Beitr. Ent.	Keltern	ISSN 0005 - 805X
61 (2011) 2	S. 389 - 411	10.11.2011

A revision of *Panscopaeus*

(Coleoptera: Staphylinidae: Paederinae)

With 67 figures and 1 map

Volker Assing

Summary

Based on a revision of types and additional material, seven species of *Panscopaeus* Sharp, 1889 are recognized: *P. lithocharoides* (Sharp, 1874), *P. yakushimanus* (Ito, 1992), *P. formosanus* sp. n. (Taiwan), *P. andrewesi* (Cameron, 1931), comb. n. (ex *Medon*), *P. breviusculus* (Kraatz, 1859), comb. n. (ex *Medon*), *P. stilicinus* (Cameron, 1931), comb. n. (ex *Medon*), and *P. cameroni* (Scheerpeltz, 1933), comb. n. (ex *Medon*). The genus and all its species are (re-)described and illustrated. *Panscopaeus* is moved from the subtribe Medonina to the Stilicina; its known distribution is confined to the Oriental and southern East Palaearctic regions. The following synonymies are established: *Panscopaeus* Sharp, 1889 = *Medostilicus* Coiffait, 1982, syn. n.; *Panscopaeus lithocharoides* (Sharp, 1874) = *Medostilicus deharvengi* Coiffait, 1982, syn. n. Lectotypes are designated for *Scopaeus lithocharoides* Sharp, 1874, *Medon andrewesi* Cameron, 1931, *Lithocharis breviuscula* Kraatz, 1859, and *Stilicus lithocharoides* Cameron, 1924. Additional records, including several new country records, are reported. A key to species is provided.

Key words

Coleoptera, Staphylinidae, Paederinae, Stilicina, Medonina, *Panscopaeus*, Palaearctic region, Oriental region, taxonomy, new species, new synonymies, new combinations, lectotype designations, key to species, additional records

New species

Panscopaeus formosanus sp. n.

Zusammenfassung

Nach Revision von Typen und weiterem Material umfasst die Gattung *Panscopaeus* Sharp, 1889 derzeit sieben Arten: *P. lithocharoides* (Sharp, 1874), *P. yakushimanus* (Ito, 1992), *P. formosanus* sp. n. (Taiwan), *P. ndrewesi* (Cameron, 1931), comb. n. (ex *Medon*), *P. breviusculus* (Kraatz, 1859), comb. n. (ex *Medon*), *P. stilicinus* (Cameron, 1931), comb. n. (ex *Medon*) und *P. cameroni* (Scheerpeltz, 1933), comb. n. (ex *Medon*). Die Gattung und alle Arten werden beschrieben bzw. redeskribiert und abgebildet. Die bisher den Medonina zugeordnete Gattung wird in die Subtribus Stilicina gestellt. Ihre Verbreitung beschränkt sich auf die Orientalis und die südliche Ostpaläarktis. Zwei Namen werden synonymisiert: *Panscopaeus* Sharp, 1889 = *Medostilicus* Coiffait, 1982, syn. n.; *Panscopaeus lithocharoides* (Sharp, 1874) = *Medostilicus deharvengi* Coiffait, 1982, syn. n. Für *Scopaeus lithocharoides* Sharp, 1874, *Medon andrewesi* Cameron, 1931, *Lithocharis breviuscula* Kraatz, 1859 und *Stilicus lithocharoides* Cameron, 1924 werden Lectotypen designiert. Weitere Nachweise, darunter mehrere Erstnachweise, werden gemeldet. Eine Bestimmungstabelle der *Panscopaeus*-Arten wird erstellt.

DOI: 10.21248/contrib.entomol.61.2.389-411

Introduction and taxonomic history

Panscopaeus SHARP, 1889, which today is assigned to the subtribe Medonina, was established by SHARP (1889) to accommodate only the type species by monotypy, *Scopaeus lithocharoides* SHARP, 1874. The taxon was subsequently attributed as a subgenus to *Achenomorphus* MOTSCHULSKY, 1858 (BLACKWELDER 1952), a genus distributed in the Neotropics and the Oriental regions (NEWTON et al. 2001). Only recently, it was revalidated as a distinct genus by HERMAN (2003).

Panscopaeus previously included two species, *P. lithocharoides* (Japan, China: Sichuan) and *P. yakushimanus* (ITO, 1992) (Japan: Yakushima Island) (HERMAN 2003, ITO 1992, SMETANA 2004).

The present study was initiated by material of Staphylinidae recently collected by Tomás Lackner (currently Sapporo) in Japan and Stanislav Vít (Genève) in Taiwan; the material from Taiwan was initially - it turned out erroneously - believed to represent an undescribed species. A preliminary study of additional material from various sources revealed, however, that the available types and more material had to be studied in order to understand the taxonomy and zoogeography of the genus.

Material and methods

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

AMNH	American Museum of Natural History (L. H. Herman)
BMNH	The Natural History Museum, London (R. G. Booth)
FMNH	Field Museum of Natural History, Chicago (J. Boone, A. Newton; via L. H. Herman)
MHNG	Muséum d'histoire naturelle Genève (G. Cuccodoro)
NHMW	Naturhistorisches Museum Wien (H. Schillhammer)
SDEI	Senckenberg Deutsches Entomologisches Institut, Müncheberg (L. Behne, D. Werner)
cAss	author´s private collection
cPüt	private collection Andreas Pütz, Eisenhüttenstadt
cRou	private collection Guillaume de Rougemont, London
cSch	private collection Michael Schülke, Berlin

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, aedeagal length from the apex of the ventral process to the base of the capsule. The parameral side of the aedeagus (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

The map was generated using the online generic mapping tool (GMT) of the Geomar website at www. aquarius.ifm-geomar.de/omc.

DOI: 10.21248/contrib.entomol.61.2.389-411

The genus *Panscopaeus* Sharp, 1889

Panscopaeus Sharp, 1889: 262; type species by monotypy: *Scopaeus lithocharoides* Sharp, 1874.
Medostilicus Coiffait, 1982: 101 f.; type species by original designation: *M. deharvengi* Coiffait, 1982; **syn. n.**

Comment:

An examination of the type material of the type species of *Medostilicus*, *M. deharvengi*, revealed that it undoubtedly belongs to *Panscopaeus*. No significant differences were found suggesting that *Medostilicus deharvengi* should be distinct from *P. lithocharoides*, the type species of *Panscopaeus*. Hence the new synonymy proposed above.

Redescription:

Species of rather small and uniform size, body length usually 3.5-5 mm. Coloration reddish to dark-brown.

Head more or less strongly transverse; posterior margin distinctly concave in dorsal view (e.g., Fig. 37); punctation fine and dense; interstices with (e.g., Fig. 8) or without (Fig. 62) microreticulation. Neck conspicuously narrow, approximately 0.15-0.20 times as wide as head (e.g., Fig. 37). Eyes large and distinctly convex, 0.8-1.2 times as long as postocular portion in dorsal view. Antennae (Fig. 24) moderately slender; antennomere I approximately as long as, or slightly longer than the combined length of II and III; II approximately 1.5 times as long as wide and only slightly narrower than I; III about twice as long as wide, approximately as long as or slightly longer than II, but somewhat more slender than II; IV usually distinctly, V weakly oblong; preapical antennomeres approximately as long as wide, at most very weakly transverse. Gular sutures very narrowly separated posteriorly and strongly diverging anteriad. Mouthparts: labrum with anterior margin in the middle excised, on either side of the excision distinctly dentate (Figs 4-5); labium as in Fig. 6; maxillary palpus with the preapical palpomere slender, at least slightly more than twice as long as broad, and apical palpomere short and needle-shaped; left mandible with one, right mandible with two pronounced teeth (Figs 7-8).

Pronotum (e.g., Figs 2, 23) weakly transverse or approximately as long as wide, and usually slightly narrower than head, moderately convex in cross-section; lateral margins subparallel or weakly converging posteriad, straight or weakly convex; anterior margin produced anteriad in the middle (Figs 2, 32, 37); posterior angles weakly marked; punctation very fine and dense, often barely noticeable in the microsculpture (Figs 9, 36, 39); interstices usually with, rarely (one species) without distinct microreticulation; midline often narrowly glossy at least in posterior half.

Elytra 0.9-1.1 times as long as, and distinctly broader than pronotum; humeral angles marked; punctation usually more distinct than that of head and pronotum. Hind wings usually fully developed. Legs moderately slender; tarsi unmodified (i.e., not dilated) and without sexual dimorphism; metatarsomere I longer than two, at most as long as the combined length of II and III.

Abdomen usually slightly narrower than, rarely approximately as wide as elytra, widest at segment V; tergites III-V anteriorly with shallow transverse impression; punctation very dense and fine; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII convex.

♂: sternite VII not distinctly modified, at most with very shallowly concave posterior margin; sternite VIII with unmodified pubescence, posterior margin of variable shape, convexly produced to strongly excised in the middle; aedeagus with asymmetric or symmetric, often bifid ventral process, the latter weakly separated from the capsule; parameres absent; internal sac with more or less membranous, or with sclerotized basal and with distinctly sclerotized apical structures; dorsal plate slender.

♀: sternite VIII with broadly convex posterior margin.

DOI: 10.21248/contrib.entomol.61.2.389-411

Systematic position:

Panscopaeus is currently placed in the subtribe Medonina (SMETANA 2004), probably based on the external resemblance (size, punctation and microsculpture of forebody, etc.) with genera such as *Medon* STEPHENS, 1833 and *Lithocharis* DEJEAN, 1833. An examination of the mouthparts, other external characters, as well as of the male sexual characters, however, revealed that the genus refers to the Stilicina. The mandibles (apices elongated, long, and acute; left mandible with one, right mandible with two pronounced teeth), maxilla, labium, and labrum (anterior margin in the middle excised; on either side of the excision distinctly dentate) are quite similar to those of *Rugilus* LEACH, 1829, the type genus of Stilicina. Also, the neck is conspicuously narrow (as is the case in stilicine genera), and the gular sutures are very narrowly separated posteriorly and strongly diverging anteriad. Moreover, the anterior margin of the pronotum is elongated (towards the neck) in the middle. Finally, the aedeagus is of similar general morphology as in some species of *Rugilus* (especially *orbiculatus* group).

Identification:

Aside from *P. cameroni*, a reliable identification is usually possible only based on the male primary and secondary sexual characters. In external characters, most species are very uniform, and some of them are subject to considerable intraspecific variation.

