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On the *Orphnebius* fauna of the East Palaearctic region. VI. Six new species from China and Taiwan, and additional records (Coleoptera: Staphylinidae: Aleocharinae: Lomechusini)

Volker ASSING

A b s t r a c t : Six species of *Orphnebius* MOTSCHULSKY, 1858 are described and illustrated: *Orphnebius dishamatus* nov.sp. (Yunnan), *O. incrassatus* nov.sp. (Yunnan), and *O. formosanus* nov.sp. (Taiwan) of the *O. hauseri* group; *O. tridentatus* nov.sp. (Yunnan) of the *O. nanlingensis* group; *O.* (*Deroleptus*) *multimpressus* nov.sp. (Yunnan); *O.* (*Deroleptus*) *planicollis* nov.sp. (Yunnan). *Deroleptus* BERNHAUER, 1915, previously regarded as a distinct genus, is placed in *Orphnebius* as a subgenus. Additional records of nine species from North India, Nepal, and China are reported. An updated catalogue of the *Orphnebius* fauna of the East Palaearctic region and a revised key to the species of China and Taiwan are provided. *Orphnebius* is now represented in the East Palaearctic region by 38 named species, 19 of which are distributed in the Himalaya, 18 in China, and one in Taiwan.

K e y w o r d s : Coleoptera, Staphylinidae, Aleocharinae, Lomechusini, *Orphnebius*, East Palaearctic region, China, Taiwan, taxonomy, new species, additional records, key to species, catalogue.

Introduction

According to HLAVÁČ et al. (2011), the lomechusine genus *Orphnebius* MOTSCHULSKY, 1858 includes 148[1] valid species in eight subgenera; including the additional species described in the meantime, the figure currently amounts to over 150 species worldwide. The *Orphnebius* fauna of the East Palaearctic region sensu SMETANA (2004) has been addressed in a series of five previous papers (ASSING 2006a, 2006b, 2009, 2010, 2011). The genus was previously represented in this region by 31 species, 19 from the Himalaya and twelve from China (ASSING 2011; HLAVÁČ et al. 2011; PACE 2012; SCHÜLKE & SMETANA in press). SCHÜLKE & SMETANA (in press) list an additional species described from Thailand (*O. incisus* PACE, 2000) for Yunnan, but I have been unable to trace any primary records, nor is this supported by HLAVÁČ et al. (2011) and PACE (2012). Also, one Himalayan species, *O. hauseri* EPPELSHEIM, 1895), has repeatedly been reported from China and Taiwan (PACE 2010, 2012), but these records have not been confirmed and refer to different species of the *O. hauseri* group (ASSING 2006a, 2009, present

[1] Species number in this catalogue is given as 148 on p. 5 and 133 on p. 11. A count revealed that the former is correct.

paper). Keys to the species of the Himalaya and of China were provided by ASSING (2006a, 2006b, 2010, 2011).

The natural history of *Orphnebius* species is still largely unknown (see ASSING 2006a). Several East Palaearctic representatives of the genus are currently represented only by their respective holotypes.

The currently prevailing subgeneric concept is most likely highly artificial and mainly based on the relative size, shape, and punctation of the pronotum. These characters, however, may vary significantly even among closely related species and are consequently of little significance for systematic purposes (ASSING 2006a). A phylogenetic approach to the genus and its intrageneric systematics has never been attempted. Therefore, with few exceptions, the species recorded from the East Palaearctic region have not been assigned to any of the existing subgenera.

Deroleptus BERNHAUER, 1915 (type species: *Astilbus bigladiosus* BERNHAUER, 1915) was originally described as subgenus of *Astilbus* DILLWYN, 1829 (today a junior synonym of *Drusilla* LEACH, 1819) and subsequently regarded as a distinct genus distinguished from *Orphnebius* by the pronounced paratergites and the narrower neck. Based on a study of the type species of *Deroleptus*, PACE (2007) synonymized *Deroleptus* with *Orphnebius*, arguing that the differences emphasized by BERNHAUER (1929) were insufficient to separate two genera and that the primary sexual characters of *Deroleptus* were highly similar to those of some groups of *Orphnebius*. HLAVÁČ et al. (2011) did not accept this synonymy stating that it was premature, continued to treat *Deroleptus* as a distinct genus, and moved *Orphnebius draco* ASSING, 2010 (China: Yunnan) to *Deroleptus*. Based on a study of *O. draco* and another closely related species from China, Pace´s proposal to assign the species previously in *Deroleptus* to *Orphnebius* is supported. True, the modifications of the abdomen, the slender legs, the slender neck, and the narrow pronotum are probably synapomorphies constituting the monophyly of *Deroleptus*. On the other hand, however, it would seem most unlikely that this taxon should represent the adelphotaxon of the *Orphnebius* lineage (or even a more distantly related group). In conclusion, until the intrageneric affiliations of *Orphnebius* have been better resolved, *Deroleptus* is moved to *Orphnebius* as a subgenus.

The present paper is based on material that has been examined since the previous contribution (ASSING 2011). A study of this material yielded six new species from China and Taiwan, as well as additional records of several previously described species.

Material and methods

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

MHNG ..... Muséum d'Histoire Naturelle, Genève (G. Cuccodoro)
NHMW ..... Naturhistorisches Museum Wien (H. Schillhammer)
NME ..... Naturkundemuseum Erfurt (M. Hartmann)
cAss..... author´s private collection
cSch..... private collection Michael Schülke, Berlin
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 of external characters were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software. A digital camera (Nikon Coolpix 995) was used for the remaining photographs.

Body length was measured from the anterior margin of the labrum to the abdominal apex, the length of the forebody from the anterior margin of the labrum to the posterior margin of the elytra, head length from the anterior margin of the clypeus (without anteclypeus) 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.

Catalogue of the *Orphnebius* species of the East Palaearctic region

C o m m e n t : Including the newly described species, *Orphnebius* is now represented in the East Palaearctic region by 38 species, 19 of which are distributed in the Himalaya, 18 in China, and one in Taiwan. The vast majority (29) of these species belongs to the *O. hauseri* group, which is characterized by a distinctly bicoloured body, conspicuous modifications of the abdominal segments IX and X, a median lobe of the aedeagus of rather uniform morphology, modified parameres of high taxonomic significance, and a spermatheca of rather uniform shape (ASSING 2006a).

Orphnebius incisus PACE, 2000, which is listed for Yunnan in SCHÜLKE & SMETANA (in press), is omitted in the catalogue (see comment in Introduction).

The references are abbreviated as follows: A06a = ASSING (2006a); A06b = ASSING (2006b); A09 = ASSING (2009); A10 = ASSING (2010); A11 = ASSING (2011); App = ASSING (present paper); P92 = PACE (1992); P04 = PACE (2004); P08 = PACE (2008); P12 = PACE (2012). References containing descriptions and/or illustrations are underlined. Species of doubtful identity are marked with an asterisk.

Species	Distribution	References
alesi ASSING, 2010	China: Yunnan	A10, App
ancorarius ASSING, 2011	Nepal	A11, App
appendiculatus ASSING, 2006	Nepal	A06a, A09
**cachemiricus* COIFFAIT, 1983	Kashmir	A06a
conicornis ASSING, 2006	China: Sichuan, Shaanxi	A06b
depressicollis ASSING, 2006	Nepal	A06a
dhaulagiricus ASSING, 2006	Nepal	A06a
dishamatus nov.sp.	China: Yunnan	App
draco ASSING, 2010	China: Yunnan	A10
flaviventris CHAMPION, 1921	N-India: Uttar Pradesh	A06a

Species	Distribution	References
formosanus nov.sp.	Taiwan	App
fugangensis PACE, 2008	China: Guangdong	P08
gibber ASSING, 2006	China: Shaanxi, Yunnan	A06a
hamatus ASSING, 2006	Nepal	A06a
hastatus ASSING, 2006	Nepal	A06a, App
hauseri EPPELSHEIM, 1895	N-India: Himachal Pradesh, Uttarakhand; Nepal	A06a, A09, App
incrassatus nov.sp.	China: Yunnan	App
jumlaicus ASSING, 2006	Nepal; Kashmir; N-India: Himachal Pradesh	A06a, App
loebli PACE, 1992	Nepal	A06a, P92
longistriatus ASSING, 2006	China: Sichuan	A06b
multimpressus nov.sp.	China: Yunnan	App
mutabilis ASSING, 2006	Nepal	A06a, App
nanlingensis PACE, 2004	China: Fujian, Guangdong	A06a, A06b, P04
newar PACE, 1992	Nepal	A06a, P92
oculatus COIFFAIT, 1982	N-India: Himachal Pradesh; Nepal	A06a, A09
parvilobus ASSING, 2006	China: Sichuan	A06b
paucisetosus ASSING, 2009	Nepal	A09, App
planicollis nov.sp.	China: Yunnan	App
prominens ASSING, 2006	Nepal	A06a
pugiunculus ASSING, 2006	Nepal	A06a
**rufiventris* (EPPELSHEIM, 1895)	Pakistan	A06a
schuelkei ASSING, 2006	China: Sichuan, Shaanxi	A06b
scissus ASSING, 2009	China: Yunnan	A09, App
siwalikensis CAMERON, 1939	N-India: Himachal Pradesh	A06a
tricuspis ASSING, 2009	China: Yunnan	A09, App
tridentatus nov.sp.	China: Yunnan	App
truncus ASSING, 2009	China: Yunnan	A09
uncinatus PACE, 2012	China: Sichuan	P12

Additional records and descriptions

Orphnebius hauseri EPPELSHEIM, 1895

Material examined: India: Uttarakhand: 1♂, 5 km NW Ghangaria, "valley of flowers", "N30*43.356' E079*85.309'", 3420 m, [date not indicated, probably VI.2011], leg. Shavrin (cAss).

Comment: Confirmed records of *O. hauseri* were previously known only from Himachal Pradesh and Nepal (ASSING 2009). Previous records from China and Taiwan (PACE 2010, 2012) and even some from Nepal (PACE 1992) are undoubtedly based on misidentified material (see ASSING 2006a, the section on *O. jumlaicus*, and the description of *O. formosanus*).

