©www.senckenberg.de/; download www.contributions-to-entomology.org/

CONTRIBUTIONS TO ENTOMOLOGY Beiträge zur Entomologie

68 (1): 069–081
2018

SENCKENBERG

© 2018 The Authors

A revision of *Medon*. XI. Five new species, additional records, and the first confirmed records from the Oriental region (Coleoptera: Staphylinidae: Paederinae)

With 30 figures and 1 map

Volker Assing [1]

[1] Gabelsbergerstraße 2, 30163 Hannover, Germany. – vassing.hann@t-online.de

Published on 2018–08–01
DOI: 10.21248/contrib.entomol.68.1.069-081

Abstract

Five species of the paederine genus *Medon* Stephens, 1833 from the East Palaearctic and Oriental regions are described and illustrated: *Medon arunicus* spec. nov. (East Nepal: Arun valley) and *M. acutapicalis* spec. nov. (East Nepal: Theratum district) of the *M. apicalis* group; *M. sundaicus* spec. nov. (Indonesia: Java, Sulawesi) and *M. sabahicus* spec. nov. (Malaysia: Sabah) of the *M. ferrugineus* group; *M. emeianus* spec. nov. (China: Emei Shan) of the *M. profundus* group. *Medon sundaicus* and *M. sabahicus* represent the first confirmed records of the genus from the Oriental region. Additional records of 32 species and subspecies are reported, among them several new country records. *Medon* is now represented in the Palaearctic region by five species groups and 86 confirmed species, 23 of which are distributed in the East Palaearctic region.

Nomenclatural acts

Medon arunicus spec. nov. – urn:lsid:zoobank.org:act:69F2F945-73D2-455D-A9E4-AED64A103AE8
Medon acutapicalis spec. nov. – urn:lsid:zoobank.org:act:78914E12-DB20-4D30-AA87-E81646700BC5
Medon sundaicus spec. nov. – urn:lsid:zoobank.org:act:5009E115-85F9-441E-9348-2FFCEEC75102
Medon sabahicus spec. nov. – urn:lsid:zoobank.org:act:24AF6CD2-27BC-45D4-A2AB-735AA815D552
Medon emeianus spec. nov. – urn:lsid:zoobank.org:act:30FF85B2-BAA4-466A-8544-39A67BC45938

Key words

Coleoptera, Staphylinidae, Paederinae, *Medon*, Palaearctic region, Oriential region, Nepal, taxonomy, new species, new records

Zusammenfassung

Fünf Arten der Gattung *Medon* Stephens, 1833 (Paederinae) aus der Ostpaläarktis und der Orientalis werden beschrieben und abgebildet: *Medon arunicus* spec. nov. (Ost-Nepal) und *M. acutapicalis* spec. nov. (Ost-Nepal) aus der *M. apicalis*-Gruppe, *M. sundaicus* spec. nov. (Indonesien: Java, Sulawesi) und *M. sabahicus* spec. nov. (Malaysia: Sabah) aus der *M. ferrugineus*-Gruppe sowie *M. emeianus* spec. nov. (China: Emei Shan) aus der *M. profundus*-Gruppe. Mit *Medon sundaicus* und *M. sabahicus* wird die Gattung erstmals für die Orientalis bestätigt. Weitere

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Nachweise von 31 Arten und Unterarten werden gemeldet, darunter mehrere Erstnachweise. *Medon* ist derzeit in der Paläarktis mit fünf Artengruppen und 86 revidierten Arten vertreten, von denen 23 in der Ostpaläarktis verbreitet sind.

Introduction

According to recent revisions, the genus *Medon* Stephens, 1833 was previously represented in the Palaearctic region sensu Schülke & Smetana (2015) by 81 species, one of them with five subspecies, in five species groups. Four of these species and one subspecies are of doubtful identity (Assing 2004a–b, 2005, 2006, 2007a–b, 2009, 2010, 2013, 2014). Two additional species were described recently from the Greek island Karpathos and from Japan by Assing (2016) and Shibata & Fujimoto (2017), respectively. For details on the zoogeography, species groups, diversity, and an updated catalogue of the Palaearctic *Medon* fauna see Assing (2013). So far, all the revised *Medon* species from the Oriental region have proved to belong to other genera of *Medonina*.

Since the latest contribution, more material from various collections has been examined. In all, 36 species and subspecies were identified, including two new species from Nepal, one from China, and two from Indonesia and Malaysia, the first confirmed records of the genus from the Oriental region.

Material and methods

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

BMNH	The Natural History Museum, London (R. G. Booth, M. Barclay)
CAS	Chinese Academy of Sciences, Beijing
HNHM	Hungarian Natural History Museum, Budapest (Gy. Makranczy)
MHNG	Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)
MNB	Museum für Naturkunde, Berlin (including coll. Schülke; J. Frisch, M. Schülke, J. Willers)
NME	Naturkundemuseum Erfurt (M. Hartmann, assisted by W. Apfel)
cApf	private collection Wolfgang Apfel, Eisenach
cAss	author´s private collection
cFel	private collection Benedikt Feldmann, Münster
cKoc	private collection Matúš Kocian, Praha
cPüt	private collection Andreas Pütz, Eisenhüttenstadt
cRou	private collection Guillaume de Rougemont, Oxford
cSha	private collection Alexey Shavrin, Daugavpils
cSme	private collection Aleš Smetana, Ottawa

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software, as well as a digital camera (Nikon Coolpix 995). The map was created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the mandibles to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior constriction of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the 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.

Species descriptions and additional records

Medon apicalis group

Medon apicalis (Kraatz, 1857)

(Map 1)

Material examined: **Hungary**: 2 exs., Bács-Kiskun, Kunpeszér, car-net, 27.IV.2005, leg. Merkl & Vörös (HNHM); 1 ex., Budapest, Tündér-hegy, car-net, 2.V.2002, leg. Merkl (HNHM); 1 ex., Nógrád, Ipolytarnóc, Borókás-árok, car-net, 29.VII.2001, leg. Merkl (cAss). **Croatia**: 1 ♀, Zadar region, SE Pag, Rtina Miletici, 44°19'N, 15°16'E, 25 m, 30.VIII.2014, leg. Frenzel (NME). **Turkey**: 3 exs., Istanbul, Belgrad Ormanı, near Ikinci, Mahmut Göleti, 41°12'N, 28°59'E, IX.2014, leg. Hetzel (cFel, cAss).

Comment: The above record from Turkey considerably expands the known distribution of *M. apicalis* southeastwards. The species was recently also recorded from Greece (Corfu) for the first time (Assing et al. 2018). Based on previously available material, the distribution type had been categorized as expansive Atlanto-Mediterranean (Assing 2006), a hypothesis that is no longer supported by the recent records from the southern Balkans and from Turkey. Based on currently available data, the distribution of *M. apicalis* is of the Holo-Mediterranean type (Map 1). There are, however,

