

On the Staphylinidae (Coleoptera) of Crete II. Seven new species, a new synonymy, and additional records

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Abstract

Approximately 110 species of Staphylinidae collected in 2013 and 2014 are reported from the Greek island Crete. Seven species of Aleocharinae (four species), Paederinae (one species), and Staphylininae (two species) are described and illustrated, five of them are probably local endemics: *Bellatheta albimontis* n. sp. (Lefka Ori), *B. idana* n. sp. (Psiloritis), *Geostiba (Sipalotricha) paulexsecta* n. sp. (Psiloritis), *Myrmecopora (Myrmecopora) thriptica* n. sp. (Orno Thriptis; associated with *Messor* sp.), *Sunius thripticus* n. sp. (Orno Thriptis), *Quedius praecisus* n. sp. (Orno Thriptis, but probably more widespread in Crete), and *Xantholinus erinaceus* n. sp. (several localities). The sexual characters of some previously described species are illustrated. The following synonymy is proposed: *Quedius nemoralis* Baudi di Selve, 1848 = *Q. candicus* Coiffait, 1976, n. syn. The genus *Bellatheta* Roubal, 1928 is reported from Crete for the first time. Some previous records are rectified. The diversity and biogeography of the endemic species of Crete is discussed. A revised list of the 67 currently known named endemic (sub-) species of Staphylinidae of Crete is provided.

Key words: Coleoptera, Staphylinidae, West Palaearctic region, Mediterranean, Greece, Crete, new species, new synonymy, endemism, myrmecophily, zoogeography, taxonomy.

Zusammenfassung

Während zweier Forschungsreisen nach Kreta in den Jahren 2013 und 2014 wurden insgesamt etwa 110 Arten nachgewiesen. Sieben Arten aus den Unterfamilien Aleocharinae (vier Arten), Paederinae (eine Art) und Staphylininae (zwei Arten), fünf davon vermutlich Lokalendemiten, werden beschrieben und abgebildet: *Bellatheta albimontis* n. sp. (Lefka Ori), *B. idana* n. sp. (Psiloritis), *Geostiba (Sipalotricha) paulexsecta* n. sp. (Psiloritis), *Myrmecopora (Myrmecopora) thriptica* n. sp. (Orno Thriptis; myrmecophil bei *Messor* sp.), *Sunius thripticus* n. sp. (Orno Thriptis), *Quedius praecisus* n. sp. (Orno Thriptis, aber wahrscheinlich weiter verbreitet auf Kreta) und *Xantholinus erinaceus* n. sp. (several localities). Die Sexualmerkmale einiger bereits beschriebener Arten werden abgebildet. *Quedius candicus* Coiffait, 1976, n. syn., wird mit *Q. nemoralis* Baudi di Selve, 1848 synonymisiert. Die Gattung *Bellatheta* Roubal, 1928 wird erstmals von Kreta nachgewiesen. Einige frühere Nachweise werden korrigiert. Die Diversität und Biogeographie der Endemiten Kretas werden diskutiert. Eine aktualisierte Liste der 67 derzeit bekannten, beschriebenen endemischen Arten und Unterarten der Staphylinidae Kretas wird erstellt.

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1 Introduction

With 63 named endemic species and subspecies, plus several undescribed species of Scydmaeninae, Pselaphinae, and Aleocharinae, the endemic Staphylinidae fauna of Crete is significantly more diverse than that of other larger East Mediterranean islands such as Rhodes and Cyprus (ASSING 2013a, b); for a list of these species see ASSING (2013a). According to FRISCH (pers. comm.), one of the species previously regarded as an island endemic, *Sco-*

paeus creticus Frisch, 1994, is to be deleted from this list, as it has been recorded also from Karpathos and Naxos. For more details regarding the geography, topography, and geological history of Crete see ASSING (2013a).

The recent discovery of endemic species of some staphylinid genera (e.g., *Boreaphilus* Sahlberg, 1832, *Sunius* Stephens, 1829, *Astenus* Dejean, 1833, *Tectusa* Bernhauer, 1899, *Myrmecopora* Saulcy, 1865, and *Geostiba* Thomson, 1858) in some of the mountain ranges of Crete (ASSING 2002, 2003, 2013a) gave rise to the hypoth-

esis that additional species could be expected in similar habitats of other mountain ranges, too. Thus, two more field trips were conducted to western Crete and central and eastern Crete in December and January 2013/2014 and in April 2014, respectively. The first field trip was conducted together with THOMAS FORCKE (Pforzheim) and the second with PAUL WUNDERLE (Mönchengladbach). Both excursions yielded several new discoveries, among them the presence of endemic species of a genus that had not been recorded from Crete.

Acknowledgements

I am indebted to VOLKER BRACHAT (Geretsried) and HEINRICH MEYBOHM (Großhansdorf) for identifying the species of Pselaphinae and Scydmaeninae, respectively, as well as to THOMAS FORCKE (Pforzheim) for the gift of the Staphylinidae he collected during our joint field trip. JÜRGEN VOGEL (Görlitz) identified *Atheta luctuosa*. BENEDIKT FELDMANN (Münster) proof-read the manuscript.

2 Material and methods

The Pselaphinae and Scydmaeninae referred to in this study are deposited in the private collections of VOLKER BRACHAT and HEINRICH MEYBOHM, respectively. The remaining material is deposited in the following public and private collections:

cAss	author's private collection
cSch	private collection MICHAEL SCHÜLKE, Berlin
cWun	private collection PAUL WUNDERLE, Mönchengladbach
MNHUB	Museum für Naturkunde der Humboldt-Universität, Berlin

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

Head length was measured from the anterior margin of the clypeus (Aleocharinae) or from the anterior margin of the frons (Paederinae, Staphylininae) 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, total length from the anterior margin of the mandibles (in resting position) to the apex of the abdomen, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, 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 side of the aedeagus with the sperm duct opening is referred to as the ventral, the opposite side as the dorsal aspect. Regarding *Xantholinus*, the description is based on the actual position of the aedeagus in the abdomen. Thus, the side with the opening is referred to as the distal portion, the other side the proximal portion, and the undissected aedeagus is given in dorsal view.

The individual labels of type specimens are separated by slashes; they are cited in the original spelling and format, except that 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.

3 Results

3.1 General remarks

Including the new species described in section 3.5 and considering the new synonymy proposed in section 3.4, 67 named endemic species and subspecies of Staphylinidae are now known from Crete, not counting *Medon cerurtii* Coiffait, 1976, which has been recorded also from the adjacent island Karpathos.

Based on currently available evidence, 26 of the 67 species are local endemics, whose distribution in Crete is confined to only one mountain range (with one species, *Astenus minos*, distributed from the Lefka Ori to the extreme west of the island). Whether or not *Lesteva nitidicollis* and *L. szekessyi* (not included in the 26 species) are local endemics or more widespread across the island, is unclear. These two species are currently known only from their respective type localities in the Psiloritis range, but *Lesteva* species do not usually have highly restricted distributions and are not specially adapted to high-altitude habitats. Similarly, *Lesteva brondeeli* has been recorded only from the type locality "Topolia" in West Crete at a relatively low altitude and is thus most unlikely to represent a local endemic. The 26 locally endemic species are confined to the extreme west of Crete (two species, including *Astenus minos*), the Lefka Ori (six species, including *Astenus minos*), the Psiloritis range (six species), the Dikti Oros (six species), and the Orno Thriptis (six species). In view of the relatively low altitude (less than 1500 m altitude) of the Orno Thriptis, its diversity of local endemics seems remarkable. However, the easternmost part of Crete (with the Orno Thriptis) formed a separate island during warmer geological periods with higher sea-levels, which may explain this phenomenon.

Geostiba, the genus with the greatest diversity of endemic taxa, is now represented by eight locally endemic species, two in the Lefka Ori, three in the Psiloritis range, two in the Dikti Oros, and one in the Orno Thriptis.

Crete hosts a remarkable number of locally endemic myrmecophilous species of *Myrmecopora* sensu strictu, all of them associated with harvester ants (*Messor* spp.). Five species are now known, one in each of the four major mountain ranges and one, *M. fornicata*, in the extreme west of Crete. The distribution of *M. fornicata*, whose original description is based on a holotype without specified locality, was previously unclear.

What came as a surprise was the discovery of a micropterous, evidently locally endemic species of *Bellatheta* Roubal, 1928, a genus previously unknown from Crete, in the Lefka Ori in December, 2013 and the subsequent record of another one in the Psiloritis range in April, 2014. In the West Palaearctic, this genus has a discontinuous distribution. The geographically closest micropterous conge-

ner has been recorded from the Greek island Kefallinia, which is separated from Crete by some 400 km. Attempts at finding *Bellatheta* in suitable habitats in the Dikti Oros and the Orno Thriptis were not successful.

Three species of *Boreaphilus* have been recorded from the island, one of them widespread in practically all of the Mediterranean region. A second species, *B. meybohmi*, is most likely locally endemic to the Lefka Ori, as can be inferred from the adaptive reductions of the eyes, the wings, and the pigmentation. The third species, *B. fuelscheri*, was previously recorded only from the Dikti Oros, but is now known also from the Orno Thriptis in the very east of Crete and the Askifou Plateau to the east of the Lefka Ori in the west. Thus, it can no longer be considered a local endemic.

The *Sunius seminiger* group is now represented in Crete by two local endemics, one of them in the Dikti Oros and one in the Orno Thriptis. Despite extensive search, no representative of this species group was found in the Psiloritis range and in the Lefka Ori.

The two newly described species of Staphylininae, *Quedius praecisus* and *Xantholinus erinaceus*, are probably distributed across the whole island and may previously have been confounded with similar species (*Quedius nemoralis*, *Xantholinus rufipennis*).

Aside from those already outlined above, there are some more evident gaps in the diversity and biogeography of Cretan endemics. For instance, myrmecophilous *Astenus* species of the subgenus *Eurysunius* Reitter, 1909 are currently known only from the Orno Thriptis in the extreme east and from the extreme west (Lefka Ori and western extensions). Locally endemic species of *Tectusa* have been recorded from all major mountain ranges, except for the Psiloritis range; considerable efforts in searching suitable habitats in the Psiloritis for *Tectusa* species proved unsuccessful. Remarkably, the Psiloritis range is not only special in that endemic representatives of several genera appear to be absent, but also in that it hosts high-altitude species that have not been found in other mountains of Crete, e. g., two endemic species of *Lesteva* Latreille, 1797, *Deliphrosoma fratellum*, and *Atheta lucuosa*.

3.2 Revised list of named endemics of Crete

The following list gives the named endemic (sub-)species of Crete with the distribution of local endemics and – where necessary – remarks (in square brackets). Local endemics, i. e., species confined to a single mountain range in Crete, are marked with an asterisk. *Medon cerutii* Coiffait, 1976, which was listed as an island endemic by ASSING (2013a), is omitted, as it has been recorded also from Karpathos.