Distribution and diversity:

Panscopaeus is widespread in the Oriental and the southern East Palaearctic regions, its distribution ranging from the southern slopes of the Himalaya southwards to Malaysia and eastwards to Japan. Based on the present revision, the genus is currently represented by seven described species. There is no evidence that any of them have restricted distributions, except perhaps for *P. formosanus*.

Natural history:

Owing to the scarcity of recent records, little is known about the biology of *Panscopaeus* species. Most of the recently collected specimens have been sifted from the leaf litter of forest biotopes. The altitudes range from 300 to 2500 m.

The species of *Panscopaeus*

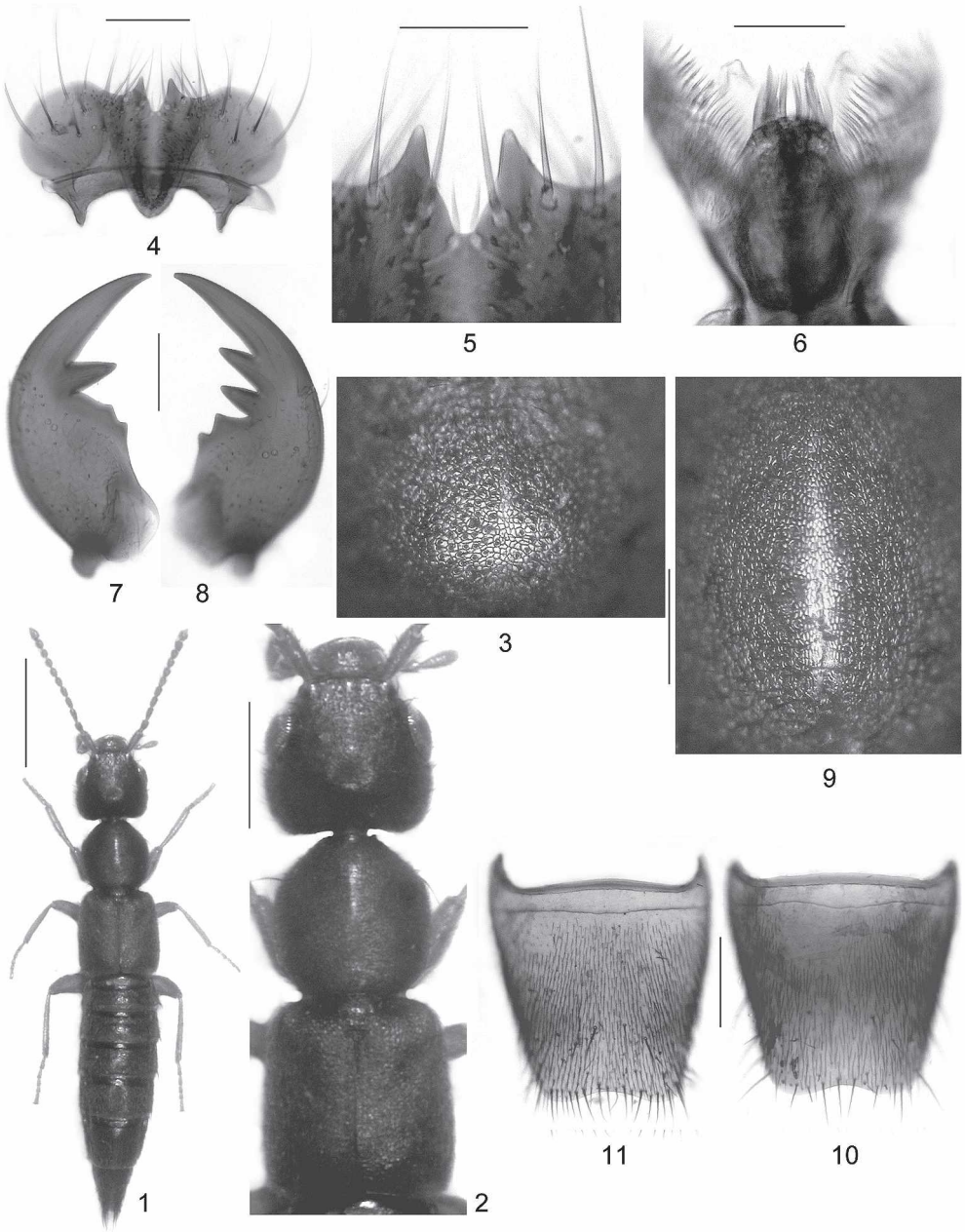
Panscopaeus lithocharoides (SHARP, 1874) (Figs 1-21)

Scopaeus lithocharoides SHARP, 1874: 63.
Panscopaeus lithocharoides: SHARP (1889).
Achenomorphus lithocharoides: ITO (1992).
Panscopaeus lithocharoides: HERMAN (2003), SMETANA (2004).
Medostilicus deharvengi COIFFAIT, 1982: 102; **syn. n.**

Type material examined:

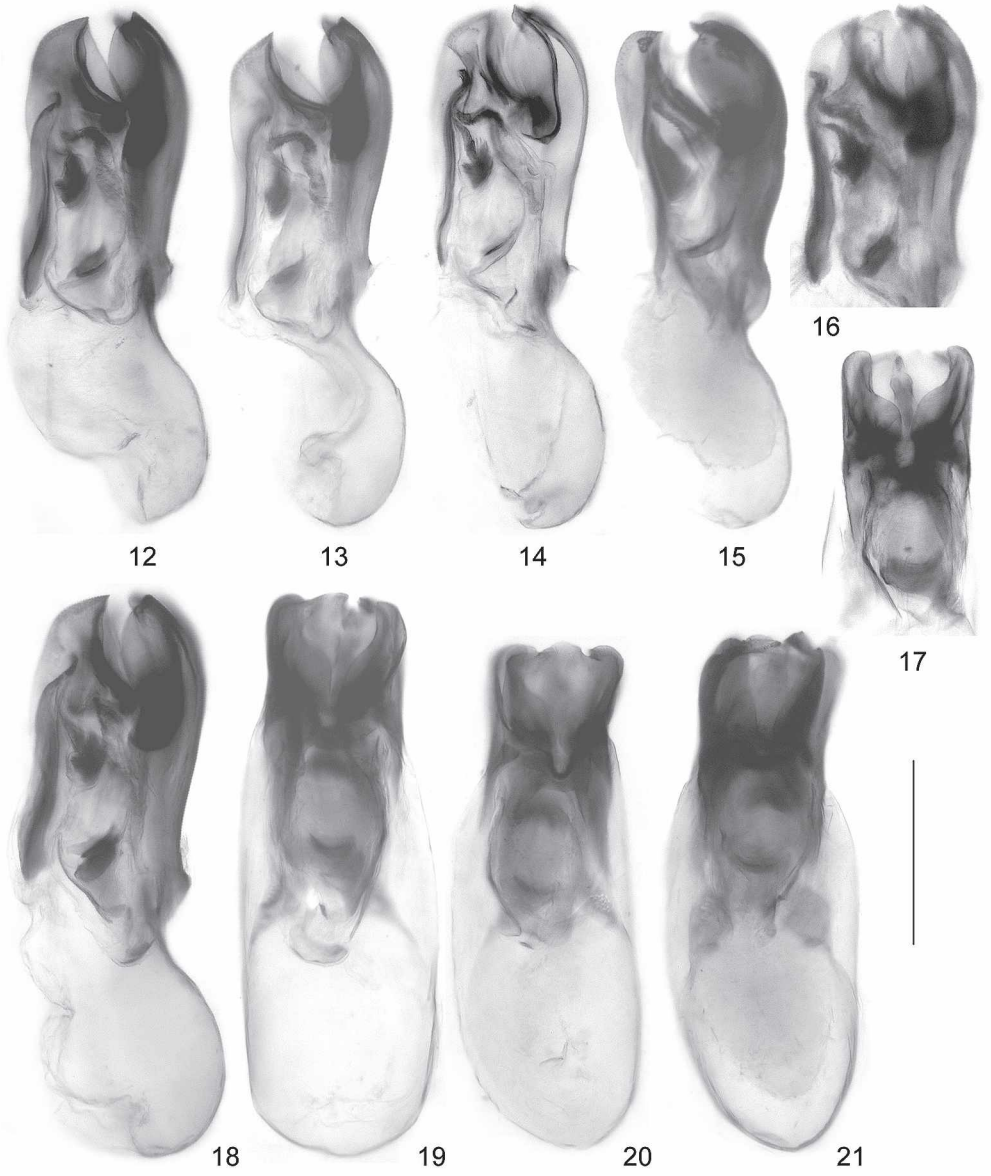
Scopaeus lithocharoides: Lectotype ♂, present designation: "Japan. G. Lewis. / Scopaeus lithocharoides type D.S. / Sharp Coll 1905-313 / Type / Syntype / Lectotypus ♂ *Scopaeus lithocharoides* Sharp, desig. V. Assing 2010 / Panscopaeus lithocharoides (Sharp), det. V. Assing 2010" (BMNH). Paralectotypes: 1 ♂: originally on same label as lectotype; now mounted separately; 1 ♀: "Japan. G. Lewis / Sharp-Coll 1905-313. / Panscopaeus lithocharoides Shp. Co-type / Panscopaeus lithocharoides Shp. Cotypus / Brit. Museum Don. Arrow / Chicago NHMus. M. Bernhauer

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 1-11: *Panscopaeus lithocharoides*: habitus (1); forebody (2); median dorsal portion of head (3); labrum (4); anterior median portion of labrum (5); ligula (6); left and right mandible (7-8); median dorsal portion of pronotum (9); male sternite VIII (10-11). Scale bars: 1: 1.0 mm; 2: 0.5 mm; 10-11: 0.2 mm; 3-9: 0.1 mm.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 12-21: *Panscopaeus lithocharoides*: aedeagus in lateral view of males from Japan (**12-14**), China (**15**), and Nepal (**18**); apical portion in lateral and in ventral view of holotype of *M. deharvengi* (**16-17**); aedeagus in ventral view of males from Nepal (**19**), Japan (**20**), and China (**21**). Scale bar: 0.2 mm.

Collection / Syntype ♀ Scopaeus lithocharoides Sharp, rev. V. Assing 2010 / Panscopaeus lithocharoides (Sharp), det. V. Assing 2010" (FMNH); 1 ♀: "Japan. G. Lewis. 1910-320. / lithocharoides Shp. Cotypus / Brit. Museum Don. Arrow / Chicago NHMus. M.Bernhauer Collection / Syntype ♀ Scopaeus lithocharoides Sharp, rev. V. Assing 2010 / Panscopaeus lithocharoides (Sharp), det. V. Assing 2010" (FMNH).