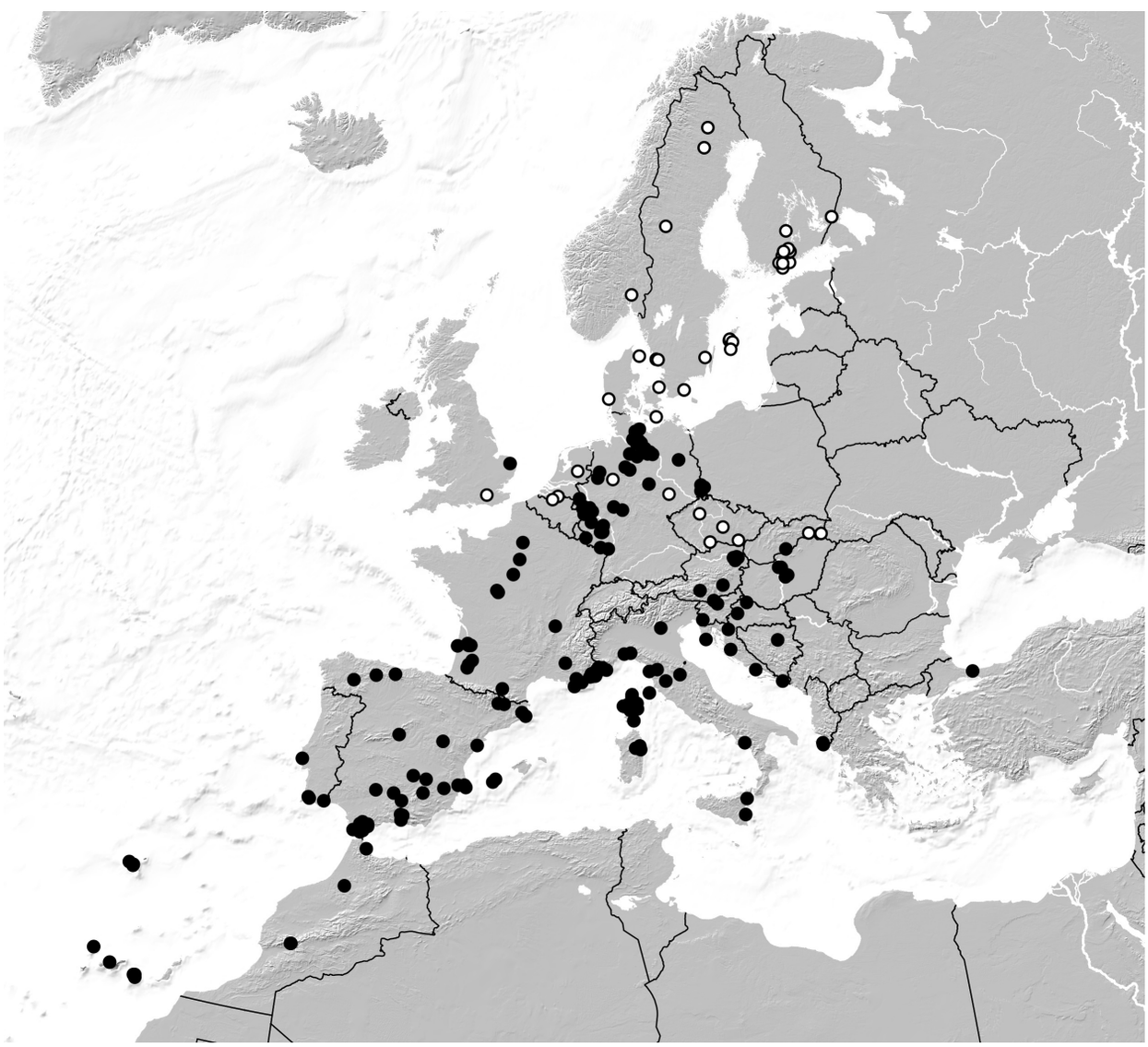
©www.senckenberg.de/; download www.contributions-to-entomology.org/

significantly more records from the West Mediterranean than from the East Mediterranean region. Since most of the material was collected on the wing, usually with carnets and flight interception traps, this observation could be explained with a sampling bias. Another explanation could be that *M. apicalis* is less common in the East Mediterranean as a result of competition with other species of the *M. apicalis* group, as is evidently the case in Italy (competition with *M. perniger* Coiffait, 1978). The specimen from Istanbul was collected together with *M. maronitus*.

Medon maronitus (Saulcy, 1865)

Material examined: **Turkey**: 9 exs., Istanbul, Belgrad Ormanı, near Ikinci, Mahmut Göleti, 41°12'N, 28°59'E, IX.2014, leg. Hetzel (cFel, cAss).
Armenia: 1 ♂, Dashtakar env., bank of Vedi river, 39.92°N, 44.78°E, 1000 m, 18.V.2015, leg. Kocian (cKoc).
Georgia: 1 ex., Kachetia, Tsiv-Gombori mountain range, 5 km W Telavi, 41°54'N, 45°24'E, 1090 m, beech forest, 8.VII.2015, leg. Pütz (cPüt); 1 ex., Kachetia, Tsiv-Gombori mountain range, 3 km N Sagarejo,41°45'N, 44°19'E, 930 m, beech forest, 30.VI.2015, leg. Pütz (cAss).
Iran: **Gilan**: 6 exs., S Astara, W Lomir, 38°13'N, 48°53'E, 100 m, 10.X.2011, leg. Frisch (MNB, cAss). **Ilam**: 1 ex., 5 km SE Darreh Shar, 33°06'N, 47°27'E, 620 m, 19.X.2011, leg. Frisch (MNB); 4 exs., S Hashtpar, Asalem, 37°42'N, 48°53'E, 110 m, 9.X.2011, leg. Frisch (MNB, cAss); 1 ex., pass Khalkhal-Asalem, 37°36'N, 48°40'E, 2070 m, 13.X.2011, leg. Frisch (MNB).

Comment: The vast distribution ranges from the southern Balkans to Middle Asia and the Middle East (Assing 2009). The above male from Armenia represents a new country record.



Map 1: Distribution of *Medon apicalis* in the West Palaearctic region, based on revised (black circles) and selected literature records (white circles).

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Medon petrochilosi Coiffait, 1970

Material examined: **Greece**: 1 ♂, 2 ♀♀, Pelopónnisos, S Diakopto, road to Kalavrita, 38°08–10'N, 22°14–17'E, 50–500 m, car-net, 6.IV.2016, leg. Schülke (MNB, cAss).

Comment: The known distribution ranges from Croatia and Macedonia southwards to the southern Peloponnisos. For a map see Assing (2013).

Medon guignoti Coiffait, 1987

Material examined: **Greece**: 1 ♂, Evia, road Metochi-Kimi, Oros Pighadhaki, 38°39'N, 23°59'E, 580 m, 7.VI.2012–8.VI.2014, leg. Giachino & Vailati (cAss).

Comment: The distribution of this rarely found species is confined to the southern Balkans (Greece, Macedonia, Bulgaria). For a map see Assing (2013).

Medon excavatus Assing, 2013

Material examined: **Greece**: 1 ♂, Pelopónnisos, Ahaia, Oros Skepasto, Plataniotisa, Agios Konstantinos, 38°05'N, 22°05'E, 1040 m, subterranean pitfall trap, 20.V.2011–2.VI.2012, leg. Giachino & Vailati (cAss); 1 ♂, Pelopónnisos, Aroania, E Kalavrita, road to ski resort, 38°00–01'N, 22°09–11'E, 1250–1500 m, car-net, 5.IV.2016, leg. Schülke (MNB).

Comment: This recently described species has been recorded only from the Peloponnisos, Greece (Assing 2013).

Medon gratus Cameron, 1931

Material examined: **Pakistan**: 10 exs., Swat, Marghuzar, 1300 m, 8.V.1983, leg. Besuchet & Löbl (MHNG, cAss); 1 ex., Swat, Malam Jabba, 2500–2600 m, 18.V.1983, leg. Besuchet & Löbl (cAss).

Comment: *Medon gratus* was previously known from North India and Afghanistan (Assing 2013). The above specimens represent the first records from Pakistan.

Medon dhaulagiricus Assing, 2013

Material examined: **Nepal**: 9 exs., SW-Dhaulagiri, Maraini, 28°31'N, 83°16'E, 2400–2800 m, 11.V.2013, leg. Schmidt (NME, cAss).

Comment: This recently described species was previously known only from the type locality (Marang Khola valley) (Assing 2013).