- Boreaphilus fuelscheri* Zerche, 1990
 **Boreaphilus meybohmi* Assing, 2002 – Lefka Ori
Lesteva longoelytrata cretica Lohse & Steel, 1961
Lesteva brondeeli Lohse & Steel, 1961 [known only from the type locality (“Topolia” in West Crete), but most unlikely to be locally endemic, since the holotype was collected at low altitude]
 *?*Lesteva nitidicollis* Lohse & Steel, 1961 [known only from the type locality (“Antr. Jovis, Mt. Ida” in the Psiloritis range)]
 *?*Lesteva szekessyi* Lohse & Steel, 1961 [known only from the type locality (“Antr. Jovis, Mt. Ida, 2200 m” in the Psiloritis range)]
Amauryx paganettii W. Blattný & C. Blattný, 1916
Batrissodes paganettii W. Blattný & C. Blattný, 1916
Brachygluta gnosiaca Besuchet, 2004
Claviger oertzeni Reitter, 1885
Tychus creticus Reitter, 1885
Tychus lagrecai Sabella, 2002
Tychus reitterianus Löbl, 1998
Alevonota cretica Assing & Wunderle, 2008
Aloconota brachyptera Assing, 2013
Aloconota minoica Pace, 2002
Atheta biroi Scheerpeltz, 1964 [status doubtful]
Atheta cretica Brundin, 1944
 **Bellatheta albimontis* n. sp. – Lefka Ori
 **Bellatheta idana* n. sp. – Psiloritis
Dinusa cretica Assing, 2013
Drusilla cretica Assing, 2005
 **Geostiba albimontis* Assing, 2007 – Lefka Ori
 **Geostiba diktiana* Assing, 2013 – Dikti Oros
 **Geostiba exsecta* Assing, 1999 – Psiloritis
 **Geostiba icaria* Pace, 1996 – Lefka Ori
 **Geostiba idaea* Pace, 1996 – Psiloritis
 **Geostiba meybohmi* Assing, 2000 – Dikti Oros
 **Geostiba paulexsecta* n. sp. – Psiloritis
 **Geostiba thryptisensis* Assing, 2001 – Orno Thriptis
 **Myrmecopora elisa* Assing, 1997 – Dikti Oros
 **Myrmecopora fornicata* Assing, 1997 – extreme west of Crete, west of approximately 23°42'E
 **Myrmecopora idana* Assing, 2013 – Psiloritis
 **Myrmecopora plana* Assing, 1997 – Lefka Ori, eastwards to Askifou Plateau
 **Myrmecopora thryptica* n. sp. – Orno Thriptis
Ocalea cretica Coiffait, 1976
 **Oxyptoda cretica* Assing, 2006 – Dikti Oros
 **Oxyptoda idana* Assing, 2013 – Psiloritis
Phytosus holtzi Bernhauer, 1935
Pronomaea wunderlei Assing, 2007
 **Tectusa callicera* Assing, 2002 – Lefka Ori
 **Tectusa diktiana* Assing, 2013 – Dikti Oros
 **Tectusa thryptica* Assing, 2013 – Orno Thriptis
Stenus ariadne Puthz, 1977
Eutheta paganettii Franz, 1971
Scydmorephes fuelscheri Meybohm, 2008
Scydmorephes minotauri Meybohm, 2008
Scydmorephes zieglerei Meybohm, 2008
Stenichnus basimpessus W. Blattný & C. Blattný, 1916
Stenichnus creticus W. Blattný & C. Blattný, 1916
Stenichnus hummleri W. Blattný & C. Blattný, 1916
 **Astenus minos* Assing, 2003 – Lefka Ori and extreme west of Crete
 **Astenus thrypticus* Assing, 2013 – Orno Thriptis
Leptobium creticum Coiffait, 1973
 **Leptobium thryptisense* Assing, 2005 – Orno Thriptis

Lobrathium candicum Bordoni, 2009
Medon beroni Coiffait, 1970
Pseudolathra cretensis Bordoni, 1986 [status doubtful]
Scopaeus muehlei Frisch, 1994
 **Sunius diktianus* Assing, 2013 – Dikti Oros
 **Sunius thripticus* n. sp. – Orno Thriptis
Quedius fulgidus creticus Mařan, 1935 [status doubtful]
Quedius praecisus n. sp.
Quedius sigwalti Coiffait, 1972
Xantholinus creticus Assing, 2008
Xantholinus erinaceus n. sp.
Xantholinus minos Assing, 2008

3.3 Staphylinidae recorded from Crete in 2013 and 2014

In all, approximately 2530 specimens of Staphylinidae belonging to at least 111 species were collected. Seven of them, five of them presumably local endemics and two island endemics, are described for the first time. It was not possible to identify all the material down to species level; for explanations see ASSING (2013a). Except for a few specimens (< 10 specimens), material collected by PAUL WUNDERLE in April 2014 has not been identified and is consequently not included in the list below. However, the paratypes of the newly described species collected by him are listed in section 3.5.

A complete list of species and records from 2013 and 2014 is given below. The number of specimens is given in parentheses behind the sample number. The chronological order of the subfamilies is arranged according to SMETANA (2004). The genera and species within the subfamilies are arranged in alphabetical order.

Localities and collection data corresponding to the sample numbers of the list below are as follows [sample numbers 1–19: 24.XII.2013–1.I.2014, leg. ASSING & FORCKE; sample numbers 20–47: 6.–17.IV.2014, leg. ASSING]: **1:** Lefka Ori, NE Omalos, 35°22'N, 23°55'E, 950 m, stony pasture, under stones, 24.XII.2013; **2:** Lefka Ori, NE Omalos, 35°21'N, 23°55'E, 1040 m, stony pasture, under stones, 24.XII.2013; **3:** Lefka Ori, Omalos plateau, 35°20'N, 23°53'E, 1050 m, moist pasture with artificial reservoirs, under stones, 24. and 25.XII.2013; **4:** Lefka Ori, Omalos plateau, 35°20'N, 23°51'E, 930 m, stony pasture with shrubs, under stones, 24. and 25.XII.2013; **5:** Lefka Ori, Omalos plateau, 35°20'N, 23°52'E, 1080 m, pasture near road margin, under stones, 25.XII.2013; **6:** Lefka Ori, Omalos plateau, 35°19'N, 23°53'E, 1040 m, N-slope, pasture with small trees, under stones, 25.XII.2013; **7:** Lefka Ori, SE Omalos, 35°19'N, 23°56'E, 1590 m, E-slope with snow, under stones, 26.XII.2013; **8:** Lefka Ori, SE Omalos, 35°19'N, 23°56'E, 1590 m, E-slope with snow, litter, grass roots, etc. sifted, 26.XII.2013; **9:** Lefka Ori, SE Omalos, 35°19'N, 23°55'E, 1240 m, pasture with trees, under stones, 26.XII.2013; **10:** Chania, 35°31'N, 24°00'E, 1 m, sandy beach, under debris, 27. and 31.XII.2013; **11:** Askifou → Asigonia, 35°15'N, 24°11'E, 1060 m, pasture and margin of pista, under stones, 28.XII.2013; **12:** Askifou → Asigonia, 35°15'N, 24°11'E, 1060 m, pasture with scattered trees and bushes, litter and roots sifted, 28.XII.2013; **13:** Askifou → Asigonia, 35°15'N, 24°14'E, 880 m, pasture and margin of pista, under stones, 28.XII.2013; **14:** 17 km S Kissamos,

N Archontiko, 35°20'N, 23°40'E, 760 m, stony pasture, under stones, 29. and 31.XII.2013; **15:** 19 km S Kissamos, radar station SW Moustakos, 35°19'N, 23°36'E, 890 m, stony slope, under stones, 29.XII.2013; **16:** 19 km S Kissamos, radar station SW Moustakos, 35°18'N, 23°37'E, 950 m, stony slope, under stones, 30.–31.XII.2013; **17:** 19 km S Kissamos, radar station SW Moustakos, 35°18'N, 23°37'E, 950 m, stony N-slope, litter under thorny cushion plants sifted, 30.XII.2013; **18:** 3 km SE Kandanos, 35°18'N, 23°45'E, 860 m, pasture, under stones, 30.XII.2013; **19:** Askifou → Asigonia, 35°15'39"N, 24°10'46"E, 850 m, pasture, under stones, 1.I.2014; **20:** Orno Thriptis, E Thripti, 35°06'N, 25°53'E, 970 m, moist meadow, under stones, 7. and 8.IV.2014; **20a:** same locality, grass roots and soil sifted, 7.IV.2014; **21:** Orno Thriptis, SE Thripti, 35°05'N, 25°53'E, 1130 m, grass and oak litter sifted, 7.IV.2014; **22:** Orno Thriptis, SE Thripti, 35°05'N, 25°53'E, 1300 m, under stones, 8.IV.2014; **23:** Orno Thriptis, 35°05'N, 25°52'E, 1380 m, rocky N-slope, grass, moss and oak litter sifted, 8.IV.2014; **24:** Orno Thriptis, E Thripti, 35°06'N, 25°53'E, 970 m, moist meadow, under stones, 10.IV.2014; **24a:** same data, but 11.IV.2014; **25:** Dikti Oros, 35°06'N, 25°29'E, 1750 m, margins of snowfields, under stones, 6.IV.2014; **26:** Dikti Oros, 35°06'N, 25°29'E, 1830 m, N-slope with snowfields, sifted, 6.IV.2014; **27:** NW Dikti Oros, Limnakaro, 35°08'N, 25°29'E, 1170 m, under stones, 9.IV.2014; **28:** NW Dikti Oros, Limnakaro, 35°08'N, 25°29'E, 1260 m, under stones, 9.IV.2014; **29:** NW Dikti Oros, 35°07'N, 25°29'E, 1440 m, litter near snowfield sifted, 9.IV.2014; **30:** Dikti Oros, 35°07'N, 25°29'E, 1700 m, soil and litter near snowfield, 9.IV.2014; **31:** WSW Agios Nikolaos, Katharo plateau, 35°08'N, 25°34'E, 1110 m, stream bank with gravel, 11.IV.2014; **32:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°51'E, 1450 m, grassy N-slope, under stones, 12.IV.2014; **33:** Psiloritis, Nida Plateau, SW Anogia, 35°13'20"N, 24°49'42"E, 1510 m, grassy slopes with rocks, under stones, 12.IV.2014; **34:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°50'E, 1550 m, grassy slopes with rocks, under stones, 12.IV.2014; **35:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°50'E, 1510 m, N-slope with scattered oak trees, litter and grass sifted, 12.IV.2014; **36:** Psiloritis, SW Anogia, Mygerou Refuge, 35°14'N, 24°47'E, 1670 m, margins of snowfields sifted, 13.IV.2014; **37:** SW Anogia, Mygerou Refuge, 35°14'N, 24°47'E, 1700 m, margins of snowfield sifted, 13.IV.2014; **38:** Psiloritis, SW Anogia, Mygerou Refuge, 35°14'N, 24°47'E, 1550 m, under stones, 13.IV.2014; **39:** NW Perama, 35°25'N, 24°41'E, 10 m, ruderal river bank, under stones, 14.IV.2014; **40:** Psiloritis, W Anogia, 35°18'N, 24°50'E, 590 m, stony pasture, under stones, 14.IV.2014; **41:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°51'E, 1430 m, grassy slope, under stones, 15.IV.2014; **42:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°50'E, 1420 m, N-slope and valley bottom, under stones, 15.IV.2014; **43:** Psiloritis, ca. 8 km SSW Zoniana, 35°14'N, 24°48'E, 1730 m, litter and soil near margins of snowfields sifted, 15.IV.2014; **44:** Psiloritis, ca. 6 km S Zoniana, 35°14'N, 24°49'E, 1250 m, stony pasture, under stones, 16.IV.2014; **45:** Psiloritis, Nida Plateau, SW Anogia, 35°12'N, 24°53'E, 1520 m, steep calcareous NE-slope with scattered oak, grass roots and litter sifted, 16.IV.2014; **46:** Psiloritis, Nida Plateau, SW Anogia, 35°13'N, 24°53'E, 1480 m, calcareous pasture, under stones, 17.IV.2014; **47:** Kouloukonas, E Perama, 35°23'N, 24°50'E, 370 m, calcareous N-slope with secondary forest, litter sifted, 17.IV.2014.