Orphnebius jumlaicus ASSING, 2006

Material examined: Nepal: 1♂, 1♀, Karnali province, Jumla district, 2 km W Gothichaur, 2700 m, 20.V.1995, leg. Weigel (NME); 1♀, Karnali province, Munigaon, Babila river, 2500 m, 4.V.1995, leg. Weigel (NME); 1♂, Jumla district, 2 km W Churta, 2900 m, pitfall trap, 19.V.1995, leg. Weigel (cAss); 1♀, Jumla district, Jumla env., 23.V.1995, leg. Weigel (cAss). All the above specimens have the following identification label attached to them: "*Orphnebius hauseri* Epp., det. R. Pace 2003"; 1♂, Karnali prov., Jumla distr., Maharigaon, 29°20'N, 82°23'E, 3250 m, 8.-9.VII.1999, leg. Hartmann (NME); 1♂, same data, but 3200 m, 16.VI.1977, leg. Weipert (NME); 1♂, Karnali prov., Jumla distr., 14 km E Jumla, Jharjwala, 2600 m, stream valley, 23.V.1995, leg. Hartmann (NME); 8 exs., Karnali prov., Jumla distr., Gothichaur, 29°12'N, 82°18'E, 2850 m, forest, pitfall, 13.VI.1997, leg. Weigel (NME, cAss); 1 ex., 2 km W Gothichaur, 29°12'N, 82°19'E, 2850 m, 13.VI.1997, leg. Hartmann (NME); 1 ex., Gothichaur, 29°12'N, 82°19'E, 2900-3100 m, 12.VI.1997, leg. Weipert (cAss). Kashmir: 1 ex., Aru, X.1977, leg. Franz (NHMW); 5 exs., Pahalgam, X.1977, leg. Franz (NHMW, cAss). India: 1 ex., Himachal Pradesh, Katrain near Kulu [PA358], leg. Franz (cAss).

Comment: *Orphnebius jumlaicus* was previously known only from Jumla district in West Nepal (ASSING 2006a). The above records from Himachal Pradesh and Kashmir considerably expand the known distribution westwards. Some of the above material from West Nepal had been misidentified as *O. hauseri*.

Orphnebius hastatus ASSING, 2006

Material examined: Nepal: 10 exs., SW-Dhaulagiri, Dhara Khola valley, 28°31'N, 83°18'E, 1900 m, 21.-22.V.2012, leg. Schmidt (NME, cAss); 1 ex., Gandaki prov., Manaslu, Bara Pokhari Lekh, Chhandi Khola, 2000-2300 m, 11.-12.IV.2003, leg. Schmidt (NME); 1 ex., Manaslu, S Bara Pokhari, 2300 m, 8.IV.2003, leg. Schmidt (NME); 1 ex., Manaslu, S Bara Pokhari, 28°15'N, 84°25'E, 2100 m, 29.IV.2005, leg. Schmidt (NME); 5 exs., Manaslu, Dudh Pokhari Lekh, below Helam Pokhari, 2000 m, 22.IV.2003, leg. Schmidt (NME, cAss).

Comment: The original description of *O. hastatus* is based on a unique holotype from the Manaslu range (ASSING 2006a).

Orphnebius paucisetosus ASSING, 2009

Material examined: Nepal: 1♂, Taplejung district, Bhalukhop, 11.-21.V.2013, leg. Kučera (cAss).

Comment: The above male is the first specimen recorded since the original description, which is based on a unique male from Taplejung district (ASSING 2009).

***Orphnebius mutabilis* ASSING, 2006**

Material examined: Nepal: 1♂, Manaslu, E-slope of Ngali Khola valley, 28°22N, 84°30E, 2800-3000 m, 28.V.2005, leg. Schmidt (NME); 2 exs., Kali Gandaki valley, above Lete, 2800 m, 19.V.2002, leg. Schmidt (NME, cAss); 1 ex., Dhaulagiri, SE slope, SW-slope of Lete pass, 2700-3000 m, 13.V.2002, leg. Schmidt (NME).

Comment: The known distribution of *O. mutabilis* extends from the Dhaulagiri range in Central Nepal to the very east of Nepal.

***Orphnebius ancorarius* ASSING, 2011**

Material examined: Nepal: 1♂, 2 exs., Rasuwa District, 1.5 km NE "Bhargu" [probably identical to Bharku, approximately 28°08'N, 85°19'E], 2000 m, 12.IV.1985, leg. Smetana (MHNG, cAss).

Comment: Previously, only the holotype from Ilam District in East Nepal was known (ASSING 2011).

***Orphnebius tricuspis* ASSING, 2009**

Material examined: China: 1♀, Yunnan, Gaoligong Shan, Baoshan Pref., 32 km SE Tengchong, 24°51-53'N, 98°45'E, degraded primary and secondary forest, litter sifted, 26.VIII.2009, leg. Schülke (cSch).

Comment: The above specimen was collected close to the type locality and represents the first record of this species since the original description.

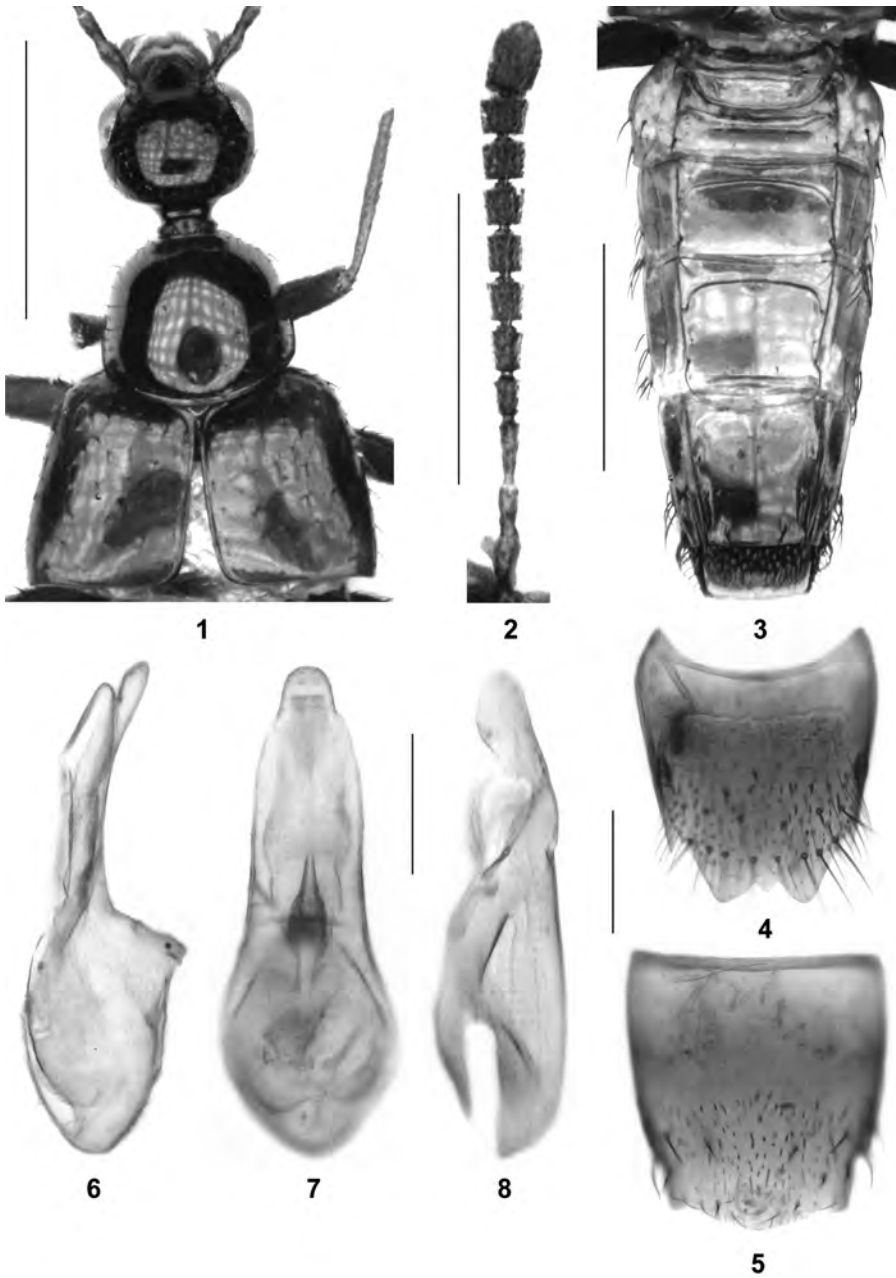
***Orphnebius tridentatus* nov.sp.** (Figs 1-8)

Type material: Holotype ♂: "CHINA: Yunnan, Lincang Pref., Wuliang Shan, old pass road, W side, 24°42'58.6"N, 100°29'52.0"E, 2200 m, small creek valley with primary forest remnant, litter sifted, 16.IX.2009, leg. M. Schülke [CH09-47a] / Holotypus ♂ *Orphnebius tridentatus* sp. n., det. V. Assing 2015" (cAss).

Etymology: The specific epithet (Latin, adjective: with three teeth) alludes to the shape of the abdominal tergite VIII.

Description: Body length 4.7 mm; length of forebody 1.8 mm. Coloration: head and pronotum blackish; elytra blackish-brown; abdomen bicoloured, with segments III-V, VIII-X, and anterior fifth of segment VI yellowish-red, and with segment VII and posterior four-fifths of segment VI blackish-brown; legs dark-brown with paler tarsi; antennae with antennomere I-III reddish-brown, IV brown, and V-XI blackish.

Head (Fig. 1) approximately as long as broad; punctation fine and sparse. Eyes large and bulging, but noticeably shorter than distance from posterior margin of eye to posterior constriction in dorsal view. Antenna (Fig. 2) long and slender, 1.5 mm long, symmetric, somewhat resembling those of species of *Callicerus* GRAVENHORST, 1802 and *Ilyobates* KRAATZ, 1856; antennomeres III conspicuously oblong, approximately three times as long as broad, IV-X cylindric, IV approximately 1.5 times as long as broad, V oblong, VI weakly oblong, VII approximately as long as broad, VIII-IX weakly transverse, X moderately transverse, and XI shorter than the combined length of IX and X.



