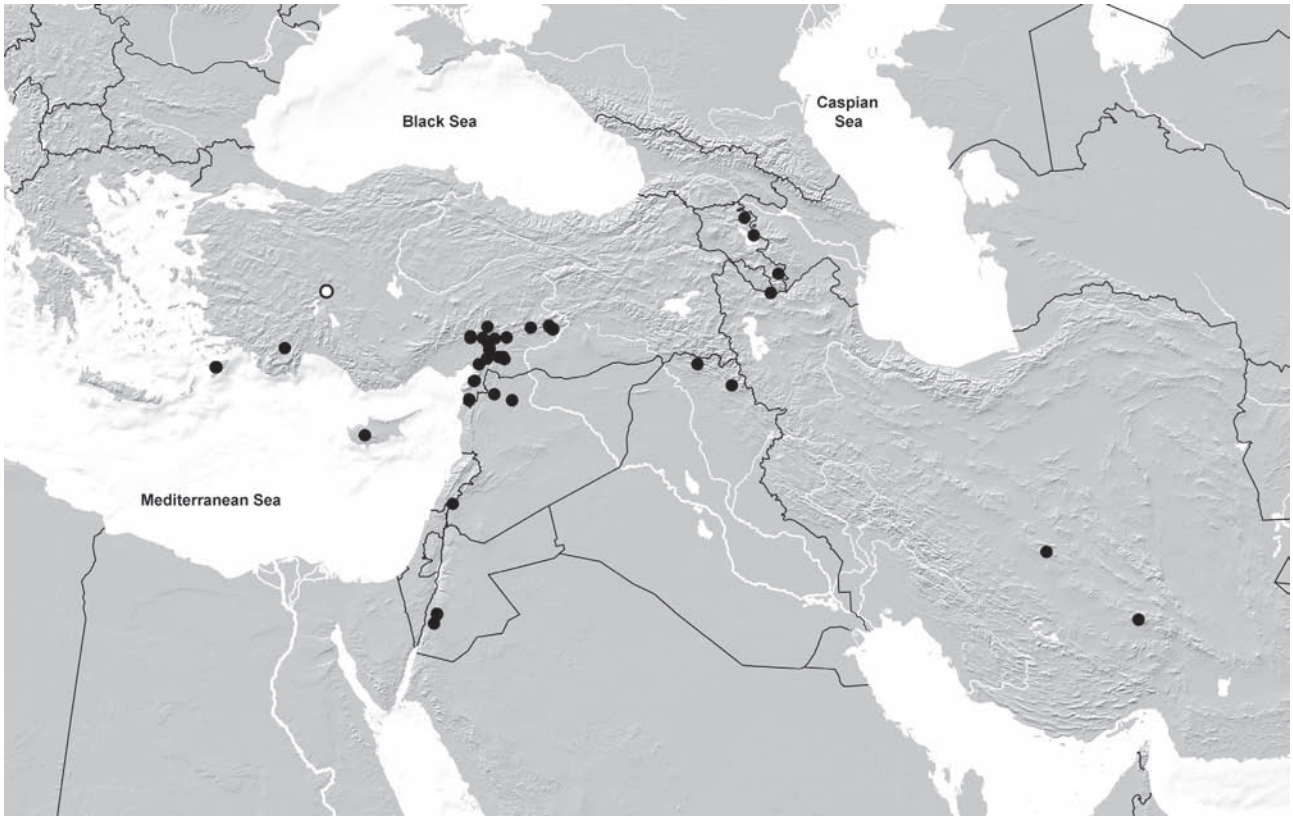

Fig. 141. Distributions of *Cousya pauli* (white circle) and *C. araxis* (black circles) in the southeastern West Palaearctic region. The tentative record of *C. araxis* from Tajikistan is not shown.

28.IV.2007, leg. Reuter (cFel); 1♂, "Mesopotamien" (NHMW); 14 exs., S Rawandoz, Akoian valley, ca. 36°30'N, 44°36'E, ca. 1400 m, pitfall traps, 17–25.IV.2017, leg. Reuter (cFel, cAss).

Iran: 1♂, Kerman province, road Bardsir–Baft, Qal'eh Askar, 29°30'N, 56°38'E, 2750 m, 3.V.2007, leg. Frisch & Serri (MNB); 1♂, Yasd province, SW Taft, Dehbala, Mt. Shir, 31°34'N, 54°07'E, 2770 m, 15.V.2007, leg. Frisch & Serri (cAss).

Tajikistan: 1♀ [identification tentative], Gorno-Badakhshan prov., Vanj distr., 2600–3100 m, subalpine meadow, 10.VI.1981, leg. Mikhailov (cAss).

Locality not specified: 1♂, "Syria", leg. Helfer (NHMW).

Redescription

Body length 2.6–3.6 mm; length of forebody 1.3–1.6 mm. Coloration: body black; legs brown to blackish-brown with yellowish tarsi; antennae and maxillary palpi blackish.

Head (Figs 53–54) approximately as long as broad; punctation fine, moderately sparse to moderately dense; interstices with usually distinct microreticulation. Eyes large, longer than postocular region in dorsal view. Antennae (Fig. 55) moderately incrassate apically; antennomere III slender, approximately twice as long as broad; antennomere IV transverse, approximately 1.5 times as broad as long; antennomeres V–X of increasing width and increasingly transverse, X nearly twice as broad as long; antennomere XI slightly longer than the combined length of IX and X. Maxillary palpus moderately slender; palpomere III moderately elongate, approximately three times as long as broad.

Pronotum distinctly convex in cross-section and of rather variable shape (Figs 53–54), moderately transverse, usually approximately 1.15 times as broad as long and 1.20–1.25 times as broad as head, broadest anteriorly, or posteriorly, or with more or less parallel lateral margins in dorsal view; punctation fine and moderately dense to dense; interstices usually with pronounced microreticulation; pubescence whitish and depressed, directed laterad to diagonally postero-laterad in lateral portions and posteriad along midline.

Elytra (Figs 53–54) slightly longer than pronotum; punctation dense and fine, but much more distinct than that of pronotum; interstices usually with distinct, more rarely with shallow microreticulation. Hind wings fully developed. Legs slender; metatarsus distinctly shorter than metatibia; metatarsomere I elongate, but usually shorter than the combined length of metatarsomeres II–IV.

Abdomen (Fig. 56) narrower than elytra; punctation moderately fine and very dense, nearly as dense on poste-

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rior than on anterior tergites; anterior impressions of tergites III–V with very fine punctation; interstices usually with more or less pronounced microsculpture at least on posterior tergites, anterior tergites sometimes without distinct microsculpture; posterior margin of tergite VII with palisade fringe.

♂: posterior margin of sternite VIII (Fig. 57) rather weakly produced in the middle; median lobe of aedeagus (Figs 58–60) 0.35–0.40 mm long; ventral process apically slender in lateral view and broadly triangular in ventral view; paramere (Fig. 61) approximately 0.6 mm long, its apical lobe moderately elongate, approximately one-fourth as long as whole paramere.

♀: posterior margin of sternite VIII broadly convex; spermatheca (Fig. 624) with moderately long proximal portion.

Comparative notes

Cousya araxis is distinguished from all its congeners by the shape of the median lobe of the aedeagus. It additionally differs from the similar and partly sympatric *C. nigrata*, *C. defecta*, and *C. acris* by on average darker legs, denser punctation of the abdomen (particularly of the posterior tergites), on average more pronounced microsculpture on the forebody, a relatively shorter apical lobe of the paramere, and by the shorter proximal portion of the spermatheca.

Distribution and natural history

This species was previously recorded only from the type locality in Azerbaijan. The currently known distribution extends from the Greek island Rhodos and Southwest Turkey across southern Anatolia and Cyprus to Jordan and to Armenia, Azerbaijan, Iran, and Iraq (Fig. 141), suggesting that *C. araxis* is a Syrian faunal element. The above record from Tajikistan is tentative and requires confirmation based on males.

The examined material was primarily collected in grassland and in various forest (mixed, oak, beech, hornbeam, maple, cedar), bush, shrub (juniper, etc.), and cushion plant habitats by sifting roots and leaf litter, sometimes near snow. On several occasions, remarkably large numbers (165, 119, 59, and 43 specimens, respectively) were sifted primarily from grass roots in limestone regions in central southern Anatolia. One specimen was found on the shore of a salt lake in Syria, and five specimens were collected from an ant nest (*Messor* sp.) in Jordan. The altitudes range from little more than 300 m (Syria) to 1850 m (Turkey), 1900 m (Cyprus), 2025 m (Armenia), and 2770 m (Iran), respectively.

The examined material was found from February through July, with the vast majority collected in April. Teneral specimens were recorded in March and April. The sex ratio does not seem to be biased.

Cousya schuelkei Assing, 2007 (Figs 63–67, 142)

Cousya schuelkei Assing, 2007: 45 ff.
Cousya planicollis Assing, 2011a: 170 f.; **n. syn.**

Comment

The original description of *Cousya schuelkei* is based on a male holotype and three paratypes from Rize province, Northeast Turkey (Assing 2007), that of *C. planicollis* on a male holotype and eight paratypes from Esfahan province, Iran (Assing 2011a). The apex of the median lobe of the aedeagus is of somewhat different shape in the type material of *C. schuelkei* and *C. planicollis* (see Figs 63–64), but an examination of the additional material listed below revealed that these conditions are connected by transitional conditions. Consequently, the previous hypothesis that the types of *C. schuelkei* and *C. planicollis* represent distinct species no longer holds and *C. planicollis* is placed in synonymy with the senior name *C. schuelkei*.