Omaliinae

Boreaphilus fuelscheri Zerche, 1990 – 12 (2), 21 (1)
Boreaphilus meyhohmi Assing, 2002 – 8 (10)
Boreaphilus velox (Heer, 1839) – 35 (1), 36 (1)

Deliphrosoma fratellum (Rottenberg, 1874) – 36 (8)
Lesteva longoelytrata cretica Lohse & Steel, 1961 – 25 (12),
 26 (6), 29 (1), 30 (17), 31 (1), 36 (15), 37 (2), 43 (5)
Omalium cinnamomeum Kraatz, 1857 – 8 (6), 12 (3), 23 (4),
 29 (3), 30 (2), 35 (2), 36 (1), 42 (1), 45 (2)
Omalium excavatum Stephens, 1834 – 10 (10), 29 (19), 30 (4),
 35 (3), 36 (4)
Omalium rhodicum Assing & Zanetti, 2013 – 26 (1)
Omalium rugatum Mulsant & Rey, 1880 – 29 (1)

Proteininae

Proteinus atomarius Erichson, 1840 (♀) – 47 (1)
Proteinus creticus Assing, 2004 – 21 (1), 23 (2), 26 (1), 29 (142),
 30 (3), 35 (13), 36 (2)
Proteinus ovalis Stephens, 1834 – 10 (1), 29 (72), 30 (5), 36 (4)

Pselaphinae

Afropselaphus n. sp. – 8 (1)
Brachygluta ochanensis (Reitter, 1909) – 12 (1)
Brachygluta cavernosa (Saulcy, 1876) – 29 (1)
Bythinus n. sp. – 35 (1)
Enoptostomus globulicornis (Motschulsky, 1851) – 24 (4)
Tribatus creticus Reitter, 1884 – 39 (1)
Tychus lagrecai Sabella, 2002 – 29 (2)

Tachyporinae

Mycetoporus dispersus Schülke & Kocian, 2000 – 29 (1)
Mycetoporus ignidorsum Eppelsheim, 1880 – 20a (2), 23 (2), 36 (1)
Mycetoporus reichei (Pandellé, 1869) – 26 (1)
Mycetoporus cf. *simillimus* Fagel, 1965 – 47 (3)
Mycetoporus sp. (*baudueri* group) – 35 (1)
Tachinus bonvouloiri Pandellé, 1869 – 11 (1)
Tachyporus abner Saulcy, 1865 – 17 (1), 39 (3)
Tachyporus nitidulus (Fabricius, 1781) – 5 (1), 15 (1), 29 (2),
 30 (2), 35 (1), 36 (4), 37 (1), 44 (1)

Aleocharinae

Alevozona cretica Assing & Wunderle, 2008 – 23 (2)
Aloconota brachyptera Assing, 2013 – 14 (1)
Atheta aeneicollis (Sharp, 1869) – 4 (1), 10 (36), 20 (7), 20a (15),
 21 (18), 23 (6), 24 (1), 24a (4), 35 (2), 44 (1), 47 (4)
Atheta amicula (Stephens, 1832) – 10 (5), 35 (1), 45 (1)
Atheta cf. *clientula* (Erichson, 1839) – 47 (102)
Atheta cretica Brundin, 1944 – 3 (2)
Atheta luctuosa (Mulsant & Rey, 1853) – 36 (122), 37 (13), 43 (3)
Atheta nigra (Kraatz, 1856) – 10 (1)
Atheta (Mocytia) spp. – 10 (321), 20a (3), 23 (2), 24 (5), 24a (4),
 26 (4), 29 (1), 30 (1), 35 (2), 36 (2), 43 (1), 44 (1), 47 (5)
Bellatheta albimontis n. sp. – 8 (4)
Bellatheta idana n. sp. – 36 (10), 37 (2)
Caloderina hierosolymitana (Saulcy, 1865) – 24 (1)
Dinusa cretica Assing, 2013 – 5 (1), 18 (1)
Drusilla cretica Assing, 2005 – 12 (2), 44 (4), 47 (1)
Geostiba idaea Pace, 1996 – 35 (23), 45 (2), 47 (5)
Geostiba oertzeni (Eppelsheim, 1888) – 8 (8), 15 (2), 17 (6)
Geostiba paulexsecta n. sp. – 36 (1), 37 (3), 43 (65)
Hydrosmecta sp. – 31 (32)
Hydrosmecta sp. – 31 (23)
Hydrosmecta sp. – 31 (7)
Liogluta longiuscula (Gravenhorst, 1802) – 10 (3), 21 (8), 24 (1),
 24a (5), 26 (13), 29 (299), 30 (32), 31 (1), 35 (15), 36 (121),
 37 (13), 42 (1), 43 (19), 44 (1), 45 (7), 46 (1)
Myrmecopora elisa Assing, 1997 – 27 (1), 28 (3)

Myrmecopora fornicata Assing, 1997 – 14 (54), 15 (5), 16 (5),
 18 (8)
Myrmecopora idana Assing, 2013 – 32 (19), 33 (30), 34 (6),
 41 (29), 42 (59)
Myrmecopora laesa (Erichson, 1839) – 10 (1)
Myrmecopora plana Assing, 1997 – 4 (8), 11 (5), 13 (11)
Myrmecopora thriptica n. sp. – 22 (3), 24a (7)
Ocalea cretica Coiffait, 1976 – 8 (2)
Oligota sp. (♀) – 20a (1)
Oxypoda bimaculata Baudi, 1870 – 20a (1)
Oxypoda haemorrhoea (Mannerheim, 1830) – 14 (1)
Oxypoda lesbia Assing, 2005 – 8 (1)
Oxypoda lurida Wollaston, 1857 – 15 (1), 20a (2)
Oxypoda vicina Kraatz, 1858 – 44 (8)
Oxypoda (Baeoglana) sp. – 47 (1)
Phytosus balticus Kraatz, 1859 – 10 (2)
Tectusa callicera Assing, 2002 – 8 (1)
Tectusa diktiana Assing, 2013 – 26 (11)

Oxytelinae

Anotylus inustus (Gravenhorst, 1806) – 2 (3), 3 (1), 4 (2), 5 (7),
 7 (14), 8 (2), 9 (2), 14 (2), 20 (10), 20a (4), 24 (4), 24a (12),
 31 (9), 32 (1), 41 (4), 42 (1), 44 (4)
Anotylus sculpturatus (Gravenhorst, 1806) – 47 (1)
Carpelimum corticinum (Gravenhorst, 1806) – 10 (1), 31 (2)
Platystethus alutaceus Thomson, 1861 – 3 (9)
Platystethus degener Mulsant & Rey, 1878 – 31 (2)
Platystethus nitens (Sahlberg, 1832) – 20a (1), 31 (1)

Steninae

Stenus aceris Stephens, 1833 – 47 (1)
Stenus hospes Erichson, 1840 – 18 (4), 20a (1)
Stenus ochropus Kiesenwetter, 1858 – 12 (2), 17 (1)
Stenus parvior Bernhauer, 1929 – 13 (1), 20 (1), 24a (1)
Stenus subaeneus Erichson, 1840 – 20 (8), 20a (29), 21 (1), 22 (1),
 24 (2), 25 (2), 29 (5), 30 (4), 32 (1), 33 (1), 35 (11), 36 (3), 41 (1),
 43 (2), 44 (4), 45 (7), 46 (1)

Scydmaeninae

Leptomastax sp. aff. *bisetosa* Reitter, 1884 – 45 (4)
Stenichnus n. sp. – 26 (1), 29 (1)

Paederinae

Astenus lyonesis (Joy, 1908) – 24a (1)
Astenus minos Assing, 2003 – 15 (1), 16 (13)
Astenus procerus (Gravenhorst, 1806) – 33 (1), 38 (1), 41 (1)
Astenus thoracicus (Baudi, 1857) – 12 (1), 20 (6), 24 (3), 24a (1),
 25 (1)
Astenus thripticus Assing, 2013 – 20 (1), 24 (1)
Domene stilicina (Erichson, 1840) – 19 (1), 40 (2)
Leptobium creticum Coiffait, 1973 – 24 (3)
Lobrathium candidum Bordoni, 2009 – 1 (1), 6 (1)
Medon dilutus pythonissa (Saulcy, 1865) – 5 (1), 47 (4)
Ochtheophilum cf. *collare* (Reitter, 1884) (♀) – 10 (1)
Paederus fuscipes Curtis, 1826 – 39 (1)
Pseudobium hellenicum Assing, 2006 (♀♀) – 31 (5)
Sunius fallax (Lokay, 1919) – 2 (1), 3 (1), 5 (1), 13 (1), 14 (2),
 20 (2), 24 (1), 24a (2), 44 (3), 46 (1)
Sunius thripticus n. sp. – 20 (1), 24 (1), 24a (1)

Staphylininae

Gyrohypnus angustatus Stephens, 1833 – 10 (1)
Heterothops cf. *minutus* Wollaston, 1860 – 10 (1)

Ocypus mus (Brullé, 1832) – 2 (1), 14 (2)
Ocypus olens (O. Müller, 1764) – 11 (1), 13 (2), 14 (1), 15 (2),
 16 (1), 19 (1)
Ocypus sericeicollis (Ménétriés, 1832) – 5 (1), 14 (1)
Othius laeviusculus Stephens, 1833 – 20a (3), 24 (1)
Othius lapidicola Märkel & Kiesenwetter, 1848 – 12 (5), 17 (1),
 20 (1), 21 (1), 23 (2), 30 (2)
Philonthus concinnus (Gravenhorst, 1802) – 2 (1)
Philonthus intermedius (Lacordaire, 1835) – 10 (3)
Philonthus nitidicollis (Lacordaire, 1835) – 3 (1)
Quedius cinctus (Paykull, 1790) – 10 (2)
Quedius humeralis Stephens, 1832 – 20 (2), 20a (19), 23 (4)
Quedius levicollis (Brullé, 1832) – 3 (1), 10 (1), 13 (1), 14 (1),
 39 (1)
Quedius nemoralis Baudi, 1848 – 21 (2), 35 (2)
Quedius praecisus n. sp. – 20 (1), 20a (2), 21 (1)
Quedius scintillans (Gravenhorst, 1806) – 10 (10)
Quedius sigwalti Coiffait, 1972 – 10 (1), 20 (2)
Xantholinus erinaceus n. sp. – 2 (1), 10 (1), 13 (1), 14 (1), 39 (3)
Xantholinus minos Assing, 2008 – 39 (1)

3.4 Remarks on some described species

Boreaphilus fuelscheri

This species was previously known from three localities in the Dikti Oros in the east of Crete (ASSING 2013a). In the list of Cretan endemics (ASSING 2013a) it was erroneously indicated for the Psiloritis, central Crete. The new records listed in section 3.3, one of them from the eastern extensions of the Lefka Ori in western Crete and the other from the Orno Thripti in the extreme east, show that *B. fuelscheri* is distributed across the whole island.

Boreaphilus meybohmi

The specimens listed in section 3.3 represent the first record since the original description, which is based on a single female from the Lefka Ori (ASSING 2002). They were collected together with *Tectusa callicera* and *Bellatheta albimontis*. Unlike *B. fuelscheri*, *B. meybohmi* is a local endemic, as is suggested not only from the absence of records from other mountain ranges, but also by the distinctly more pronounced morphological adaptive reductions (distinctly shorter elytra, reduced coloration, smaller eyes, absence of a palisade fringe at the posterior margin of tergite VII). The previously unknown aedeagus is illustrated in Fig. 1.