Figs 1-8: *Orphnebius tridentatus* nov.sp.: forebody (**1**); antenna (**2**); abdomen (**3**); male tergite VIII (**4**); male sternite VIII (**5**); median lobe of aedeagus in lateral view (**6**); median lobe of aedeagus in ventral view (**7**); paramere (**8**). Scale bars: 1-3: 1.0 mm; 4-5: 0.2 mm; 6-8: 0.1 mm.

Pronotum (Fig. 1) weakly transverse, 1.1 times as broad as long and 1.22 times as broad as head, broadest at posterior angles; lateral margins weakly diverging posteriad and nearly straight; posterior angles obtusely marked; posterior margin strongly convex; disc with very few scattered setiferous punctures, laterally with sparse setiferous punctures and with two long black setae on either side; lateral margins without long black setae; microsculpture absent.

Elytra (Fig. 1) slightly shorter, and at posterior margin much broader than pronotum; punctation fine and sparse; pubescence long, dark, and suberect. Hind wings present.

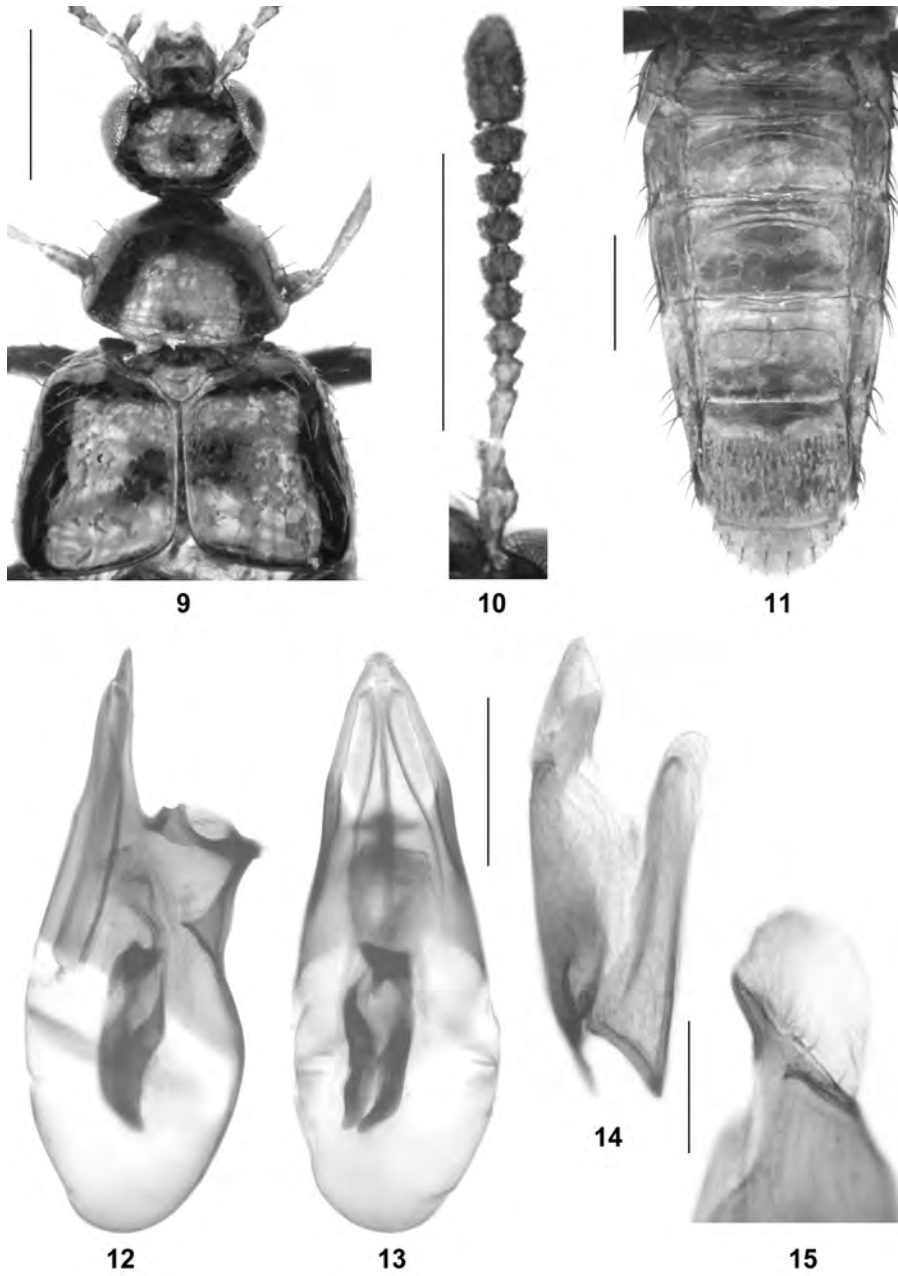
Abdomen (Fig. 3) wedge-shaped, widest at base; tergites III-VI with sharp and pronounced paratergites gradually decreasing in height; tergites III-V impunctate except for some minute punctures at posterior margins, a long and stout black seta in postero-lateral angles on either side, and with few setae on paratergites; tergite VI impunctate and without pubescence on disc, but with two long and black lateral setae on either side, with four long black setae at posterior margin, and with one long seta on paratergite on either side, near lateral margin with a longitudinal fold in posterior third; tergite VII with conspicuously coarse and dense non-setiferous punctures; posterior margin of tergite VII with pronounced palisade fringe.

♂: tergite VIII (Fig. 4) posteriorly with a small median and two larger lateral projections of triangular shape; sternite VIII (Fig. 5) of distinctive shape; median lobe of aedeagus (Figs 6-7) small and slender, 0.35 mm long, and without sclerotized internal structures; parameres (Fig. 8) slender, 0.35 mm long, and weakly modified.

♀: unknown.

Comparative notes: Based on the external characters (head approximately as long as broad; antennal morphology; modifications of abdominal tergites VI and VII; posterior margin of tergite VIII tricuspidate), *O. tridentatus* undoubtedly belongs to the *O. nanlingensis* group, which previously included *O. tricuspis* (male sexual characters unknown) and *O. nanlingensis* (Fujian, Guangdong). It differs from the former by less massive antennae with more slender antennomeres IIII and IV, by the paler coloration (*O. tricuspis*: femora black; apex of abdomen darker), by the less slender and less convex (cross-section) pronotum (*O. tricuspis*: pronotum 1.05 times as broad as long), the different sculpture of the abdominal segments VI and VII (*O. tricuspis*: tergite VI with more pronounced and longer lateral fold and with additional median folds posteriorly), and by the smaller median projection of the abdominal tergite VIII. The new species is separated from *O. nanlingensis* by different coloration (*O. nanlingensis*: abdomen not distinctly bicoloured, more or less uniformly dark-brown; antennae reddish-brown), the shape of the head (*O. nanlingensis*: noticeably transverse), longer and more slender antennae, the shorter and less pronounced postero-lateral folds on the abdominal tergite VI, the differently shaped posterior margin of tergite VIII, as well as by the morphology of the aedeagus (*O. nanlingensis*: median lobe 0.4 mm long; ventral process straight in lateral view and with longer and more acute apex in ventral view). For illustrations of *O. tricuspis* and *O. nanlingensis* see ASSING (2006b, 2009).

Distribution and natural history: The type locality is situated in the Wuliang Shan in West Yunnan. The holotype was sifted from leaf litter in a primary forest remnant at an altitude of 2200 m.



Figs 9-15: *Orphnebius dishamatus* nov.sp.: forebody (**9**); antenna (**10**); abdomen (**11**); median lobe of aedeagus in lateral view (**12**); median lobe of aedeagus in ventral view (**13**); paramere (**14**); apical portion of paramerite (**15**). Scale bars: 9-11: 0.5 mm; 12-14: 0.2 mm; 15: 0.1 mm.

Orphnebius alesi ASSING, 2010

Material examined: China: 1♀, Yunnan, mountains S Jianshui, 23°25'N, 102°51'E, 1890 m, subtropical broad-leaved forest, litter sifted, 22.VIII.2014, leg. Schülke (cSch).

Comment: The original description of *O. alesi* is based on a unique male from the Gaoligong Shan (ASSING 2010). The above female is highly similar to the holotype based on external characters. The previously unknown spermatheca is similar to that of other species of the *O. hauseri* group.

Orphnebius scissus ASSING, 2009

Material examined: China: 1♀, Yunnan, Dali Bai Aut. Pref., Wuliang Shan, 11 km SW Weishan, 25°09'N, 100°14'E, 2520 m, pine forest, litter sifted, 14.IX.2009, leg. Schülke (cSch).

Comment: The original description of *O. scissus* is based on a unique male from the Gaoligong Shan (ASSING 2009). No significant external differences between the above female and the holotype were found suggesting that they should represent different species.

Orphnebius dishamatus nov.sp. (Figs 9-15)

Type material: Holotype ♂: "CHINA [12a] - Yunnan, mt. WNW Wuding, mix. forest, 25°38'45"N, 102°06'55"E, 2390 m, 1.IX.2014, V. Assing / Holotypus ♂ *Orphnebius dishamatus* sp. n., det. V. Assing 2015" (cAss).

Etymology: The specific epithet (adjective) is composed of the Latin prefix dis- (un-) and an adjective derived from the Latin noun hamus (hook). It alludes to the straight apex of the ventral process of the aedeagus (lateral view).

Description: Body length 4.5 mm; length of forebody 1.7 mm. Coloration: forebody black; abdomen yellowish-red, strongly contrasting with the forebody; legs with dark-brown femora, reddish-brown tibiae, and dark-yellowish tarsi; antennae with antennomeres I-IV pale-reddish, V reddish-brown, and VI-XI blackish.

Head (Fig. 9) approximately 1.3 times as broad as long; punctation fine and sparse. Eyes large and bulging, distinctly longer than distance from posterior margin of eye to posterior constriction in dorsal view. Antenna (Fig. 10) 1.0 mm long, nearly symmetric; antennomeres IV moderately transverse and V-X distinctly transverse, of gradually increasing width; X approximately twice as broad as long; XI distinctly elongated, approximately as long as VIII-X combined.