This species is distinguished from dark-coloured, fully winged congeners of similar size by a usually weakly transverse head, a less convex (cross-section), rather broad, and matt pronotum with conspicuously fine and dense punctation (visible only at high magnification) and with predominantly transverse pubescence, as well as by the distinctive shapes of the aedeagus and the spermatheca.

For detailed descriptions and illustrations see Assing (2007, 2011a). The primary sexual characters are also illustrated in Figs 63–67.

Additional material examined

Turkey: Niğde: 1♂, Demirkazık, 37°51'N, 35°06'E, 1700 m, sifted beneath *Berberis*, 17.V.2009, leg. Meybohm (cAss). **Isparta:** 1♀, 24 km N Eğirdir, Barla Dağı, 38°06'N, 30°47'E, 1680 m, litter and fungi under cedar sifted, 24.IV.2011, leg. Assing (cAss); 2♀♀, 24 km N Eğirdir, Barla Dağı, 38°06'N, 30°47'E, 1590 m, calcareous slope, grass roots beneath juniper sifted, 24.IV.2011, leg. Assing (cAss); 2♀♀, 5 km SW Eğirdir, Davraz Tepe, 37°47'N, 30°45'E, 1780 m, stony calcareous slope, under stones, 23.IV.2011, leg. Wunderle (cWun). **Antalya:** 1♀, Manavgat env., Akseki, 1200 m, moist meadow, under stones, 1.I.1991, leg. Assing (cAss); 1♀, Akseki, Imrasan, 1500 m, pine litter sifted, 1–7.I.1991, leg. Wunderle (cWun). **Mersin:** 1♀, 31 km N Ermenek, N Anamur, 36°38‘N, 33°01‘E, 1770 m, 21.IV.2005, leg. Brachat & Meybohm (cAss).

Georgia: 1♂, 2♀♀, Samtskhe-Javakheti, N Abastumani, 41°46‘N, 42°50‘E, 1370 m, 15.V.2016, leg. Brachat & Meybohm (cAss).

Armenia: 3♂♂, 1♀, 1 ex. [partly teneral], Vardenis mountain range SE Vardenis, 40°05'N, 45°49'E, 2330 m, stream valley with *Salix*, litter and roots beneath *Salix* sifted, 27.VI.2017, leg. Assing & Schülke (cAss, MNB); 2♀♀, 3 exs. [partly teneral], Vardenis mountain range SE Vardenis, 40°03'N, 45°46'E, 2730 m, slope below snowfields, grass and herb roots in shade of large rocks sifted, 27.VI.2017, leg. Assing & Schülke (cAss, MNB); 1♂, N Yerevan, NW Hrazdan, 40°40'N, 44°28'E, 2100 m, grassy W-slope with bushes, litter and grass roots sifted 26.VI.2016, leg. Schülke (MNB).

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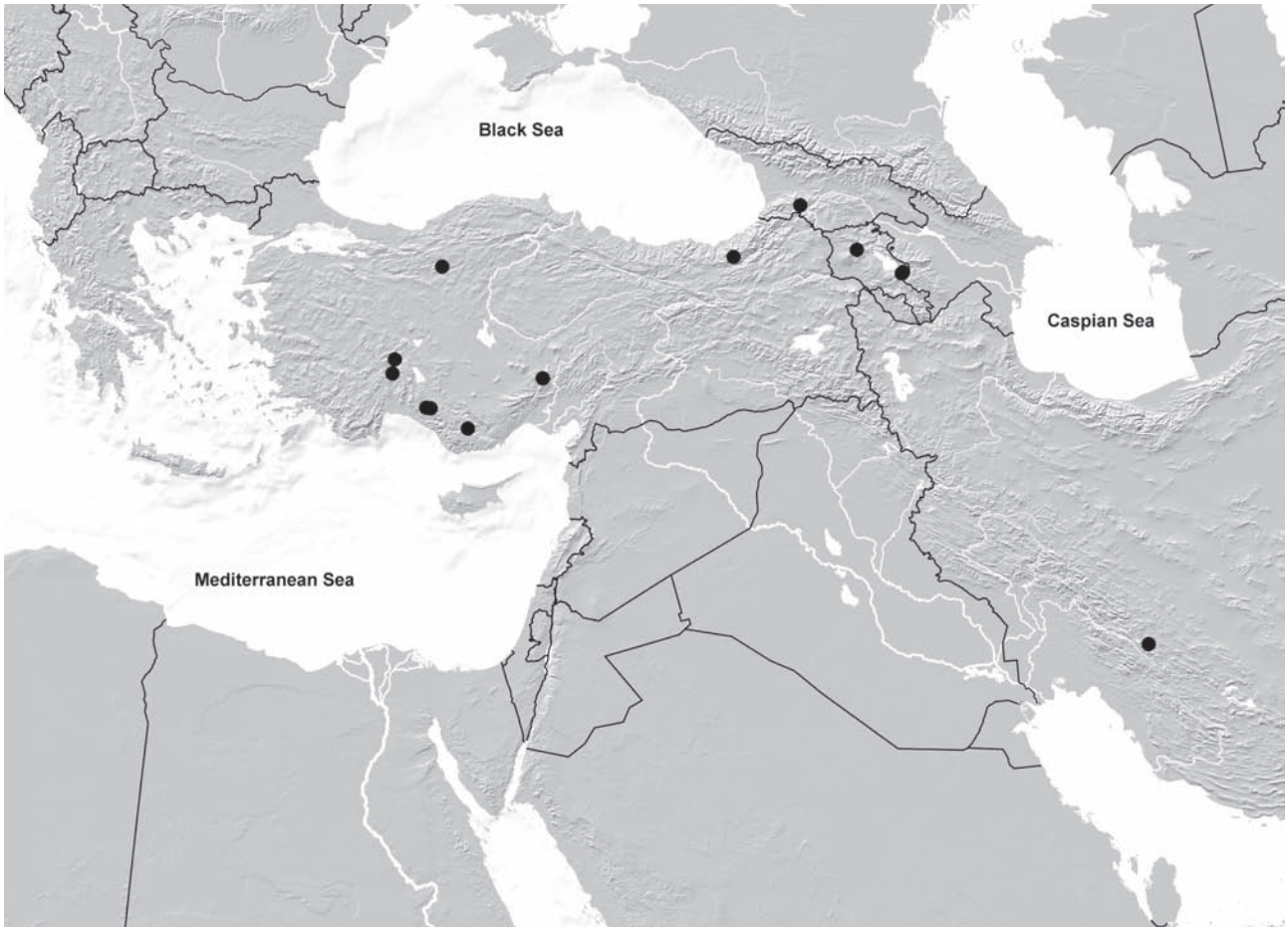

Fig. 142. Distribution of *Cousya schuelkei* in the southeastern West Palaearctic region.

Distribution and natural history

The currently known distribution includes Turkey, Georgia, Armenia, and Iran (Fig. 142). For a previously published record from the Turkish province Ankara see Assing (2011b). The altitudes range from 1200 to 2810 m, with several records above 2300 m. The specimens were sifted from debris, roots, and litter or found under stones in dry and moist grassland, forests (pine, cedar), and under shrubs and bushes. Teneral adults were found during the period from May through July.

Cousya pauli **n. sp.**
(Figs 68–70, 141)

Type material

Holotype: ♂: "TR [7] – Afyon, Sultan Dağları, 15 km SE Çay, 38°30'54"N, 31°09'07"E, 1810 m, cedar forest, 18.IV.2011, P. Wunderle / Holotypus ♂ *Cousya pauli* sp. n., det. V. Assing 2017" (cAss).

Etymology

This species is dedicated to my dear friend and long-time field companion Paul Wunderle, Mönchengladbach, who collected the holotype.

Description

Body length 2.8 mm; length of forebody 1.3 mm. Coloration: body black; legs dark-brown with yellowish tarsi; antennae and maxillary palpi blackish-brown.

Head (Fig. 68) weakly transverse, rather large in relation to pronotum; punctation extremely fine and moderately dense, barely noticeable in the distinct microreticulation. Eyes approximately as long as postocular region in dorsal view. Antennae moderately incrassate apically; antennomere III approximately 1.5 times as long as broad; antennomere IV approximately 1.5 times as broad as long; antennomeres V–X of gradually increasing width, IX approximately 1.5 times as broad as long, X longer than IX and less than 1.5 times as broad as long, and XI

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approximately as long as the combined length of IX and X. Maxillary palpus moderately slender; palpomere III less than three times as long as broad.

Pronotum (Fig. 68) relatively weakly convex in cross-section and small in relation to head, 1.15 times as broad as long and 1.08 times as broad as head, maximal width in anterior half; punctation extremely fine, barely noticeable in the pronounced microsculpture, visible only at high magnification; pubescence pale, suberect or depressed, and moderately long, directed transversely laterad or diagonally postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 68) slightly longer than pronotum; punctation fine, shallow, and dense; interstices with distinct microsculpture. Hind wings fully developed. Legs moderately slender; metatarsus distinctly shorter than metatibia; metatarsomere I slightly shorter than the combined length of metatarsomeres II–IV.

Abdomen narrower than elytra; punctation extremely fine and moderately dense, somewhat sparser on tergite VII than on anterior tergites, anterior impressions of tergites III–V with extremely fine, barely noticeable punctation; interstices with microreticulation; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 69–70) approximately 0.3 mm long, with rather stout apically acute ventral process in lateral view; paramere approximately 0.55 mm long, with very long apical lobe (more than one-third as long as whole paramere).

♀: unknown.

