SPIXIANA	42	1	19–46	München, September 2019	ISSN 0341–8391

Callidiopini beetles in the collection of the Zoologische Staatssammlung München (ZSM) – Part I

(Coleoptera, Cerambycidae, Callidiopini)

Yaheita Yokoi

Yokoi, Y. 2019. Callidiopini beetles in the collection of the Zoologische Staatssammlung München (ZSM) – Part I (Coleoptera, Cerambycidae, Callidiopini). Spixiana 42 (1): 19–46.

Callidiopini species in the collection of the Zoologische Staatssammlung München (ZSM) were studied. In part I of this publication, five new species of the genus *Ceresium*, Newman 1842 are described from the Philippines, including *C. rusticum* sp. nov., *C. solidum* sp. nov., *C. balkei* sp. nov., *C. huedepohli* sp. nov. and *C. sibuyanum* sp. nov. Furthermore, five new species from Sumatra, *C. ikuoyokoii* sp. nov., *C. atricolle* sp. nov., *C. gibbicolle* sp. nov., *C. coloratum* sp. nov. and *C. cylindrithorax* sp. nov. are described as new. In addition, *C. indigum* Holzschuh, 2011 is recorded for the first time from Sumatra, Indonesia.

Their genital organs are closely examined. Male 8th sternites and complexes of the ejaculatory duct with surrounding sclerites are documented and illustrated in detail, in addition to the usual median lobes and tegmens. The peculiar female spermathecal duct of *C. cylindrithorax* sp. nov. is documented and illustrated. Taxonomical aspects and genital organs of these species are discussed, which will be continued and supplemented in part II.

Yaheita Yokoi, Beerenkothen 33, 40882 Ratingen, Germany;
e-mail: y.yokoi@kddnet.de

Introduction

Dr. Karl-Ernst Hüdepohl (1921–2010) made extensive studies on the cerambycid fauna of various regions, particularly of Southeast Asia. He left a substantial and large collection of Cerambycidae which includes many specimens from the Oriental and Australian region ("Hüdepohl Collection"). Later, his collection was transferred to the Zoologische Staatssammlung München (ZSM), Munich, Germany, where it is henceforth preserved as a coherent part of the ZSM collection. His work was still unfinished, however, so that some of his specimens remain unsorted or unidentified or only temporally determined.

Another large number of cerambycid specimens are also preserved in the ZSM, composing of specimens collected by P. Witzgall and his local colleague in Sibuyan Island of the Romblon Province, Philippines, in the years 1979–1980. These specimens are also unsorted or undetermined yet.

Recently, through the courtesy of Dr. Michael Balke, curator of the ZSM for Coleoptera, the author was given a chance to examine these materials. The examination revealed that many unknown or interesting species of the tribe Callidiopini, from the Philippines and Indonesia, are included in these materials.

Callidiopini is a large tribe with about 60 genera and 400 known species, distributed mainly in the Oriental and Australian regions. *Ceresium* Newman, 1842 as a genus makes up, in turn, a numerically important component of the tribe, numbering about 150 taxa. It is prolific in both regions, spreading also to remote islands in the Pacific and Indian Ocean.

Regarding the *Ceresium* fauna of the Philippines, it was E. Newman, who first intensively explored the genus in this area, describing four new species (Newman 1842). Later, C. Aurivillius described one new species (Aurivillius 1927), followed by J. L. Gressitt who described another new species of *Ceresium* (Gressitt 1940). Hüdepohl then made a substantial contribution to the knowledge of this genus in the area, publishing a summary note on this subject. In all, he described two new species and recorded the distribution of three others from the Philippines (Hüdepohl 1990, 1994). In the recent years, one additional species was described from the Philippines (Vives 2013). Altogether, nine species of the genus *Ceresium* are hitherto described and three others recorded from the Philippines. Considering the size and geography of the region, this figure is rather modest. The Philippines is known as the habitat of some remarkable genera and species of cerambycid beetles, so that actually more taxonomically interesting discoveries could be expected. In the present paper, five new *Ceresium* species from the Philippines are described, including those remarkably differing from species of the other regions.

Substantially more species are already described, on the other hand, from the Greater Sunda Islands including Borneo and Sumatra, with the number of descriptions now exceeding 22, after 17 new species have been additionally described in the recent years, mostly from Borneo (Holzschuh 2011, 2015). Altogether, more than 25 species are distributed in this area. Furthermore, five new *Ceresium* species are described from Sumatra in the present paper, including those with remarkable habitus or genitalia. In addition, *C. indigum* Holzschuh, 2011 is recorded from Sumatra for the first time and its male genital organs are described and figured.