Pronotum (Fig. 9) transverse, 1.35 times as broad as long and 1.25 times as broad as head, broadest slightly behind middle, more strongly narrowed anteriorly than posteriorly; lateral margins weakly convex in dorsal view; posterior angles moderately marked; disc with very sparse, minute punctures with long greyish setae; microsculpture absent; lateral margins each with three long black setae of nearly half the length of lateral margin, one in anterior angle, one in anterior half, and one in posterior half.

Elytra (Fig. 9) slightly shorter, and at posterior margin much broader than pronotum; punctation fine and sparse; pubescence long, sparse, and suberect. Hind wings present.

Abdomen (Fig. 11) wedge-shaped, widest at base; tergites III-VI with sharp and pronounced paratergites gradually decreasing in height; tergites III-VI impunctate except for some minute punctures at posterior margins; tergite VII with rather coarse and

moderately dense non-setiferous punctures and with irregular striate sculpture in posterior three-fourths; posterior margin of tergite VII with pronounced palisade fringe.

♂: tergite VIII posteriorly with two transverse rows of black setae, a submarginal row composed of eight long setae and a marginal row composed of ten shorter setae; sclerites of segments IX and X modified, with dense and moderately long pubescence; median lobe of aedeagus (Figs 12-13) 0.7 mm long; ventral process short, apically straight and acute (not hooked) in lateral view, and of triangular shape in ventral view; crista apicalis rather pronounced; paramere (Fig. 14) 0.6 mm long; paramerite slightly longer than condylite and with four setae at base of velum (Fig. 15).

♀: unknown.

Comparative notes: Based on external characters and particularly on the synapomorphic modifications of segments IX-X and of the aedeagus (shape and internal structures of the median lobe; structure of the parameres), *O. dishamatus* undoubtedly belongs to the *O. hauseri* group. Among the species of this group, it is most similar to *O. scissus* (Yunnan), from which it differs particularly by the morphology of the antennae (*O. scissus*: distinctly asymmetric and longer, approximately 1.2 mm long), the less dense non-setiferous punctures on the abdominal tergite VII, and by the morphology of the median lobe of the aedeagus (*O. scissus*: 0.75 mm long; apex of ventral process weakly hooked in lateral view; crista apicalis smaller and much more oblique) and of the parameres (*O. scissus*: condylite much shorter, and much shorter than paramerite; paramerite of different shape). For illustrations of *O. scissus* see ASSING (2009).

Distribution and natural history: The type locality is situated near Wuding in East Yunnan. The holotype was sifted from leaf litter in a mixed forest margin with alder and pine at an altitude of 2390 m.

***Orphnebius formosanus* nov.sp.** (Figs 16-21, 26-27)

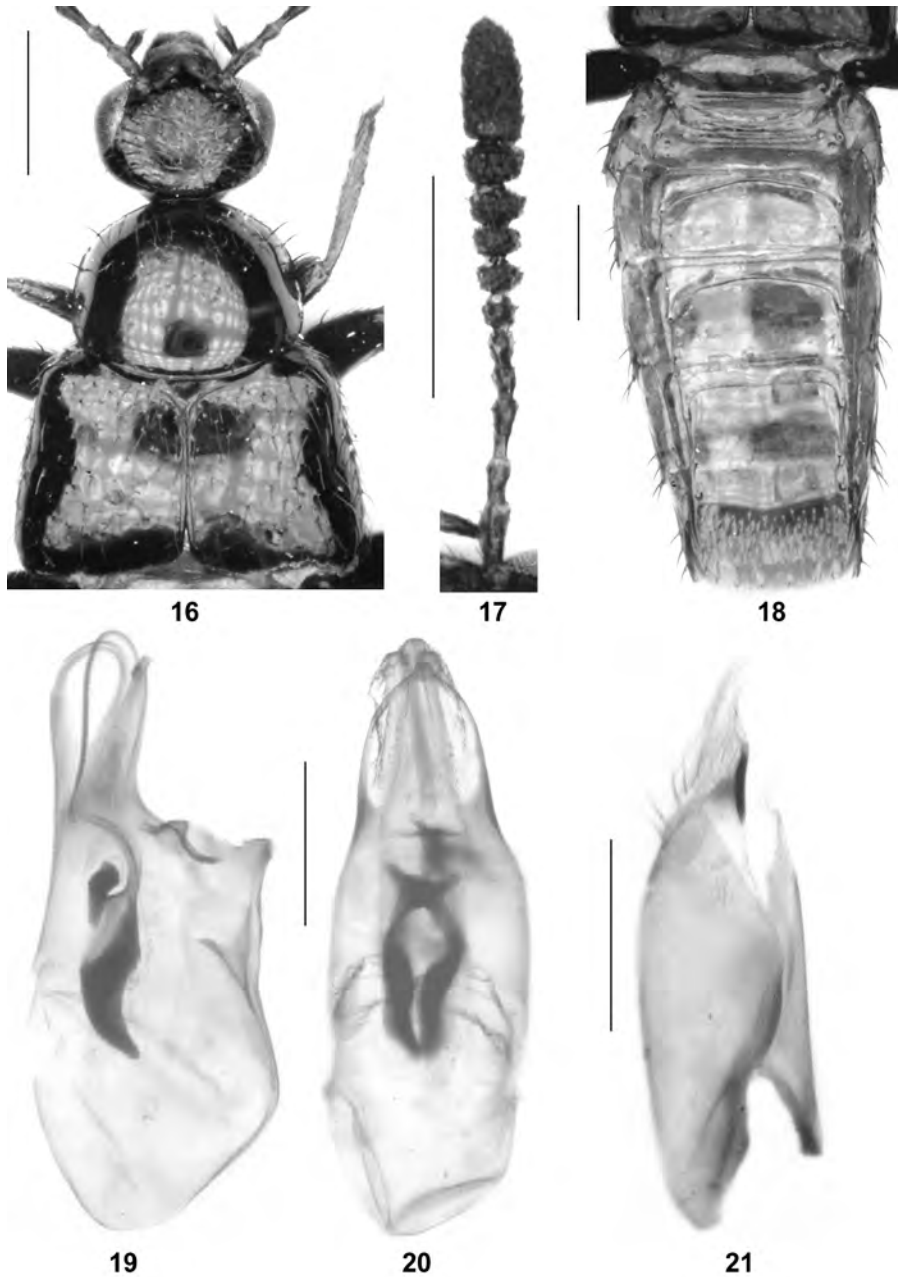
Orphnebius hauseri: PACE (2010: 23).

Type material: Holotype ♂: "Taiwan, Nantou Hsien, Meifeng, 2130 m, 4.V.1998, A. Smetana [T197] / *Orphnebius hauseri* Epp., det. R. Pace 2005 / Holotypus ♂ *Orphnebius formosanus* sp. n., det. V. Assing 2013" (cAss). Paratypes [all dissected prior to present study and labelled "*Orphnebius hauseri* Epp., det. R. Pace 2005"]: 1♂: "Taiwan, Taichung Hsien, Anmashan, 2150 m, 13.V.92, A. Smetana [T129]" (cSme); 1♀: "Taiwan, Taichung Hsien, Anmashan, 2230 m, 12.V.92, A. Smetana [T127]" (cSme); 1♂: "Taiwan, Kaohsiung Hsien, Peinantashan trail, 2500 m, 4.VII.93, A. Smetana [T136]" (cSme); 1♂: "Taiwan, Kaohsuing [sic] Hsien, Kuanshan Trail at Kaunshanchi Riv., 2400 m, 20.VII.93, A. Smetana [T158]" (cAss); 2♀♀: "Taiwan, Kaohsiung Hsien, Kuanshan trail at Kaunshanchi Riv., 2400 m 20.IV.1992, A. Smetana [T94]" (MHNG); 1♂: "Taiwan, Pingtung Hsien, Peitawushan trail at 1500 m, 1.V.1992, A. Smetana [T110]" (cAss).

Etymology: The specific epithet (adjective) is derived from Formosa, the ancient name of Taiwan.

Description: Body length 4.6-5.0 mm; length of forebody 1.9-2.1 mm. Coloration: forebody blackish; abdomen bright reddish, strongly contrasting with the forebody; legs with dark-brown to blackish-brown femora, brown tibiae, and reddish tarsi; antennae with antennomeres V-XI blackish and antennomeres I-IV of variable coloration (reddish to blackish).

Head (Fig. 16) approximately 1.25 times as broad as long; punctation fine and of somewhat variable density, moderately dense to rather dense. Eyes large and bulging, distinctly longer than distance from posterior margin of eye to posterior constriction in



Figs 16-21: *Orphnebius formosanus* nov.sp.: forebody (**16**); antenna (**17**); abdomen (**18**); median lobe of aedeagus in lateral view (**19**); median lobe of aedeagus in ventral view (**20**); paramere (**21**). Scale bars: 16-18: 0.5 mm; 19-21: 0.2 mm.

dorsal view. Antenna (Fig. 17) 1.3-1.4 mm long, slightly asymmetric; antennomeres V-X increasingly transverse and of increasing width; X more than 1.5, but less than 2.0 times as broad as long; XI distinctly elongated, at least as long as VIII-X combined.

Pronotum (Fig. 16) moderately transverse, 1.17-1.23 times as broad as long; weakly dilated posteriad at most; lateral margins weakly convex in dorsal view; posterior angles weakly marked, rounded; disc with very sparse, minute punctures with long greyish setae; microsculpture absent; lateral margins each with 4-5 setae (often broken off) of moderate length. Elytra (Fig. 16) approximately 0.85 times as long as, and at posterior margin distinctly broader than pronotum; punctation fine and sparse. Hind wings present.

Abdomen (Fig. 17) wedge-shaped, widest at base; tergites III-VI with sharp and pronounced paratergites gradually decreasing in height; tergites III-VI impunctate except for some minute punctures at posterior margins; tergite VII (Fig. 26) with rather coarse non-setiferous punctures in posterior half, but without striate sculpture; posterior margin of tergite VII with pronounced palisade fringe.