Medon inexcisus Assing, 2013

Material examined: **Nepal**: 8 exs., Kaski, Bachhar Kharka, NE Sikles, 28°23'N, 84°08'E, 2200–2400 m, 15.IX.2013, leg. Hagge & Schmidt (NME, cAss).

Comment: *Medon excisus* is apparently endemic to the southeastern Annapurna range (Assing 2013).

Medon bifidus Assing, 2013

Material examined: Nepal: 1 ♂, Manaslu, E-slope of Ngali Khola valley, 28°22'N, 84°29'E, 2000–2300 m, 15.V.2005, leg. Schmidt (NME).

Comment: The above male was collected together with the type specimens.

Medon manasluensis Assing, 2010

Material examined: **Nepal**: 3 ♀♀, SE-Manaslu, Gupchi Danda, 28°09'N, 84°47'E, 2900–3200 m, 21.V.2006, leg. Schmidt (NME).

Comment: The identification of the above females is somewhat tentative and mainly based on the vicinity of the above locality to the type locality.

Medon corniger Assing, 2013

Material examined: **Nepal**: 2 ♂♂, Manaslu, E-slope of Ngali Khola valley, 28°22'N, 84°29'E, 2000–2300 m, 15.V.2005, leg. Schmidt (NME, cAss).

Comment: The known distribution of *M. corniger* ranges from the Manaslu range in Central Nepal to Yunnan (China) (Assing 2013).

Medon arunicus spec. nov.

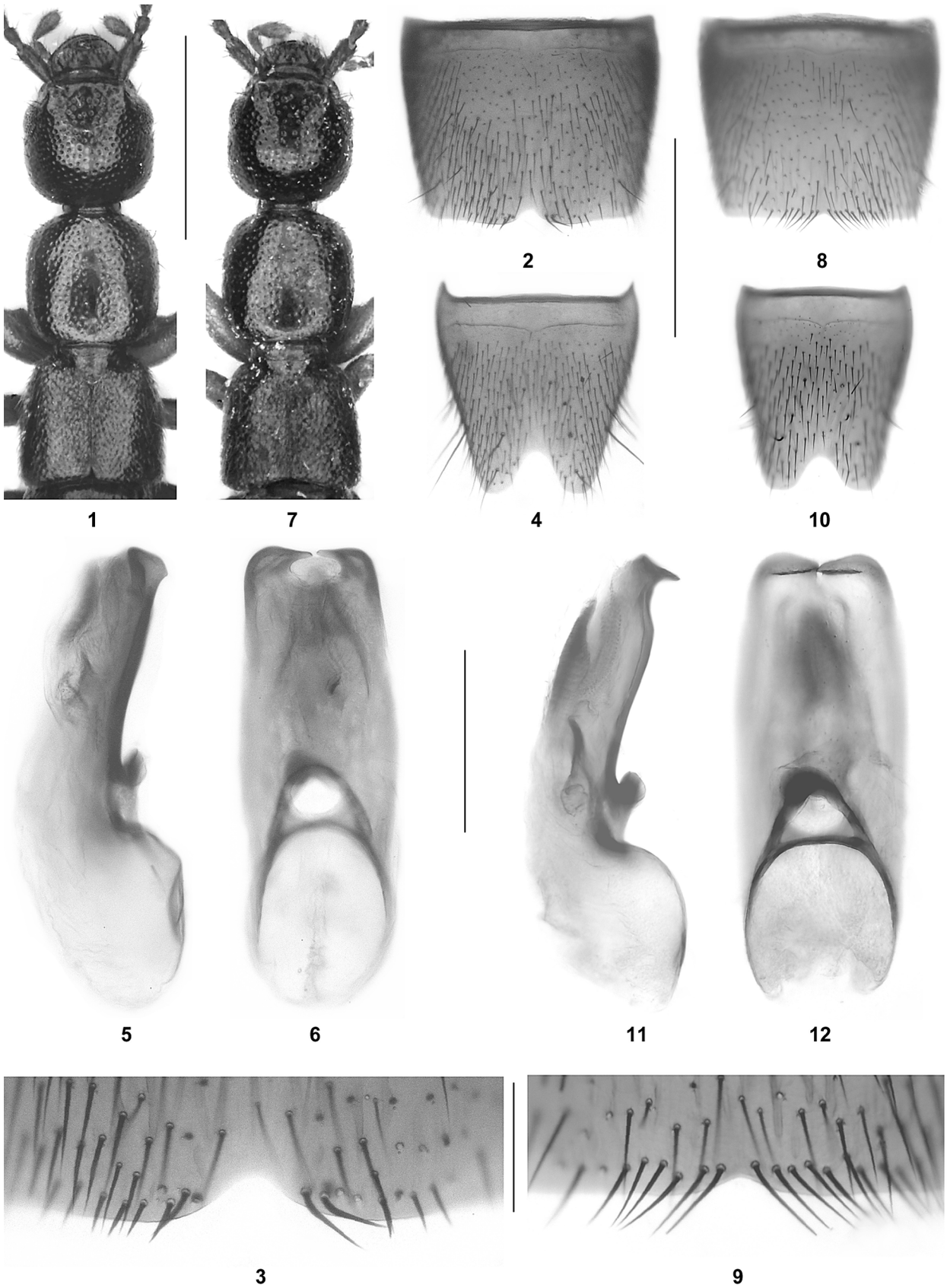
urn:lsid:zoobank.org:act:69F2F945-73D2-455D-A9E4-AED64A103AE8

(Figs 1–6)

Type material: Holotype ♂: "E-NEPAL, Arun Valley, W above Tashigaon, 25–2700 m, 26.–27.V.2014, 27°36'33"N, 87°13'28"E, leg. Schmidt / Holotypus ♂ *Medon arunicus* sp. n., det. V. Assing 2015" (NME). Paratypes: 1 ♂, 1 ex.: same data as holotype (NME, cAss); 1 ♂, 2 ♀♀: "E-NEPAL, Arun Valley, env. Tashigaon, 2200–2400 m, 12.+28.–29.V.2014, 27°37'N, 87°14'E, leg. Schmidt" (NME, cAss).

Etymology: The specific epithet is an adjective derived from Arun, the name of the valley where the type specimens were discovered.

©www.senckenberg.de/; download www.contributions-to-entomology.org/



Figs 1–12: *Medon arunicus* spec. nov. (**1–6**) and *M. acutapicalis* spec. nov. (**7–12**): forebody (**1, 7**); male sternite VII (**2, 8**); postero-median portion of male sternite VII (**3, 9**); male sternite VIII (**4, 10**); median lobe of aedeagus in lateral and in ventral view (**5–6, 11–12**). Scale bars: 1, 7: 1.0 mm; 2, 4, 8, 10: 0.5 mm; 5–6, 11–12: 0.2 mm; 3, 9: 0.1 mm.

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Description: Body length 4.0–4.7 mm; length of forebody 2.2–2.3 mm. Coloration: body blackish-brown to blackish; legs and antennae brown to dark-brown.
Head (Fig. 1) approximately as broad as long; punctation dense and rather coarse, slightly less dense in median dorsal portion; interstices without microsculpture and, except for median dorsal portion, distinctly narrower than diameter of punctures. Eyes of moderate size and moderately convex, approximately 0.7 times as long as postocular region in dorsal view.
Pronotum (Fig. 1) approximately as broad as long and slightly broader than head; punctation about as dense as that of head, but slightly less coarse; midline narrowly impunctate; interstices without microsculpture.
Elytra (Fig. 1) short, 0.70–0.75 times as long as pronotum; punctation dense and fine, rather weakly defined. Hind wings completely reduced. Metatarsomere I nearly as long as the combined length of II and III.
Abdomen slightly broader than elytra; punctation dense and very fine; interstices with shallow microreticulation; posterior margin of tergite VII without palisade fringe.
♂: sternite VII (Figs 2–3) distinctly transverse, posterior margin with broadly V-shaped median excision in the middle, on either side of this excision with two slightly longer and stouter black setae; sternite VIII shaped as in Fig. 4; aedeagus approximately 0.5 mm long and shaped as in Figs 5–6.