Comparative notes

In external characters, *Cousya pauli* is somewhat similar to *C. schuelkei*, with which it shares a matt and finely punctate head and pronotum, a relatively weakly convex pronotum (cross-section), a densely and finely punctate abdomen, and dark legs. It differs from this species, however, by a relatively smaller and less transverse pronotum, by the shape and distinctly smaller size of the aedeagus, and by a much longer apical lobe of the paramere.

Distribution and natural history

The type locality is situated in Afyon province, southwestern Anatolia (Fig. 141). The holotype was sifted from litter in a cedar forest at an altitude of 1810 m.

Cousya bimaculata (Fauvel, 1899)
(Figs 71–73, 122, 129–131, 136)

Ocyusa bimaculata Fauvel, 1899: 98 f.
Ocyusa (*Cousya*) *vaulogeri* Bernhauer, 1936: 324; **n. syn.**

Type material examined

Ocyusa bimaculata: see Assing (1998).

Ocyusa vaulogeri:

Holotype: ♂ "Prov. d'Alger, Vauloger don. / *picta* Rey var. ?? / *Vaulogeri* Brnh. Typus unic. *Ocyusa* / Chicago NHMus M. Bernhauer Collection / FMNHINS 3777647 Field Museum Pinned / Holotypus *Ocyusa vaulogeri* Bernhauer, rev. V. Assing 2017 / *Cousya bimaculata* (Fauvel), det. V. Assing 2017" (FMNH).

Comment

The original description is based on an unspecified number of syntypes from "Tunisie: El Fedja; Souk el Arba ... (Dr. Normand)" (Fauvel 1899). The type material was revised and a lectotype was designated by Assing (1998), who moved the species to *Cousya*. The type specimens were looked for, but not found in the Fauvel collection at the IRSNB (Gérard e-mail 23 May, 2017). Apparently, they were not deposited there after they had been returned. *Ocyusa vaulogeri* was described based on "Ein einzelnes Stück" from "Prov. d'Alger (ohne nähere Fundortangabe)" (Bernhauer 1936). An examination of the holotype, a male (Figs 122, 129–131), revealed that it is conspecific with *C. bimaculata*. Hence the synonymy proposed above.

The redescription is based on the holotype of *C. vaulogeri*, the non-type specimen from Algeria listed below (identified as *C. bimaculata* by Fagel), and on a previous redescription (Assing 1998). For additional details and illustrations of the mouthparts and of the primary sexual characters based on the type material see Assing (1998).

Material examined

Algeria: 1♂, 25 km S Batna, Aïne Touta, 18.V.1954, leg. Fagel (IRSNB).

Redescription

Body length 2.3–2.7 mm; length of forebody 1.3–1.4 mm. Coloration: head and pronotum reddish; elyta reddish-yellow with a lateral, more or less extensive spot, the vicinity of the scutellum, and the suture slightly to distinctly darker; abdomen pale-reddish with the preapical segments infuscate; legs yellowish; antennae brown with the basal 3–4 antennomeres yellowish to reddish; maxillary palpi reddish-yellow.

Head (Figs 71, 122) weakly oblong; punctation dense and shallow, but not particularly fine; interstices with shallow microreticulation. Eyes moderately large and weakly convex, as long as, or longer than postocular region in dorsal view. Antennae distinctly incrassate apically; antennomere III of conical shape and weakly oblong; antennomere IV approximately 1.5 times as broad as long; antennomeres V–X of gradually increasing width, IX approximately twice as broad as long, X longer than IX and approximately 1.5 times as broad as long, and XI slightly longer than the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

Pronotum (Figs 71, 122) strongly convex in cross-section and very slender, only 1.04–1.05 times as broad as long and approximately 1.15 times as broad as head, maxi-

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mal width in anterior half; punctation very dense, not particularly fine, and shallow; interstices with nearly obsolete microsculpture; pubescence pale, suberect or depressed, and moderately long, directed transversely laterad or diagonally postero-laterad in lateral portions and posteriad along midline.

Elytra (Figs 71, 122) relatively short, 0.85–0.93 times as long as pronotum; punctation similar to that of pronotum or slightly more distinct; interstices only with indistinct traces of microsculpture. Legs rather slender; metatarsus 0.85 times as as long as metatibia; metatarsomere I longer than the combined length of metatarsomeres II and III, but slightly shorter than the combined length of metatarsomeres II–IV.

Abdomen narrower than elytra; punctation moderately fine and dense, only slightly less dense on tergite VII than on anterior tergites, anterior impressions of tergites III–V with extremely sparse and fine, barely noticeable punctation; interstices with shallow microreticulation; posterior margin of tergite VII with palisade fringe.

♂: sternite VIII obtusely pointed posteriorly, posterior margin with a row of long thin setae; median lobe of aedeagus (Figs 72–73, 129–130) approximately 0.4 mm long, with very slender and apically acute ventral process in lateral view; paramere (Fig. 131) approximately 0.65 mm long, with long apical lobe (nearly one-third as long as whole paramere).

♀: sternite VIII with broadly convex posterior margin and with stouter setae at posterior margin; spermatheca with long and slender proximal portion, not distinctive.

Comparative notes

Based on the habitus and particularly on the male sexual characters, this species belongs to the *C. nigrata* group. It is readily distinguished from all the species of this group by the completely different coloration alone.

Distribution and natural history

Cousya bimaculata is currently known from Tunisia and Algeria (Fig. 136), suggesting that its distribution is of the Mauretanian type. Bionomic information is unavailable.

Cousya bicolor (Bernhauer, 1900)
(Figs 74–79, 143)

Ocyusa bicolor Bernhauer, 1900: 52 f.
Cousya mirabilis Assing, 2011a: 171 ff.; **n. syn.**

Type material examined

Ocyusa bicolor:

Lectotype: ♂ [without head], present designation: "Turcmenien, Leder. Reitter. / *Ocyusa bicolor* Brnh. Type. / Chicago NHMus, M.Bernhauer Collection / Lectotypus ♂ *Ocyusa bicolor* Bernhauer, desig. V. Assing 2017 / *Cousya bicolor* (Bernhauer), det. V. Assing 2017" (FMNH).

Paralectotype: ♀ [without head]: "Asia Minor, Bos-Dagh, v. Bodemeyer / *Ocyusa bicolor* Brnh. Type. / Chicago NHMus, M.Bernhauer Collection" (FMNH).

Cousya mirabilis: see Assing (2011a).

Comment

The original description of *Ocyusa bicolor* is based on three syntypes, one from "Bos-Dagh in Kleinasien (v. Bodemeyer)" and two from "Turkmenien ohne nähere Fundortangabe (Reitter)" (Bernhauer 1900). *Cousya mirabilis* was described from a unique male holotype collected in Semnan province, Iran (Assing 2011a). A revision of material of *O. bicolor* revealed that it is conspecific with the holotype of *C. mirabilis*.

Additional material examined

Israel: 1♀, Negev, Dimona env., 31°03'N, 35°00'E, 550 m 28.II.2005, leg. Starke (cFel).

Turkmenistan: 1♂, 2♀♀, Imambaba [36°45'N, 62°28'E] (NHMW, cAss); 1♀, Tejen ["Tedjen"; 37°23'N, 60°30'E] (NHMW); 1♂, Repetek (FMNH).

Kazakhstan: 5♀♀, Kapchagay [= Qapshaghay; 43°53'N, 77°05'E], 20.V.1978, leg. Hieke (MNB, cAss); 1 ex., Taraz ["Aulie Ata"; 42°54'N, 71°22'E] (FMNH).

Redescription

Rather large species; body length 3.5–4.8 mm; length of forebody 1.6–1.9 mm. Coloration: body black with the elytra in postero-median portion more or less extensively reddish; legs brown to blackish-brown with reddish tarsi; antennae blackish-brown to black.

Head (Fig. 74) approximately as long as broad; punctation fine, dense, and distinct; interstices with shallow microreticulation. Eyes weakly convex, not distinctly protruding from lateral contours of head, as long as, or slightly shorter than postocular region in dorsal view. Antenna (Fig. 75) slender; antennomere III slender and elongate, more than twice as long as broad; antennomere IV weakly oblong to weakly transverse; antennomere V very weakly transverse; antennomeres VI–X of gradually (but weakly) increasing width and increasingly transverse, X barely 1.5 times as broad as long, and XI elongate, as long as the combined length of VIII–X or nearly so. Maxillary palpus moderately slender; palpomere III moderately elongate, little more than three times as long as broad.

Pronotum (Fig. 74) slender, 1.05–1.15 times as broad as long and 1.2–1.3 times as broad as head; punctation dense and fine, but distinct; interstices without microreticulation; pubescence whitish and mostly depressed, directed predominantly diagonally postero-laterad in lateral portions and posteriad along midline.

Elytra (Fig. 74) as long as, or slightly longer than pronotum; punctation very dense and more distinct than that of pronotum; microsculpture absent. Hind wings fully developed. Legs slender; metatarsus nearly as long as metatibia; metatarsomere I elongate, as long as the combined length of metatarsomeres II–IV or nearly so.