DOI: 10.21248/contrib.entomol.61.2.389-411

Medostilicus deharvengi: Holotype ♂: "Nepal, 4-X-77, Chama à Tarapani, 2020 m, LD-120 / Holotype / Medostilicus deharvengi H. Coiffait 1978 / Panscopaeus lithocharoides (Sharp), det. V. Assing 2010" (MNHNP). Paratype ♀: same data as holotype (MNHNP).

Comment:

Scopaeus lithocharoides was described from several syntypes from "rubbish heaps, Mogi Bay, near Nagasaki" (Sharp 1874). Two male syntypes, both of them originally glued on the same label, were located in the Sharp collection at the BMNH; the male in better condition is designated as the lectotype. Two additional females that probably qualify as syntypes were found in the Bernhauer collection. They are labelled as syntypes because the type material in the collections of the BMNH were discovered only after the additional syntypes had been returned. The species was attributed to *Panscopaeus* as the type species by monotypy by Sharp (1889).

The original description of *Medostilicus deharvengi* is based on a male holotype and two female paratypes from "Népal, entre Chame et Tarapani, 2020 m" (Coiffait 1982). The holotype and one of the paratypes were located in the Coiffait collection at the MNHNP. An examination of the type material, as well as of the additional male seen from Nepal revealed that the body and the aedeagus are somewhat larger and the pronotum is of darker coloration than is usually the case in *P. lithocharoides*. However, since no additional distinguishing characters were found, these differences are attributed to intra- rather than interspecific variation and *P. deharvengi* is synonymized with *P. lithocharoides*.

The aedeagus of *P. lithocharoides* was figured by Jeannel & Jarrige (1949) and Ito (1992).

Additional material examined:

Japan: Honshu: 15 exs., Fukushima-ken, Aizu-Wakamatsu, 16.IV.2006, leg. Lackner (cAss); 2 exs., Kyoto env., Nara koen env., 13.III.2006, leg. Lackner (cAss); 1 ex., Osaka-Fu, Minoo City Park, 13.-15.V.2007, leg. Lackner (cAss); 1 ex., Kansaik pref., Osaka env., Minoo park, 19.IV.2008, leg. Lackner (cAss); 14 exs., Osaka, Mt. Myoken, 25.VI.1993, leg. Ito (SDEI, cAss); 31 exs., same data, but 21.V.1994 (SDEI, cAss); 4 exs., same data, but 26.VI.1994 (SDEI, cAss); 4 exs., Osaka, Mt. Kodaiji, 27.VI.1993, leg. Ito (SDEI); 32 exs., Osaka, Sasabe, 8.V.1994, leg. Ito (SDEI, cAss); 3 exs., Hyogo, Sasabe, 28.V.1994, leg. Ito (SDEI, cAss); 2 exs., Hyogo, Mt. Myoken, Kurokawa, 21.IX.2000, leg. Ito (SDEI); 1 ex., Hyogo, Hotosu, Wachichou, 10.VI.2001, leg. Ito (SDEI); 1 ex., Tochigi pref., Nishi-Nasuno, 22.III.1990 (SDEI); 2 exs., Shiga, Mt. Hourai, Kojorou valley, 4.V.1994, leg. Ito (SDEI, cAss); 3 exs., Kanagawa, Mt. Ohyama, 4.VI.1994, leg. Ito (SDEI); 4 exs., Kanagawa pref., Nakaogino, Atsugi-shi, 7.I.2006, leg. Lackner (cAss); 2 ♀♀, Kanagawa pref., Miyanoshita, 11.-14.V.1880, leg. Lewis (FMNH); 1 ♀, Okayama pref., Yuyama, 11.-14.V.1880, leg. Lewis (FMNH); 1 ex., Yamato, Hase, 14.IV.1959, leg. Shibata (cRou); 1 ex., Nara, foot of Mt. Kasuga, 20.VIII.1980, leg. Hammond (BMNH); 1 ex., 8 km N Kyoto, Seryo Toge, 6.VIII.1980, leg. Hammond (BMNH); 1 ex., Kyoto Palace Gardens, leaf litter, 7.-20.VIII.1980, leg. Hammond (cAss); 2 exs., Yokohama, leg. Lewis (BMNH).
China: Yunnan: 3 exs., Xishuangbanna, 22.I.1993, leg. Rougemont (cRou); 3 exs., Ruili, 4.II.1993, leg. Rougemont (cRou, cAss).
Nepal: 1 ♂, Manaslu Mts., Dudh Pokhari Lekh, upper Phulinagiri Madi, 19.-21.IV.2003, 2500 m, leg. Schmidt (cRou).

Redescription:

Body length 3.5-5.0 mm. Habitus as in Fig. 1. Coloration: head blackish-brown to blackish; pronotum brown to dark-brown, rarely blackish; elytra reddish-brown to brown, with the posterior margin often narrowly yellowish; abdomen dark-brown to blackish-brown, apex occasionally paler; legs dark-yellowish; antennae reddish.

DOI: 10.21248/contrib.entomol.61.2.389-411

Head (Fig. 2) weakly to moderately transverse, usually 1.1-1.2 times as wide as long; posterior margin moderately concave; postocular region weakly convex in dorsal view; posterior angles moderately marked; neck slender, approximately 0.2 times the width of head in dorsal view; punctation of dorsal surface very dense and fine, barely noticeable in the microsculpture; interstices with distinct microreticulation (Fig. 3); dorsal surface with subdued shine. Eyes large and bulging, as long as, or somewhat longer than postocular region in dorsal view (Fig. 2). Antenna not distinctive. Mouthparts as in Figs 4-8.

Pronotum (Fig. 2) 1.0-1.1 times as wide as long and slightly narrower than head, widest at anterior angles; anterior and posterior angles each with long black seta; punctation and microreticulation similar to those of head (Fig. 9); surface practically matt; midline usually with more or less pronounced narrow band of variable length with subdued shine.

Elytra of variable length and width, 1.0-1.2 times as long as, and distinctly broader than pronotum; punctation very dense, slightly less fine than that of head and pronotum; interstices without distinct microsculpture, but surface almost matt due to the dense punctation. Hind wings fully developed. Metatarsomere I distinctly longer than II, but shorter than the combined length of II and III.

Abdomen narrower than elytra; punctation very fine and dense; interstices with shallow isodiametric microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; posterior margin of sternite VIII broadly and very weakly concave (Figs 10-11); aedeagus (Figs 12-21) 0.55-0.61 mm long; ventral process apically bifid in ventral view.

♀: posterior margin of sternite VIII convex.

Intraspecific variation:

As can be expected with an extremely widespread species, the external and even the sexual characters are subject to rather pronounced intraspecific variation. In particular, this is true of the coloration, body size, the punctation of the head and the pronotum, as well as the length and width of the elytra. The aedeagus is larger in the two males seen from the Himalaya (0.59-0.61 mm) than in specimens from China and Japan (0.55-0.57 mm), but since no additional convincing evidence was found (Figs 12-21), the observed differences are interpreted as an expression of intra- rather than interspecific variation.

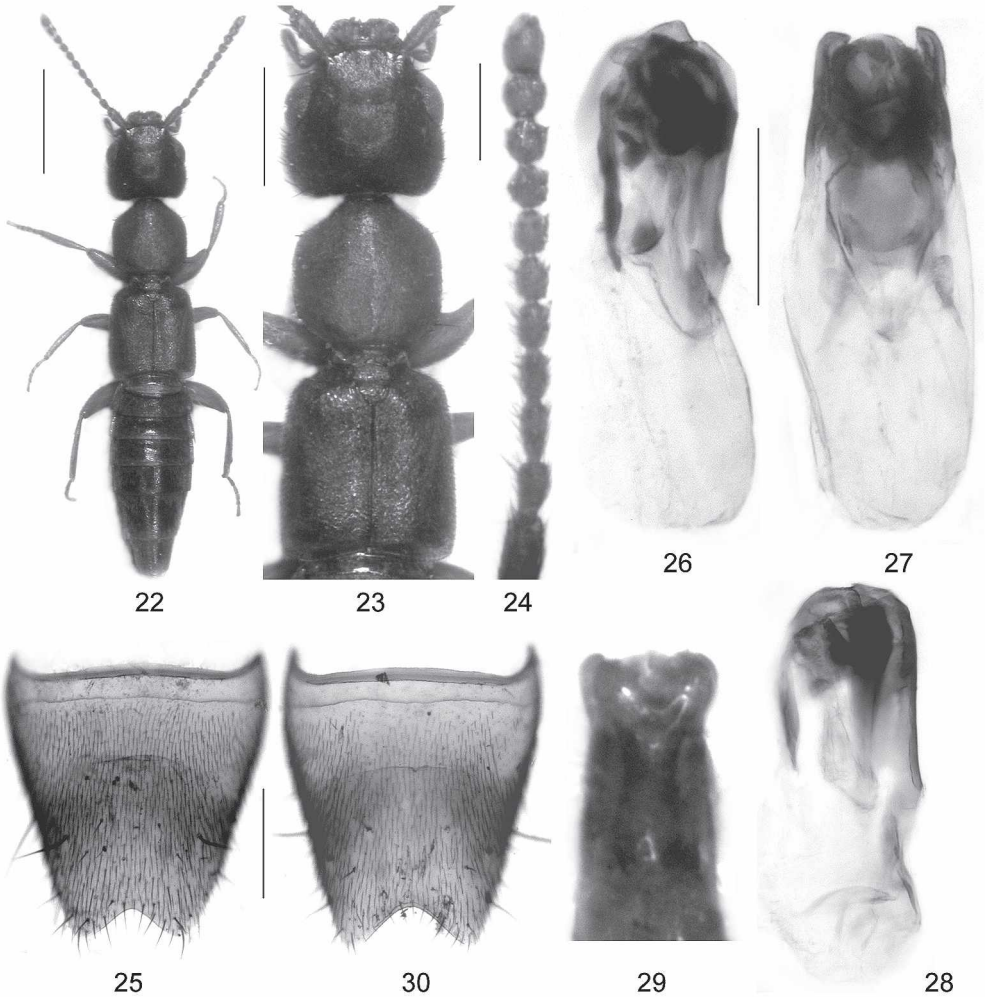
Comparative notes:

This species is best distinguished from its congeners by the broadly and shallowly concave posterior margin of the male sternite VIII, as well as by the shape of the relatively small aedeagus.