Comparative notes: Based on the male primary and secondary sexual characters, *M. arunicus* belongs to the *M. apicalis* group and is closely allied to *M. manasluensis* Assing, 2010 and related species. The aedeagus and the shapes and chaetotaxy of the male sternites VII and VIII are most similar to those of *M. schawalleri* Assing, 2013 from Solukhumbu, which too is an endemic of East Nepal, but differs from the new species by paler coloration (head and pronotum dark-brown; elytra brown; legs dark-yellowish), distinctly sparser and finer punctation of the head and pronotum, smaller and less convex eyes, the shape and chaetotaxy of the male sternite VII (posterior excision narrower, setae on either side of this excision longer, but not stouter than other setae), the shape of the male sternite VIII (posterior excision broader and less deep), and by the shape of the aedeagus (apices slightly longer and less stout). For illustrations of *M. schawalleri* see Assing (2013).

Distribution and natural history: The new species was collected in two close localities near Tashigaon in the Arun valley, East Nepal, at altitudes between 2200 and 2700 m.

Medon acutapicalis spec. nov.

urn:lsid:zoobank.org:act:78914E12-DB20-4D30-AA87-E81646700BC5
(Figs 7–12)

Type material: Holotype ♂: "NEPAL, E, Therathum distr., Basantapur, 2650–2700 m, 28.–29.V.2016, leg. J. Schmidt, 27°10'21"N, 87°25'14"E / collection Naturkundemuseum Erfurt / Holotypus ♂ *Medon acutapicalis* sp. n., det. V. Assing 2016" (NME). Paratypes: 18 exs.: same data as holotype (NME, cAss).

Etymology: The specific epithet (adjective) alludes to the acute apex of the ventral process in lateral view.

Description: Body length 3.3–5.2 mm; length of forebody 1.9–2.3 mm. Coloration: body dark-brown to blackish-brown, with the pronotum and elytra usually slightly paler; legs yellowish-brown to pale-brown; antennae reddish with antennomere I usually slightly darker and the apical antennomeres more or less extensively paler.
Elytra approximately 0.65 times as long as pronotum (Fig. 7). Other external characters as in *M. arunicus*.
♂: sternite VII (Figs 8–9) moderately transverse, approximately 1.2 times as broad as long, posterior margin with small and very shallow median excision in the middle, on either side of this excision with a row of 7–9 long and moderately stout black setae; sternite VIII shaped as in Fig. 10; aedeagus approximately 0.5 mm long and shaped as in Figs 11–12.

Comparative notes: Like the geographically close *M. arunicus*, *M. acutapicalis* belongs to the *M. apicalis* group and is closely allied to *M. manasluensis* and related species. It is distinguished from all the species allied to *M. manasluensis* by the shape of the aedeagus and by the shape and chaetotaxy of the posterior margin of the male sternite VII. It additionally differs from *M. arunicus* by slightly paler coloration (particularly of the legs and antennae) and slightly shorter elytra.

Distribution and natural history: The type locality is situated in Therathum district, East Nepal, at an altitude of 2650–2700 m. As can be inferred from the reduced hind wings and the pronounced local endemism of other species allied to *M. manasluensis*, *M. acutapicalis* probably has a restricted distribution.

Medon brunneus group

Medon brunneus (Erichson, 1839)

Material examined: **France**: 3 exs., Mercantour, N Sospel, NNE Col de Bruis, 43°56'N, 07°29'E, 735 m, 15.VII.2009, leg. Schnitter & Komposch (NME, cAss). **Italy**: **Veneto**: 2 exs., Valdobbiadene (TV), Pian de Farne, 45°56'N, 12°02'E, 1000 m, 26.IX.2013, leg. Meybohm (cAss, MNB); 2 exs., Valdobbiadene (TV), Pianezze, 45°55'N, 12°01'E, 950 m, 4.X.2013, leg. Meybohm (cAss, MNB); 2 exs., Valdobbiadene (TV), Strada S. Alberto, 45°54'N, 12°02'E, 450 m, 3.X.2013, leg. Meybohm (cAss, MNB); 2 exs., Monte Grappa (TV), Monte Tomba, 45°53'N, 11°52'E, 980 m, 6.X.2013, leg. Meybohm (cAss, MNB).

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Comment: The above records are within the known distribution of *M. brunneus*.

Medon cauchoisi Jarrige, 1949

Material examined: **Spain**: 1 ex., Alicante, NW El Castell de Guadalest, 1 km W Beniarda, 38°41'N, 0°13'W, 550 m, 25.XI.2013, leg. Forcke (cAss); 2 exs., Alicante, W Benigembla, Bco. de Malafi, 38°46'N, 0°12'W, 520 m, 29.XI.2013, leg. Forcke (MNB).

Comment: The Atlanto-Mediterranean distribution of *M. cauchoisi* ranges from Northwest Africa across the Iberian Peninsula to Southwest France (Assing 2013).

Medon semiobscurus (Fauvel, 1875)

Material examined: **Syria**: 6 exs., Latakia province, 5 km S Kasab, pine forest, sifted, 5.VI.2010, leg. Kotán et al. (HNHM, cAss). **Lebanon**: 1 ♂, Rayfoun, ca. 33°58'N, 35°42'E, mixed oak forest, ca. 990 m, pitfall trap, 28.II.-5.III.2017, leg. Reuter (cFel). **Jordan**: 4 exs., Irbid, Zubia, env. Zubia Cave, 32°26'N,35°45'E, 840 m, sifted from oak leaf litter, 2.III.2014, leg. Hetzel (cFel); 1 ex., same data, but 32°26'N, 35°46'E (cFel).

Comment: The above specimens from Syria are macropterous, dark-coloured, and have the head and pronotum distinctly microsculptured.

Medon ferrugineus group

Medon dilutus pythonissa (Saulcy, 1865)

Material examined: **Greece**: **Mainland**: 1 ex., Atikí-Piréas, Oros Geránia, 1280 m, subterranean pitfall trap, 30.V.2003-15.VI.2004, leg. Giachino & Vailati (MNB); 2 exs., Atikí, Oros Kithairón, 38°11'N, 23°16'E, 1210 m, subterranean pitfall trap, 22.V.2011-4.VI.2012, leg. Giachino & Vailati (MNB). **Crete**: 3 exs., Therisos Gorge valley, 35.42°N, 23.99°E, 550–580 m, sifting tree cavities and leaf litter, 23.IV.2015, leg. Kocian (cKoc, cAss); 1 ex., Lefka Ori, Omalos env., 35.36°N, 23.92°E, sifted, 24.IV.2015, leg. Kocian (cKoc); 1 ex., Lefka Ori, Omalos env., 35.36°N, 23.92°E, 1100 m, sifted, 20.IV.2015, leg. Kocian (cKoc); 4 exs., Aloides env., 35.37°N, 24.87°E, 420 m, tree cavities of *Olea* trees sifted, 18.IV.2015, leg. Kocian (cKoc).
Armenia: 1 ♀, Lanjanist env., 39.86°N, 44.94°E, 1560 m, 18.V.2015, leg. Kocian (cKoc); 1 ♀, Tatev env., Vorotan valley, 39.39°N, 46.25°E, 1300 m, macchia, sifted, 24.V.2015, leg. Kocian (cAss). **Georgia**: 6 exs., Atskuri env., 41°45'N, 43°09'E, 1150 m, 20.VI.2013, leg. Kocian (cKoc, cAss).