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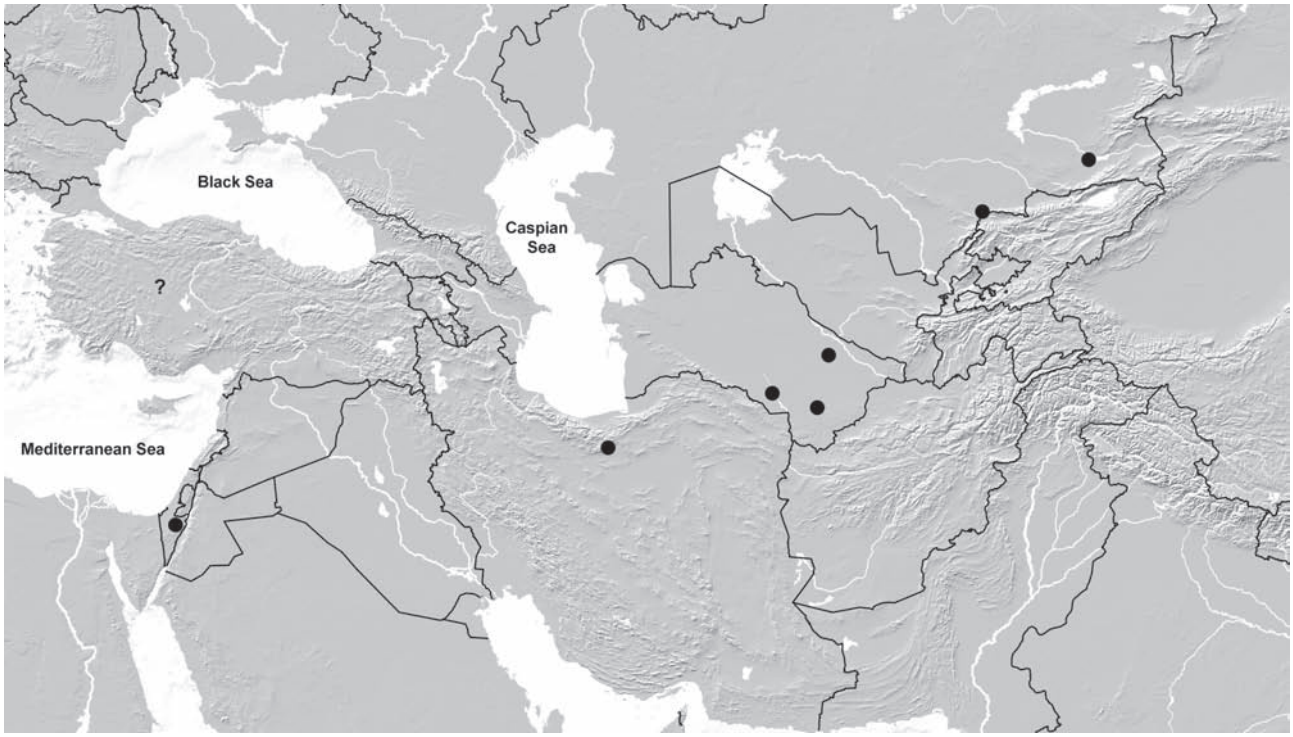

Fig. 143. Distribution of *Cousya bicolor* in the southeastern West Palaearctic region and Middle Asia. Question mark: ambiguous record from Turkey.

Abdomen (Fig. 76) narrower than elytra; punctation moderately fine and very dense, as dense on tergite VII as on tergite III; interstices without microsculpture and glossy; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 77–78) rather large, 0.48–0.55 mm long, with very slender ventral process (lateral view) and with very large crista apicalis; paramere approximately 0.75 mm long, its apical lobe of moderate length, about one-third as long as whole paramere.

♀: spermatheca with very long and slender proximal portion.

Comparative notes

Cousya bicolor is readily identified by external characters alone, particularly by its large body size, its distinctive coloration, and the dense punctation of the whole body. In addition, it is characterized by a median lobe of the aedeagus of distinctive morphology. The crista apicalis is larger than in any other West Palaearctic representative of the genus.

Distribution and natural history

The known distribution ranges from the Middle East (Israel) and Turkey across Iran to Middle Asia (Kazakhstan, Turkmenistan) (Fig. 143) and may be of the Iranian type, but more data are required to confirm this. The locality "Bos-Dagh" [= Bozdağ] in Turkey is ambiguous, since there are numerous Turkish mountains with that name. The best-known of them is Boz Dağları in West Turkey, which, however, would be rather far away from the confirmed range of *C. bicolor*. Additional records would be require to ascertain the western limit of the distribution of this species.

The more recently collected material was collected in February and May, the specimen from Israel at an altitude of 550 m. Additional bionomic information is not available.

3.2.2 The species of the *Cousya crocea* group

Cousya crocea Assing, 2004
(Figs 80–83, 144)

Cousya crocea Assing, 2004a: 66 ff.

Comment

The original description is based on type material from Muğla and Mersin provinces, South Turkey (Assing 2004a). The species was subsequently reported also from the southern Turkish provinces Adana, Kahramanmaraş, and Gaziantep (Assing 2004b, 2013).

Cousya crocea is readily distinguished from all sympatric congeners by the coloration alone (see key). For a detailed description and illustrations see Assing (2004a). The primary sexual characters are illustrated in Figs 80–83.

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Additional material examined

Turkey: Mersin: 1 ex., N Silifke, 36°36'N, 33°54'E, 1270 m, 18.IV.2005, leg. Brachat & Meybohm (cAss). **Adana:** 1 ex., road Imamoğlu–Karsantı, S Hasandede Geçidi, 37°30'E, 35°23'E, 910 m, 28.IV.2005, leg. Brachat & Meybohm (cAss); 1 ex., SW Hasandede Geçidi, SW Kayadibi, 37°28'N, 35°23'E, 1150 m, 26.IV.2006, leg. Brachat & Meybohm (cAss); 2 exs., Eyüplü, 37°57'N, 36°06'E, 1550 m, 17.IV.2009, leg. Brachat & Meybohm (cAss). **Osmaniye:** 9 exs., NE Kadirli, 12.5 km NE Andırın, 37°39'N, 36°26'E, 1500 m, 3.V.2005, leg. Brachat & Meybohm (cAss); 3 exs., N Bahçe, Bekdemir, 37°16‘N, 36°36‘E, 1200 m, 21.IV.2007, leg. Brachat & Meybohm (cAss). **Kahramanmaraş:** 2 ex., ca. 60 km SE Kahramanmaraş, Gani Dağı, ca. 15 km ESE Pazarcık, 37°30‘N, 37°25‘E, 950 m, W-slope with oak and other deciduous trees, 21.III.2005, leg. Assing (cAss); 1 ex., 34 km SSW Kahramanmaraş, Doluca, 37°24'N, 36°42'E, 940 m, 4.V.2005, leg. Brachat & Meybohm (cAss); 1 ex., 51 km W Kahramanmaraş, Baskonuş Yaylaşı, 37°34'N, 36°34'E, 1250 m, 5.V.2005, leg. Brachat & Meybohm (cAss).

Lebanon: 2♂♂, 5♀♀ [partly teneral], ca. 27 km NE Beirut, Kfardebian env., 1100 m, mixed oak forest, 3–18.XI.2013, leg. Reuter (cFel, cAss).

Distribution and natural history

The known distribution is confined to southern Anatolia, from Muğla in the west to Gaziantep in the east, and one locality in Lebanon (Fig. 144). The species has been sifted from leaf litter in various forest and shrub habitats at alitudes of 920–1570 m (Assing 2004a, b, 2013; additional material examined). Teneral specimens were found in November. The above specimens from Lebanon represent a new country record.

Cousya dimorpha Assing, 2006
(Figs 84–85, 145)

Cousya dimorpha Assing, 2006: 338 f.

Comment

The original description is based on 26 type specimens from North Greece. This species is characterized by small body size, wing-dimorphism, dark coloration, and the primary sexual characters. For a detailed description and illustrations see Assing (2006); the primary sexual characters are illustrated in Figs 84–85.

Distribution and natural history

The known distribution is confined to the type locality, Oros Vitsi, Florina (North Greece) (Fig. 145). The type specimens were sifted from grass roots and moss on a north slope at an altitude of approximately 1900 m (Assing 2006).

Cousya kelecsenyi (Bernhauer, 1914)
(Figs 86, 90, 145)

Ocyusa (*Cousya*) *kelecsenyi* Bernhauer, 1914: 40 f.

Type material examined

Holotype: ♀: “Griechenland, Paxos. Kelecsenyi / *Kelecsenyi* Brh. Typus. / Chicago NHMus, M.Bernhauer Collection / *Cousya kelecsenyi* (Bernhauer), det. V. Assing 2017” (FMNH).

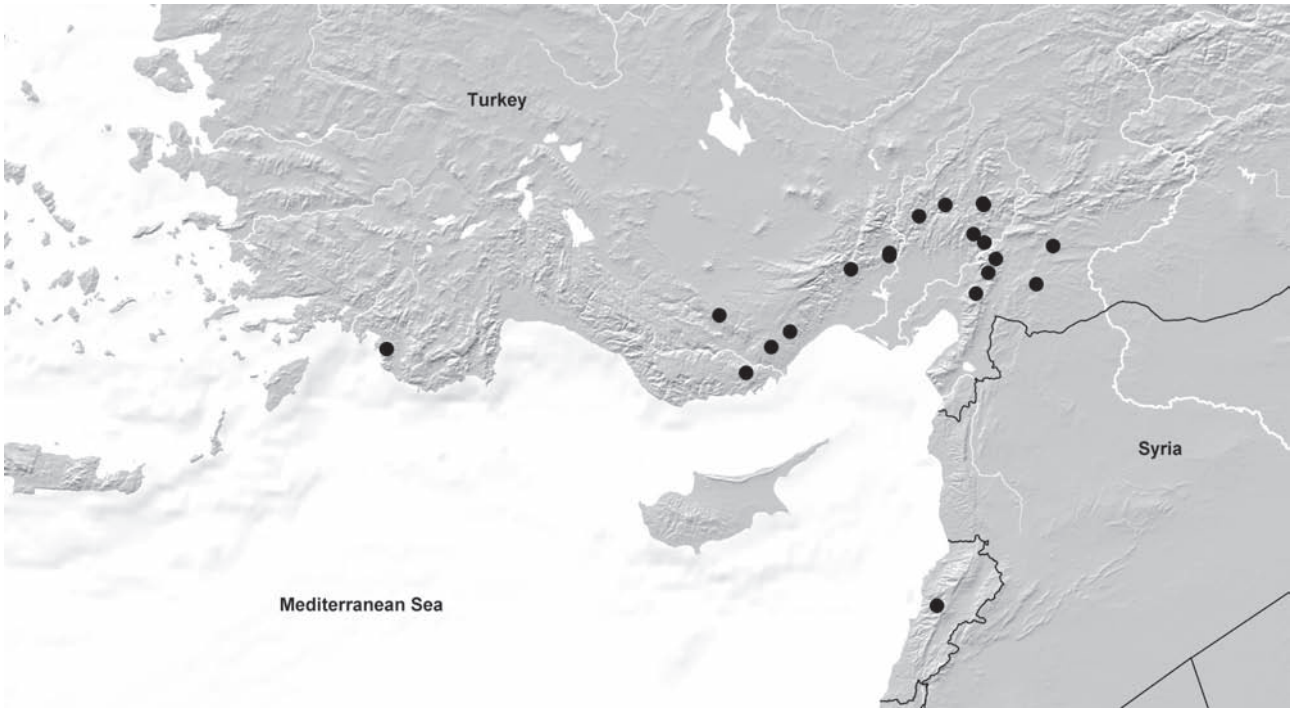

Fig. 144. Distribution of *Cousya crocea* in the East Mediterranean region.