Distribution and natural history:

This species was previously known only from Japan. The examined specimens were found in Japan, Kyushu (type material) and Honshu, as well as in southern China (Yunnan province) and Nepal. They were collected during the period from January through June and from August through October at altitudes of up to 2500 m.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 22-30: *Panscopaeus yakushimanus* (22-29) and *P. formosanus* (30): habitus (**22**); forebody (**23**); antenna (**24**); male sternite VIII (**25**, **30**); aedeagus in lateral view (**26**); aedeagus in ventral view (**27**); teratological aedeagus in lateral view (**28**); apical portion of aedeagus in dry preparation (**29**). Scale bars: 22: 1.0 mm; 23: 0.5 mm; 24-30: 0.2 mm.

***Panscopaeus yakushimanus* (Ito, 1992)** (Figs 22-29, Map 1)

Achenomorphus yakushimanus Ito, 1992: 61 ff.
Panscopaeus yakushimanus: Herman (2003).

Comment:

The original description is based on a male holotype and five paratypes from "Miyanoura, Yakushima Is., Kagoshima Pref." (Ito 1992). A request of a loan of type material addressed to the author of the species remained unanswered. However, the above material is in good agreement with details specified in the original description and with the illustrations provided by Ito (1992).

DOI: 10.21248/contrib.entomol.61.2.389-411

Additional material examined:

China: Zhejiang: 9 exs., Moganshan, 26.IV.1993, leg. Rougemont (cRou); 9 exs., Tienmushan, 29.IV.1993, leg. Rougemont (cRou, cAss); 4 exs., same data, but 2.IX.1994 (cRou); 1 ex., Hangzhou, 22.IV.1993, leg. Rougemont (cAss); 4 exs., Tianmu Shan, pass 25 km NNW Linan, 30°26'N, 119°36'E, 620-820 m, creek valley with bamboo and mixed forest, litter sifted, 16.VI.2007, leg. Schülke (cSch, cAss); 10 exs., Hangzhou Pref., Tianmu Shan, S pass 41 km WNW Linan, 30°22'N; 119°19'E, 350 m, plant refuse near creek, 17.VI.2007, leg. Schülke (cSch); 6 exs., Hangzhou Pref., Tianmu Shan, 40 km WNW Linan, 30°21'N; 119°19'E, 300 m, reservoir, plant refuse, 17.VI.2007, leg. Schülke & Pütz (cSch, cPüt); 2 exs., Tianmu Shan, pass 81 km W Linan, 30°18'N, 118°53'E, 625 m, plant refuse and litter sifted, 19.VI.2007, leg. Schülke & Pütz (cPüt, cAss). **Sichuan:** 16 exs., Qingcheng Shan, NW Chengdu, 30°54'N; 103°32'E, 650-700 m, 3.-4.VI.1997, leg. Schülke & Wrase (cRou, cSch, cAss); 2 exs., same data, but 18.V.1997, leg. Wrase (cSch); 10 exs., Quingcheng Shan, 65 km NW Chengdu, 8 km W Taiping, 30°53'N, 103°33'E, 800-1000 m, 18.V./3.-4.VI.1997, leg. Pütz (cPüt, cAss); 2 exs., Qingcheng Shan, 56 km NW Chengdu, 30°54'N, 103°33'E, 975 m, 18.VI.1999, leg. Schülke & Wrase (cSch). **Fujian:** 1 ♂, Xinqiao, 27.05°N, 117.1°E, 10.V.2005, leg. Turna (NHMW).

Taiwan: 8 exs., Hsinchu County, Hsinkuang env., Road No. 60, km 44, Jienshih township, 1600 m, litter sifted, 25.III.2008, leg. Vít (MHNG, cAss); 2 exs., Hsinchu County, Wufeng, Road 122, km 19, 1200 m, mountain forest litter, 26.III.2008, leg. Vít (cAss); 2 exs., Hsinchu County, S-Hengshan, Hengshan township, road 35, 600 m, roadside, forest litter sifted, 27.III.2008, leg. Vít (MHNG); 2 exs., Chiayi County, Alishan, road 129, 4.5 km S Lungmei, 2000 m, *Cryptomeria* stump, 12.IV.2009, leg. Vít (cAss).

Redescription:

Body length 4.0-4.6 mm. Habitus as in Fig. 22. Coloration: head brown to dark-brown; pronotum reddish to dark-brown, usually only slightly paler than head; elytra reddish to reddish-brown; abdomen reddish-brown to dark-brown, with the posterior margins (and often also the lateral and anterior margins) reddish; legs and antennae reddish.

Head approximately 1.15 times as wide as long (Fig. 23); posterior margin distinctly concave; postocular region usually weakly convex in dorsal view; posterior angles marked; neck slender, approximately 0.15 times the width of head in dorsal view; punctation of dorsal surface very fine and dense, barely noticeable in the pronounced microreticulation; dorsal surface almost matt. Eyes large and bulging, approximately as long as postocular region in dorsal view, occasionally slightly longer or slightly shorter. Antennae as in Fig. 24.

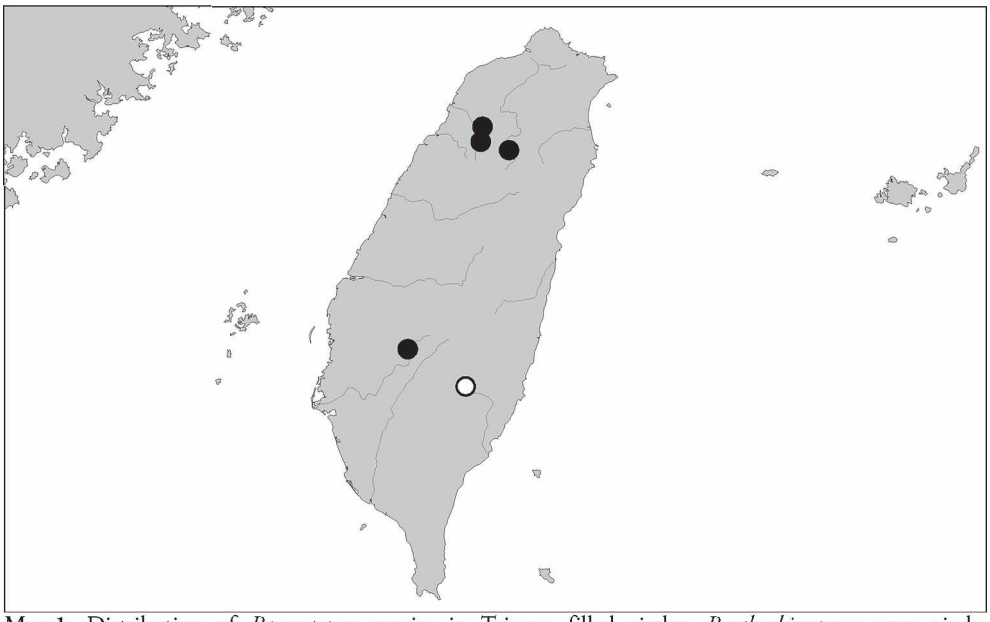
Pronotum approximately as wide as long and 0.90-0.95 times as wide as head, widest at anterior angles, anteriorly obliquely tapering towards neck (Fig. 23); punctation and microreticulation similar to those of head; midline sometimes weakly and narrowly elevated and/or somewhat more shiny in the middle.

Elytra approximately as long as, or slightly shorter than pronotum, and approximately 1.15 times as broad as pronotum (Fig. 23); punctation fine and dense; microsculpture shallow, much less pronounced than that of head and pronotum. Hind wings present. Metatarsomere I almost 1.5 times as long as II.

Abdomen slightly narrower than elytra; punctation very fine and dense; interstices with shallow microsculpture visible only at higher magnification; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; sternite VIII with moderately deep excision posteriorly (Fig. 25); aedeagus usually 0.54-0.56 mm long, with apically distinctly bifid ventral process (Figs 26-27, 29).

DOI: 10.21248/contrib.entomol.61.2.389-411



Map 1: Distribution of *Panscopaeus* species in Taiwan: filled circles: *P. yakushimanus;* open circle: *P. formosanus*.

Comparative notes:

This species is distinguished from the similar *P. lithocharoides* by the paler coloration (*P. lithocharoides*: head and abdomen usually blackish-brown to blackish; pronotum and elytra brown to dark-brown), on average shorter elytra, the much deeper posterior excision of the male sternite VIII (*P. lithocharoides*: posterior margin of sternite VII only weakly concave), as well as by the broader, shorter (ventral view), and apically less strongly curved (lateral view) ventral process of the aedeagus.

Distribution and natural history:

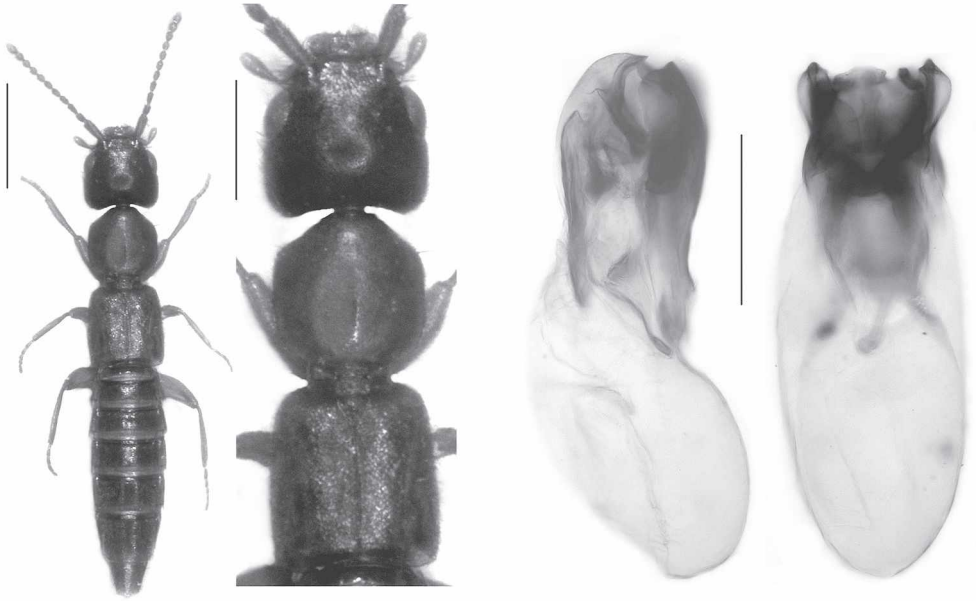
Previously, *P. yakushimanus* was known only from Yakushima, Ryuku Islands, southern Japan. The known distribution now also includes western China and Taiwan (Map 1), where the specimens were sifted from leaf litter, plant refuse, and dead wood at a wide range of altitudes (300-2000 m). The aedeagus of one of the males from Hsinchu county, Taiwan, is teratologically malformed and much smaller (0.35 mm long) than usual (Fig. 28), a phenomenon which has repeatedly been observed also in other paederine genera such as *Medon* Stephens, 1833 and *Sunius* Stephens, 1829 (Assing 2006). The aedeagus of another male from Hsinchu county is slightly smaller (0.50 mm).