Comment: *Medon dilutus pythonissa* is by far the most common of the subspecies of *M. dilutus* (Erichson, 1839). Its Ponto-Mediterranean distribution ranges from the southern Balkans to the Middle East and the Caucasus region (Assing 2013).

Medon dilutus quadriceps (Wollaston, 1864)

Material examined: **Morocco**: 1 ♀, S Gorges du Dades, 26.XII.1993, leg. Arndt & Gröger (NME); 2 ♂♂, 50 km S Marrakech, Asni env., 1300 m, leaf litter, 4.V.1998, leg. Erber (NME, cAss).

Comment: This subspecies is distributed in North Africa, Sicily, and the Canary Islands (Assing 2013).

Medon rufiventris (Nordmann, 1837)

Material examined: **Hungary**: 1 ex., Békés, Szarvas, carnet, 3.–5.VIII.2000, leg. Merkl (HNHM). **Greece**: 1 ♂, Crete, Aloides env., 35.37°N, 24.87°E, 420 m, tree cavities of *Olea* trees sifted, 18.IV.2015, leg. Kocian (cKoc). **Turkey**: 3 exs., Antalya, Alanya, 30 km E Beldibi, 1000 m, 1.IV.1996, leg. Kopetz (NME); 1 ex., Alanya, 12 km W Güzelbag, 600–900 m, 4.IV.1996, leg. Kopetz (cAss).

Comment: The distribution of *M. rufiventris* is of the Ponto-Mediterranean type (Assing 2013).

Medon niger Cameron, 1924

Material examined: **India**: 1 ♂, Uttarakhand, 1 km W Harsil, Bhagirathi river, 31°02'N, 78°43'E, 2460 m, 15.IV.2012, leg. Anichtchenko (cSha).

Comment: *Medon niger* has been recorded from North India and Nepal (Assing 2013).

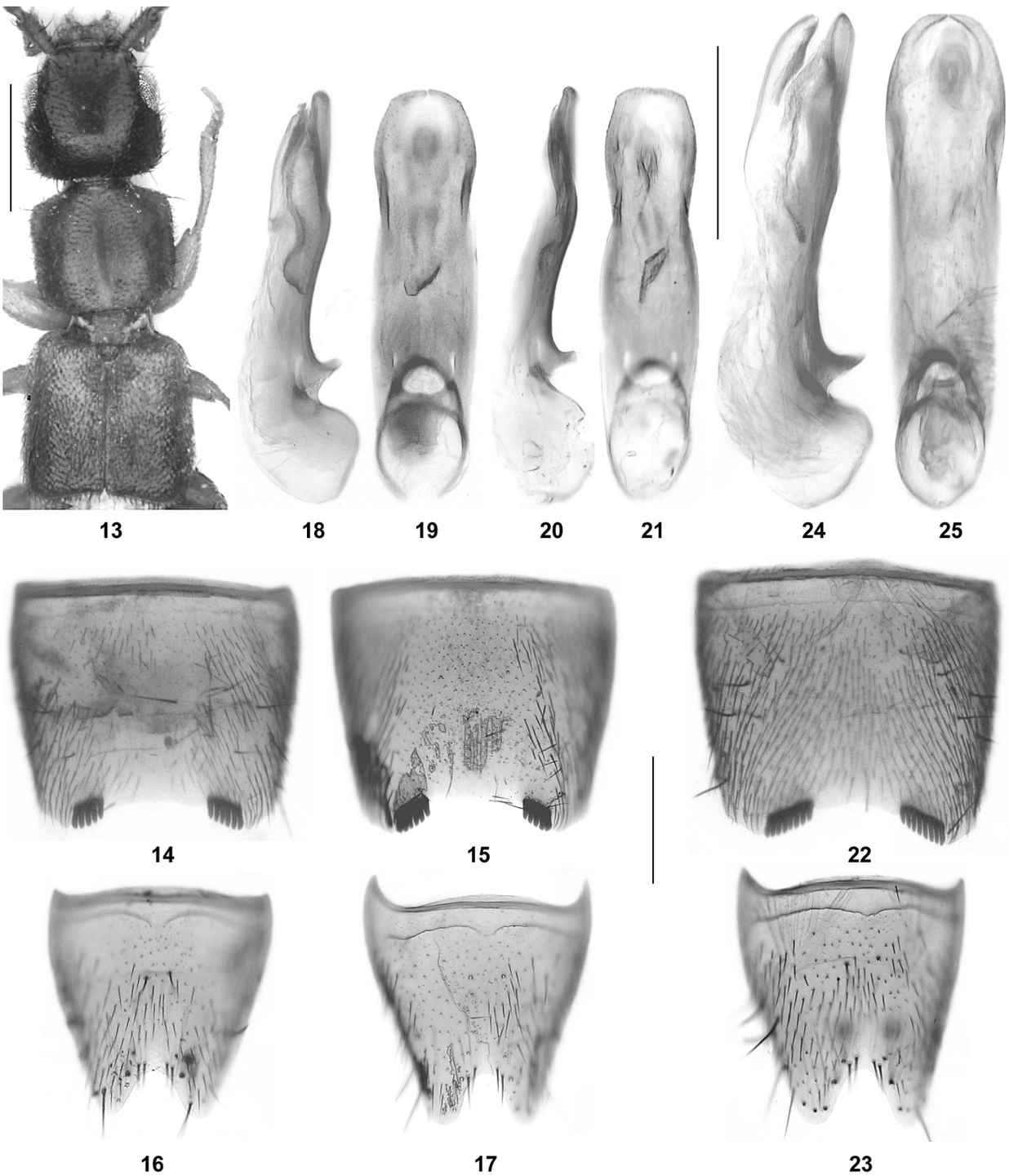
Medon sundaicus spec. nov.

urn:lsid:zoobank.org:act:5009E115-85F9-441E-9348-2FFCEEC75102

(Figs 13–21)

Type material: Holotype ♂: "Indonesia, Jawa Barat, Mount Halimun, 19–25.VIII.2009, leg. Majer / Holotypus ♂ *Medon sundaicus* sp. n. det. V. Assing 2017" (cAss). Paratypes: 13 exs.: "SULAWESI TENGAH: Solato R., Taronggo, 1°45'S–121°40'E, 27–30.iii.1980 / sieving / M.J.D. Brendell, B.M. 1980-280" (BMNH, cAss); 1 ex.: "SULAWESI TENGAH: Nr. Kolonodale, Gililana village, 1°55'S–121°22'E. 7–8.ii.1980 / rotting fruit / M.J.D. Brendell, B.M. 1980-280" (BMNH); 1 ♀: "INDONESIA: SULAWESI UTARA, Dumoga-Bone N.P., February 1985. / Plot B, ca 300 m, Lowland forest / Flight interception trap / R.Ent.Soc.Lond., Project Wallace, B.M. 1985-

©www.senckenberg.de/; download www.contributions-to-entomology.org/



Figs 13–25: *Medon sundaicus* spec. nov. (**13–21, 15, 17, 20–21**: non-type male from Thailand) and *M. sabahicus* spec. nov. (**22–25**): forebody (**13**); male sternite VII (**14–15, 22**); male sternite VIII (**16–17, 23**); median lobe of aedeagus in lateral and in ventral view (**18–21, 24–25**). Scale bars: 13: 0.5 mm; 14–25: 0.2 mm.