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Fig. 145. Distributions of species of the *C. crocea* group in the Mediterranean region: *Cousya deminuta* (black star), *C. kelecsenyi* (black diamond), *C. dimorpha* (white star), *C. sufflata* (white circle), and *C. microdotoides* (black circles).

Comment

The original description is based on a unique specimen from "Paxos in Griechenland" (Bernhauer 1914).

Redescription

Small species; body length 2.2 mm; length of forebody 1.0 mm. Coloration: head brown; pronotum, elytra, posterior portion of abdominal segment VII, and all of segment VIII reddish-yellow; remainder of abdomen blackish; legs yellow; antennae dark-reddish, with antennomeres I–II yellow.

Head (Fig. 90) approximately as long as broad; punctation shallow and moderately dense; interstices with distinct microreticulation. Eyes large, approximately as long as postocular region in dorsal view. Antennae distinctly incrassate apically; antennomere III short, coniform, and weakly oblong; antennomere IV strongly transverse, twice as broad as long; antennomeres V–X of increasing width, strongly transverse, more than twice as broad as long; antennomere XI slightly longer than the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

Pronotum (Fig. 90) 1.15 times as broad as long and 1.20 times as broad as head; punctation rather dense and shallow, but distinct; interstices with distinct microreticulation; pubescence yellowish, long, suberect, directed laterad in lateral portions and posteriad along midline.

Elytra (Fig. 90) approximately as long as pronotum; punctation and microsculpture somewhat more pronounced than those of pronotum; pubescence similar to that of pronotum. Legs with short tarsi; metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen approximately as broad as elytra; punctation fine and dense, only slightly sparser on tergite VII than on tergite III; microsculpture distinct, composed of isodiametric and short transverse meshes; posterior margin of tergite VII with palisade fringe.

♂: unknown.

♀: posterior margin of sternite VIII broadly and weakly convex, with rather long brown marginal setae; spermatheca as in Fig. 86.

Comparative notes

In size and habitus, *C. kelecsenyi* resembles *C. dimorpha* from North Greece, from which it differs particularly by completely different coloration, a much more transverse antennomere IV, and by the shape of the spermatheca.

Distribution

This species is currently known only from the type locality, the Ionian island Paxos (Greece), to the south of Corfu (Fig. 145).

Cousya sufflata **n. sp.**
(Figs 87–89, 145)

Type material

Holotype: ♂: "N37°13'03 E22°34'02 (40), GR Peloponnes 24.IV.2017, Parnon 1160 m, leg. Brachat & Meybohm / Holotypus ♂ *Cousya sufflata* sp. n., det. V. Assing 2017" (cAss).

Paratypes: 2♂♂, 10♀♀ [partly somewhat teneral]: same data as holotype (cAss).

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Etymology

The specific epithet is the past participle of the Latin verb sufflare (to inflate) and alludes to the conspicuously dilated proximal portion of the spermatheca.

Description

Small species; body length 2.0–2.7 mm; length of forebody 1.0–1.2 mm. Coloration: head brown; pronotum and elytra yellowish-brown to reddish-brown; abdomen blackish with the anterior segments often somewhat paler and the posterior margins of the segments reddish; legs dark-yellowish; antennae blackish with antennomeres I–II paler brown; maxillary palpi yellowish with palpomere III dark-brown to blackish-brown.

Head weakly oblong; punctation fine and moderately dense; interstices with distinct microreticulation. Eyes slightly shorter than postocular region in dorsal view. Antennae distinctly incrassate apically; antennomere III moderately short, coniform, approximately 1.5 times as long as broad; antennomere IV distinctly transverse, nearly twice as broad as long; antennomeres V–X of increasing width, strongly transverse, at least approximately twice as broad as long; antennomere XI approximately as long as the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

Pronotum distinctly transverse, approximately 1.25 times as broad as long and 1.3 times as broad as head, broadest in anterior half; punctation rather dense and fine; interstices with distinct microreticulation; pubescence yellowish, long, suberect, directed laterad in lateral portions, anteriad in anterior third and posteriad in posterior two-thirds of midline.

Elytra approximately as long as, or slightly longer than pronotum; punctation very fine and dense; interstices with shallow to distinct microreticulation; pubescence yellowish and depressed. Hind wings fully developed. Legs rather short; metatarsomere I nearly as long as the combined length of metatarsomeres II–IV.

Abdomen narrower than elytra; punctation extremely fine and moderately dense, slightly sparser on tergite VII than on tergite III; microsculpture distinct, composed of isodiametric and short transverse meshes; posterior margin of tergite VII with palisade fringe.

♂: sternite VIII acutely produced in the middle; median lobe of aedeagus (Figs 87–88) approximately 0.3 mm long and with stout and short ventral process; paramere slightly more than 0.35 mm long, apical lobe moderately long, approximately one-fourth as long as whole paramere.

♀: spermatheca (Fig. 89) proximally conspicuously dilated.

Comparative notes

Cousya sufflata differs from the similarly small *C. dimorpha* by numerous characters: distinctly paler coloration, a more slender head, a relatively larger pronotum with denser punctation and the pubescence directed anteriad in anterior third of midline (directed posteriad in *C. dimorpha*), longer elytra, fully developed hind wings, a posteriorly much more strongly and more acutely produced male sternite VIII, and the shapes of the primary sexual characters. For illustrations of *C. dimorpha* see Assing (2006).

Distribution and natural history

The currently known distribution is confined to the southwestern Pelopónnisos, South Greece (Fig. 145). The partly somewhat teneral specimens were collected in a moist shallow grassy ditch between the edge of a pine forest and a mountain road at an altitude of 1160 m by sifting grass, moss, and litter (Meybohm pers. comm.).

Cousya deminuta Assing, 2010
(Fig. 91, 145)

Cousya deminuta Assing, 2010: 1120 ff.

Comment

The original description is based on a unique male holotype from South Spain. This species is characterized by small body size, a parallel body shape, very fine punctation, relatively short and narrow elytra (narrower than the abdomen), and by the morphology of the aedeagus. For a detailed description and illustrations see Assing (2010); the median lobe of the aedeagus is illustrated in Fig. 91.

Distribution and natural history

Cousya deminuta has been recorded only from the type locality, Sierra del Carche, Murcia (South Spain) (Fig. 145). The holotype was collected with a pitfall trap in June (Assing 2010).

Cousya microdotoides Assing, 2013
(Figs 92–96, 145)

Cousya microdotoides Assing, 2013: 116 ff.

Comment

The original description is based on seven type specimens collected in two localities in Adana province, central southern Anatolia. *Cousya microdotoides* is characterized by small size, dark coloration, a distinctly transverse pronotum, short elytra, reduced hind wings, and the primary sexual characters. For a detailed description see Assing (2013). The primary sexual characters are illustrated in Figs 92–96.

Additional material examined

Turkey: 1♂, 1♀, Adana, Nur Dağları, Hasanbeyli, 1000–1150 m, 14.IV.1966 (NHMW)

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Distribution and natural history

The known distribution is confined to Adana province in central southern Anatolia (Fig. 145). The type material was sifted from litter in mixed cedar and cyprus forests (Assing 2013). The altitudes range from approximately 1100 to 1700 m.

Cousya dissoluta (Eppelsheim, 1888)**, n. comb.**
(Fig. 91)

Homalota (*Meotica*) *dissoluta* Eppelsheim, 1888: 54 f.

Type material examined

Lectotype: ♂, present designation: "Turcmenia, Leder. Reitter. / *dissoluta* Epp. Deutsch. ent. Zeit. 1888. p. 54. / Coll. Mus. Vindob. / Collect. Eppelsh. / Typus / *Atheta* = *Ocyusa* Dr. G. Benick det. / Lectotypus ♂ *Homalota dissoluta* Eppelsheim, desig. V. Assing 2017 / *Cousya dissoluta* (Eppelsheim), det. V. Assing 2017" (NHMW).

Paralectotypes: 1♀: "Turcmenia, Leder. Reitter. / *dissoluta* mihi. / Coll. Mus. Vindob. / Collect. Eppelsh. / Typus" (NHMW); 1♀: "Turcmenia, Leder. Reitter. / *dissoluta* mihi. / Coll. Mus. Vindob. / Collect. Eppelsh. / Cotypus" (NHMW).