***Panscopaeus formosanus* sp. n.** (Figs 30-36, Map 1)

Type material:

Holotype ♂: "Taiwan - Taitung Co., Rd. no. 20, after Li-Tao (Lidau), km 174, 1300 m, mt. forest litter, 8.IV.2007, leg. Vít [2] / Holotypus ♂ *Panscopaeus formosanus* sp. n., det. V. Assing 2010" (cAss).

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 31-34: *Panscopaeus formosanus*: habitus (**31**); forebody (**32**); aedeagus in lateral view (**33**); aedeagus in ventral view (**34**). Scale bars: 31: 1.0 mm; 32: 0.5 mm; 33-34: 0.2 mm.

Etymology:

The specific epithet is an adjective derived from Formosa, the old name of Taiwan.

Description:

Body length 4.5 mm. Habitus as in Fig. 31. Coloration: head blackish-brown; pronotum and elytra reddish, distinctly contrasting with the darker head; abdomen brown, with reddish apex; legs dark-yellowish; antennae reddish.

Head 1.12 times as wide as long (Fig. 32); postocular region usually weakly convex in dorsal view; posterior angles marked; neck slender, approximately 0.15 times the width of head in dorsal view; punctation of dorsal surface very fine and dense, barely noticeable in the pronounced microreticulation; dorsal surface almost matt (Fig. 35). Eyes large and bulging, somewhat shorter than postocular region in dorsal view. Antennae similar to those of *P. yakushimanus*.

Pronotum (Fig. 32) approximately as wide as long and 0.95 times as wide as head, lateral margins subparallel and short, posteriorly broadly rounded towards posterior margin; posterior angles not marked; punctation and microreticulation similar to those of head (Fig. 36); midline in posterior half briefly and narrowly glossy (Fig. 32).

Elytra relatively short, approximately 0.9 times as long and 1.1 times as broad as pronotum (Fig. 43); punctation fine and dense; microsculpture very shallow, visible only at high magnification of at least 100 x. Metatarsomere I longer than II, but shorter than the combined length of II and III.

Abdomen as wide as elytra; punctation very fine and dense; interstices with shallow microsculpture visible only at higher magnification; posterior margin of tergite VII with palisade fringe.

DOI: 10.21248/contrib.entomol.61.2.389-411

♂: sternite VII unmodified; sternite VIII with relatively broad and deep excision posteriorly (Fig. 30); aedeagus 0.6 mm long and shaped as in Figs 33-34.

Comparative notes:

Externally, this species is characterized particularly by the coloration, the shape of the pronotum, and the short elytra. It is distinguished from the sympatric *P. yakushimanus* additionally by the broader and deeper posterior excision of the male sternite VIII, as well as by the larger and differently shaped aedeagus.

Distribution and natural history:

The type locality is situated in Taitung county, southeastern Taiwan, at an altitude of 1300 m. The holotype was sifted from mountain forest litter.

Panscopaeus andrewesi (Cameron, 1931), comb. n. (Figs 37-43)

Medon andrewesi Cameron, 1931: 150.

Type material examined:

Lectotype ♂ [teneral], present designation: "Nilgiris, S. India / M. Cameron Bequest. B.M. 1955-147. / Syntype / Syntype? Medon andrewesi Cameron 1931, det. R.G. Booth 2010 / Lectotypus ♂ *Medon andrewesi* Cameron, desig. V. Assing 2010 / Panscopaeus andrewesi (Cameron), det. V. Assing 2010" (BMNH). Paralectotype ♀: "H. L. Andrewes, Nilgiri Hills / Lithostilicus andrewesi Cam. / M. Cameron Bequest. B.M. 1955-147. / Syntype / Paralectotypus ♀ *Medon andrewesi* Cameron, desig. V. Assing 2010 / Panscopaeus andrewesi (Cameron), det. V. Assing 2010" (BMNH).

Comment:

The original description is based on an unspecified number of syntypes, among them at least one male, from "Nilgiri Hills (H. L. Andrewes)" Cameron (1931). Two syntypes, a somewhat teneral male and a female, were located in the collections of the BMNH. The male is designated as the lectotype.

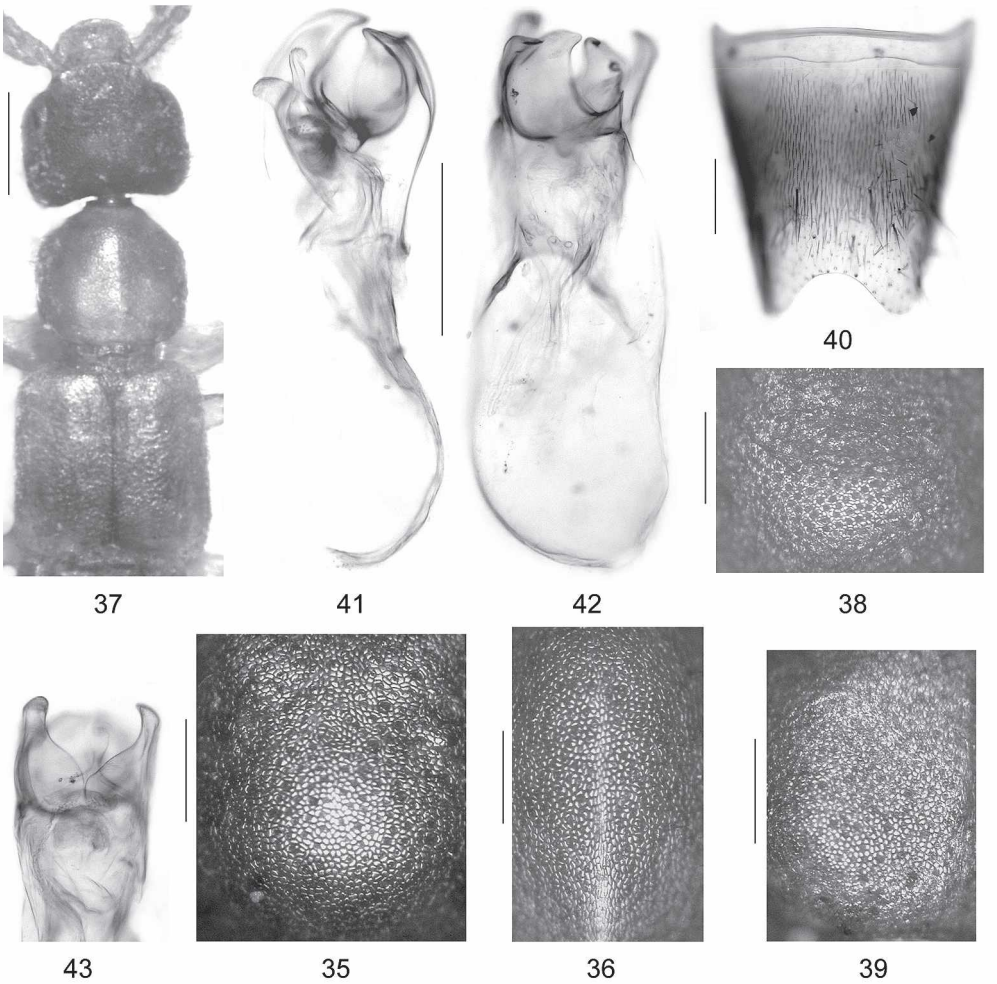
Redescription:

Body length 4.1-4.8 mm. Coloration: head blackish-brown; pronotum reddish-brown; elytra yellowish-brown with yellowish anterior, lateral, and posterior margins; abdomen reddish-brown, with segment VII infuscate and the narrow posterior margins of the segments and the apex reddish-yellow; legs dark-yellowish; antennae reddish.

Head strongly transverse, 1.18-1.23 times as wide as long (Fig. 37); posterior margin distinctly concave; postocular region weakly convex in dorsal view; posterior angles marked; neck slender, approximately 0.2 times the width of head in dorsal view; punctation of dorsal surface very dense and fine, but distinctly noticeable in the microreticulation; interstices narrower than diameter of punctures (Fig. 38); dorsal surface with subdued shine. Eyes large and bulging, somewhat longer than postocular region in dorsal view. Antenna similar to that of *P. yakushimanus*.

Pronotum (Fig. 37) weakly transverse, approximately 1.05 times as wide as long and approximately 0.9 times as wide as head, widest at anterior angles; punctation and microreticulation similar to those of head (Fig. 39); midline more or less distinct, narrowly less matt than lateral portions.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 35-43: *Panscopaeus formosanus* (35-36) and *P. andrewesi*, lectotype (37-43): median dorsal portion of head (35, 38); median portion of pronotum (36); forebody (37); posterior portion of pronotum (39); male sternite VIII (40); aedeagus in lateral view (41); aedeagus in ventral view (42); apical portion of aedeagus in dorsal view (43). Scale bars: 37: 0.5 mm; 40-43: 0.2 mm; 35-36, 38-39: 0.1 mm.

Elytra (Fig. 37) 1.0-1.07 times as long and 1.25-1.30 times as wide as pronotum; punctation dense, much less fine than that of head and pronotum; interstices without distinct microsculpture. Hind wings apparently fully developed. Metatarsomere I distinctly longer than II, approximately as long as the combined length of II and III.

Abdomen narrower than elytra; punctation very fine and dense; interstices without distinct microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; posterior margin of sternite VIII strongly concave (Fig. 40); aedeagus (Figs 41-43) approximately 0.63 mm long; ventral process strongly asymmetric, apically not bifid in ventral view.

DOI: 10.21248/contrib.entomol.61.2.389-411

Comparative notes:

Panscopaeus andrewesi is distinguished from both *P. stilicinus* and *P. breviusculus* by the more distinct punctation of the head and pronotum, the more transverse head, the larger eyes (longer than postocular portion), the relatively shorter elytra, the much more strongly concave posterior margin of the male sternite VIII, as well as by the morphology of the aedeagus.