Deliphrosoma fratellum

The distribution is confined to the southern Balkans and Crete, where it has been recorded only from the Psiloritis (ZERCHE 1991).

Lesteva longoelytrata cretica

The specimens collected in 2014 represent the first records since the original description, which is based on ten type specimens collected on “Mt. Ida” in the Psilor-

itis range (LOHSE & STEEL 1961). One of the recently collected specimens was found by floating a stream bank at 1100 m (Katharo Plateau in the Dikti range). The remaining 58 specimens were exclusively collected near snowfields both in the Psiloritis and Dikti ranges at altitudes of 1440–1830 m. Despite extensive search during three field trips to Crete, the two other endemic *Lesteva* species, *L. brondeeli* Lohse & Steel, 1961 (West Crete: Topolia) and *L. szekessyi* Lohse & Steel, 1961 (Psiloritis: Ida), were not found.

Omalium rhodicum

This recently described species was previously known only from Rhodes (ASSING 2013b); the original description is based on a single male. The record from Crete reveals that the species is rather widespread in the East Mediterranean. The aedeagus of the Cretan male is illustrated in Figs. 2–5.

Brachygluta cavernosa

According to BRACHAT (pers. comm.), the recently discovered male (section 3.3) revealed that the female listed in ASSING (2013a) as *Brachygluta* n. sp. refers to *B. cavernosa*, too.

Tychus lagrecai

The specimens listed in ASSING (2013a) as *Tychus* n. sp. belong to this species (BRACHAT pers. comm.). The species has been recorded from both the Dikti Oros and the Psiloritis range and is thus no local endemic as indicated in ASSING (2013a).

Alevonota cretica

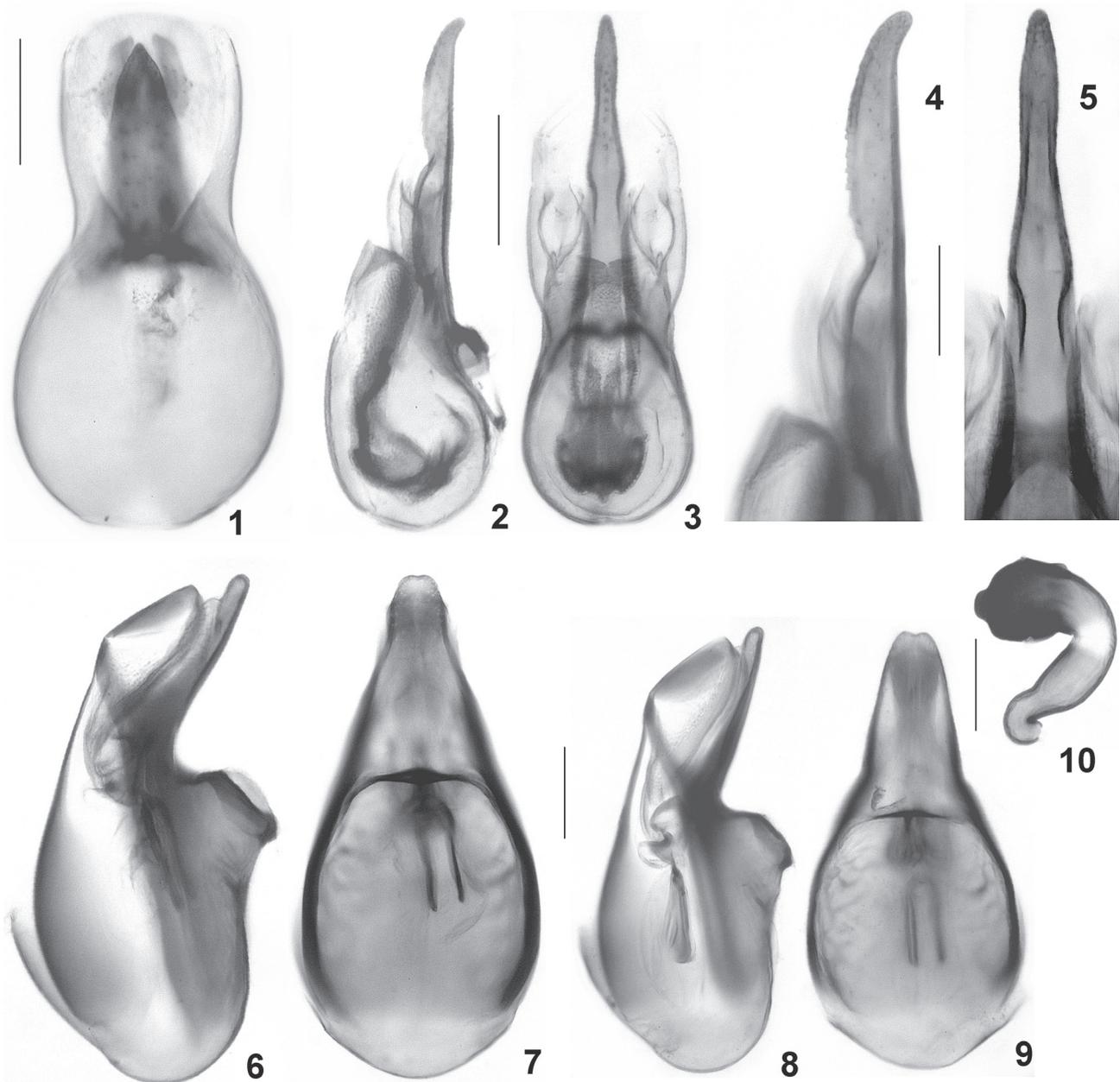
The original description of this Cretan endemic is based on type material from the Dikti Oros (Katharo Plateau, Lasithi Plateau) (ASSING & WUNDERLE 2008). The recently collected specimens (section 3.3) represent the first record from the Orno Thriptis.

Aloconota brachyptera

This species was recently described from the Dikti and Psiloritis ranges (ASSING 2013a). The specimen in section 3.3 was collected in the extreme west of Crete, which shows that *A. brachyptera* is distributed across the whole island.

Atheta luctuosa

Atheta luctuosa is widespread in the Mediterranean and has been reported also from Great Britain and Ukraine (SMETANA 2004). Nevertheless, records of this species are scarce. In Crete, it was sifted in large numbers exclusively along the margins of snowfields in the Psiloritis range (section 3.3).



Figs. 1–10. *Boreaphilus meybohmi* (1), *Omalium rhodicum* from Crete (2–5), *Myrmecopora plana* (6–7), and *M. fornicata* (8–10). – 1, 3. Aedeagus in ventral view. 2. Aedeagus in lateral view. 4–5. Ventral process of aedeagus in lateral and in ventral view. 6–9. Median lobe of aedeagus in lateral and in ventral view. 10. Spermatheca. – Scale bars: 0.2 mm (2–3), 0.1 mm (1, 4–10).

Atheta occulta

The specimen recorded as *Atheta* sp. (sample number 4) from the Orno Thriptis by ASSING (2013a) belongs to *Atheta occulta* (Erichson, 1837).

Dinusa cretica

The original description of this myrmecophile is based on two specimens from the Dikti Oros (ASSING 2013a). The

new records from western Crete show that it is not a local endemic, but distributed across all of Crete.

Drusilla cretica

Drusilla cretica was described from a single male collected in the Omalos Plateau in the Lefka Ori and subsequently recorded also from the Psiloritis range (ASSING 2005, 2008). The most reliable character for the identifi-

cation of West Palaearctic *Drusilla* species is the shape of the spermatheca. Consequently, since no females had been available from the Lefka Ori, the possibility that the population from the Psiloritis represents a different species could not be ruled out with certainty. The new record of a male and a female from Askifou in the eastern extension of the Lefka Ori now confirms that the material from the Psiloritis range is in fact conspecific with the holotype.

Geostiba idaea

The previously known distribution was confined to the Psiloritis range (ASSING 1999, 2013a). The mostly teneral specimens from Kouloukonas (sample no. 47) differ from the populations examined from the Psiloritis range by the absence of spines in the internal sac of the aedeagus. However, only one fairly mature male was available. It seems possible that the internal spines are present, but not yet fully sclerotized.

The Cretan species of the subgenus *Myrmecopora*,
genus *Myrmecopora* Saulcy, 1865

Including the new species described below, the subgenus *Myrmecopora* currently contains thirteen described species, all of them associated with ants of the genus *Messor* Forel, 1890 and distributed in the East Mediterranean region (ASSING 2013b). Species of this subgenus are reliably distinguished only based on the male sexual characters. Remarkably, as many as five of the species are endemic to Crete. A sixth *Myrmecopora* species recorded from Crete, the widespread *M. laesa*, belongs to a different subgenus and is a coastal species. Unfortunately, the *Messor* fauna of the East Mediterranean in general and that of Crete in particular has not been subject to a modern revision, so that explanations for the enormous diversity of Cretan *Myrmecopora* species are difficult.

The previously described Cretan representatives of the subgenus included *M. elisa* from the Dikti Oros, *M. plana* from the Lefka Ori, *M. idana* from the Psiloritis range, and *M. fornicata* (ASSING 1997, 2013a). The original description of the latter species is based on a unique male without specified locality, so that its distribution was completely unclear. Moreover, a single female of unknown identity was recently recorded from the Orno Thripti in the extreme east of Crete (ASSING 2013a).

The two field trips conducted in 2013 and 2014 have shed light on the zoogeography and taxonomy of the *Myrmecopora* species. *Myrmecopora fornicata* is in fact distributed in the lower mountain regions to the west of the Lefka Ori, in the extreme west of the island. In all, 72 specimens were found in several localities in this region. The distribution of *M. plana*, on the other hand, is confined to the Lefka Ori eastwards to the Askifou Plateau. Finally, records of males from the Orno Thripti revealed that this mountain is inhabited by a fifth locally endemic

species. Thus, based on currently available evidence, all the Cretan representatives of the subgenus *Myrmecopora* have allopatric distributions and are local endemics. The sexual characters of *M. plana* and *M. fornicata* are illustrated in Figs. 6–10.

The 2014 field trip revealed that *Myrmecopora idana*, whose recent description is based on only one male, is remarkably common in the Nida Plateau, a region that had not been accessible in spring 2012 owing to a thick snow cover. In April 2014, as many as 143 specimens were collected on two days during a few hours around noon by the author alone; PAUL WUNDERLE found nearly as many during the same period of time.

Ocalea cretica

The specimens previously (ASSING 2013a) recorded from Crete as *O. badia* Erichson, 1837, all of them females, refer to *O. cretica*. The specimens collected in December 2013 (section 3.3) include males, which are externally indistinguishable from the females found in 2012. Based on photos of the aedeagus, TERLUTTER (pers. comm.) identified them as *O. cretica*.

Oxyptoda lesbia

Oxyptoda lesbia has been recorded from the Greek islands Lesbos and Rhodos, as well as from western and northern Turkey (ASSING 2011, 2013b), but was previously unknown from Crete. The four females recorded from Crete as *Oxyptoda (brachyptera group)* sp. by ASSING (2013a) refer to this species.

Tectusa callicera

The specimen listed in section 3.3 was collected near the type locality, together with *Boreaphilus meybohmi* and *Bellatheta albimontis*, and represents the first record of this local endemic of the Lefka Ori since the original description (ASSING 2002).