Comment

The original description is based on an unspecified number of syntypes collected by "Leder in Turcmenien" (Eppelsheim 1888). Three syntypes, a male and two females, were located in the Eppelsheim collection (NHMW). The male is designated as the lectotype.

Originally described in the genus *Homalota* Mannerheim, 1830, the species was subsequently assigned to *Meotica* Mulsant & Rey, 1873 (Bernhauer & Scheerpeltz 1926, Scheerpeltz 1954) until Benick (1973) moved it to *Ocyusa*. An examination of the type specimens revealed, however, that this species belongs to *Cousya*.

Redescription

Small species; body length 2.0–2.2 mm; length of forebody 0.8–0.9 mm. Coloration: head and pronotum brown to black; elytra brown to dark-brown; abdomen blackish, with the apex (posterior margin of segment VII, segments VIII–X) reddish to brown; legs dark-yellowish to pale-brown; antennae dark-brown to blackish-brown with the basal two antennomeres paler.

Head (Fig. 97) approximately as long as broad; punctation fine, shallow, and rather sparse; interstices with distinct microreticulation. Eyes large, approximately as long as postocular region in dorsal view. Antennae distinctly incrassate apically; antennomere III short, coniform, and approximately 1.5 times as long as broad; antennomere IV transverse, approximately 1.5 times as broad as long; antennomeres V–X of increasing width, and increasingly transverse, X approximately twice as broad as long; antennomere XI approximately as long as the combined length of IX and X. Maxillary palpus moderately slender; palpomere III approximately three times as long as broad.

Pronotum (Fig. 97) approximately 1.25 times as broad as long and 1.15–1.20 times as broad as head; punctation fine and rather sparse; interstices with distinct microreticulation; pubescence whitish and suberect.

Elytra (Fig. 97) approximately as long as pronotum; punctation more distinct than that of pronotum; microsculpture moderately pronounced and predominantly composed of irregular striae. Hind wings reduced. Legs with short tarsi; metatarsomere I slightly shorter than the combined length of metatarsomeres II and III.

Abdomen approximately as broad as elytra; punctation very fine and rather sparse, somewhat sparser on tergite VII than on tergite III; microsculpture distinct, composed of isodiametric and short transverse meshes; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 98–99) 0.28 mm long; ventral process apically bifid; paramere 0.45 mm long, its apical lobe approximately one-fifth of the length of whole paramere.

♀: spermatheca (Fig. 100) with rather long and narrow apical invagination and with relatively short proximal portion.

Distribution

Cousya dissoluta is reliably known only from Turkmenistan. A subsequent record from Karakorum (Scheerpeltz 1954) requires revision and should be considered doubtful.

Cousya praecox (Eppelsheim, 1888), **n. comb.**
(Figs 101–103)

Homalota (*Meotica*) *praecox* Eppelsheim, 1888: 56.

Type material examined

Lectotype: ♂, present designation: "Turcmenia, Leder. Reitter. / *praecox* mihi. / *praecox* Epp. Deutsch. ent. Zeit. 1888. p. 56. / Collect. Eppelsh. / Typus / Lectotypus ♂ *Homalota praecox* Eppelsheim, desig. V. Assing 2017 / *Cousya praecox* (Eppelsheim), det. V. Assing 2017" (NHMW).

Paralectotype: ♂ [head and pronotum missing]: "Turcmenia, Leder. Reitter. / *praecox* mihi. / Collect. Eppelsh. / Typus" (NHMW).

Comment

The original description is based on two syntypes collected by "Leder in Turcmenien" (Eppelsheim 1888). The type specimens, both of them males, one of them in very poor condition, are deposited in the Eppelsheim collection at the NHMW. The male in better condition is designated as the lectotype.

Like *C. dissoluta*, this species was originally described in the genus *Homalota*, subsequently assigned to *Meotica* (Bernhauer & Scheerpeltz 1926, Scheerpeltz 1954), and moved to *Ocyusa* by Benick (1973). An examination of the type specimens revealed that this species belongs to *Cousya*.

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Redescription

Small species; body length 1.7 mm; length of forebody 0.85 mm. Coloration: forebody reddish; abdomen blackish with yellowish apex or dark-reddish with segments V–VI and the anterior portion of segment VII darker; legs yellowish; antennae reddish with antennomere I yellowish.

Head (Fig. 101) approximately as long as broad; punctation moderately fine and moderately dense; interstices with distinct microreticulation. Eyes large, approximately as long as postocular region in dorsal view. Antennae distinctly incrassate apically; antennomere III very short, approximately as broad as long; antennomere IV strongly transverse, approximately twice as broad as long; antennomeres V–X of increasing width, and increasingly transverse, X more than twice as broad as long; antennomere XI approximately as long as the combined length of IX and X. Maxillary palpus rather short; palpomere III less than three times as long as broad.

Pronotum (Fig. 101) approximately 1.25 times as broad as long and 1.25 times as broad as head; punctation dense and shallow; interstices with distinct microreticulation; pubescence yellowish and suberect.

Elytra (Fig. 101) approximately 1.1 times as long as pronotum; punctation fine and dense; interstices with fine microreticulation. Hind wings fully developed. Legs with short tarsi; metatarsomere I approximately as long as the combined length of metatarsomeres II and III.

Abdomen slightly narrower than elytra; punctation fine and moderately dense, slightly sparser on tergite VII than on tergite III; microsculpture distinct, composed of isodiametric and short transverse meshes; posterior margin of tergite VII with palisade fringe.

♂: median lobe of aedeagus (Figs 102–103) 0.24 mm long and with rather long and stout ventral process; paramere 0.32 mm long, its apical lobe approximately one-fifth of the length of whole paramere.

♀: unknown.

Distribution

Cousya praecox has been recorded only from Turkmenistan.

3.2.3 Unnamed and unidentified species

Cousya sp. 1

Material examined

Spain: 1♀, Andalucía, Cádiz, 15 km NE Ubrique, 36°45'N, 5°27'W, 770 m, calcareous oak forest, 28.XII.2009, leg. Wunderle (cAss).

Comment

The above specimen belongs to the *C. crocea* group. It is characterized by brown coloration, rather small size, and particularly by extremely fine punctation and pronounced microsculpture. Although it clearly represents an undescribed species, it remains unnamed for want of males.

Cousya sp. 2

Material examined

Cyprus: 1♀, Limassol, Troodos, Olympos, 34°56'N, 32°52'E, 1830 m, 25.III.2010, leg. Meybohm (cAss).

The above female is similar to *C. microdotoides*. Males would be required to clarify its identity.

Cousya sp. 3

Material examined

Turkey: 1♀, Adıyaman, ca. 50 km NE Adıyaman, ca. 5 km N Sincik, intersection to Serince, 38°03'N, 38°36'E, 1520 m, N-slope with *Quercus*, *Pinus*, *Cedrus*, sifted, 23.III.2005, leg. Assing (cAss).

The above female is similar to *C. microdotoides*. Males would be required to clarify its identity.

Cousya sp. 4

Material examined

Greece: 1♀, Erimanthos, Diaselo, 350 m, 23.III.1992, leg. J. Frisch (cWun).

The above female is similar to *C. dimorpha*. Males would be required to clarify its identity.

3.3. Species seen from the East Palaearctic region

Cousya quadrisulcata (Bernhauer, 1935)

Type material examined

Syntypes [both dissected by Pace]: 1♂: "147 / Kaschmir, Ob. Industal, Gridelli don. / Baltoro, Mundu. 3.VI.29. 4300 m, lg. Caporiano / *quadrisulcata* Bernh. *Ocyusa*, Typus / Chicago NHMus, M.Bernhauer Collection / *Ocyusa quadrisulcata* Bernhauer, det. Pace 1984" (FMNH); 1♀: "137 / Kaschmir, Ob. Indus, Dr. Gridelli / Baltoro, Urdukas. V.29. 4000 m. leg. Caporiano / *quadrisulcata* Bernh. *Ocyusa*, Cotypus / Chicago NHMus, M.Bernhauer Collection / *Ocyusa quadrisulcata* Bernhauer, det. Pace 1984" (FMNH).

Comment

The original description is based on an unspecified number of syntypes from "Mundu (Baltoro)", "Urdukas (Baltoro)", "Lopsang Bransa (Baltoro)", "Liligo (Baltoro)", and "Pajù (Biaho-Tal)" (Bernhauer 1935). Two syntypes, a male and a female, both of them dissected by Pace, are deposited in the Bernhauer collection. The syntypes belong to *Cousya*.

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Cousya ajmonis (Bernhauer, 1935)

Type material examined

Syntype: ♀ [dissected by Pace]: "30 / Kaschmir, Ob. Industal, Gridelli don. / Chhota Deosai, 2.IX.29. 3850 m, lg. Caporiano / *Ajmonis* Brnh. Typus. *Ocyusa*. / Chicago NHMus, M.Bernhauer Collection / *Ocyusa ajmonis* Bernhauer, det. Pace 1984 / Syntype teste D.J. Clarke, GDI Imaging Project / Photographed Kelsey Keaton 2014, Emu Catalog / FMNHINS 2819202, Field Museum" (FMNH).

The original description is based on an unspecified number of syntypes from "Chhota Deosai" (Bernhauer 1935). Based on an examination of the sole syntype, a female, in the Bernhauer collection, the generic assignment is correct.

Cousya nepalensis Pace, 1987

Material examined

Nepal: 1♂ [dissected and identified as *C. nepalensis* by Pace], Bagmati prov., Yangri Ridge, 4500 m, 23.IV.1981, leg. Löbl & Smetana (MHNG).