Distribution and natural history:

The species has become known only from the type locality in southern India. Bionomic data are not available.

Panscopaeus breviusculus (Kraatz, 1859), comb. n. (Figs 44-52)

Lithocharis breviuscula Kraatz, 1859: 137 f.
Medon (*Lithocharis*) *breviusculus*: Bernhauer & Schubert (1912).
Medon breviusculus: Cameron (1931).

Type material examined:

Lectotype ♂, present designation: "Ceylon / 90 / Lithocharis breviuscula / coll. Kraatz / Syntypus / DEI Müncheberg Col - 00001 / Lectotypus ♂ *Lithocharis breviuscula* Kraatz, desig. V. Assing 2010 / Panscopaeus breviusculus (Kraatz), det. V. Assing 2010" (SDEI). Paralectotypes: 1 ♂ [teneral]: "Ceylon / Lithocharis breviuscula Kraatz / coll. Kraatz / Syntypus / DEI Müncheberg Col - 00003" (SDEI); 1 ♂: "Ceylon / coll. Kraatz / Syntypus / DEI Müncheberg Col - 00002" (SDEI).

Comment:

The original description is based on an unspecified number of syntypes from "Ceylan" (Kraatz 1859). Three male syntypes, one of them slightly teneral, were located in the Kraatz collection at the SDEI. One of the mature males is designated as the lectotype. An examination of the type material revealed that *Lithocharis breviuscula* clearly refers to *Panscopaeus*, so that the species is excluded from *Medon* and the binomen *Panscopaeus breviusculus* (Kraatz 1859) is established.

Additional material examined:

Sri Lanka: 1 ex., Peradeniya, 1910, leg. Petch (AMNH); 1 ex., Polonnaruioa, 7°55'N, 81°00'E, litter at edge of Lake Parakrama Sumudra, 13.I.1983, leg. Darby (BMNH); 1 ex., Kandy, Udawattakele Res., 7°20'N, 80°31'E, 500 m, rain forest, in rotting fruit of *Artocarpus heterophyllus* on ground, 10.I.1983, leg. Darby (BMNH); 1 ex., Mihiripennia, 6°00'N, 80°00'E, cow dung, I.1983, leg. Darby (cAss).

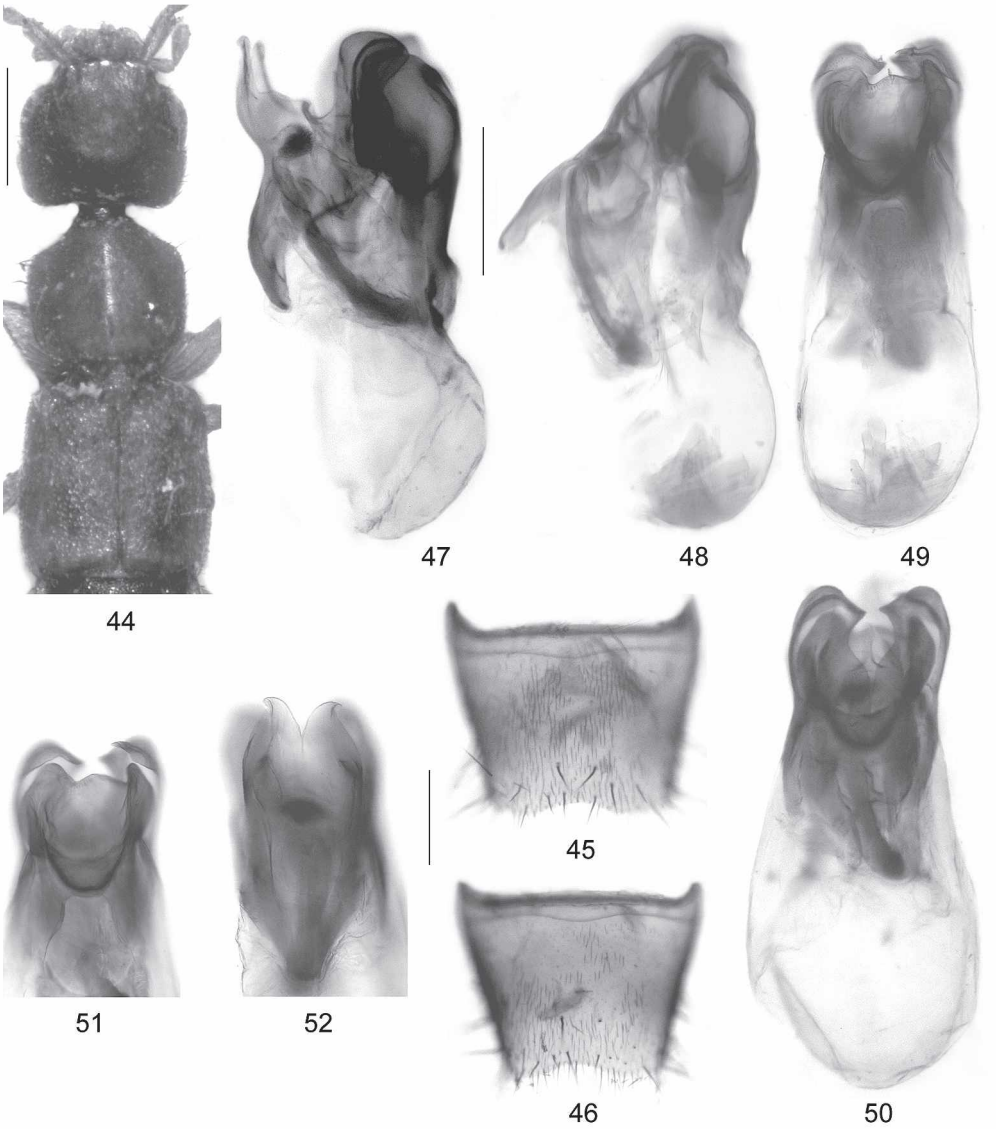
Redescription:

Body length 3.3-4.3 mm. Coloration: body reddish to dark-brown with slightly paler elytra, posterior margin of elytra yellowish to reddish; legs and antennae reddish-yellow to brown.

Head (Fig. 44) approximately 1.15 times as wide as long; posterior margin distinctly concave; postocular region weakly convex in dorsal view; posterior angles marked; neck approximately 0.2 times the width of head in dorsal view; punctation of dorsal surface very fine and dense, barely noticeable in the pronounced microreticulation; dorsal surface matt. Eyes large and bulging, slightly to distinctly longer than postocular region in dorsal view. Antenna similar to that of *P. yakushimanus*.

Pronotum (Fig. 44) weakly transverse, approximately 1.05 times as wide as long and 0.95 times as wide as head, widest at anterior angles, punctation and microreticulation similar to those of head; midline in posterior half more or less shiny.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 44-52: *Panscopaeus breviusculus* (**44**, **46-47**, **50-52:** lectotype): forebody (**44**); male sternite VIII (**45-46**); aedeagus in lateral view (**47-48**); aedeagus in ventral view (**49**); aedeagus in dorsal view (**50**); apical portion of aedeagus in ventral view (**51**); dorsal plate of aedeagus (**52**). Scale bars: 44: 0.5 mm; 45-52: 0.2 mm.

Elytra approximately as long as pronotum (Fig. 44); punctation very dense and much more distinct than that of head and pronotum; interstices narrower than diameter of punctures and without distinct microsculpture. Hind wings fully developed. Metatarsomere I slightly longer than II.

Abdomen slightly narrower than elytra; punctation very fine and dense; interstices on anterior tergites without, on posterior tergites with shallow microsculpture; posterior margin of tergite VII with palisade fringe.

DOI: 10.21248/contrib.entomol.61.2.389-411

♂: sternite VII unmodified; sternite VIII with rather broad and rather shallow excision posteriorly (Figs 45-46); aedeagus 0.66-0.68 mm long, shaped as in Figs 47-52; dorsal plate of characteristic shape, apically bifid (Fig. 52); ventral process apically concave in ventral view; internal sac with a long sclerotized structure best visible in lateral view (Figs 47-48).

Comparative notes:

Panscopaeus breviusculus is readily distinguished from *P. lithocharoides* by smaller average size, slightly larger eyes, broader head and pronotum, even more pronounced microsculpture on the head and the pronotum, and particularly by the morphology of the aedeagus.

Distribution and natural history:

Confirmed records of this species have become known only from Sri Lanka. It was reported also from Sikkim by Biswas (2003), but it seems likely that this record, if it refers to a species of *Panscopaeus*, is based on a confusion with *P. lithocharoides*. Three specimens were collected in January, one of them from leaf litter on a lakeshore, one from a rotting fruit in a rain forest, and one from cow dung.

Panscopaeus stilicinus (Cameron, 1931), comb. n. (Figs 53-60)

Stilicus lithocharoides Cameron, 1924a: 183.
Medon stilicinus Cameron, 1931: 149 f.; replacement name.

Type material examined:

Lectotype ♂, present designation: "Arni Gad, Rajpur-Mussoorie. / Dr. Cameron, 17.IV.1921. / 6th v. S. broadly feebly arucately emarginate / Medon stilicinus Cam. / M. Cameron Bequest. B.M. 1955-147. / Syntype / Syntype Stilicus lithocharoides Cameron, 1924. det. R.G. Booth 2010 / Lectotypus ♂ *Stilicus lithocharoides* Cameron, desig. V. Assing 2010 / Panscopaeus stilicinus (Cameron), det. V. Assing 2010" (BMNH). Paralectotype ♀: "Arni Gad, Rajpur-Mussoorie. Dr. Cameron. 17.IV.1921. / Stilicus lithocharoides Cam. / Medon stilicinus n. n. Cam. / M. Cameron Bequest. B.M. 1955-147. / Syntype / Paralectotypus ♀ *Stilicus lithocharoides* Cameron, desig. V. Assing 2010 / Panscopaeus stilicinus (Cameron), det. V. Assing 2010" (BMNH).