♂: tergite VIII posteriorly with two transverse rows of black setae, a submarginal row composed of 6 long setae and a marginal row composed of more numerous and shorter setae; sclerites of segments IX and X modified, with dense and moderately long pubescence; median lobe of aedeagus (Figs 19-20) approximately 0.7 mm long; ventral process rather short; paramere (Fig. 21) 0.60-0.65 mm long; paramerite distinctly longer than condylite and with four long setae at base of velum.

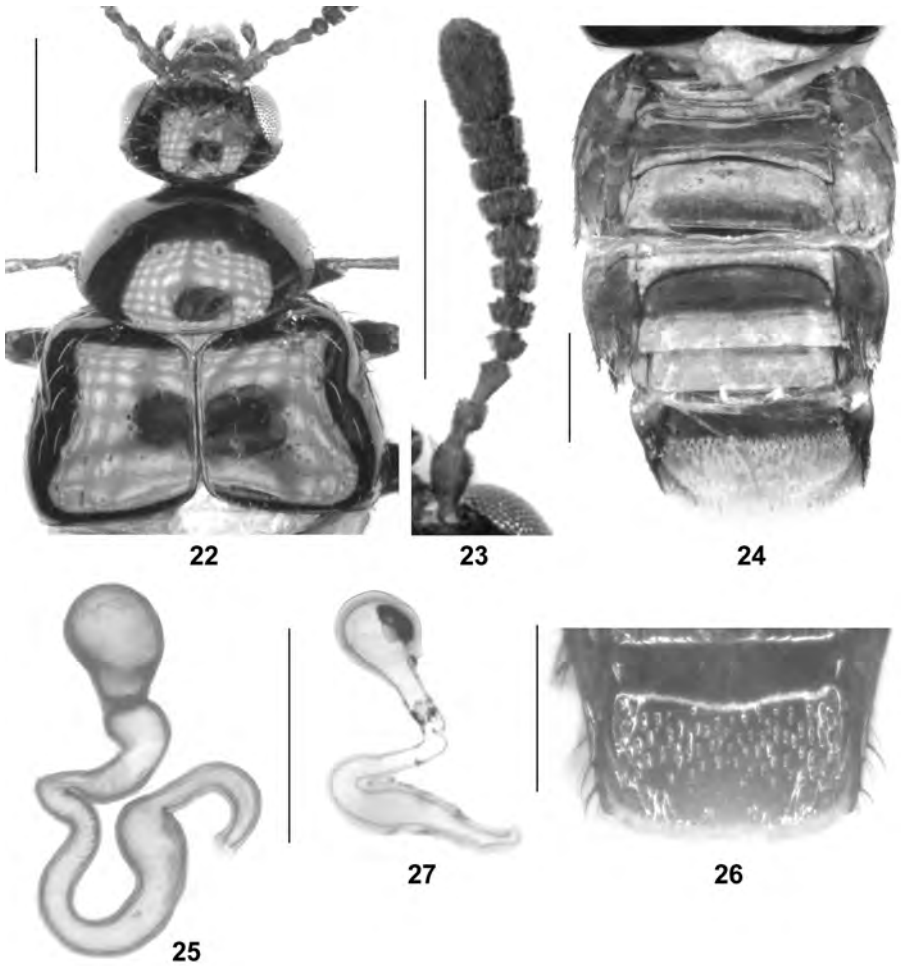
♀: sclerites of segments IX and X with very long and dense dark pubescence; spermatheca as in Fig. 27.

C o m m e n t : This species was erroneously recorded from Taiwan as *O. hauseri* by PACE (2010). The distribution of *O. hauseri* is confined to North India and Nepal (ASSING 2006a). The records from mainland China (Sichuan, Yunnan) by PACE (2012) are most likely based on misidentified material, too.

The female from Anmashan is distinguished from the remaining material by extremely sparse punctation of the head and by a distinctly shorter antennomere XI. A clarification of whether these differences are an expression intra- or of interspecific variation is currently not possible. The paramere of the male from Peinantawushan has the apex of the condylite nearly reaching that of the paramerite. Since no additional distinguishing characters were found, this difference is attributed to intraspecific variation.

C o m p a r a t i v e n o t e s : Based on the external (coloration, body proportions, punctation, chaetotaxy) and the sexual characters (morphology of the aedeagus and the spermatheca), *O. formosanus* undoubtedly belongs to the *O. hauseri* group (see ASSING 2006a, 2006b). The male sexual characters are most similar to those of *O. mutabilis* from Nepal, from which *O. formosanus* is distinguished by the much more elongated apical antennomere (*O. mutabilis*: only approximately as long as antennomeres IX and X combined), longer antennae (*O. mutabilis*: 1.1-1.2 mm), more transverse antennomeres VI-X, the denser punctation and pubescence of the head, the less sparse punctation of the elytra, the less extensive and sparser punctation of the abdominal tergite VII, the different shape of the crista apicalis of the median lobe of the aedeagus, the distinctly larger and differently shaped paramere (*O. mutabilis*: approximately 0.35 mm long), and the slightly different shape of the spermatheca. For illustrations of *O. mutabilis* see ASSING (2006a).

Distribution and natural history: The species is known only from Taiwan, where it was found in several localities in Nantou, Taichung, Pingtung, and Kaohsiung provinces and where it is currently the sole representative of the genus. The specimens were sifted from wet moss and debris along a river, from leaf litter under broadleaved bushes, and from leaf litter in primary broadleaved evergreen and in primary mixed forests at altitudes of 1500-2500 m (SMETANA pers. comm.).



Figs 22-27: *Orphnebius incrassatus* nov.sp. (**22-25**) and *O. formosanus* nov.sp. (**26-27**): forebody (**22**); antenna (**23**); abdomen (**24**); spermatheca (**25, 27**); tergite VII (**26**). Scale bars: 22-24: 0.5 mm; 25-27: 0.2 mm.

***Orphnebius incrassatus* nov.sp.** (Figs 22-25)

Type material: Holotype ♀: "CHINA: Yunnan, Baoshan Pref., Gaoligong Shan, 33 km SE Tengchong, 2150 m, 24°51'22"N, 98°45'36"E, devast. primery [sic] deciduous forest, litter, wood, mushrooms sifted, 26.VIII.2009, leg. M. Schülke [CH09-08] / Holotypus ♀ *Orphnebius incrassatus* sp. n., det. V. Assing 2015" (cAss).

E t y m o l o g y : The specific epithet (Latin, adjective) alludes to the conspicuously incrassate antennae.

D e s c r i p t i o n : Body length 4.0 mm; length of forebody 1.6 mm. Coloration: forebody black; abdomen yellowish-red, strongly contrasting with the forebody; legs dark-brown with paler tarsi; antennae with antennomeres I-III dark-brown and antennomeres IV-XI blackish.

Head (Fig. 22) 1.25 times as broad as long; distinctly angled posteriorly in lateral view, i.e., dorsal surface meeting with posterior surface at a sharp angle; punctation of dorsal surface extremely fine and sparse. Eyes large and bulging, nearly reaching posterior margin in dorsal view. Antenna (Fig. 23) 1.0 mm long, strongly incrassate; antennomeres IV moderately transverse; V-X strongly transverse, approximately twice as broad as long, of gradually increasing width; XI distinctly elongated, approximately as long as VIII-X combined.

Pronotum (Fig. 22) strongly transverse, nearly 1.5 times as broad as long and 1.45 times as broad as head, broadest approximately in the middle; lateral margins strongly convex in dorsal view; posterior angles obsolete, broadly convex; disc nearly impunctate, only with scattered minute setiferous punctures; microsculpture absent; lateral margins each with few moderately long brownish setae.

Elytra (Fig. 22) slightly shorter, and at posterior margin much broader than pronotum; punctation fine and sparse; pubescence whitish, sparse, and suberect. Hind wings present.

Abdomen (Fig. 24) broad and wedge-shaped, widest at base; tergites III-VI with sharp and pronounced paratergites gradually decreasing in height; tergites III-VI impunctate except for some minute punctures at posterior margins; tergite VII with rather coarse, oblong, and moderately dense non-setiferous punctures in posterior two-thirds; posterior margin of tergite VII with pronounced palisade fringe.

♂: unknown.

♀: tergite VIII posteriorly approximately 20 fine dark setae posteriorly, posterior margin broadly and strongly convex; sternite VIII with broadly and strongly convex posterior margin; sclerites of segments IX and X modified, with dense and moderately long pubescence; spermatheca (Fig. 25) of distinctive shape.

C o m m e n t : This species is described exclusively based on a female because the external characters and the shape of the spermatheca are most likely highly distinctive.

C o m p a r a t i v e n o t e s : Based on the modified abdominal segments IX-X, *O. incrassatus* belongs to the *O. hauseri* group sensu lato. It is distinguished from the species of the *O. hauseri* group sensu strictu by the strongly transverse pronotum and the shape of the spermatheca. As can be inferred from external characters (head posteriorly angled in lateral view; pronotum strongly transverse and with obsolete posterior angles; chaetotaxy of the abdomen) and the shape of the spermatheca, *O. incrassatus* is most closely allied to the geographically close *O. truncus* ASSING, 2009, from which it differs particularly by the conspicuously incrassate antennae, the darker coloration of the legs and the antennae, and by the shape of the spermatheca. For illustrations of *O. truncus* see ASSING (2009).