Our present knowledge of the genital organs of Callidiopini, of *Ceresium* species in particular, is still rudimentary. In previous descriptions, this aspect was not referred to. In recent years, Holzschuh described various structures of male 8th sternites of *Ceresium* species as significant keys for taxonomical classification (Holzschuh 2011, 2015). Further, median lobes, tegmens and 8th sternites of several *Ceresium* species were documented in detail by the author (Yokoi 2015). Given the number of species belonging to the genus and the diversity of their genital organs, the existing knowledge on this field is, however, still very limited.

In the course of the recent examination, it was again widely observed that the male 8th sternites of Callidiopini, those of *Ceresium* species in particular, are very manifold in structure, each showing a distinctive characteristic of the species. In this regard, comparative observation of these male genital organs may further facilitate taxonomical consideration of the genus. Therefore, 8th sternites are documented and illustrated in detail in the following descriptions.

Even more remarkable are the male endophalli of *Ceresium* species. The recent examination has revealed that their ejaculatory duct complexes are strongly sclerotized, extremely variable and intricate in structure. Here again, it is tried to illustrate them as detailed as possible.

In addition, median lobes and tegmens, which are otherwise more often referred to in publications, are also observed.

As to female genital organs, the remarkable spermathecal duct of *Ceresium cylindrithorax* sp. nov., with the extraordinary voluminous expansion at the base of the spermatheca, should be noted. It is illustrated in detail as well.

Taxonomical aspects of the described species are discussed at the end, added by observations on genital organs. It will be continued and supplemented in part II.

Material and methods

The material for this publication is composed of Callidiopini specimens preserved in the ZSM. A major part of the examined specimens was originally collected by Hüdepohl in Sumatra and Luzon. In the following, these specimens are referred to as members of "Hüdepohl collection" within the ZSM collection. The other specimens were collected by P. Witzgall and a local collector in Romblon province of the Philippines. Regarding their data of collection, the days and months are unknown, while the years are indicated.

The specimens in question were either directly compared to the concerned holotypes or to their original descriptions and photographs. In addition, the following specimen was employed for comparative observation, of genital organs in particular: *Ceresium zeylanicum* White, ♂: "Sri Lanka, Sabra Prov. Ratnapura area, 22–24. XII.1994. Ole Mehl det." (in the private collection of the author).

For the examination of genitalia, the specimens were softened first, then submerged in KOH solution for 12 hours and subsequently cleansed in water. They were photographed by a digital camera with a macro lens. Serial photos were stacked onto one image. Drawings were made using Adobe Illustrator.

Median lobe, tegmen, 8th sternite and tergite were observed for each male specimen. Ejaculatory duct together with the surrounding manifold sclerites referred to as "ejaculatory duct complex", was similarly examined in detail. When endophallus was reversed in a natural way, as in copula, the complex was surveyed and illustrated in this position. In general, the direction, to which the ejaculatory duct itself is pointed, is referred to as "apical", the surface likewise "dorsal". Additionally, when relevant, 9th sternites or tergites were exam-

ined. For female, 8th and 9th sternites and tergites, spermathecae, spermathecal ducts and bursae copulatrix were examined.

Measurements were taken with an ocular micrometer. The abbreviations for the measurements in the descriptions are as follows: TL, total length (from apical margin of clypeus to abdominal apex); HW, head width across eyes; PL, length of pronotum; PW, maximum width of pronotum; PA, apical width of pronotum; PB, basal width of pronotum; EL, length of elytra; EW, humeral width of elytra; M, arithmetic mean.

Holotypes and paratypes of the species described in this publication are preserved in the ZSM.

Taxonomy

Ceresium rusticum sp. nov.

Figs 1A–C, 14A–K

Types. Holotype ♂: "ROMBLON, PHILLIPPINES", 1979–1980, P. Witzgall et local collector leg. (ZSM). – Paratypes: 1 ♂, 1 ♀, ditto (ZSM).

Diagnosis. Similar to *Ceresium zeylanicum* White, 1855 or *C. aemulator* Holzschuh, 2015. Body stocky with voluminous prothorax. Deep punctures on elytra.

Etymology. The name refers to the stocky body structure.

Description

Measurements. TL = 10.4–18.0 mm; EL/EW = 2.98–3.10 (M 3.02); HW/PW = 0.87–0.93 (M 0.9); PL/PW = 1.08–1.28 (M 1.18); PA/PW = 0.69–0.74 (M 0.72); PB/PW = 0.86–0.91 (M 0.88).

Colour. Similar to *C. zeylanicum* or *C. aemulator*. Pronotum reddish. No significant deviation among the specimens examined.

Head. Similar to *C. zeylanicum* or *C. aemulator*; though vertex less concave; with antennal supports more flattened.

Pronotum. Large in relation to the body, nearly 5/6 as wide as body; widest just before the middle, distinctly convex in profile. Sides arcuate, weakly constricted at basal 1/4. Disc closely, very coarsely and deeply punctured; post-median stripe narrow or obtuse with irregular boundaries; clothed similarly as the above two species. Scutellum similar.