Comment:

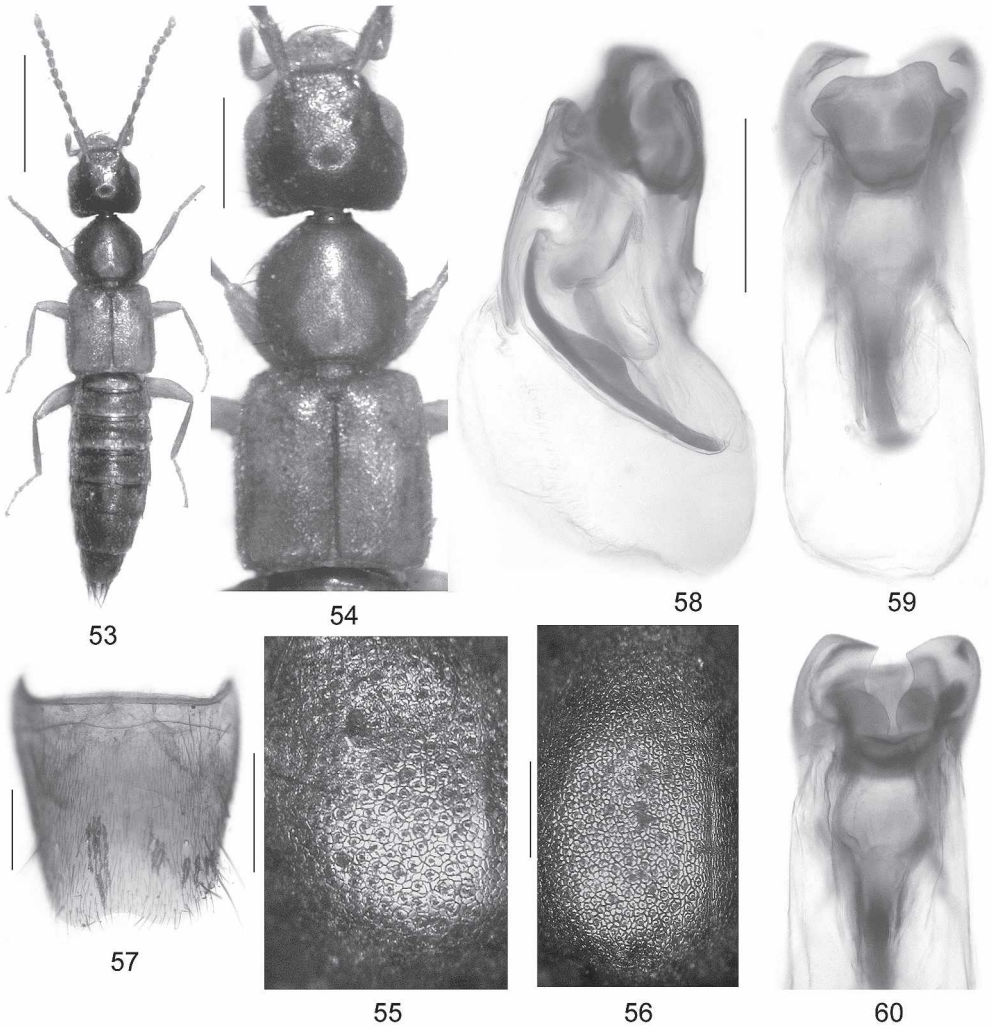
Stilicus lithocharoides was described from an unspecified number of syntypes, among them at least one male, from "Mussorie District; Arni Gad" (Cameron 1924a). The name is a junior secondary homonym of *Panscopaeus lithocharoides* (Sharp, 1874), and was subsequently replaced with the nomen novum *Medon stilicinus* by Cameron (1931). Two syntypes, a male and a female, were located in the collections of the BMNH. The male is designated as the lectotype.

Redescription:

Body length 4.2-4.8 mm. Habitus as in Fig. 53. Coloration: head blackish-brown; pronotum castaneous; elytra yellowish to yellowish-brown; abdomen dark-brown, with the posterior margins of the segments and the apex reddish-yellow; legs dark-yellowish; antennae reddish-brown.

Head (Fig. 54) 1.10-1.15 times as wide as long; posterior margin distinctly concave; postocular region weakly convex in dorsal view; posterior angles marked; neck approximately 0.2 times the width of head in dorsal view; punctation of dorsal surface very fine, barely noticeable in the distinct microreticulation (Fig. 55); dorsal surface only with subdued shine. Eyes large and bulging, approximately as long as postocular region in dorsal view. Antenna similar to that of *P. yakushimanus*.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 53-60: *Panscopaeus stilicinus* (57-60: lectotype): habitus (53); forebody (54); median dorsal portion of head (55); postero-median portion of pronotum (56); male sternite VIII (57); aedeagus in lateral view (58); aedeagus in ventral view (59); apical portion of aedeagus in dorsal view (60). Scale bars: 53: 1.0 mm; 54: 0.5 mm; 57-60: 0.2 mm; 55-56: 0.1 mm.

Pronotum (Fig. 54) weakly transverse, approximately 1.05 times as wide as long and approximately 0.95 times as wide as head, widest at anterior angles; punctation as fine as that of head and barely visible in the pronounced microreticulation (Fig. 56); midline at least in parts slightly less matt than lateral portions.

Elytra (Fig. 54) approximately 1.1 times as long and 1.3 times as wide as pronotum; punctation dense and less fine than that of head and pronotum; interstices without distinct microsculpture. Hind wings fully developed. Metatarsomere I distinctly longer than II, approximately as long as the combined length of II and III.

Abdomen narrower than elytra; punctation very fine and dense; posterior margin of tergite VII with palisade fringe.

DOI: 10.21248/contrib.entomol.61.2.389-411

♂: sternite VII unmodified; posterior margin of sternite VIII weakly, but distinctly concave in the middle (Fig. 57); aedeagus (Figs 58-60) approximately 0.6 mm long; dorsal plate moderately long; internal sac with long sclerotized basal structure and with apical structures of distinctive shape; ventral process distinctly asymmetric, apically not bifid and weakly concave in ventral view.

Comparative notes:

Based on the morphology of the aedeagus - particularly the shape of the slerotized basal internal structure, evidently a synapomorphy, – *P. stilicinus* is most closely related to *P. breviusculus*. Both species are externally highly similar and separated by the coloration of the elytra (*P. breviusculus*: at least indistinctly bicoloured, with the posterior margin more or less distinctly paler), the microsculpture of the head and pronotum (even more pronounced in *P. breviusculus* and rendering the surface almost completely matt), as well as by the shape of the male sternite VIII (*P. breviusculus*: shorter and transverse, posterior margin more broadly concave) and the morphology of the aedeagus.

Distribution and natural history:

Confirmed records of *P. stilicinus* are known only from Uttarranchal, northern India. According to Cameron (1931), the species has been collected also in Sikkim. The type specimens were collected in April; additional bionomic data are not available.

Panscopaeus cameroni (Scheerpeltz, 1933), comb. n. (Figs 61-67)

Medon lithocharoides Cameron, 1924b: 313 f.
Medon cameroni Scheerpeltz, 1933: 1260; replacement name.

Type material examined:

Syntype ♀: "Sumatra, Fort de Kock, VIII.94, E. Modigliani / Museo Civ. Genova / Medon lithocharoides Cam / M. Cameron Bequest, B.M.1955-147 / Syntype / Syntypus ♀ Medon lithocharoides Cameron, rev. V. Assing 2010 / Panscopaeus cameroni (Scheerpeltz), det. V. Assing 2010" (BMNH).

Additional material examined:

Sumatra: 2 exs., Fort de Kock, 920 m, 1925, leg. Jacobson (FMNH); 1 ♂, 2 ♀♀, Brastagi, 6.VI.1984, leg. Rougemont (cRou, cAss). **Bali:** 1 ♀, Gunung [= Mount] Agung, 10.VII.1982, leg. Rougemont (cRou).

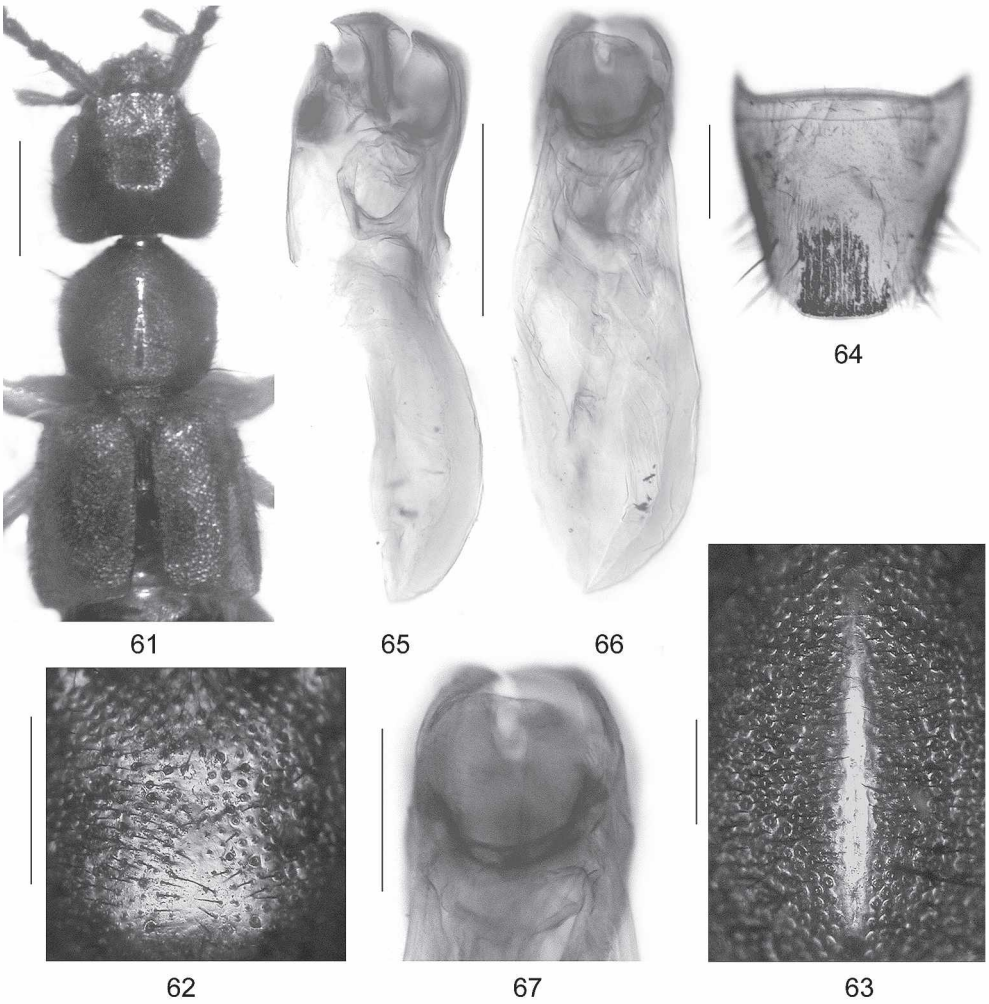
Comment:

Medon lithocharoides was described from an unspecified number of female syntypes ("♂: unknown") from "Sumatra: Fort de Kock, August 1894 (Dr. E. Modigliani)" (Cameron 1924b). The name is a junior secondary homonym of *Panscopaeus lithocharoides* (Sharp, 1874) and *Stilicus lithocharoides* Cameron, 1924, and was subsequently replaced with the nomen novum *M. cameroni* by Scheerpeltz (1933). One of the syntypes, a female, was located in the Cameron collection at the BMNH. Whether or not the syntypes are indeed all females remains unclear. Due to the absence of a median excision at the posterior margin of the male sternite VIII, males may easily be mistaken for females.