10" (BMNH); 1 ♀: same data, but "Plot A, ca 200 m" (BMNH); 1 ♀: "INDONESIA: SULAWESI UTARA, Dumoga-Bone N.P., 1985. / 'Edwards' Camp, Lowland forest, 664 m, 26.iv.–4.vi. / Malaise trap / R.Ent.Soc. Lond., Project Wallace, B.M. 1985-10" (BMNH).

Additional material: 1 ♂ [in poor condition]: "Thailand, Ban Sai Yok, 9.III.82, Rougemont" (cRou).

Comment: The above male from Thailand is not included in the type series. Its primary and secondary sexual characters (Figs 15, 17, 20–21) are practically identical to those of the males from Java and Sulawesi, but the microsculpture of the head is much less pronounced. Additional material from Thailand or adjacent regions is required to assess whether the populations from the Sunda Islands and Thailand are conspecific.

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Etymology: The specific epithet (adjective) alludes to the fact that this species is at present reliably known only from two of the Great Sunda Islands.

Description: Body length 3.0–4.0 mm; length of forebody 1.6–1.9 mm. Coloration: head brown to blackish-brown; pronotum reddish to dark-brown; elytra pale reddish, posteriorly often with an extensive dark spot of somewhat variable size and shape posteriorly, this spot not reaching suture, posterior margins, and humeral portion; abdomen reddish to reddish-brown, usually with at least the middle of tergites VI and VII somewhat infuscate; legs yellowish; antennae reddish.
Head (Fig. 13) weakly transverse, 1.05–1.10 times as broad as long, and with marked posterior angles; punctation very fine and moderately dense; interstices with distinct fine microreticulation. Eyes large and moderately convex, slightly shorter than postocular region in dorsal view.
Pronotum (Fig. 13) approximately 1.1 times as broad as long and about as broad as head, or slightly broader; punctation and microsculpture similar to those of head, or slightly more pronounced.
Elytra (Fig. 13) slightly shorter than pronotum; punctation dense and fine, but much more distinct than that of head and pronotum; interstices without microsculpture. Hind wings fully developed. Metatarsomere I slightly longer than II, distinctly shorter than the combined length of II and III.
Abdomen slightly narrower than elytra; punctation fine, very dense on anterior and somewhat less dense on posterior tergites; interstices with pronounced microreticulation; posterior margin of tergite VII with palisade fringe.
♂: sternite VII (Figs 14–15) moderately transverse, posterior margin with broad and pronounced concavity, on either side with a comb of 5–6 palisade setae; sternite VIII (Figs 16–17) with a rather large posterior excision of subtriangular shape; aedeagus (Figs 18–21) 0.42–0.46 mm long and slender; internal sac with a dark median structure.

Comparative notes: Based on the derived shapes and chaetotaxy of the male sternites VII–VIII and on the morphology of the aedeagus, *M. sundaicus* belongs to the *M. ferrugineus* group (see Assing 2013). It is distinguished from other species of this group by the shape and chaetotaxy of the male sternite VII, and by the shape of the aedeagus. In addition, it is characterized by rather small size, as well as the distinct microsculpture and fine punctation of the forebody.

Distribution and natural history: *Medon sundaicus* represents the first confirmed representative of the genus from the Oriental region and Indonesia. The record from Thailand should be considered tentative. The type specimens were collected in the type locality in Jawa Barat and in three localities in Sulawesi Tengah and Sulawesi Utara, northern Sulawesi, by sifting forest litter, as well as with flight interception and Malaise traps. One specimen was collected from rotting fruit. Part of the type material from Sulawesi is slightly teneral.

Medon sabahicus spec. nov.

urn:lsid:zoobank.org:act:24AF6CD2-27BC-45D4-A2AB-735AA815D552
(Figs 22–25)

Type material: Holotype ♂: "Malaysia, Sabah, Sandakan, S Lokan (LF) [= logged forest], March 97, AYC Chung / FIT 9/3/4 / Pae50 / BMNH {E} 2002-113, A. Y. C. Chung, LF - Logged Forest / Holotypus ♂ *Medon sabahicus* sp. n. det. V. Assing 2015" (BMNH).

Etymology: The specific epithet (adjective) is derived from Sabah, where the type locality is situated.

Description: Body length 3.7 mm; length of forebody 2.0 mm. Elytra brown, with the humeral portion paler. Other external characters as in *M. sundaicus*.
♂: sternite VII (Fig. 22) transverse, posterior margin with broad and pronounced concavity, on either side with a comb of 8 palisade setae; sternite VIII (Fig. 23) with a rather large posterior excision of subtriangular shape; aedeagus 0.51 mm long and shaped as in Figs 24–25.

Comparative notes: This species is distinguished from the similar *M. sundaicus* by slightly larger size, the darker coloration of the elytra, the differently shaped posterior margin of the male sternite VII with longer combs of more numerous palisade setae, and by the longer aedeagus with a differently shaped apex (ventral view) and without a dark internal structure.

Distribution and natural history: The type locality is situated in Sabah, northeastern Borneo, Malaysia. The holotype was collected with a flight interception trap in a logged forest.

Medon fusculus group

Medon fusculus (Mannerheim, 1830)

Material examined: **Georgia**: 7 exs., Kakheti, Bakurtsikhe env., 41.68°N, 45.85°E, 480 m, deciduous forest, sifted, 13.VII.2015, leg. Kocian (cKoc, cAss).

Comment: The expansive Ponto-Mediterranean distribution of *M. fusculus* ranges from the Caucasus region and the Middle East across Turkey, the Black Sea region, and the Balkans to France and South Britain (Assing 2013).

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Medon lanugo Assing, 2004

Material examined: **Syria**: 4 exs., Latakia province, 5 km S Kasab, pine forest, sifted, 5.VI.2010, leg. Kotán et al. (HNHM, cAss); 1 ex., Latakia province, 3 km S Kasab, pine forest, clearing, 2.VI.2010, leg. Kotán et al. (HNHM).

Comment: *Medon lanugo* had been recorded only from Turkey (Assing 2013). The above specimens represent the first records from Syria.

Medon subfusculus Fagel, 1969

Material examined: **Turkey**: 1 ex., Antalya, Alanya, 22 km E Demirtas, 100 m, 1.IV.1996, leg. Kopetz (NME); 1 ex., Antalya, Alanya, Dim Cay valley, Oteköy, 300 m, 3.IV.1996, leg. Kopetz (cAss).

Comment: This species is distributed in southern Anatolia and in the Greek island Kos (Assing 2013).

Medon lindbergi Scheerpeltz, 1958

Material examined: **Lebanon**: 1 ♂ [det. Feldmann], ca. 30 km NE Beirut, bank of Ibrahim river near Adonis, 5.III.2014, leg. Reuter (cFel); 1 ♂ [det. Feldmann], Rayfoun, ca. 33°58'N, 35°42'E, mixed oak forest, ca. 990 m, pitfall trap, 28.II–5.III.2017, leg. Reuter (cFel).

Comment: The distribution of *M. lindbergi* is confined to the Middle East from central southern Anatolia to Israel (Assing 2013).

Medon sparsiventris Eppelsheim, 1889

Material examined: **Iran**: **Gilan**: 13 exs., S Hashtpar, Asalem, 37°42'N, 48°53'E, 110 m, 9.X.2011, leg. Frisch (MNB, cAss); 4 exs., pass Khalkhal–Asalem, 37°36'N, 48°40'E, 2070 m, 13.X.2011, leg. Frisch (MNB, cAss).
Georgia: 3 ♂♂, 4 ♀♀, Adjara, Skhalta valley, 41°35'N, 42°22'E, 800 m, 22.VI.2017, leg. Brachat & Meybohm (cAss); 1 ♂, Adjara, Skhalta valley, 41°34'N, 42°26'E, 980 m, 22.VI.2017, leg. Brachat & Meybohm (cAss); 1 ♂, 1 ♀, Svaneti, 20 km N Jvari, 42°49'N, 42°02'E, 600 m, 25.VI.2017, leg. Brachat & Meybohm (cAss).