Elytra. Almost similar to the above-mentioned species in outline, though humeri more strongly produced toward latero-basal corners. Punctures in the basal half larger and deeper, in particular near base and humeri.

Legs. Similar.

Venter. Prosternum provided densely with large and coarse punctures; clothed with pale recumbent hairs. Prosternal process narrow, truncated on apex. Mesosternum concave in middle, furnished densely with pale recumbent hairs near sides. Mesosternal process moderately broad, bi-lobed in apical third. Metasternum thickly clothed with pale, moderately long, recumbent hairs; with a nitid stripe in middle.

Abdomen clothed with pale lying hairs. 5th visible sternite narrowed toward apex, which is widely emarginated in the middle.

Genital organs as in Fig. 14A–K. Median lobe nearly half the length of abdomen; slender and nearly bullet-shaped in dorsal view, moderately arcuate in lateral view; dorsal plate feebly arcuate on sides, dehiscent in basal 3/5; ventral plate a little longer than the dorsal plate, dehiscent in basal 3/4; median struts very narrow. Tegmen almost 9/10 the length of median lobe, weakly double-sinuous in profile; parameres about 2/5 the length of tegmen, dehiscent in apical 1/4, with each lobe gradually narrowed to apex which is rounded and furnished with short to medium-sized setae. Ejaculatory duct complex as Fig. 14F–H; apical sclerites apicad dehiscent with each lobe sharply hooked. 8th sternite widely and moderately emarginated in the apical middle, with the latero-apical corners rather sharply projected, with the latero-basal corners strongly produced; extensively thinned in the middle; clothed with short to medium hairs in the middle and longer ones on sides near apex. 8th tergite as wide as the corresponding sternite, bell-shaped, clothed with short, stout setae near apex.

Distribution. Romblon Province, Philippines.

Comparative notes. This new species shares several external characteristics with *C. zeylanicum* and *C. aemulator*, described from Sri Lanka and Sumatra respectively. It differs from the both, firstly regarding the structure of prothorax. It is more voluminous, broader in relation to body, more convex in profile (Figs 1B, 2), and more arcuate on sides. Secondly, punctures on elytra are larger and deeper near base and humeri. Thirdly, antennal supports are more flattened. In addition, its pronotum is much more deeply and coarsely punctured than that of *C. zeylanicum.*

As for genital organs, 8th sternite of the new species is more strongly emarginated on apex than that of *C. zeylanicum* (Figs 14I, 25F) and, according to the description, less so than that of *C. aemulator*. Further, the 8th tergite is apicad much more strongly narrowed than that of the former and not truncated as of the latter (Figs 14K, 25G). Regarding median lobe, it is bullet-shaped in dorsal view in contrast to the fusiform one of *C. zeylanicum*. It is also less arcuate in profile (Figs 14A–B, 25A–B).

Remarks. The type locality is given as above. Regarding the circumstances that all the other specimens from Romblon Province were collected on its Sibuyan Island, the type specimens were probably also collected there.

Ceresium solidum sp. nov.
Figs 3, 15A–I

Types. Holotype ♂: "PHIL.VII.95, N-Luzon" (ZSM). – Paratype: 1 ♂, ditto (ZSM).

Diagnosis. Medium sized; with long and stout antennae, stout in body structure with thick elytral surface. Brownish to black.

Etymology. The name refers to the stout body structure.

Description

Measurements. TL = 18.0–18.2 mm; EL/EW = 2.3–2.33 (M 2.34); HW/PW = 0.81–0.85 (M 0.83); PL/PW = 1.02–1.04 (M 1.03); PA/PW = 0.79–0.8 (M 0.8); PB/PW = 0.96.

Colour. Dark brown to blackish. Elytron widely testaceous except base and apex. Femora and tibiae also widely testaceous except basal and apical parts. Antennae more or less paler except blackish apices.

Head. Distinctly narrower than the maximum width of pronotum, rather shiny, provided with a deep median groove stretching from the middle of frons over vertex to occiput; punctured more or less deeply along the groove. Frons a little shorter than wide; not steep; deeply emarginated on sides by lower eye-lobes; furnished with a deep, arcuate, horizontal furrow near apex; provided with medium-sized punctures near latero-apical corners; sporadically clothed with pale, disorderly recumbent hairs near middle. Clypeus rectangular, five times as wide as long. Eyes separated from one another by 1/3 the width of occiput. Vertex distinctly concave. Antennal supports flat and broad, each surrounded by an arcuate line of small punctures. Antennae long and stout, about 7/4 times as long as body, surpassing elytral apices by the middle of article 7; article 3 and 5 each about 1/5 longer than scape, article 4 about 1/10 shorter than scape. Scape moderately arcuate and finely punctured; articles 4–9 distinctly keeled; articles 1–4 clothed with pale, short, recumbent hairs; 5–11 with minute pale hairs.