Tectusa diktiana

The type specimens of this recently described local endemic of the Dikti Oros were collected at an altitude of only 1330 m (ASSING 2013a). The material from the 2014 field trip were sifted from soil and litter at the margin of a snow field at an altitude of 1830 m.

Stenus hospes

The single female recorded as *Stenus* cf. *cordatoides* in ASSING (2013a) refers to *S. hospes*. The four specimens from sample 18 (section 3.3) were all collected from nests of *Messor* sp.

Astenus (Eurysunius) minos

The original description of this myrmecophilous species is based on a male holotype from “Chania” and a

female paratype from the Lefka Ori to the west southwest of Omalos (ASSING 2003). The recently collected material (section 3.3) was collected from nests of a yellowish *Tetramorium* sp. in the extreme west of Crete.

Astenus (Eurysunius) thripticus

The two females listed in section 3.3 were collected from a nest of yellowish *Tetramorium* sp. in the type locality. Extensive efforts at finding myrmecophilous *Astenus* species in the region between the Orno Thripti and the Lefka Ori (i. e., in the Dikti and Psiloritis ranges) proved unsuccessful.

Pseudobium hellenicum

Remarkably, all five specimens listed in section 3.3 and four additional specimens collected by PAUL WUNDERLE in the same locality are females. In external characters they are identical to *P. hellenicum* from the Greek mainland.

Ocypus sericeicollis

The two females recorded as *Ocypus picipennis* (Fabricius, 1792) by ASSING (2013a) belong to *O. sericeicollis*.

Quedius nemoralis Baudi, 1848

= *Quedius candicus* Coiffait, 1976: 90 ff.; **n. syn.**

Quedius candicus, whose original description is based on six type specimens from “Héraklion, Gonie” (COIFFAIT 1976), has been assumed to be endemic to Crete. A comparison of recently collected material (section 3.3; ASSING 2013a), which is in perfect agreement with the original description, as well as of previously collected specimens from Crete identified as *Q. candicus* with material of the widespread and common *Q. nemoralis* from various regions in the West Palaearctic revealed no significant differences whatsoever, neither in external nor in the male sexual characters. Moreover, the illustrations of the aedeagus provided for *Q. nemoralis* and *Q. candicus* by COIFFAIT (1978: figs. 29J–L) and COIFFAIT (1976: figs. 17–19, 1978: figs. 36A–C), respectively, are practically identical. Remarkably, COIFFAIT (1976) does not even mention *Q. nemoralis* in the diagnosis and COIFFAIT (1978) attributes both names to different species groups. In consequence, there is little doubt that both names refer to the same widespread species and *Q. candicus* is placed in synonymy with the senior name *Q. nemoralis*.

Quedius sigwalti

Based on the similar morphology of the aedeagus, this species is closely allied to the widespread and common *Q. umbrinus* Erichson, 1839. According to COIFFAIT (1978), *Q. sigwalti* differs from *Q. umbrinus* by the longer and broader elytra. However, I have seen specimens of *Q. umbrinus* with similarly shaped elytra also from southern Greece (Pelopónnisos), so that this character is not reli-

able. The best character for the separation of *Q. sigwalti* from *Q. umbrinus* is the constantly broader apical portion of the median lobe of the aedeagus in ventral view. The currently available evidence suggests that *Q. sigwalti* is endemic to Crete and that *Q. umbrinus* is absent from this island. The specimen recently recorded from Crete as *Q. umbrinus* in ASSING (2013a) refers to *Q. sigwalti*.

3.5 Descriptions of new species

Bellatheta albimontis **n. sp.**

(Figs. 11–19)

Type material

H o l o t y p e ♂: “GR – Crete [7a], 1590 m, SW Chania, SE Omalos 35°19'19"N, 23°55'46"E, sifted, 26.XII.2013, V. ASSING & T. FORCKE / Holotypus ♂ *Bellatheta albimontis* sp. n. det. V. ASSING 2014” (cAss).

P a r a t y p e s: 2 ♂♂, 1 ♀: same data as holotype (cAss).

Etymology

The specific epithet is composed of the Latin adjective *albus* (white) and the genitive of the Latin noun *mons* (mountain). It alludes to the Lefka Ori (White Mountains), where the species is probably endemic.

Description

Body length 2.2–2.5 mm; length of forebody 0.9–1.0 mm. Coloration: head and abdomen blackish-brown to blackish; pronotum and elytra brown to dark-brown; legs yellowish; antennae with antennomeres I–III yellowish and IV–XI more or less distinctly infuscate.

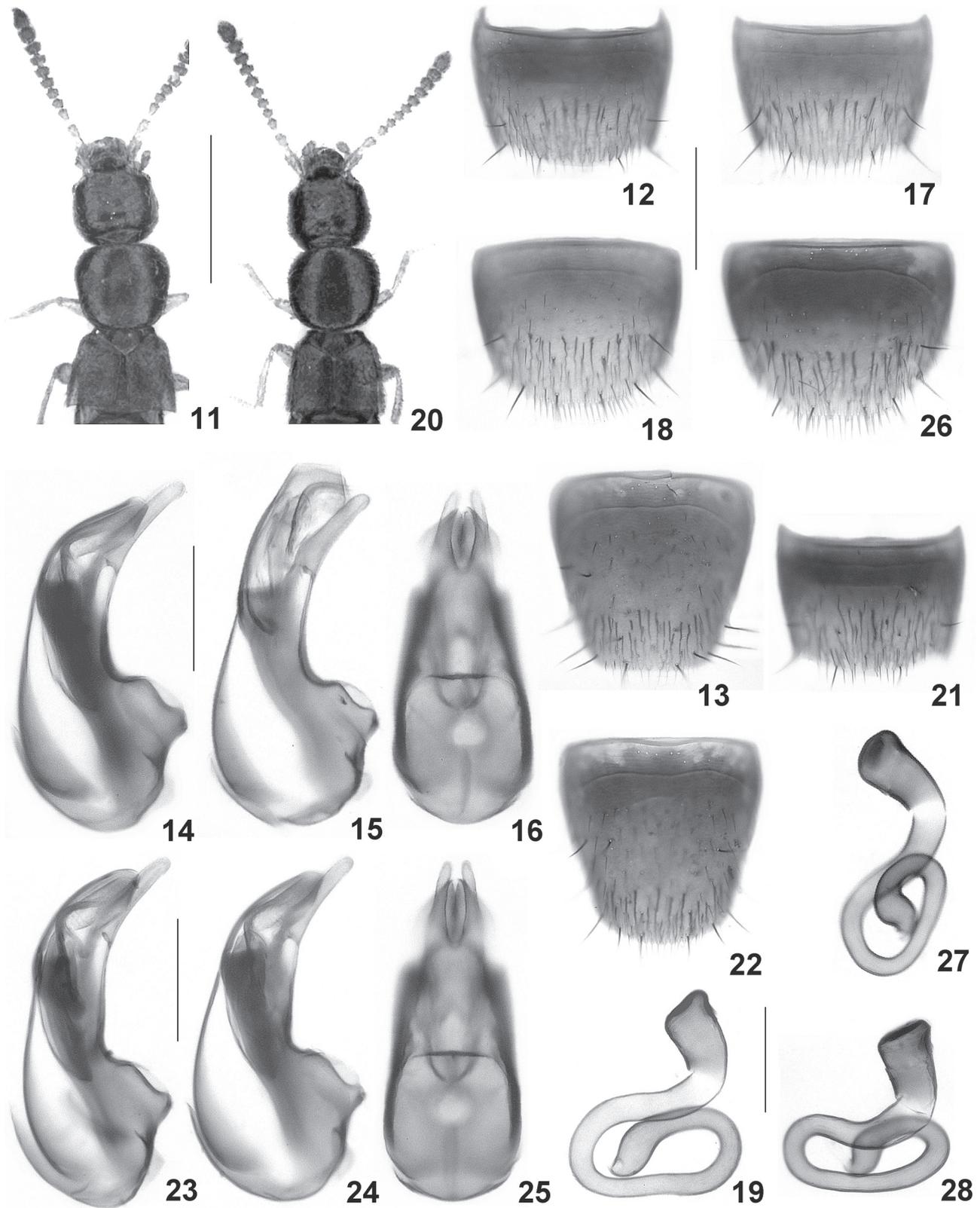
Head (Fig. 11) weakly transverse, 1.10–1.15 times as broad as long; punctation sparse and extremely fine, barely noticeable in the distinct microreticulation. Eyes small, approximately half as long as postocular region in dorsal view. Antenna approximately 0.7 mm long, distinctly incrassate apically; antennomere IV more than 1.5 times as broad as long; V–VI approximately twice as broad as long; VII–IX nearly 3 times as broad as long; X longer and broader than the preceding antennomeres, nearly 2.5 times as broad as long.

Pronotum (Fig. 11) approximately 1.05 times as broad as long and 1.05 times as broad as head, broadest near anterior angles, of trapezoid shape; punctation and microsculpture similar to those of head; pubescence directed anteriorly along midline and more or less transversely laterad in lateral portions.

Elytra (Fig. 11) short, approximately 0.5 times as long as pronotum; punctation fine, but more distinct than that of head and pronotum; interstices somewhat glossy. Hind wings completely reduced.

Metatarsomere I approximately as long as II.

Abdomen 1.10–1.15 times as broad as elytra; punctation rather sparse and very fine, barely noticeable; inter-



Figs. 11–28. *Bellatheta albimontis* (11–19) and *B. idana* (20–28). – 11, 20. Forebody. 12, 21. Male tergite VIII. 13, 22. Male sternite VIII. 14–16, 23–25. Median lobe of aedeagus in lateral and in ventral view. 17. Female tergite VIII. 18, 26. Female sternite VIII. 19, 27–28. Spermatheca. – Scale bars: 0.5 mm (11, 20), 0.2 mm (12–13, 17–18, 21–22, 26), 0.1 mm (14–16, 19, 23–25, 27–28).

stices with distinct microreticulation; posterior margin of tergite VII with very narrow and indistinct rudiment of a palisade fringe.

♂: posterior margin of tergite VIII broadly convex (Fig. 12); sternite VIII (Fig. 13) longer than tergite VIII, posterior margin somewhat produced, very weakly convex, nearly truncate; median lobe of aedeagus (Figs. 14–16) approximately 0.3 mm long; ventral process deeply bifid apically in ventral view, smoothly curved in lateral view.

♀: tergite VIII (Fig. 17) strongly convex in the middle; sternite VIII (Fig. 18) transverse, slightly longer than tergite VIII, and with broadly convex posterior margin; spermatheca as in Fig. 19.

Comparative notes

The genus *Bellatheta* Roubal, 1928 is discontinuously distributed across the Palaearctic regions. Seven species were previously known from Europe and the Mediterranean. Except for the winged and moderately widespread *B. fatrica* Roubal, 1928 (distributed in the Balkans, Italy, and Central Europe) and *B. palata* (Benick, 1970) (distributed in Greece and Bulgaria), the species are micropterous and locally endemic in mountain ranges of Spain [*B. aragonica* (Assing, 2001)], Italy [*B. kappi* (Assing, 2002), *B. rosai* (Pace, 1978)], Lebanon [*B. besucheti* (Pace, 1982)], and Greece [*B. renominata* (Likovský, 1984)]. The genus was previously unknown from Crete. *Bellatheta albimontis* is distinguished from *B. renominata*, the only other micropterous congener known from Greece (Kefallinia) by the posteriorly nearly truncate male sternite VIII, the less slender median lobe of the aedeagus (ventral view) with a more strongly curved ventral process (lateral view), as well as by the much longer spermathecal duct. For illustrations of the sexual characters of *B. renominata* see ASSING (2001).