Comment: *Medon sparsiventris* had been reported from North Iran and Azerbaijan. The above specimens from Georgia represent new country records.

Medon paradisiacus Assing, 2004

Material examined: **Armenia**: 2 ♂♂, 10 km S Kapan, SE Chakaten, 39°08'N, 46°28'E, 990 m, mixed deciduous forest, litter and debris sifted, 9.VII.2016, leg. Assing (cAss).

Comment: This species was previously known only from Iran and Azerbaijan (Assing 2013). The above specimens represent the first record from Armenia.

Medon frischi Assing, 2005

Material examined: **Iran**: **Chahar Mahal-o-Bakhtiyari**: 3 exs., Izeh–Lordegan, 7 km SW Manj, 31°34'N, 50°34'E, 1250 m, 20.X.2011, leg. Frisch (MNB, cAss). **Ilam**: 8 exs., Ilam–Darreh Shar, 30 km NW Abher-e Bala, 33°27'N, 46°47'E, 1080 m, 19.X.2011, leg. Frisch (MNB, cAss); 1 ex., 10 km S Ilam City, 33°34'N, 46°25'E, 1300 m, 19.X.2011, leg. Frisch (cAss).

Comment: The known distribution of *M. frischi* is confined to Iran (Assing 2013). The above records from Ilam represent a new province record.

Medon sequax Assing, 2004

Material examined: **Georgia**: 5 exs., Svaneti, Khuberi river valley, 42.86°N, 42.04°E, 720 m, leaf litter sifted, 4.VII.2015, leg. Kocian (cKoc, cAss).

Comment: *Medon sequax* was previously known only from Armenia (Assing 2013). The above material represents the first record from Georgia.

Medon fusculoides Coiffait, 1970

Material examined: **Iran**: **Ilam**: 15 exs., Ilam–Darreh Shar, 30 km NW Abher-e Bala, 33°27'N, 46°47'E, 1080 m, 19.X.2011, leg. Frisch (MNB, cAss); 2 exs., 10 km S Ilam City, 33°34'N, 46°25'E, 1300 m, 19.X.2011, leg. Frisch (cAss).

Comment: The distribution of this species ranges from eastern Anatolia to southeastern Iran; for a map see Assing (2009).

Medon ripicola (Kraatz, 1854)

Material examined: **Spain**: 2 exs., Galicia, Lugo, Folgoso do Courel env., car-net, 26.VI.2012, leg. Struyve (cFel). **France**: 2 ♀♀, Hérault, 1 km N Cabricri, 43°35'N, 3°22'E, 120 m, 8.VI.2014, leg. Apfel (cApf).

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Comment: The above records are within the known distribution of *M. ripicola*.

Medon umbilicatus Cameron, 1924

Material examined: **Nepal**: 1 ♂, Seti, Bajhang district, way 17 km NE Chainpur (29°40'N, 81°19'E) to Dagaira Khola S Dhalaun (29°41'N, 81°21'E), 1850–2000 m, 7.VI.2009, leg. Weigel (NME).

Comment: *Medon umbilicatus* is the sole representative of the *M. fusculus* group in the East Palaearctic. It has been recorded from Pakistan, Kashmir, North India, and Nepal (Assing 2013).

Medon profundus group

Medon profundus Assing, 2014

Material examined: **China**: **Sichuan**: 2 ♂♂, 8 ♀♀, Emei Shan, N29°33', E103°21', 1730 m, sifted, 25.V.2011, leg. Grebennikov (CAS, cSme, cAss); 1 ♂, Emei Shan, N29°34', E103°21', 1830 m, sifted, 26.V.2011, leg. Grebennikov (cAss).

Comment: This recently described species has been recorded only from the Daba Shan and the Emei Shan, China (Assing 2014).

Medon alesi Assing, 2014

Material examined: **Taiwan**: 2 exs., Taichung, "40 km., 200 Logging Road", 2000 m, flight interception trap, 26.–27.VI.2002, leg. Li (MNB); 3 exs., Nantou, Meifeng, 2100 m, 26.X.2000, leg. Sugaya (MNB, cAss).

Comment: The distribution of *M. alesi* is confined to Taiwan (Assing 2014).

Medon emeianus spec. nov.

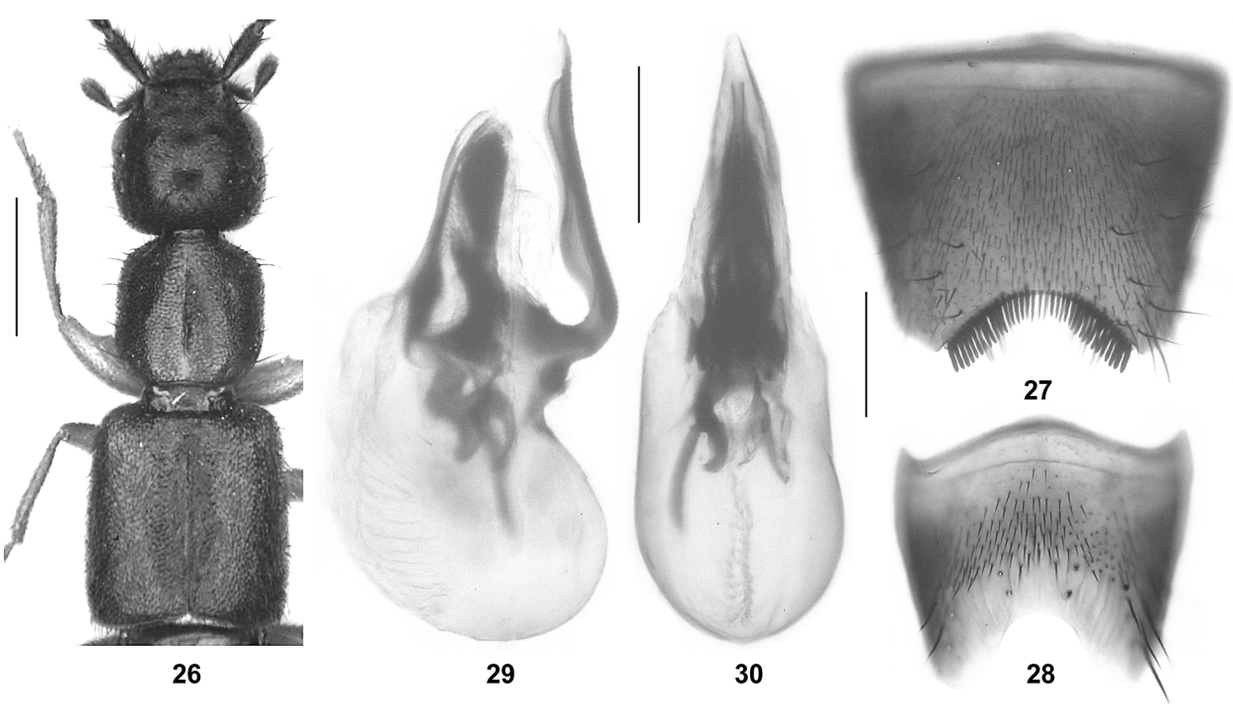
urn:lsid:zoobank.org:act:30FF85B2-BAA4-466A-8544-39A67BC45938

(Figs 26–30)

Type material: Holotype ♂: "P. R. CHINA, Sichuan, Emei Shan, N29°34'46", E103°22'04", 27.v.2011, 1463 m, sift07, V. Grebennikov / Holotypus ♂ *Medon emeianus* sp. n. det. V. Assing 2015" (CAS). Paratypes: 3 ♂♂, 1 ♀: same data as holotype (cSme, cAss).