Redescription:

Body length 4.3-4.7 mm. Coloration: head dark-brown; pronotum reddish-brown to castaneous; elytra reddish to brown; abdomen brown, with the posterior margins of the segments and the apex reddish; legs yellowish-brown; antennae reddish.

DOI: 10.21248/contrib.entomol.61.2.389-411



Figs 61-67: *Panscopaeus cameroni*: forebody (**61**); median dorsal portion of head (**62**); median portion of pronotum (**63**); male sternite VIII (**64**); aedeagus in lateral view (**65**); aedeagus in ventral view (**66**); apical portion of aedeagus in ventral view (**67**). Scale bars: 61: 0.5 mm; 64-66: 0.2 mm; 62-63, 67: 0.1 mm.

Head (Fig. 61) 1.10-1.15 times as wide as long; posterior margin distinctly concave; postocular region weakly convex in dorsal view; posterior angles marked; neck approximately 0.2 times the width of head in dorsal view; punctation of dorsal surface very fine and moderately dense in lateral portions, sparser in median dorsal portion; interstices in median dorsal portion without distinct microsculpture and glossy (Fig. 62). Eyes large and bulging, as long as, or slightly longer than postocular region in dorsal view. Antenna similar to that of *P. yakushimanus*.

Pronotum (Fig. 61) moderately transverse, approximately 1.1 times as wide as long and nearly 0.95 times as wide as head, widest at anterior angles; punctation fine and extremely dense; interstices without distinct microsculpture; midline narrowly impunctate and glossy (Fig. 63).

DOI: 10.21248/contrib.entomol.61.2.389-411

Elytra (Fig. 61) approximately 1.1 times as long and 1.3 times as wide as pronotum; punctation very dense and less fine than that of head and pronotum; interstices narrower than diameter of punctures and without distinct microsculpture. Hind wings fully developed. Metatarsomere I distinctly longer than II.

Abdomen narrower than elytra; punctation very fine and dense; interstices on anterior tergites glossy, on posterior tergites with shallow microsculpture; posterior margin of tergite VII with palisade fringe.

♂: sternite VII unmodified; posterior margin of sternite VIII broadly produced, without median excision (Fig. 64); aedeagus (Figs 65-67) approximately 0.6 mm long; dorsal plate short and with lamellate basal portion; apical internal structures of distinctive shape; ventral process somewhat asymmetric, apically neither bifid nor concave in ventral view.

Comparative notes:

Panscopaeus cameroni is distinguished from all its congeners particularly by the absence of microsculpture in the median dorsal portion of the head and on the pronotum, the extremely dense punctation of the pronotum, the highly distinctive shape of the male sternite VIII (posteriorly produced and without median excision), as well as by the morphology of the aedeagus.

Distribution and natural history:

Confirmed records of this species have become known only from Sumatra and Bali.

Key to the species of *Panscopaeus*

1. Head and pronotum without microsculpture (Figs 62-63); pronotum with very dense punctation, midline glossy. ♂: male sternite VIII posteriorly convexly produced, neither concave nor excised (Fig. 64); aedeagus as in Figs 65-67. Sumatra, Bali. ..... ***P. cameroni*** (SCHEERPELTZ)

- Head and pronotum with microsculpture; pronotum not with conspicuously dense punctation. ♂: male sternite VIII broadly concave to distinctly excised posteriorly; aedeagus of different morphology. 2

2. Elytra short, approximately 0.9 times as long as pronotum (Fig. 32). Pronotum and elytra reddish, distinctly contrasting with the blackish-brown head. Pronotum with lateral margins subparallel, short, broadly rounded towards posterior margin (Fig. 32). ♂: sternite VIII posteriorly almost triangularly, broadly, and relatively deeply excised (Fig. 30); aedeagus as in Figs 33-34. Taiwan. ..... ***P. formosanus*** sp. n.

- Elytra approximately as long as, or longer than pronotum. Coloration usually different. Pronotum usually with posteriorly converging and longer lateral margins. ♂: primary and secondary sexual characters different. 3

3. ♂: posterior margin of sternite VIII shallowly concave (Figs 10-11, 45-46, 57). 4

- ♂: posterior margin of sternite VIII distinctly and more narrowly excised in the middle (Figs 25, 40). 6

4. ♂: aedeagus without long basal structure in internal sac; ventral process apically bifid (Figs 12-21). Nepal, China, Japan. ..... ***P. lithocharoides*** (SHARP)

DOI: 10.21248/contrib.entomol.61.2.389-411

- ♂: aedeagus with long basal structure in internal sac; ventral process apically asymmetric. 5

5. Microsculpture of head and pronotum less pronounced. ♂: sternite VIII approximately as long as wide, posterior margin more deeply and less broadly concave in the middle (Fig. 57); aedeagus as in Figs 58-60. Northern India: Uttarranchal, Sikkim. .... ***P. stilicinus*** (CAMERON)

- Microsculpture of head and pronotum more pronounced. ♂: sternite VIII transverse, posterior margin broadly and shallowly concave (Figs 45-46); aedeagus with ventral process and dorsal plate of distinctive shape (Figs 47-52). Sri Lanka. .... ***P. breviusculus*** (KRAATZ)

6. ♂: sternite VIII posteriorly broadly, concavely, and rather deeply excised (Fig. 40); aedeagus with strongly asymmetric ventral process (Figs 41-43). Known only from Nilgiri Hills, southern India. ..... ***P. andrewesi*** (CAMERON)

- ♂: sternite VIII posteriorly more narrowly, triangularly, and less deeply excised (Fig. 25); aedeagus with apically bifid and not distinctly asymmetric ventral process (Figs 26-27, 29). S-Japan: Ryuku Islands; China; Taiwan. ..... ***P. yakushimanus*** (ITO)

Acknowledgements

I am indebted to all the colleagues indicated in the material section for the loan of specimens under their care, to Tomás Lackner for the gift of Staphylinidae from Japan, to Giulio Cuccudoro for the permission to retain the holotype of *P. formosanus*, as well as to Guillaume de Rougemont (London) for his most valuable assistance and comments. Benedikt Feldmann (Münster) proof-read the manuscript.

References

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): 25-95.

BERNHAUER, M. & SCHUBERT, K. 1912: Staphylinidae III. (Pars 40). – In: JUNK, W. & SCHENKLING, S. (eds.): Coleopterorum Catalogus. Volumen **5**. Staphylinidae. – Junk, Berlin: 191-288.

BISWAS, D. N. 2003: Insecta: Coleoptera: Staphylinidae. – Zoological Survey of India. State Fauna series 9, Fauna of Sikkim (Part 3): 237-281.

BLACKWELDER, R. E. 1952: The generic names of the beetle family Staphylinidae, with an essay on genotypy. – United States National Museum Bulletin **200**: 1-483.

CAMERON, M. 1924a: New species of Staphylinidae from India. – The Transactions of the Entomological Society of London **1924**: 160-198.

CAMERON, M. 1924b: Descriptions of new species of Staphylinidae in the Museo civico di Storia naturale di Genova. – Annali del Museo Civico di Storia Naturale di Genova **51**: 312-315.

CAMERON, M. 1931: The fauna of British India including Ceylon and Burma. Coleoptera. Staphylinidae. Volume 2. – London, Taylor and Francis: viii + 1-257.

COIFFAIT, H. 1982: Contribution à la connaissance des staphylinides de l'Himalaya (Népal, Ladakh, Cachemire) (Insecta: Coleoptera: Staphylinidae). – Senckenbergiana biologica **62** (1981): 21-179.

HERMAN, L. H. 2003: Nomenclatural changes in the Paederinae (Coleoptera: Staphylinidae). – American Museum Novitates **3416**: 1-28.

ITO, T. 1992: Notes on the species of Staphylinidae from Japan, I (Coleoptera). – The Entomological Review of Japan **47**: 59-65.

DOI: 10.21248/contrib.entomol.61.2.389-411

Jeannel, R. & Jarrige, J. 1949: Biospeologica. LXVIII. Coléoptères Staphylinides (première série). – Archives de Zoologie expérimentale et générale **86**: 255-392.

Kraatz, G. 1859: Die Staphylinen-Fauna von Ostindien, insbesondere der Insel Ceylan. – Archiv für Naturgeschichte **25**: 1-196.

Newton, A. F.; Thayer, M. K.; Ashe, J. S. & Chandler, D. S. 2001: Superfamily Staphylinoidea Latreille, 1802, Staphyliniformia Lameere, 1900; Brachelytra auctorum. 22. Staphylinidae Latreille, 1802. – In: Arnett, R. H. Jr. & Thomas, M. C.: American Beetles. Archostemata, Myxophaga, Adephaga, Polyphaga: Staphyliniformia. Volume **1**. – CRC Press, Boca Raton etc.: 272-418.

Scheerpeltz, O. 1933: Staphylinidae VII. – In: Schenkling, S. (ed.): Coleopterorum Catalogus: **6** (129): 989-1500. – Berlin, Junk.

Sharp, D. S. 1874: The Staphylinidae of Japan. – The Transactions of the Entomological Society of London **1874**: 1-103.

Sharp, D. S. 1889: The Staphylinidae of Japan. – The Annals and Magazine of Natural History (6) **3**: 28-44, 108-121, 249-267, 319-334, 406-419, 463-476.

Smetana, A. 2004: Subfamily Paederinae Fleming, 1821. – In: Löbl, I. & Smetana, A. (eds): Catalogue of Palaearctic Coleoptera. Volume 2. Hydrophiloidea – Histeroidea – Staphylinoidea. – Apollo Books, Stenstrup: 579-624.

Author´s address:

Dr. Volker Assing
Gabelsbergerstr. 2
30163 Hannover, Germany
e-mail: vassing.hann@t-online.de

Subject Editor:

Dr. L. Zerche

DOI: 10.21248/contrib.entomol.61.2.389-411