Distribution and natural history

The type locality is situated to the southeast of Omalos in the Lefka Ori, where the species is probably endemic. The specimens were sifted from litter near and under snow beneath bushes at an altitude of 1590 m, together with the locally endemic *Boreaphilus meybohmi* and *Tectusa callicera*.

Bellatheta idana n. sp. (Figs. 20–28)

Type material

Holotype ♂: “GR – Crete [17], Psiloritis, SW Anogia, Mygerou Refuge, 1670 m, sifted, 35°14'11"N, 24°46'55"E, 13.IV.2014, V. ASSING / Holotypus ♂ *Bellatheta idana* sp. n. det. V. ASSING 2014” (cAss).

Paratypes: 2 ♂♂, 5 ♀♀: same data as holotype (cAss); 1 ♂, 1 ♀: “GR – Crete [18], Psiloritis, SW Anogia, Mygerou

Refuge, 1700 m, sifted, 35°14'09"N, 24°47'00"E, 13.IV.2014, V. ASSING” (cAss).

Etymology

The specific epithet is an adjective derived from *Ida*, the name of the highest mountain in the Psiloritis range.

Description

Posterior margin of tergite VIII usually without, rarely with, narrow rudiment of a palisade fringe. External characters (Fig. 20), except for the less distinctly trapezoid shape of the pronotum, as in *B. albimontis*.

♂: posterior margin of tergite VIII broadly and rather weakly convex (Fig. 21); sternite VIII (Fig. 22) longer than tergite VIII, posterior margin convex; median lobe of aedeagus (Figs. 23–25) approximately 0.3 mm long; ventral process deeply bifid apically in ventral view, somewhat angled in the middle in lateral view.

♀: tergite VIII broadly convex; sternite VIII (Fig. 26) transverse, slightly longer than tergite VIII, and with broadly convex posterior margin; spermatheca similar to that of *B. albimontis*, its shape subject to pronounced intraspecific variation (Figs. 27, 28).

Comparative notes

Bellatheta idana is distinguished from the highly similar *B. albimontis* primarily by the male primary and secondary sexual characters. The male sternite VIII is distinctly convex posteriorly (nearly truncate in *B. albimontis*) and the ventral process is somewhat angled in lateral view (smoothly curved in *B. albimontis*).

Distribution and natural history

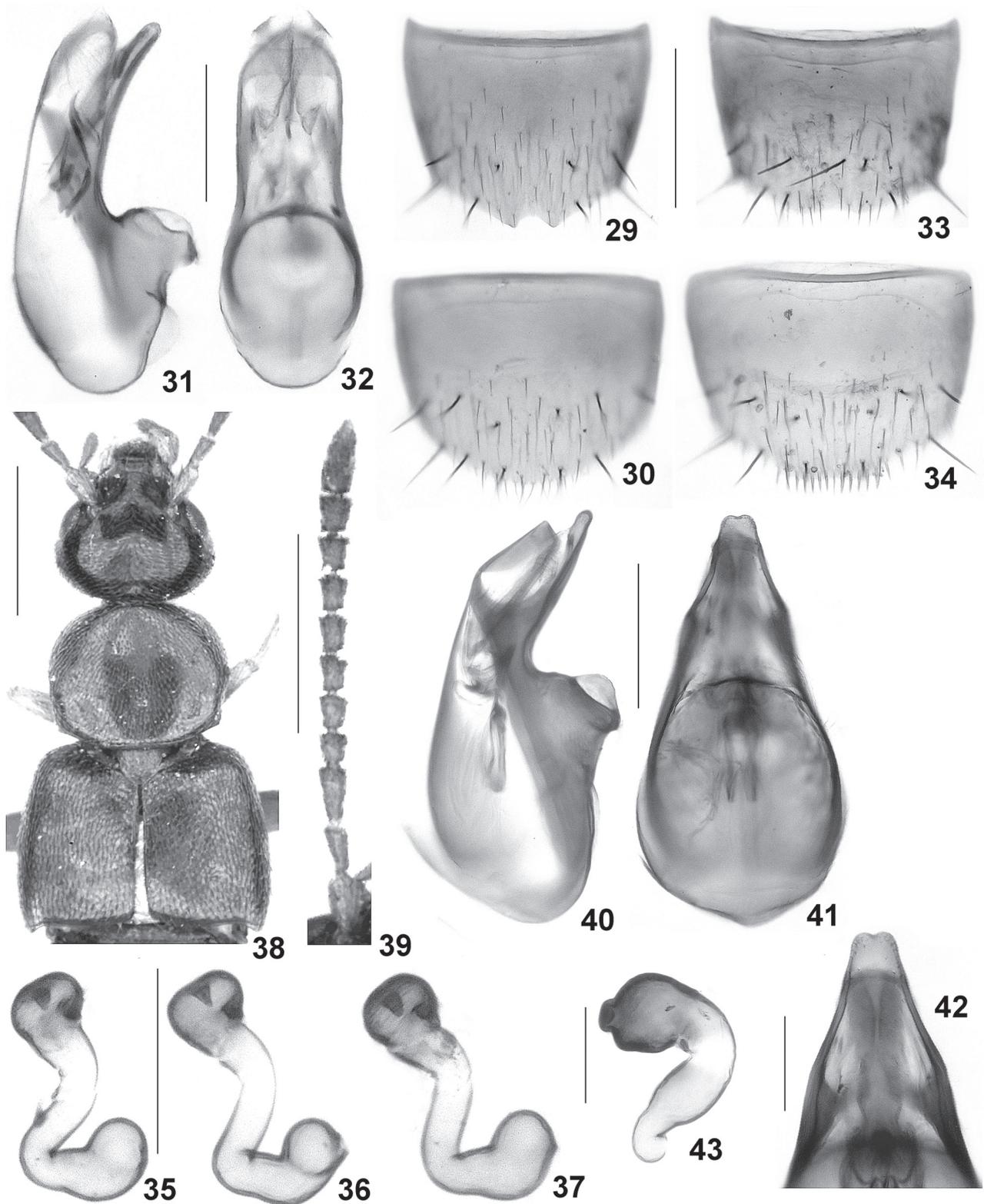
The type specimens were collected near the Mygerou Refuge in the Psiloritis range, where this species is presumably endemic. They were sifted from litter and soil along the margins of snowfields at an altitude of 1670–1700 m.

Geostiba (Sipalotricha) paulexsecta n. sp. (Figs. 29–37)

Type material

Holotype ♂: “GR – Crete [18], Psiloritis, SW Anogia, Mygerou Refuge, 1700 m, sifted, 35°14'09"N, 24°47'00"E, 13.IV.2014, V. ASSING / Holotypus ♂ *Geostiba paulexsecta* sp. n. det. V. ASSING 2014” (cAss).

Paratypes: 2 ♂♂: same data as holotype (cAss); 1 ♀: same data, but leg. WUNDERLE (cWun); 1 ♀: “GR – Crete [17], Psiloritis, SW Anogia, Mygerou Refuge, 1670 m, sifted, 35°14'11"N, 24°46'55"E, 13.IV.2014, V. ASSING” (cAss); 27 ♂♂, 38 ♀♀: “GR – Crete [24], Psiloritis, ca. 8 km SSW Zoniana, 35°13'45"N, 24°48'10"E, 1730 m, snowfields, 15.IV.2014, V. ASSING” (cAss, MNHUB); 31 ♂♂, 29 ♀♀: same data, but leg. WUNDERLE (cWun).



Figs. 29–43. *Geostiba paulexsecta* (29–37) and *Myrmecopora thriptica* (38–43). – 29. Male tergite VIII. 30. Male sternite VIII. 31–32, 40–41. Median lobe of aedeagus in lateral and in ventral view. 33. Female tergite VIII. 34. Female sternite VIII. 35–37, 43. Spermatheca. 38. Male forebody. 39. Male antenna. 42. Ventral process of aedeagus in ventral view. – Scale bars: 0.5 mm (38–39), 0.2 mm (29–30, 33–34, 40–41), 0.1 mm (31–32, 35–37, 42–43).

Etymology

The specific epithet is an adjective composed of the Latin adverb paulum (barely, slightly) and the past participle of the Latin verb exsecare (to excise). It alludes to the small and shallow posterior excision of the male tergite VIII.

Description

Body length 2.2–2.8 mm; length of forebody 0.9–1.1 mm. Coloration: body yellowish-red to reddish, with the head often slightly darker and abdominal segments V–VII more or less extensively infuscate; legs yellowish; antennae brown, with antennomeres I–II yellowish.

External characters as in other Cretan *Sipalotricha* species; distinguished only by the sexual characters.

♂: tergite VIII (Fig. 29) with small and shallow posterior excision; sternite VIII as in Fig. 30; median lobe of aedeagus (Figs. 31, 32) approximately 0.27 mm long, without spines in internal sac.

♀: posterior margin of tergite VIII with weakly pronounced median concavity (Fig. 33); sternite VIII as in Fig. 34, median portion of posterior margin with stout marginal setae; spermatheca with distal portion of capsule moderately dilated and proximal portion of somewhat variable shape (Figs. 35–37).

Comparative notes

Seven locally endemic species of the subgenus *Sipalotricha* Scheerpeltz, 1931 were previously known from Crete, two from the Lefka Ori and their eastern extensions, two from the Dikti Oros, one from the Orno Thriptis, and two, *G. exsecta* Assing, 1999 and *G. idaea* Pace, 1996, from the Psiloritis range (ASSING 2013a). The new species is distinguished from the latter as follows:

– from *G. exsecta* by the much smaller and shallower posterior excision of the male tergite VIII, the slightly smaller median lobe of the aedeagus (*G. exsecta*: approximately 0.3 mm), with a less pronounced crista apicalis and a broader ventral process in ventral view, the less broad posterior concavity of the female tergite VIII, and the slightly different shape of the spermatheca;

– from *G. idaea* by the narrower, deeper, and more defined posterior excision of the male tergite VIII, the absence of spines in the internal sac of the aedeagus, the more pronounced median concavity of the posterior margin of the female tergite VIII, and by the slightly different shape of the spermatheca.

For illustrations of the sexual characters of *G. exsecta* and *G. idaea* see ASSING (1999).

Distribution and natural history

The known distribution of *G. paulexsecta* is confined to two localities in the Psiloritis range. The specimens were sifted from litter and soil at the margins of snowfields at altitudes of 1670–1730 m.

Myrmecopora (Myrmecopora) thriptica n. sp.

(Figs. 38–43)

Type material

H o l o t y p e ♂ [with a worker of *Messor* sp. attached to the pin]: “GR – Crete [11], Orno Thriptis, E Thripti, 35°05'34"N, 25°52'41"E, 970 m, under stones, 10.IV.2014, V. ASSING / Holotypus ♂ *Myrmecopora thriptica* sp. n. det. V. ASSING 2014” (cAss).

Paratypes: 2 ♂♂, 4 ♀♀: same data as holotype (cAss); 1 ♂, 2 ♀♀: “GR – Crete [5], Orno Thriptis, SE Thripti, 35°05'07"N, 25°52'59"E, 1300 m, under stones, 8.IV.2014, V. ASSING” (cAss); 1 ♀: “GR – Crete [2], Thriptis Mt., SE Thripti, 1250 m, 35°05'07"N, 25°52'58"E, under stones, 25.III.2012, V. ASSING” (cAss); 1 ♂: “GR – Crete [3], Orno Thriptis, E Thripti, 35°05'34"N, 25°52'41"E, 970 m, under stones, 7.IV.2014, WUNDERLE” (cWun); 1 ♀: same data, but “... [3b] ... 8.IV.2014” (cWun); 1 ♂: same data, but “... [11a] ... 11.IV.2014” (cWun).