According to Schülke & Smetana (2015), *C. nepalensis* was previously known only from the type locality ("Mt. Phulchoki"). Based on the above male, the generic assignment is correct.

3.4 Species of doubtful identity and generic assignment

Cousya fauveli (Ragusa, 1891)

Ocyusa fauveli Ragusa, 1891: 142 f.

Comment

The original description is based on "un solo esemplare" from "Palermo" (Ragusa 1891). According to Bernhauer (1902), there should be a specimen collected by Ragusa in the Eppelsheim collection at the NHMW. This specimen was looked for, but not found, by the curator in charge at the NHMW (Schillhammer, e-mail 5 October, 2017). Bernhauer (1902) states that the species is highly similar to *Oxypoda picta* in size, habitus, and coloration, but distinguished by uniformly dense punctation of the abdomen. So, like *O. picta*, it may belong to the subgenus *Mycetodrepa* Thomson, 1859 of the genus *Oxypoda*.

3.5 Species and names not included in *Cousya*

Oxypoda flavicornis Kraatz, 1856

Ocyusa beieri Scheerpeltz, 1931: 448 ff.; **n. syn.**

Type material examined

Holotype: ♀: "Megan Oros, Levkas, 1000 m / 16.IV.29. Beier / Photographiert 6.IV.1931. O. Scheerpeltz / ex coll. Scheerpeltz / Typus *Ocyusa Beieri* O. Scheerpeltz / *Oxypoda flavicornis* Kraatz, det. V. Assing 2017" (NHMW).

Comment

The original description of *Ocyusa beieri* is based on a unique specimen from "Megan Oros, Levkas" (Scheerpeltz 1931). An examination of the holotype revealed that it is conspecific with *Oxypoda flavicornis*.

Oxypoda (*Mycetodrepa*) *picta* Mulsant & Rey, 1875, **n. comb.**

(Figs 108–109)

Oxypoda picta Mulsant & Rey, 1875: 353 f.
Cousya picta (Mulsant & Rey, 1875): Bernhauer (1902).
Cousya picta (Mulsant & Rey, 1875): Schülke & Smetana (2015).

Type material examined

Syntypes: 1♂ [dissected prior to present study; aedeagus missing]: "Corse, Revel. / Lectotypus *Ocyusa picta* M. R., des. J. Vogel 1991 / *Oxypoda picta* Mulsant & Rey, det. V. Assing 2017" (MHNL); 1♀ [dissected prior to present study]: "Corse / Paralectotypus *Ocyusa picta* M. R., des. J. Vogel 1991 / *Oxypoda picta* Mulsant & Rey, det. V. Assing 2017" (MHNL).

Material examined

France: Corsica: 1♂, 1♀, Calacuccia, VI.1906 (NHMW); 1♂, Ajaccio, leg. Schneider (NHMW); 1 ex., Ajaccio (SDEI); 1♂, Bocognano, 1905, leg. Leonhard (SDEI); 1 ex., Corte, leg. Fauvel (NHMW); 2 exs., Porto-Vecchio (NHMW, cAss); 3 exs., locality not specified, leg. Croissandeau (NHMW, SDEI).

Italy: Sardinia: 1♂, 1 ex., locality not specified, leg. Lostia (NHMW); 2♂♂, Cagliari, leg. Lostia (NHMW, cAss); 1♂, Aritzo, Mte. Gennargentu, leg. Krüger (cAss).

Comment

The original description is based on an unspecified number of syntypes from "Ospedale et Porto-Vecchio en corse (collection Revélière)" (Mulsant & Rey 1875). Two syntypes, a male and a female, were located in the Rey collection at the MHNL. They had been dissected and labelled as lectotype and paralectotype by Jürgen Vogel, but the lectotype designation was never published. The aedeagus of the male is missing, which is why the specimen is not designated as the lectotype.

Originally described in *Oxypoda* Mannerheim, 1830, the species was subsequently moved to *Ocyusa* (Bernhauer 1902) and *Cousya* (Schülke & Smetana 2015). Based on external (habitus, coloration) and particularly on the primary sexual characters (structure of the aedeagus, shape of the spermatheca), however, it belongs to the subgenus *Mycetodrepa* of the genus *Oxypoda*.

According to Schülke & Smetana (2015), this species has been recorded from Corsica, Italy, and Egypt. The confirmed distribution, however, is confined to Corsica and Sardinia. The record from Egypt is undoubtedly erroneous; previous records from mainland Italy require revision.

The primary sexual characters are illustrated in Figs 108–109.

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Oxypoda pellax (Peyerimhoff, 1919), **n. comb.** (Figs 104–106)

Ocyusa pellax Peyerimhoff, 1919: 71 f.
Oxypoda argus Normand, 1935: 387 f.; **n. syn.**

Type material examined

Ocyusa pellax:

Holotype : ♀: "Bône / 5 00 / inond. Seybouse, Détritus 3/14 / *Ocyusa pellax* Peyrh., type unique / *Oxypoda pellax* (Peyerimhoff), det. V. Assing 2017" (MNHNP).

Material examined

Tunisia: 3♂♂, 1♀, "T. Le Kef, 4.1940, Dr. Normand / *Ocyusa acuta* Norm." (cTro, cAss).

Morocco: 1♀, Haute Atlas, Tizi-n-Tichka pass, 2200 m, 17.II.2004, leg. Wrase (MNB).

Spain: 1♂, Andalucia, Sierra de Cazorla, 37°54'N, 2°54'W, car-net, leg. Struyve (cStr).

Comment

Ocyusa pellax was described from a "Un seul spécimen" collected "en mars près de Bône (Algérie), dans les détritus d'inondation de la Seybouse" (Peyerimhoff 1919).

The original description of *Oxypoda argus* is based on a unique holotype from "Plage de Sousse" (Normand 1935). Owing to the restrictive loan policy of the Laboratoire d´Entomologie et d´Ecologie, Institut National Agronomique, Tunis, where the Normand collection is deposited (Assing & Wunderle 1997), a revision of the holotype was not possible. Three males and one female collected by Normand and labelled as *Ocyusa arguta* (most likely a lapsus calami) were found in the Tronquet collection. The interpretation of *Oxypoda argus* is based on these specimens.

In habitus, punctation, microsculpture, and the primary sexual characters (Figs 104–106), *Ocyusa pellax* somewhat resembles *Oxypoda haemorrhoa* and *O. flavicornis*, which is why it is here moved to *Oxypoda*.

"*Ocyusa*" *apicalis* Normand, 1935, Oxypodina incertae sedis

Ocyusa apicalis Normand, 1935: 386 f.

Material examined

Tunisia: 1♀, "T. Le Kef, 6.1939, Dr. Normand / *Ocyusa apicalis* Norm. / *Ocyusa acuta* Normd." (cTro).

Comment

The original description is based on an unspecified number of syntypes from "Le Kef" collected on pig faeces (Normand 1935). The type material is probably deposited Laboratoire d'Entomologie et d´Ecologie, Institut National Agronomique, Tunis, which refuses to send material on loan (see above). There is one female collected in Le Kef by Normand and apparently identified by him as *O. apicalis*. The broad pronotum and the very densely punctate abdomen suggest that this specimen belongs to *Oxypoda*. However, if *Ocyusa apicalis* were to be be moved to *Oxypoda*, it would be a secondary junior homonym of *Oxypoda apicalis* Fauvel, 1886. Consequently, until the type material has been revised, the original combination is retained and the species is categorized as Oxypodina incertae sedis.

Oxypoda? heydeni (Eppelsheim, 1879), **n. comb.** (Fig. 107)

Homalota (*Alaobia*) *heydeni* Eppelsheim, 1879: 39 f.

Type material examined

Syntypes: 1♂ [teneral]: "*Heydeni* mihi, Hohe Capella, Croatien. v. Heyden. / *Heydeni* Epp, Verh. zool.-bot. Ver Wien, 1879. p. 39. / Collect. Eppelsh. / Coll. Mus. Vindob. / Typus / *Oxypoda? heydeni* (Eppelsheim), det. V. Assing 2017" (NHMW); 1♀: "*Heydeni* mihi, Hohe Capella, Croatien. v. Heyden. / Collect. Eppelsh. / Coll. Mus. Vindob. / Typus" (NHMW).

Additional material examined

Azerbaijan: 1♀, Lenkoran, leg. Leder (NHMW).

Comment

The original description is based on an unspecified number of type specimens collected "auf der hohen Capella in Croatien" (Eppelsheim 1879). Two of the syntypes, a teneral male and a female, were located in the Eppelsheim collection (NHMW). Since Eppelsheim (1879) states that part of the type material was collected by Reitter, there should be additional syntypes, probably in Budapest. The examined male syntype is teneral, which is why it is not designated as the lectotype.

Originally described in *Homalota*, this species was subsequently assigned to *Atheta* Thomson, 1859 (Bernhauer & Scheerpeltz, 1926), until Benick (1973) tentatively moved it to *Ocyusa*, a generic assignment Fauvel had already suggested much earlier, as is indicated in a footnote to the original description (Eppelsheim 1879). Based on an examination of two syntypes and an additional female from Azerbaijan, this species does not belong to *Ocyusa*, but possibly to *Zoosetha* Mulsant & Rey, 1874 or *Oxypoda* Mannerheim, 1830. It is here tentatively attributed to the latter, primarily because the punctation of the forebody is less coarse than is usually the case in *Zoosetha*. Mature males would be needed to confirm this assignment.

Oxypoda heydeni is characterized by a rather stout body (stouter than in *Zoosetha rufescens*) and a coloration similar to that of species of the subgenus *Mycetodrepa* (genus *Oxypoda*). The spermatheca is illustrated in Fig. 107.