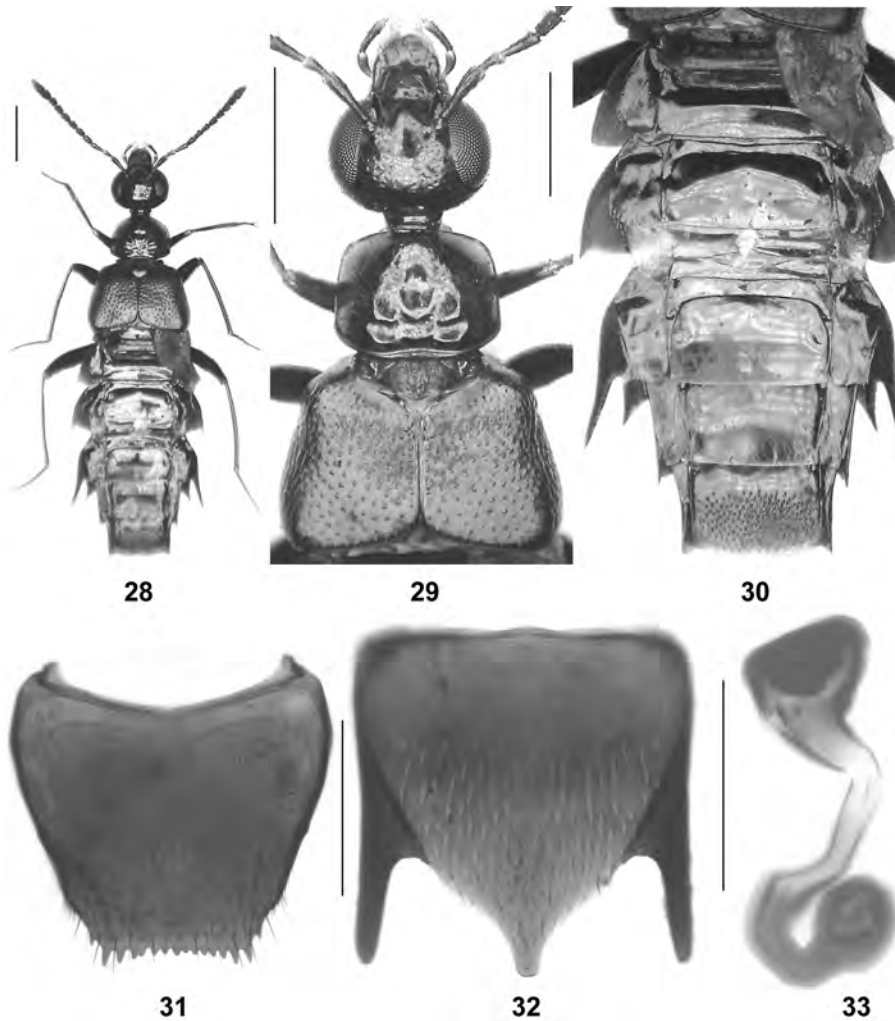
D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in the Gaoligong Shan in western Yunnan. The holotype was sifted from leaf litter in a degraded primary forest at an altitude of 2150 m.

***Orphnebius* (*Deroleptus*) *multimpressus* nov.sp.** (Figs 28-33)

T y p e m a t e r i a l : Holotype ♀: "China: Yunnan Prov., Xichuanbanna, Guang Ping, 34 km N Jinhong, 28.-29.VIII.2009, 1200 m, leg. S. Murzin / Holotypus ♀ *Orphnebius multimpressus* sp. n., det. V. Assing 2015" (cAss).

E t y m o l o g y : The specific epithet (adjective) alludes to the five impressions on the pronotum.

D e s c r i p t i o n : Large species, body length 8.3 mm; length of forebody 3.2 mm. Habitus as in Fig. 28. Coloration: body blackish, with the posterior margins of the abdominal segments dark-reddish; legs blackish-brown with black femora and reddish-brown protarsi; antennae blackish-brown with antennomere II and base of III reddish-brown.



Figs 28-33: *Orphnebius multimpressus* nov.sp.: habitus (**28**); forebody (**29**); abdomen (**30**); tergite VIII (**31**); sternite VIII (**32**); spermatheca (**33**). Scale bars: 28-30: 1.0 mm; 31-32: 0.5 mm; 33: 0.2 mm.

Head (Fig. 29) distinctly transverse, approximately 1.3 times as wide as long, posteriorly vertically sloping ventrad towards neck, but not angulate (lateral view); behind eyes smoothly curved towards neck (dorsal view), posterior angles completely obsolete; neck approximately 0.3 times as wide as head; punctation fine and rather sparse, absent in antero-median dorsal portion and on frons; microsculpture in median dorsal portion obsolete, very shallow in lateral portion (near eyes). Eyes large, strongly bulging, and of oblong ellipsoid shape, not situated laterally, but dorso-laterally. Antenna not distinctly asymmetric, approximately 2.5 mm long, and slender.

Pronotum (Fig. 29) moderately convex in cross-section, of transversely quadrangular shape, approximately 1.3 times as wide as long and as wide as head; anterior and posterior angles marked; disc posteriorly with five impressions together somewhat resembling a maple leaf; punctation sparse and extremely fine, barely noticeable; pubescence short and depressed; laterally, anteriorly, and posteriorly distinctly margined and without long setae.

Elytra (Fig. 29) distinctly widened posteriorly and nearly as long as pronotum; suture gaping posteriorly; punctation moderately sparse and distinctly granulose; interstices with pronounced microreticulation. Hind wings present. Legs conspicuously long and slender; mesotiba weakly, metatibia more strongly curved; metatibia 1.7 mm long.

Abdomen (Fig. 30) wedge-shaped, distinctly tapering posteriad (lateral sternal processes not considered); sternites III-VI postero-laterally with conspicuous processes, that of sternite IV and particularly that of sternite V enormous and of highly characteristic shape; tergites strongly transverse, disc of tergite V 1.8 times as broad as long (length measured from anterior transverse line to posterior margin; width measured between paratergites); tergites III-VI impunctate, except for some barely noticeable minute setiferous punctures at the posterior margins; integument without microsculpture; posterior 3/5 of tergite VII and tergite VIII with coarse and dense non-setiferous punctures; posterior margin of tergite VII with distinct palisade fringe; sternite VIII posteriorly with pair of lateral processes and pronounced median process.

♀: tergite VIII posteriorly with numerous denticles (Fig. 31); sternite VIII as in Fig. 32; spermatheca small in relation to body size, shaped as in Fig. 33.

Comparative notes: According to HLAVÁČ et al. (2011), 13 species have been assigned to *Deroleptus*, most of them distributed in the Oriental region (Sri Lanka, Peninsular Malaysia, Indonesia, Philippines). One species, *O. niger* (CAMERON, 1939), has been recorded from Assam and one, *O. draco*, from China. The similar external characters suggest that *O. multimpressus* is closely allied to *O. draco*, which too was desribed from Yunnan. It differs from this species by the coloration (*O. draco*: lateral extensions of abdominal sternites III-V dark yellowish), the shorter antennae (*O. draco*: approximately 3 mm long), the punctation of the head (*O. draco*: postero-median portion of head without punctures), the less convex (cross-section) and more transverse pronotum (*O. draco*: approximately 1.2 times as broad as long), the finer punctation and different impressions on the pronotum (*O. draco*: with two impressions on either side of middle and with long transverse impression near posterior margin), the shorter legs (*O. draco*: metatibia approximately 2 mm long), the shorter and differently shaped lateral extensions of the abdominal sternite III-V, the broader abdominal tergites (*O. draco*: disc of tergite V barely 1.5 times as broad as long), and by the shape of the spermatheca. For illustrations of *O. draco* see ASSING (2010). The new species is readily distinguished

from *O. niger* by the darker antennae (*O. niger*: antennae yellowish-red with the apical three antennomeres black), the shapes of the lateral projections of the abdominal sternites III-VI (*O. niger*: lateral projections of sternite IV bifid), and the different shape of the abdominal tergite VIII (*O. niger*: posterior margin broadly and deeply emarginate, the middle of the emargination with a stout blunt tooth).

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in southwestern Yunnan at an altitude of 1200 m. Additional data are not available.

***Orphnebius* (*Deroleptus*) *planicollis* nov.sp.** (Figs 34-45)

T y p e m a t e r i a l : Holotype ♂: "CHINA [18] - Yunnan, mts S Jianshui, broad-leaved for., 23°25'20"N, 102°51'05"E, 1890 m, 22.VIII.2014, V. Assing / Holotypus ♂ *Orphnebius planicollis* sp. n., det. V. Assing 2015" (cAss). Paratype ♀: same data as holotype (cAss).

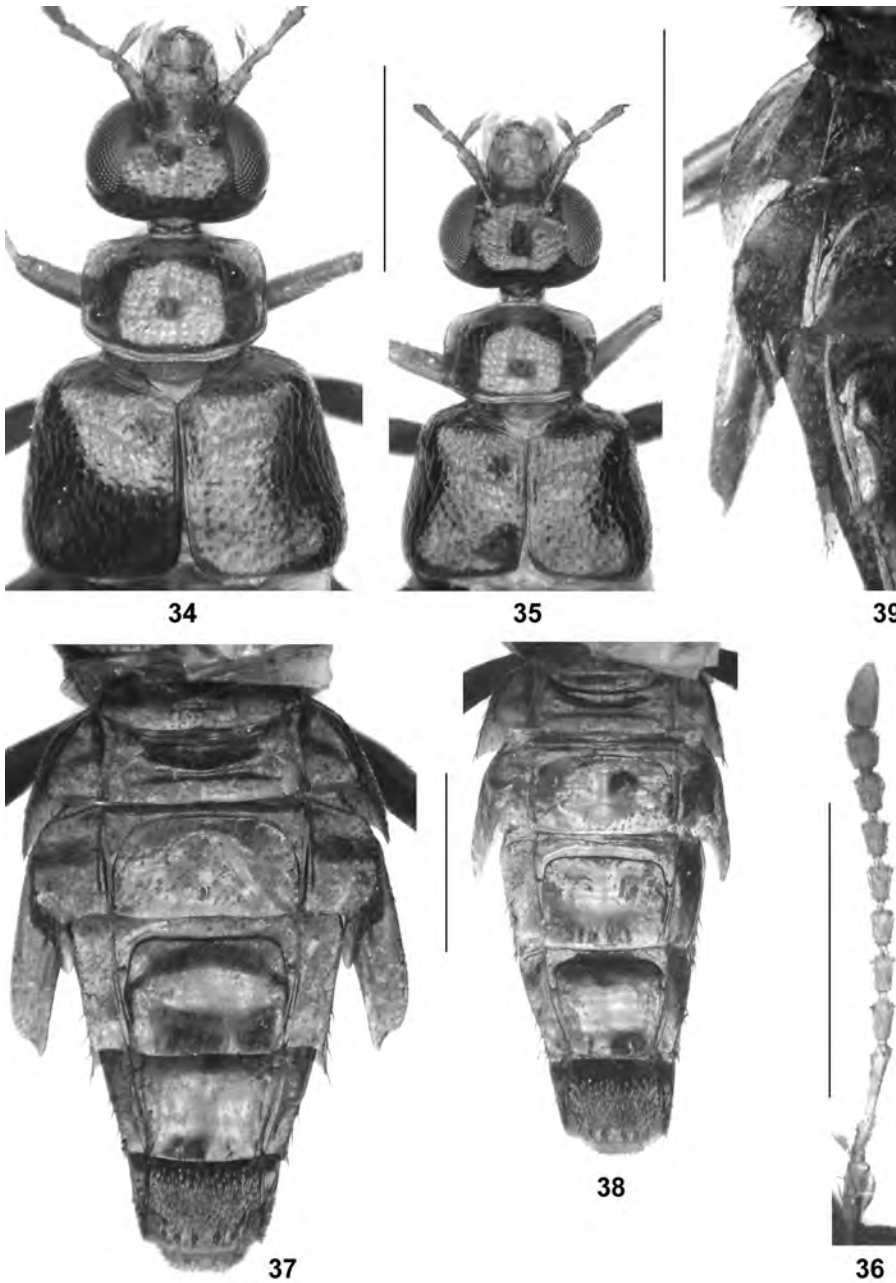
E t y m o l o g y : The specific epithet (Latin: adjective) alludes to the absence of impressions on the pronotum.