Etymology

The specific epithet (adjective) is derived from Orno Thriptis, the name of the mountain where the species was discovered and where it appears to be endemic.

Description

Body length 3.2–4.0 mm; length of forebody 1.4–1.7 mm. Coloration: head dark-brown; pronotum and elytra brown; abdomen blackish-brown, with the anterior segments and the apex slightly paler; legs yellowish-brown; antennae dark-reddish, with antennomeres I–II somewhat paler.

Head (Fig. 38) strongly transverse and wedge-shaped, 1.20–1.25 times as broad as long; punctuation moderately dense and very fine, more distinct in male than in female; interstices with shallow microsculpture. Eyes approximately as long as postocular region in dorsal view. Antenna (Fig. 39) 1.2–1.3 mm long, slightly longer in male than in female; antennomere III slightly more than twice as long as broad, longer than II; IV–X oblong, but less than 1.5 times as long as broad, more oblong in male than in female; XI slender, approximately as long as the combined length of IX and X.

Pronotum (Fig. 38) 1.25–1.30 times as broad as long and 1.10–1.15 times as broad as head; punctuation dense and fine.

Elytra (Fig. 38) 0.90–0.95 times as long as pronotum; posterior margin sinuate near postero-lateral angles; punctuation fine and dense. Hind wings fully developed.

Legs very long and slender; metatarsus almost as long as metatibia; metatarsomere approximately as long as the combined length of II–IV.

Abdomen narrower than elytra; punctuation fine, but distinct, somewhat denser on anterior than on posterior tergites; interstices glossy; posterior margin of tergite VII with palisade fringe.

♂: head in postero-median portion with pronounced impression (Fig. 38); pronotum broadly impressed along midline (Fig. 38); posterior margins of tergite VIII and

sternite VIII broadly convex; median lobe of aedeagus (Figs. 40, 41) 0.57–0.58 mm long; ventral process rather broad basally and weakly excised apically in ventral view (Fig. 42).

♀: head without impression; pronotum with narrow and shallow impression along midline; spermatheca as in Fig. 43.

Comparative notes

The new species is distinguished from the four previously known Cretan representatives of the subgenus *Myrmecopora* as follows:

– from *M. elisa* (Dikti range), its geographically closest consubgener, by on average smaller body size and by the differently shaped ventral process of the aedeagus in ventral view;

– from *M. idana* (Psiloritis range) by shorter and less slender antennae with less oblong antennomeres IV–X and by the apically less abruptly narrowed ventral process of the aedeagus in ventral view;

– from *M. plana* (Lefka Ori) by the shorter and less slender antennae (*M. plana*: antennomeres IV–X almost twice as long as broad), the more pronounced and more extensive impressions on the male head and pronotum, and by the shape of the ventral process of the aedeagus (*M. plana*: ventral process slightly shorter, basally narrower in ventral view);

– from *M. fornicata* (extreme west of Crete) by the shorter and less slender antennomeres with distinctly less oblong antennomeres IV–X, the more distinct and extensive impressions on the male head and pronotum, by the distinctly larger median lobe of the aedeagus (*M. fornicata*: approximately 0.5 mm), and by the shape of the ventral process of the aedeagus, particularly in ventral view.

For illustrations of the sexual characters of the compared species see Figs. 6–10 and ASSING (1997, 2013a).

Distribution and natural history

Myrmecopora thriptica is currently known only from the Orno Thriptis, where it is probably endemic. The specimens were found in nests of *Messor* sp. under stones at the margin of a moist pasture and beside a pista at altitudes of 970–1300 m.

Sunius thripticus n. sp.

(Figs. 44–48)

Type material

H o l o t y p e ♂: “GR – Crete [11a], Orno Thriptis, E Thripti, 35°05'34"N, 25°52'41"E, 970 m, under stones, 11.IV.2014, V. ASSING / Holotypus ♂ *Sunius thripticus* sp.n. det. V. ASSING 2014” (cAss).

P a r a t y p e s: 1 ♀: same data, but “... [3] ... 7.IV.2014” (cAss); 1 ♀: same data, but “... [11] ... 10.IV.2014” (cAss).

Etymology

The specific epithet (adjective) is derived from Orno Thriptis, the mountain where the type locality is situated.

Description

Body length 2.6–2.8 mm; length of forebody 1.3–1.4 mm. External characters (Fig. 44) as in *S. diktianus* Assing, 2013.

♂: sternite VII unmodified; sternite VIII (Fig. 49) with indistinct median elevation with denser pubescence, posterior excision small and broadly triangular; aedeagus (Figs. 46, 47) 0.36 mm long; internal sac with series of a few sclerotized spines of different lengths, the larger ones stout and broad-based (Fig. 48).

Comparative notes

As can be inferred from the extremely similar external and particularly the highly similar male sexual characters, *S. thripticus* is closely allied to, most likely the adelphotaxon of, *S. diktianus* from the Dikti Oros, the only other representative of the *S. seminiger* group known from Crete. Both species are reliably distinguished merely by the shapes of the internal spines of the aedeagus, which are stouter and broad-based in *S. thripticus* and slender in *S. diktianus*. For illustrations of *S. diktianus* see ASSING (2013a).

Distribution and natural history

Sunius thripticus is probably endemic to the Orno Thriptis, eastern Crete, which is separated from the Dikti Oros (where *S. diktianus* is distributed) by a deep valley of little more than 100 m altitude at its highest point. The specimens were collected from under stones in a moist pasture with *Juncus* at an altitude of nearly 1000 m. Despite extensive efforts on five days using various methods, PAUL WUNDERLE and I found only three specimens. The type locality is identical to that of *Myrmecopora thriptica* and *Astenus thripticus*.

Quedius praecisus n. sp.

(Figs. 49–59)

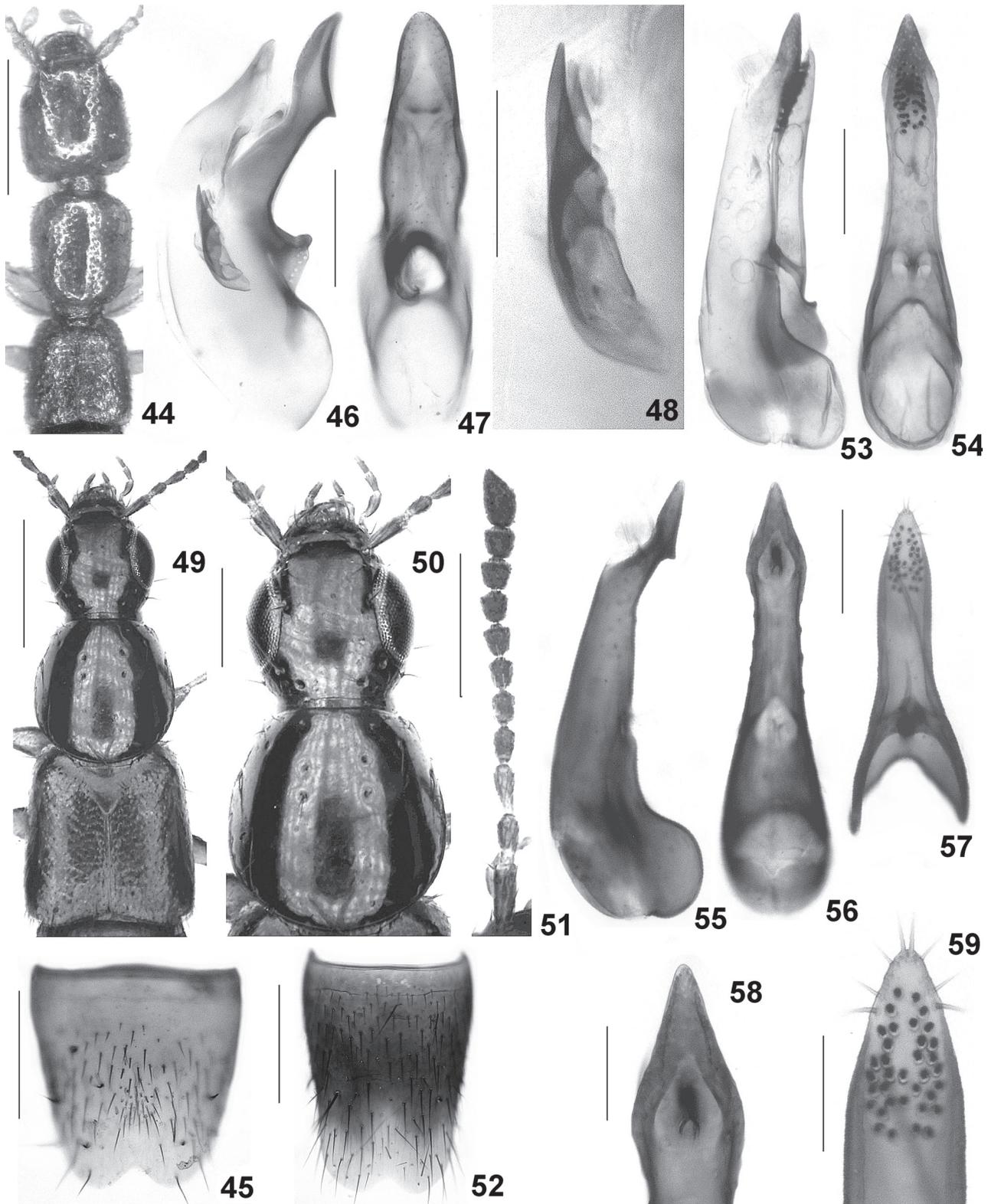
Type material

H o l o t y p e ♂: “GR – Crete [3a], Orno Thriptis, E Thripti, 35°05'34"N, 25°52'41"E, 970 m, soil sifted, 7.IV.2014, V. ASSING / Holotypus ♂ *Quedius praecisus* sp.n. det. V. ASSING 2014” (cAss).

P a r a t y p e s: 1 ♂: same data as holotype (cAss); 1 ♂: “GR – Crete [3], Orno Thriptis, E Thripti, 35°05'34"N, 25°52'41"E, 970 m, under stones, 7.IV.2014, V. ASSING” (cAss); 1 ♂: “GR – Crete [4], Orno Thriptis, E Thripti, SE Thripti, 1130 m, sifted, 35°05'16"N, 25°52'58"E, 7.IV.2014, V. ASSING” (cAss).

Etymology

The specific epithet is the past participle of the Latin verb praecidere (to shorten) and alludes to the short paramere (in relation to the median lobe).



Figs. 44–59. *Sunius thripticus* (44–48) and *Quedius praecisus* (49–59). – 44, 49. Forebody. 45, 52. Male sternite VIII. 46–47, 53–54. Aedeagus in lateral and in ventral view. 48. Internal structures of aedeagus in lateral view. 50. Head and pronotum. 51. Antenna. 55–56. Median lobe of aedeagus in lateral and in ventral view. 57. Paramere. 58. Apex of median lobe of aedeagus in ventral view. 59. Apex of paramere. – Scale bars: 1.0 mm (49), 0.5 mm (44, 50–52), 0.2 mm (45, 53–57), 0.1 mm (46–47, 58–59), 0.05 mm (48).