Etymology: The specific epithet (adjective) is derived from the name of the mountain where the type locality is situated.

Description: Body length 4.2–5.2 mm; length of forebody 2.4–2.7 mm. Coloration: head blackish; pronotum dark-brown; elytra brown, with the humeral angles indistinctly paler; abdomen brown to dark-brown; legs dark-yellowish; antennae dark-brown to blackish, with the basal 2–3 and the apical 1–2 antennomeres slightly to distinctly paler, occasionally pale-reddish.



Figs 26–30: *Medon emeianus* spec. nov.: forebody (**26**); male sternite VII (**27**); male sternite VIII (**28**); median lobe of aedeagus in lateral and in ventral view (**29–30**). Scale bars: 26: 1.0 mm; 27–30: 0.2 mm.

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Head (Fig. 26) approximately as broad as long; punctation fine and dense; interstices with shallow microreticulation. Eyes large and rather weakly convex, 0.8–1.0 times as long as postocular region in dorsal view.

Pronotum (Fig. 26) 1.00–1.05 times as broad as long and 0.95–1.00 times as broad as head; anterior and posterior margins concave in the middle; punctation dense, fine (though less so than head), and granulose; midline with or without narrowly impunctate longitudinal band.

Elytra (Fig. 26) long and broad, approximately 1.25 times as long as pronotum; punctation fine, very dense, and weakly granulose. Hind wings fully developed. Abdomen narrower than elytra; punctation extremely fine and dense; interstices with shallow microreticulation; posterior margin of tergite VII with palisade fringe.

♂: sternite VII (Fig. 27) with large and concave posterior excision, margin of this excision furnished with a distinct comb of numerous long palisade setae and laterally with additional long black setae; sternite VIII (Fig. 28) small in relation to sternite VII, transverse, and with shallow median impression, this impression with black setae, posterior excision moderately deep and moderately broad; aedeagus (Figs 29–30) approximately 0.8 mm long; ventral process of characteristic shape; internal sac with dark structures in characteristic arrangement.

Comparative notes: Based on the derived shapes and chaetotaxy of the male sternites VII–VIII and on the synapomorphically modified morphology of the aedeagus, *M. emeianus* undoubtedly belongs to the *M. profundus* group (see Assing 2014). It is distinguished from the sympatric *M. profundus*, which too has been recorded from Emei Shan, by darker coloration of the antennae, slightly smaller average body size, a less deep posterior excision of the male sternite VII, a smaller posterior excision and the different chaetotaxy of the male sternite VIII, and by the differently shaped ventral process and internal structures of the aedeagus. For illustrations of *M. profundus* and other species of the *M. profundus* group see Assing (2014).

Distribution and natural history: The type locality is situated in Emei Shan, Sichuan, at an altitude of approximately 1460 m.

Acknowledgements

I am indebted to the colleagues indicated in the material section for the loan of material under their care. Benedikt Feldmann (Münster) proof-read the manuscript.

References

Assing, V. 2004a: A revision of the *Medon* species of the Eastern Mediterranean and adjacent (Insecta: Coleoptera: Staphylinidae: Paederinae). – Bonner Zoologische Beiträge **52** (1, 2): 33–82. – http://www.zoologicalbulletin.de/BzB_Volumes/Volume_52_1_2/033_082_BZB52_1_2_Assing_Volker.PDF.

Assing, V. 2004b: A revision of Western Palaearctic *Medon* Stephens (Coleoptera: Staphylinidae, Paederinae). Supplement I. – Linzer biologische Beiträge **36** (2): 655–662. – https://www.zobodat.at/pdf/LBB_0036_2_0655-0662.pdf.

Assing, V. 2005: A revision of Western Palaearctic *Medon*. IV. A new species and new records from Iran, and a catalogue of species (Coleoptera: Staphylinidae, Paederinae). – Linzer biologische Beiträge **37** (2): 1027–1034. – https://www.zobodat.at/pdf/LBB_0037_2_1027-1034.pdf.

Assing, V. 2006: A revision of Western Palaearctic *Medon*: the species of the Atlantic Islands, the Western Mediterranean, and Europe, except for the southeast (Insecta: Coleoptera: Staphylinidae: Paederinae). – Bonner Zoologische Beiträge **54** (2005) (1–2): 25–95. – http://www.zoologicalbulletin.de/BzB_Volumes/Volume_54_1_2/025_095_BzB54_1_2_AssingV.pdf.

Assing, V. 2007a: A revision of Western Palaearctic *Medon*. V. A new species from Iran and additional records (Coleoptera: Staphylinidae, Paederinae). – Linzer biologische Beiträge **39** (1): 23–32. – https://www.zobodat.at/pdf/LBB_0039_1_0023-0032.pdf.

Assing, V. 2007b: A revision of Western Palaearctic *Medon*. VI. A new species from Turkey and additional records (Coleoptera: Staphylinidae, Paederinae). – Linzer biologische Beiträge **39** (2): 791–797. – https://www.zobodat.at/pdf/LBB_0039_2_0791-0797.pdf.

Assing, V. 2009: A revision of Western Palaearctic *Medon*. VII. A new species from southern Turkey and additional records (Coleoptera: Staphylinidae: Paederinae). – Linzer biologische Beiträge **41** (2): 1253–1268. – https://www.zobodat.at/pdf/LBB_0041_2_1253-1268.pdf.

Assing, V. 2010: A revision of Palaearctic *Medon*. VIII. A new species from Nepal and additional records (Coleoptera: Staphylinidae: Paederinae). – Linzer biologische Beiträge **42** (1): 489–498. – https://www.zobodat.at/pdf/LBB_0042_1_0489-0498.pdf.

Assing, V. 2013: A revision of Palaearctic *Medon* IX. New species, new synonymies, a new combination, and additional records (Coleoptera: Staphylinidae: Paederinae). – Entomologische Blätter und Coleoptera **109**: 233–270.

©www.senckenberg.de/; download www.contributions-to-entomology.org/

Assing, V. 2014: Three new species and a new species group of *Medon* from China and Taiwan (Coleoptera: Staphylinidae: Paederinae). – Linzer biologische Beiträge **46** (1): 515–523. – https://www.zobodat.at/pdf/LBB_0046_1_0515-0523.pdf.

Assing, V. 2016: On the Stphylinidae of the Greek island Karpathos (Insecta: Coleoptera). – Linzer biologische Beiträge **48** (1): 235–263. – https://www.zobodat.at/pdf/LBB_0048_1_0235-0263.pdf.

Assing, V.; Schülke, M.; Brachat, V. & Meybohm, H. 2018: On the Staphylinidae of the Greek island Corfu (Insecta: Coleoptera). – Contribution to Entomology **68** (1): 31–67.

Schülke, M. & Smetana, A. 2015: Staphylinidae, pp. 304-1134. – In: Löbl, I. & Löbl, D. (eds), Catalogue of Palaearctic Coleoptera. New, updated Edition. Volume 2. Hydrophiloidea – Staphylinoidea. Revised and updated edition. – Leiden: Brill: xxvi + 1702 pp.

Shibata, Y. & Fujimoto, H. 2017: A new intertidal species of the genus *Medon* (Coleoptera, Staphylinidae, Paederinae) from Kagawa, Japan. – Elytra, Tokyo, New Series **7** (1): 55–60.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: Beiträge zur Entomologie = Contributions to Entomology

Jahr/Year: 2018

Band/Volume: 68

Autor(en)/Author(s): Assing Volker

Artikel/Article: A revision of Medon. XI. Five new species, additional records, and the first confirmed records from the Oriental region (Coleoptera: Staphylinidae: Paederinae) 69-81