D e s c r i p t i o n : Species of moderate and rather variable size (Figs 34-35, 37-38), body length 5.2-6.0 mm; length of forebody 2.2-2.7 mm. Coloration: body brown to dark-brown, with the posterior and lateral margins of the abdominal segments paler; legs reddish with brown femora; antenna pale-reddish.

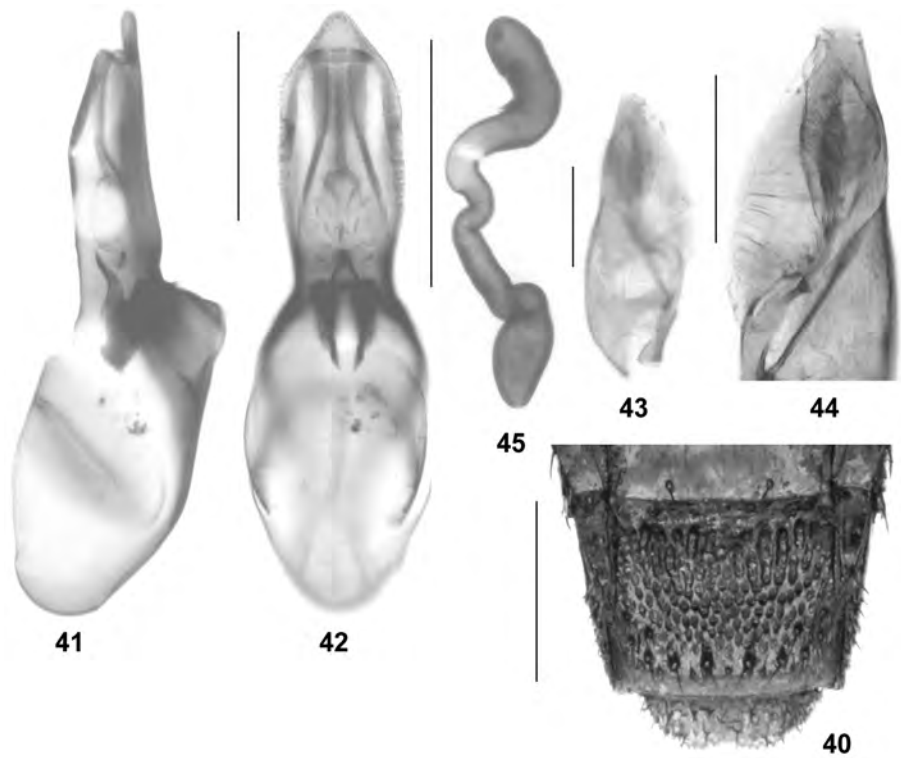
Head (Figs 34-35) strongly transverse, approximately 1.45 times as wide as long, posteriorly vertically sloping ventrad towards neck, but not angled (lateral view); behind eyes abruptly curved; general outline of posterior margin transversely truncate, in the middle weakly, but distinctly concave; neck approximately 0.28 times as wide as head; punctation fine and rather sparse, absent along middle of dorsal surface; interstices without microsculpture. Eyes large, strongly bulging, and of oblong ellipsoid shape, not situated laterally, but dorso-laterally, nearly reaching posterior margin of head. Antenna (Fig. 36) symmetric, 1.7-2.1 mm long, and slender.

Pronotum (Figs 34-35) weakly convex in cross-section, of transversely trapezoid shape, 1.42-1.50 times as wide as long and 0.94-0.98 times as wide as head, broadest at or near anterior angles; anterior and posterior angles marked; posterior margin weakly concave in the middle; disc without impressions; punctation sparse and extremely fine, barely noticeable; pubescence fine, short, depressed, and whitish; laterally, anteriorly, and posteriorly distinctly margined and without long setae.

Elytra (Figs 34-35) distinctly widened posteriorly and 1.31-1.38 times as long as pronotum; suture gaping posteriorly; along suture smoothly and weakly elevated; punctation moderately sparse, fine (but more distinct than that of pronotum), and not granulose; interstices without microreticulation; pubescence whitish, depressed, longer than that of pronotum. Hind wings present. Legs conspicuously long and slender; metatibia smoothly curved; metatibia 1.05-1.33 mm long; metatarsus 0.93-0.94 times as long as metatibia; metatarsomere I as long as, or slightly longer than, the combined length of II and III.



Figs 34-39: *Orphnebius planicollis* nov.sp. (**34, 36-37, 39**: holotype; **35, 38**: paratype): male forebody (**34**); female foreboy (**35**); antenna (**36**); male abdomen (**37**); female abdomen (**38**); anterior portion of left side of abdomen in dorso-lateral view (**39**). Scale bars: 1.0 mm.



Figs 40-45: *Orphnebius planicollis* nov.sp.: (**40**); male abdominal segments VII-VIII in dorsal view (**40**); median lobe of aedeagus in lateral and in ventral view (**41-42**); paramere (**43**); apical portion of paramere (**44**); spermatheca (**45**). Scale bars: 40: 0.5 mm; 41-45: 0.2 mm.

Abdomen (Fig 37-39) wedge-shaped, distinctly tapering posteriad (lateral sternal processes not considered); sternites III and IV postero-laterally with conspicuous processes of distinctive, possibly sexually dimorphic shapes; tergites strongly transverse; tergites III-VI impunctate, except for a setiferous puncture in postero-lateral angles bearing a stout black seta; integument without microsculpture; tergite VII (Fig. 40) with dense and coarse punctation nearly extending to anterior margin, near posterior margin with a transverse row of four to six coarse granules, posterior margin with palisade fringe; tergite VIII (Fig. 40) with dense and coarse punctation (similar to those of tergite VII), posterior margin distinctly serrate and in the middle weakly to distinctly conave; sternite VIII posteriorly simply convex, without conspicuous processes.

♂: postero-lateral processes of sternites III and IV strongly developed, shaped as in Figs 37, 39; median lobe of aedeagus (Figs 41-42) 0.65 mm long and of distinctive shape; lateral margins of ventral process furnished with numerous minute setae (best visible in ventral view); paramere (Figs 43-44) 0.58 mm long; paramerite apically truncate, membranous, and with approximately three minute setae.

♀: postero-lateral processes of sternites III and IV less pronounced and of more simple shape than in male (Fig. 38); spermatheca (Fig. 45) 0.4 mm long and of highly distinctive shape.

C o m m e n t : At present, it is uncertain whether the differences in the shapes of the postero-lateral processes of the anterior abdominal sternites are related to body size or a sexual dimorphism. The female paratype is distinctly smaller than the male holotype.

C o m p a r a t i v e n o t e s : *Orphnebius planicollis* is easily distinguished from the other two *Deroleptus* species recorded from China (*O. draco*, *O. multimpressus*) by numerous characters, in particular its smaller size, the paler coloration of the body, the legs, and especially the antennae, the shape of the head (more transverse, posteriorly truncate and in the middle concave), the absence of impressions on the pronotum, the non-granulose punctation of the elytra, the absence of microsculpture on the elytra, the shapes of the postero-lateral processes of the anterior abdominal sternites, the coarsely, densely, and more extensively granulose sculpture of tergites VII and VIII, the simple sternite VIII (without pronounced posterior processes), and the distinctive shapes of the median lobe of the aedeagus, the paramere, and the spermatheca.

D i s t r i b u t i o n a n d n a t u r a l h i s t o r y : The type locality is situated in a mountain range to the south of Jianshui, southeastern Yunnan, not far from the border with Vietnam. The specimens were sifted from litter in a subtropical broad-leaed forest at an altitude of 1890 m.