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Distribution

According to Schülke & Smetana (2015), *O. heydeni* was previously known only from Croatia. The above specimen from Lenkoran represents the first record from Azerbaijan.

Tectusa uhligi (Pace, 1987), **n. comb.** (Fig. 110)

Cousya uhligi Pace, 1987: 280 ff.

Type material examined

Holotype: ♂: "Bulgarien, Stara Planina, leg. Hieke, Uhlig / Botev-Gipfel, 2376 m, 9.IX.1977 / Holotypus *Cousya uhligi* m., det. R. Pace 1982 / *Cousya uhligi* n. sp., det. R. Pace 1982 / *Leptusina regisborisi* (Scheerp., 1937), Zerche det. 1995 / *Tectusa uhligi* (Pace), det. V. Assing 2017" (MNB).

Paratypes: 4♀♀: same data as holotype (one labelled as allo-, the others as paratypes) (MNB); 2♂♂, 1♀: "Bulgarien, Stara Planina, leg. Hieke, Uhlig / 1,5 km S v. Botev, 2100 m, 8.-9. IX.1977 / Paratypus *Cousya uhligi* m., det. R. Pace 1982 / *Cousya uhligi* n. sp., det. R. Pace 1982 / *Leptusina regisborisi* (Scheerp., 1937), Zerche det. 1995 / *Tectusa regisborisi* (Scheerpeltz), det. V. Assing 2017" (MNB).

Comment

The original description of *Cousya uhligi* is based on a holotype, an allotype, and eight paratypes from "Bulgaria, Stara Planina, cima del Botev" deposited in MNB and the private collection of Roberto Pace (Pace 1987). In the collections of the MNB, however, eleven specimens labelled as types by R. Pace were found, a male holotype, a female allotype, and nine paratypes. Only four paratypes are from the type locality, three are from a locality close to the type locality, and three from a locality in the Pirin range. Provided that Pace did not miscount the number of type specimens, the most likely explanations for these discrepancies is that Pace did not check the locality labels of each specimen and that he received additional material after finishing the manuscript description and failed to include it. In consequence, the specimens collected near the type locality (1.5 km S Botev) are regarded as paratypes, whereas those from Pirin do not have type status, despite the labels attached to them.

All the specimens had been examined and identified as *Leptusina regisborisi* (Scheerpeltz, 1937) by Lothar Zerche (Müncheberg); *Leptusina* Bernhauer, 1900 is now a junior synonym of *Tectusa* Bernhauer, 1899. *Tectusa regisborisi* was originally described based on two specimens from "Jumruktschal, Zentral-Balkan" (Scheerpeltz 1937), today Botev mountain in the Stara Planina.

An examination of the material labelled as types of *T. uhligi* revealed that it is composed of three distinct species. Aside from *T. uhligi*, two species of *Tectusa* were previously known from Bulgaria, *T. ferdinandocoburgi* (Rambousek, 1909), a species described from the Vitoša and Rila Ranges (Rambousek 1909), and *T. regisborisi* (Scheerpeltz, 1937) from the Stara Planina. Neither Rambousek (1909) nor Scheerpeltz (1937) examined and illustrated the aedeagi of these species, which also means that it is uncertain if the type specimens of *T. ferdinandocoburgi* from Vitoša Planina and Rila Planina are really conspecific. Unfortunately, the type material of *T. regisborisi* is currently inaccessible; according to Schillhammer (e-mail 3 November, 2017), it has been on loan to L. Zerche since 2002 [sic]. Based on the habitus drawing provided by Scheerpeltz (1937), the types of *T. regisborisi* are more similar to the paratypes from the locality 1.5 km south of Botev than to the holotype of *T. uhligi*. Therefore, *T. uhligi* is tentatively interpreted as a valid species and the paratypes from the other locality (1.5 km south of Botev) are tentatively identified as *T. regisborisi*. The specimens from the Pirin range represent an undescribed species (see the section on *T. pirinica*). For illustrations of the holotype of *Tectusa uhligi* and of the paratypes from the locality 1.5 km south of Botev see Figs 110–113 and 132.

Tectusa ferdinandicoburgi (Rambousek, 1909) (Figs 114–118)

Ocyusa (Leptusina) ferndinandicoburgi Rambousek, 1909: 19 f., 21 f.

Type material examined

Lectotype : ♂, present designation: "Bulg. Rila pl., Musalla 8. alp., 09, Rambousek / *Ocyusa Ferdinandi-Coburgi* n. sp. Type / *Ferd.-Coburgi* m., det. Rambousek / *Ferdinandi-Coburgi* / Lectotypus ♂ *Ocyusa ferdinandicoburgi* Rambousek, desig. V. Assing 2017 / *Tectusa ferdinandicoburgi* (Rambousek), det. V. Assing 2017" (NMP).

Paralectotypes: 1♂: "Bulg. Rila pl., Musalla 8. alp., 09, Rambousek / *Ferdinandi-Coburgi* m. Cotype, det. Rambousek / Paralectotypus *Ocyusa ferdinandicoburgi* Rambousek, desig. V. Assing 2017 / *Tectusa ferdinandicoburgi* (Rambousek), det. V. Assing 2017" (NMP); 1♀: "Bulgaria: Rila: Musalla, VII.08, Rambousek / *Ferdinandi-Coburgi* m. Cotype, det. Rambousek / Paralectotypus *Ocyusa ferdinandicoburgi* Rambousek, desig. V. Assing 2017 / *Tectusa ferdinandicoburgi* (Rambousek), det. V. Assing 2017" (NMP).

Comment

The original description of *Ocyusa ferdinandicoburgi* is based on an unspecified number of syntypes from "Bulgarie: la Rila planina (sommet de la Musalla – 2930 m) et al Vitoša planina" (Rambousek 1909). Three syntypes, two males and one female, from the Rila planina were located at the NMP. The male in better condition is designated as the lectotype. Since *Tectusa* species are often locally endemic, the possibility that the type material from the Vitoša planina belongs to a different species cannot be ruled out. The whereabouts of this material are unknown. The forebody and the median lobe of the aedeagus of the lectotype and the male paralectotype from the Rila planina are illustrated in Figs 114–118.

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Tectusa pirinica **n. sp.** (Figs 119–121, 133)

Type material

Holotype: ♂ "Bulgarien, 23.VI.1979, Pirin, Umg. Hütte Banderica Höhle Hana, 1850 m, halboffen, / Gemsen- und Vogelkot, Erde auf gewachsenen [sic] Gestein gesiebt, leg. M. Uhlig / Paratypus *Cousya uhligi* m., det. R. Pace 1982 / *Cousya uhligi* n. sp., det. R. Pace 1982 / *Leptusina regisborisi* (Scheerp., 1937), Zerche det. 1995 / no type of *Tectusa uhligi*, rev. V. Assing 2017 / Holotypus ♂ *Tectusa pirinica* sp. n., det. V. Assing 2017" (MNB).

Paratypes: 1♂, 1♀: same data as holotype (MNB, cAss).

Comment

The type material was labelled by Pace as paratypes of *T. uhligi*; for details see the comment the section on *T. uhligi*.

Description

Body length 2.6-3.0 mm; length of forebody 1.1-1.3 mm. Coloration: body blackish-brown to blackish with the abdomen (except the somewhat paler apex) only slightly darker than the forebody; legs pale-brown; antennae dark-brown to blackish-brown.

Head (Fig. 119) approximately as long as broad and of orbicular shape; punctation shallow and rather dense, barely noticeable in the pronounced microreticulation. Eyes relatively large and weakly convex, slightly shorter than postocular region in dorsal view. Antenna distinctly incrassate apically; antennomere III weakly oblong and of conical shape, less than 1.5 times as long as broad; antennomeres IV-X distinctly transverse, of distinctly increasing width, VIII-IX at least twice as broad as long, X somewhat longer and less transverse than IX, and XI slightly longer than the combined length of IX and X.

Pronotum (Fig. 119) 1.12-1.20 times as broad as long, broadest in anterior half; punctation and microsculpture similar to those of head.

Elytra (Fig. 119) 0.60-0.65 times as long as pronotum; punctation denser and more distinct than that of pronotum; interstices with shallow microsculpture. Hind wings completely reduced. Metatarsomere longer than the combined length of metatarsomeres II and III, but distinctly shorter than the combined length of II-IV.

Abdomen with fine and moderately dense punctation and with shallow microsculpture; tergites III-V with, tergite VI without anterior impressions; posterior margin of tergite VII without palisade fringe.

♂: posterior margin of sternite VIII obtusely produced in the middle; median lobe of aedeagus (Fig. 120) approximately 0.4 mm long; ventral process apically very slender and acute in lateral view; paramere 0.6 mm long; apical lobe nearly 0.3 times as long as length of paramere.

♀: posterior margin of sternite VIII broadly and weakly convex, with pale, moderately long, and moderately stout marginal setae; spermatheca as in Fig. 133.

Comparative notes

The new species is distinguished from the geographically closest congener and externally highly similar *T. ferdinandicoburgi* only by the shape of the aedeagus, particularly the longer, more slender, and more acute apex of the ventral process (lateral view) and by the differently shaped apical internal structures. It additionally differs from the species recorded from the Stara Planina (*T. uhligi*, *T. regisborisi*) by a less slender pronotum and shorter elytra. For illustrations of the sexual characters of *T. ferdinandicoburgi*, *T. regisborisi*, and *T. uhligi* see Figs 110–118 and Pace (1987), respectively.

Distribution and natural history

The known distribution is confined to the type locality in the Pirin planina, Southwest Bulgaria, where the species may be endemic. The specimens were sifted from soil on bedrock at an altitude of 1850 m.

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