Description

Body length 7.0–7.5 mm; length of forebody 3.3–3.5 mm. Forebody as in Fig. 49. Coloration: head and pronotum blackish; elytra blackish, with the humeral and lateral portions extensively and the posterior margin narrowly yellowish; abdomen blackish, with the posterior margins of segments VII and VIII pale-reddish; legs dark-yellowish; antennae blackish-brown to blackish, with the base of antennomere II reddish and antennomere III partly or completely reddish to brown.

Head shaped as in Fig. 50; dorsal surface with fine transverse microsculpture. Antenna (Fig. 51) 1.6–1.7 mm long.

Pronotum (Fig. 50) 1.00–1.05 times as long as broad and approximately 1.25 times as broad as head; lateral margins smoothly convex in dorsal view; microsculpture similar to that of head.

Elytra (Fig. 49) of somewhat variable length, 0.67–0.77 times as long as pronotum; punctation rather dense; interstices approximately as broad as, or slightly broader than, diameter of punctures. Hind wings fully developed.

Abdomen anteriorly with dense, posteriorly with sparser fine punctation; interstices with extremely fine and shallow, barely noticeable microsculpture; posterior margin of tergite VII with palisade fringe.

♂: posterior excision of sternite VIII rather broadly triangular and not very deep (Fig. 52); aedeagus (Figs. 53–59) approximately 0.85 mm long; paramere rather short, far from reaching apex of median lobe; median lobe apically acutely spear-shaped in ventral view and with pronounced subapical tooth; paramere apically with a cluster of numerous black peg-setae.

Comparative notes

Based on the extremely similar external characters (coloration, size, punctation, microsculpture) and on the general morphology of the aedeagus, *Q. praecisus* is closely allied to the widespread *Q. nemoralis*, from which it is reliably distinguished only by the morphology of the aedeagus, particularly the relatively shorter paramere and the shape of the apex of the median lobe. Among the illustrations provided by COIFFAIT (1978), the aedeagus of *Q. praecisus* most resembles those given for *Q. josue* Saulcy, 1865 (and *Q. troodites* Fagel, 1968; a junior synonym of *Q. josue*) from the Middle East and Cyprus, which differs from *Q. praecisus* by distinctly larger body size (no overlap), the coloration (*Q. josue*: antennomeres I–III more or less completely reddish-yellow; elytra more extensively yellowish to reddish), and the morphology of the aedeagus (much more robust; median lobe almost straight in lateral view and broader in ventral view).

Distribution and natural history

The known distribution is confined to the Orno Thrip-tis in the extreme east of Crete. However, the fully devel-

oped wings suggest that the species is distributed across the whole island, possibly also in neighbouring islands such as Karpathos. Three of the type specimens were sifted from leaf litter, grass roots, and soil, and one was collected from under a stone in a moist pasture with *Juncus* and on a slope with oak trees at altitudes of 970 and 1130 m. The type locality is identical to that of *Myrmecopora thriptica*, *Sunius thripticus*, and *Astenus thripticus*.

Xantholinus erinaceus n. sp.

(Figs. 60–63)

Type material

Holotype ♂: “GR – Crete [20], NW Perama, 35°24'39"N, 24°40'45"E, 10 m, ruderal river bank, 14.IV.2014, V. ASSING / Holotypus ♂ *Xantholinus erinaceus* sp. n. det. V. ASSING 2014” (cAss).

Paratypes: 1 ♂, 1 ♀ [slightly teneral]: same data as holotype (cAss, MNHUB); 1 ♂: “GR – Crete [2], 20 km SW Chania, 1040 m, NE Omalos, 35°21'01"N, 23°54'35"E, 24.XII.2013, V. ASSING & T. FORCKE” (cAss); 1 ♂: “GR – Crete [12], 760 m, 17 km S Kissamos, 35°20'22"N, 23°39'45"E, pasture, 29.XII.2013, V. ASSING & T. FORCKE” (cAss); 1 ♀: “GR – Crete [9a], Chania, 35°30'40"N, 23°59'51"E, 1 m, sandy beach, 31.XII.2013, leg. FORCKE” (MNHUB); 1 ♀: “GR – Crete [11], 880 m, Askifou → Asigonia, 35°14'56"N, 24°13'36"E, u. stones, 28.XII.2013, V. ASSING & T. FORCKE” (MNHUB); 4 ♂♂, 3 ♀♀: “GR: Crete [2] Rethymn.: ca. 1,5 km S Kanevos, Kotsifos cleft, 440 m, 35°13'36"N, 24°24'00"E, 20.X.2006, M. SCHÜLKE” (cSch, cAss); 4 ♂♂: “Kreta: Ierapetra, 15.IV.–13.V.1971, MALICKY” (MNHUB).

Etymology

The specific epithet (Latin: hedgehog) is a noun in apposition and alludes to the numerous conspicuously long spines in the internal sac of the aedeagus.

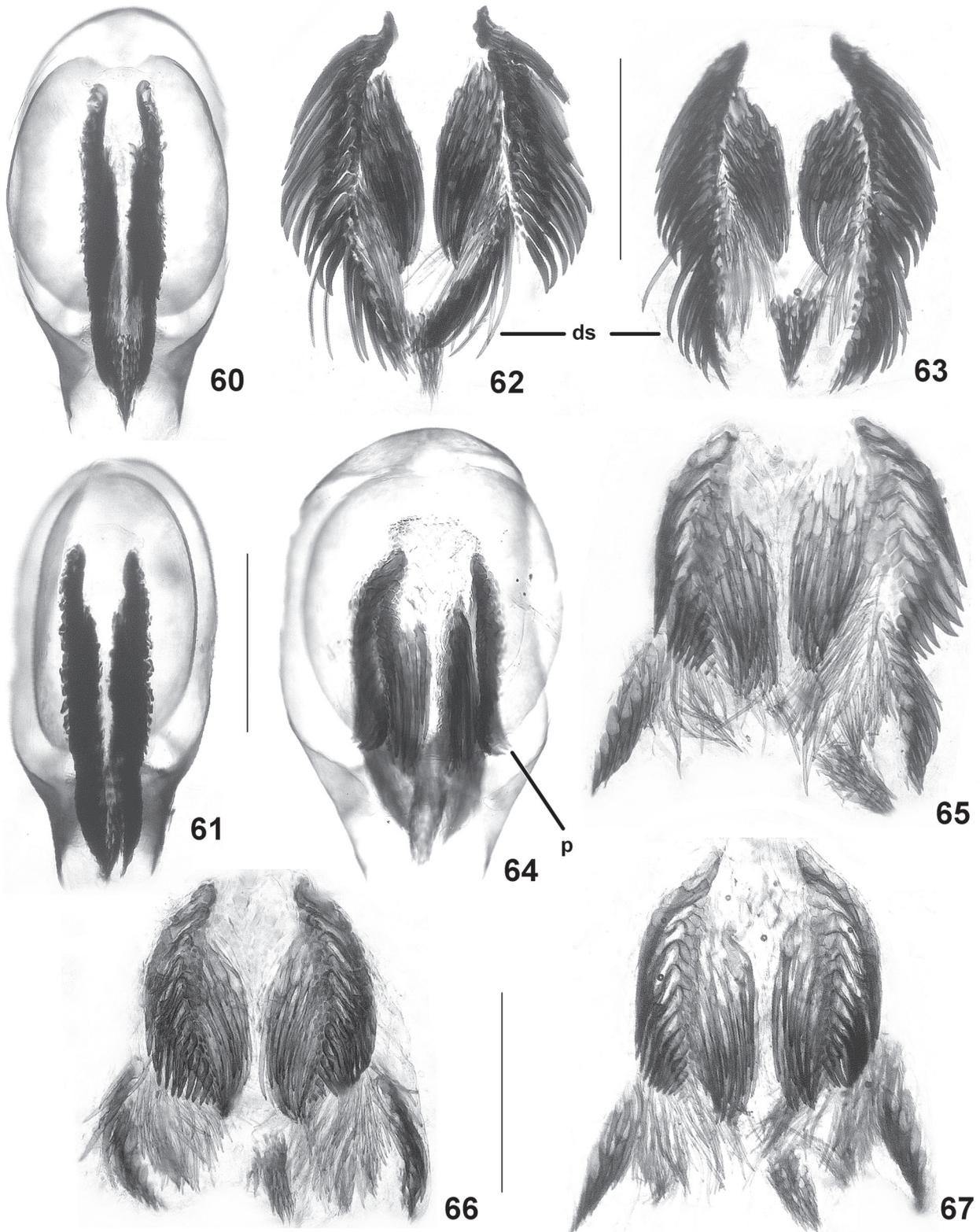
Description

Body length 9.0–11.5 mm; length of forebody 4.9–5.5 mm. Coloration: body black with reddish elytra; legs reddish; antennae dark-brown with antennomeres I–II(III) at least partly reddish. External characters as in *X. rufipennis* Erichson, 1839; distinguished only by the internal structures of the aedeagus.

♂: aedeagus approximately 1.2 mm long; shape and internal structures as in Figs. 60–63.

Comparative notes

As can be inferred from the similar arrangement of the internal spines of the aedeagus, *X. erinaceus* is closely related to the externally indistinguishable *X. rufipennis*, a widespread and rather common species in the East Mediterranean region. In order to assess the internal structures of the aedeagus of both species, the aedeagi were dissected, and the internal structures were extracted and squeezed, so as to allow full visibility of all the spines. A systematic comparison of the type material of *X. erinaceus* with males of *X. rufipennis* from various localities



Figs. 60–67. *Xantholinus erinaceus* (60–63) and *X. rufipennis* (64–67). – 60–61, 64. Aedeagus in dorsal view of holotype (60), male from Omalos (61), lectotype (64). 62–63, 65–67. Internal structures of aedeagus in squeeze preparation of males from Kanevos (62), Omalos (63), Karpathos (65), Israel (66), and Rhodos (67). – Abbreviations: ds = distal series; p = lateral projection. – Scale bars: 0.5 mm.

in the East Mediterranean from Albania to Israel, including several Greek islands (Karpathos, Rhodos, Naxos, Paros, Lesbos) and Cyprus (partly listed in ASSING 2007), revealed that the spines of *X. erinaceus*, particularly those in the distal portion (ds in Figs. 62, 63) of the aedeagus, are longer and more slender (for illustrations of *X. rufipennis* see Figs. 65–67). Moreover, the orientation of the series of spines in the aedeagus is somewhat different, even if one accounts for some variability and the fact that the position of the spine series in the aedeagus is not fixed. In *X. rufipennis*, the series are shorter (Fig. 64) and the proximal series of long spines usually face laterad in the middle (p in Fig. 64) in normal position, which is not the case in *X. erinaceus*. Based on an examination of eight males of *X. erinaceus* (the aedeagi of the four males from Ierapetra are too bleached to fully assess their internal structures) and numerous males of *X. rufipennis*, these differences appear to be constant, suggesting that, unlike those from neighbouring islands such as Karpathos, the Cretan populations have been isolated long enough to evolve into a distinct species (or subspecies). There are numerous other examples of Crete hosting endemic species that are similar and closely related to widespread taxa in Staphylinidae, e. g., *Alevonota cretica*, *Atheta cretica*, *Boreaphilus fuelscheri*, *Dinusa cretica*, *Lesteva longoelytrata cretica*, *Pronomaea wunderlei*, *Quedius sigwalti*, and *Xantholinus minos*.

Distribution and natural history

The distribution of *X. erinaceus* is confined to Crete, where it was found both in the east and in the west. The material was collected from under stones in pastures, on a ruderal river bank, and on a sandy beach from sea-level up to 1040 m altitude. Two specimens found in April are slightly teneral.

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