Key to the *Orphnebius* species of China and Taiwan

1. Moderately large to very large species, body length 5.2-9.0 mm. Antennae conspicuously long and slender, 1.7-3.0 mm long. Legs conspicuously slender. Anterior abdominal sternites with very conspicuous postero-lateral processes (e.g., Fig. 30). Yunnan. Subgenus *Deroleptus* 2
- Small to moderately species, body length less than 6 mm. Antennae less slender and shorter, less than 1.8 mm long. Legs less slender. Anterior abdominal sternites without processes 4
2. Smaller species, body length 5.2-6.0 mm. Coloration paler: body brown; legs rufous, except for the brown femora; antennae pale-reddish. Head more transverse, > 1.4 times as broad as long (Figs 34-35). Pronotum without impressions, > 1.4 times as broad as long (Figs 34-35). Elytra without microsculpture and with non-granulose punctation (Figs 34-35). Abdominal sternites III-IV with postero-lateral processes of distinctive shapes (Figs 37-39). Tergites VII and VIII dense and coarse punctation nearly reaching anterior margin of tergites (Fig. 40); tergite VII with a transverse row of four to six granules near posterior margin (Fig. 40). Sternite VIII simple, posterior margin convex, without conspicuous processes. Median lobe of aedeagus as in Figs 41-42. Spermatheca as in Fig. 45 ..... ***planicollis*** nov.sp.
- Distinctly larger species, body length 8.2-9.0 mm. Coloration darker: ground colour of body blackish; legs dark-brown to blackish; antennae dark-brown to blackish-brown. Head less transverse, < 1.4 times as broad as long. Pronotum with pronounced impressions, approximately 1.3 times as broad as long at most. Elytra with pronounced microsculpture and with distinctly granulose punctation. Anterior abdominal tergites of different shapes. Tergites VII and VIII with less extensive punctation and without granules. Sternite VIII posteriorly with conspicuous processes (e.g., Fig. 31). Male and female primary sexual characters different 3
3. Antennae approximately 3.0 mm long. Head impunctate in postero-median portion. Pronotum more slender, approximately 1.2 times as broad as long, and with impressions in characteristic arrangement (ASSING 2010: figure 10). Postero-lateral processes of abdominal sternites III-V yellowish, shaped as in ASSING (2010: figures 13-15). Aedeagus and spermatheca as in ASSING (2010: figures 20-24) ..... ***draco*** ASSING

- Antennae shorter, approximately 2.5 mm long. Head punctate in postero-median portion. Pronotum more transverse, approximately 1.3 times as broad as long, and with five impressions in different arrangement (Fig. 29). Postero-lateral process of abdominal sternties III-V blackish, shaped as in Fig. 30. Spermatheca as in Fig. 33..... ..... ***multimpressus*** nov.sp.

4. Small species with reddish-yellow legs. Head large, approximately as broad as pronotum (PACE 2008: figure 26). Antennomeres VII-X strongly transverse. Median lobe of aedeagus very compact and with very short ventral process (PACE 2008: figure 27). Guangdong.....***fugangensis*** PACE

- Larger species with mostly darker legs. Two species with yellowish legs have the head much narrower than the pronotum. Median lobe of the aedeagus more slender and with longer ventral process 5

5. Posterior margin of abdominal tergite VIII tridentate (e.g., Fig. 4). Antennae at least 1.3 mm long. Abdominal tergite VI laterally with oblong, smooth, keel-like elevation (e.g., Fig. 3). *Orphnebius nanlingensis* group 6

- Posterior margin of abdominal tergite VIII smoothly convex. Antennae mostly shorter. Abdominal tergite VI without lateral elevation. *Orphnebius hauseri* group 8

6. Abdomen dark-brown; legs dark-reddish. Antennae shorter and stouter, antennomeres V-X distinctly transverse (ASSING 2006b: figure 38). Aedeagus as in ASSING (2006b: figures 44-47). Guangdong and Fujian provinces ..... ***nanlingensis*** PACE

- Abdominal tergites III-VI reddish; legs with at least the femora dark-brown. Antennae longer and more slender, antennomeres V-X very weakly transverse or even oblong (Fig. 2; ASSING 2009: figure 66). Yunnan.....7

7. Antennomeres V-X very weakly transverse (ASSING 2009: figure 66). Femora blackish. Pronotum weakly transverse, approximately 1.05 times as broad as long (ASSING 2009: figure 65). Spermatheca as in ASSING (2009: figure 68) ....***tricuspis*** ASSING

- Antennomeres V distinctly oblong, VI weakly oblong, and VII approximately as long as broad (Fig. 2). Femora dark-brown. Pronotum 1.1 times as broad as long (Fig. 1). Median lobe of aedeagus and paramere as in Figs 6-8.....***tridentatus*** nov.sp.

8. Abdomen anteriorly of dark coloration, only segments VII-VIII bright reddish. Disc of pronotum with fine and sparse setiferous puncturation; lateral margins without long black setae (ASSING 2006b: figure 22). Abdominal tergite VII with transverse row of striae of subequal length (ASSING 2006b: figure 24). Spermatheca as in ASSING (2006b: figure 26), duct straight, neither twisted nor undulate. SW-Sichuan. . ***longistriatus*** ASSING

- Whole abdomen bright reddish 9

9. Pronotum strongly transverse, at least nearly 1.5 times as wide as long and more than 1.3 times as wide as head (e.g., Fig. 22).....10

- Pronotum weakly transverse, less than 1.4 times as wide as long.....12

10. Antennae strongly incrassate; antennomeres V-X strongly transverse (Fig. 23). Legs with blackish-brown femora and tibiae. Forebody shaped as in Fig. 22. Spermatheca as in Fig. 25. Yunnan.....***incrassatus*** nov.sp.

- Antennomere gradually increasing in width apicad; antennomere V weakly transverse. Legs with yellowish to pale-reddish femora and tibiae. 11

11. Pronotum and elytra blackish. Antennomere XI longer and more slender (ASSING 2009: figure 58). Striation of abdominal tergite VII longer and denser (ASSING 2009: figure 58). Spermatheca as in ASSING (2009: figure 63). Yunnan. ..... ***truncus*** ASSING

- Pronotum brown; elytra bicolored, yellowish with the postero-lateral angles extensively brown. Antennomere XI shorter and broader (ASSING 2006b: figure 29). Abdominal tergite VII with shorter and sparser striation (ASSING 2006b: figure 30). Apex of median lobe angled in lateral view (ASSING 2006b: figures 32-34); paramere slender, apically without distinct setae (ASSING 2006b: figure 35). Daba Shan (border between Shaanxi and Chongqing provinces).....***conicornis*** ASSING

12. Antennae longer and more slender, approximately 1.6 mm long; antennomere IX approximately 1.5 times as wide as long (ASSING 2006a: figure 129). Antennomere I infuscate. Forebody uniformly black. Median lobe of aedeagus as in ASSING (2006a: figures 131, 133). Paramere apically with process of distinctive shape (ASSING 2006a: figure 135-136). Shaanxi and W-Sichuan ..... ***gibber*** ASSING

- Antennae shorter and less slender, at most approximately 1.3 mm long; antennomere IX at least nearly twice as wide as long. Antennomere I not or very weakly infuscate. Forebody often at least partly paler. Sexual characters different 13

13. Antennomeres VI-XI blackish, V dark-brown to blackish 14

- Antennomere V yellowish to reddish-brown, antennomeres VI-XI gradually darkened, apical antennomeres brown 16

14. Antennae shorter, approximately 1.0 mm long, and nearly symmetric (Fig. 10). Femora brown. Forebody shaped as in Fig. 9. Apex of ventral process of aedeagus (Figs 12-13) straight in lateral view. Condylite of paramere much shorter than paramerite; apical portion of paramerite rather slender (Figs 12-15). Yunnan ..... ***dishamatus*** nov.sp.

- Antennae longer, at least 1.2 mm long, and with distinctly asymmetric antennomeres VII-X. Male sexual characters different 15

15. Median lobe of aedeagus (ASSING 2009: figures 52-54) with crista apicalis small and oblique. Paramere with condylite distinctly shorter than paramerite, paramerite apically with four short setae and laterally with incision of distinctive shape (ASSING 2009: figure 55). Yunnan ..... ***scissus*** ASSING

- Median lobe of aedeagus (Figs 19-20) with more pronounced crista apicalis meeting with the ventral process at an angle of approximately 90°. Paramere of different shape (Fig. 21). Taiwan ..... ***formosanus*** nov.sp.

16. Ventral process of aedeagus of distinctive shape, strongly hooked apically (PACE 2012: figures 18-19). Sichuan ..... ***uncinatus*** PACE

- Ventral process of aedeagus not strongly hooked apically 17

17. Meso- and metatibiae long and smoothly curved. Paramere very small both absolutely and in relation to median lobe of aedeagus, condylite very short (ASSING 2006b: figure 20); median lobe of aedeagus shaped as in ASSING (2006b: figures 18-19). W-Sichuan ..... ***parvilobus*** ASSING

- Meso- and metatibiae shorter and not distinctly curved. Parameres larger and of different shape; median lobe of aedeagus of different morphology. 18

18. Antennae more slender and less strongly asymmetric (ASSING 2010: figure 3). Eyes larger (ASSING 2010: figure 2). Median lobe of aedeagus smaller, 0.62 mm long, with slender and apically acute ventral process (ASSING 2010: figures 7-8). Paramere with condylite apically tapering, not reaching apex of paramerite; paramerite apically narrow (ASSING 2010: figure 25). Yunnan ..... ***alesi*** ASSING

- Antennae stouter and more strongly asymmetric (ASSING 2006b: figure 15). Eyes smaller (ASSING 2006b: figures 2-3). Median lobe of aedeagus larger, approximately 0.75 mm long; ventral process relatively short in relation to basal part, in lateral view almost straight (ASSING 2006b: figures 8-9). Paramere of derived morphology, paramerite apically obliquely truncate and with membranous velum, condylite moderately stout, apically extending slightly beyond sclerotised apex of paramerite (ASSING 2006b: figures 10-11). Sichuan, Shaanxi ..... ***schuelkei*** ASSING

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Zusammenfassung

Sechs Arten der Gattung *Orphnebius* MOTSCHULSKY, 1858 werden beschrieben und abgebildet: *Orphnebius dishamatus* nov.sp. (Yunnan), *O. incrassatus* nov.sp. (Yunnan) und *O. formosanus* nov.sp. (Taiwan) aus der *O. hauseri*-Gruppe; *O. tridentatus* nov.sp. (Yunnan) aus der *O. nanlingensis*-Gruppe; *O.* (*Deroleptus*) *multimpressus* nov.sp. (Yunnan); *O.* (*D.*) *planicollis* nov.sp. (Yunnan). *Deroleptus* BERNHAUER, 1915, bisher als eigene Gattung betrachtet, wird als Untergattung zu *Orphnebius* gestellt. Weitere Nachweise von neun Arten werden aus Nordindien, Nepal und China gemeldet. Ein aktualisierter Katalog der *Orphnebius*-Fauna der Ostpaläarktis und eine revidierte Bestimmungstabelle der aus China und Taiwan bekannten Arten werden erstellt. *Orphnebius* ist derzeit in der Ostpaläarktis mit 38 Arten vertreten, von denen 19 im Himalaya, 18 in China und eine in Taiwan vorkommen.

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