Pronotum. Slightly longer than wide. Base wider than apex. Sides moderately arcuate, weakly constricted near base. Disc distinctly convex, though weakly impressed in horseshoe form in middle; shiny; densely provided with coarse punctures of varying sizes in the middle; more finely so near sides; clothed with pale, disorderly, recumbent hairs on sides.

Scutellum naked, large and trapezoidal.

Elytra. Short and broad; less than twice as long as head and pronotum combined; well convex, though a little impressed near base. Sides gradually tapering toward separately rounded apices. Surface thick, densely furnished with setiferous punctures each bearing a pale, short, recumbent hair; punctures gradually reducing in size toward apices.

Venter. Prosternum provided with large and coarse punctures as well as with pale recumbent hairs, though nitid near apex. Prosternal process moderately broad, a little emarginated on the apex. Mesosternum furnished with several large, shallow punctures in middle and with pale, short hairs near sides. Mesosternal process short and broad, bi-lobed in apical third. Metasternum well convex, punctured coarsely near middle and clothed with pale, moderately long, recumbent hairs near sides.

Abdomen rather shiny; clothed with pale lying hairs, more densely so near sides. 5th visible sternite distinctly narrowed towards apex, which is rounded and slightly emarginated in the middle.

Legs. Stout, hind femora almost reaching elytral apex. Femora fairly clavate, clothed sporadically with pale recumbent hairs; tibiae and tarsi clothed with short erect hairs; 1st article of hind tarsus nearly as long as 2nd and 3rd combined.

Genital organs as in Fig. 15A–I. Median lobe more than 1/3 the length of abdomen; fusiform in dorsal view; in profile strongly arcuate with the highest point near middle; dorsal plate with a moderate projection at apex, dehiscent in basal 5/8; ventral plate distinctly longer than dorsal plate, dehiscent in basal 3/4; median struts rather broad. Tegmen almost 5/6 the length of median lobe; parameres about 2/5 the length of tegmen, dehiscent in apical half, with each lobe gradually narrowed to apex which is rounded and furnished with short to medium setae. Ejaculatory duct complex as in Fig. 15F–H; basal sclerite large, flat, thick, with a projection on apex; both lateral sclerites stout and largely hooked; ejaculatory duct itself relatively large. 8th sternite broadly bi-lobed, narrowly and sharply emarginated near the apical middle; with a stout peduncle; widely thinned in middle; clothed with several short to long, stout setae along apical margin. 8th tergite much larger than the corresponding sternite, apicad trapezoidal; clothed with short to long, stout setae on apex and sides.

Distribution. Northern Luzon, Philippines.

Comparative notes. With short, stout body and long, stout antennae, this new species differs from all the other species of the genus *Ceresium*. In this regard, it resembles rather more those species of the neigh-

bouring genus *Examnes* Pascoe, 1869, in particular, the nominotypical *E. philippensis* Newman, 1842. Its frons is, however, neither short nor steep, and its antennal supports are very flat without any tubercle, both in contrast to the definition of *Examnes* (Pascoe 1869). The new species must be thus placed in the genus *Ceresium*, at least for the moment.

Remarks. Holotype was found among "indet." specimens in "Hüdepohl Collection" (ZSM).

Ceresium balkei sp. nov.
Figs 4A–C, 16A–I

Types. Holotype ♂: "Espana Sibuyan Is. Romblon, Philippines", 1979–1980, P. Witzgall et local collector leg. (ZSM). – Paratypes: 3♂♂, ditto (ZSM).

Diagnosis. Resembles *C. zeylanicum* in body structure in general. Smaller-sized; more extensively testaceous. Pronotum regularly punctured, weakly setose. Median lobe broad in dorsal view.

Etymology. The name of this species is dedicated to Dr. Michael Balke, curator of Coleoptera at the ZMS.

Description

Measurements. TL = 9.8–10.5 mm; EL/EW = 2.70–2.85 (M 2.76); HW/PW = 0.94–0.96 (M 0.95); PL/PW = 1.12–1.24 (M 1.2); PA/PW = 0.7–0.78 (M 0.75); PB/PW = 0.92–0.96 (M 0.95).

Colour. Testaceous; elytra, abdomen, scape and base of femora paler.

Head. Similar to that of *C. zeylanicum*, though frons less densely punctured.

Pronotum. Longer than wide, with apex distinctly narrower than base. Sides arcuate. Disc dorsally flattened, punctured as in *C. mediocre* Holzschuh, 2011 though punctures coarser (Fig. 4B); sparsely clothed with pale hair.

Scutellum bell-shaped, whitish tomentose.

Elytra. Similar as in *C. zeylanicum*, though surface shinier and less deeply punctured.

Legs. Similar as in *C. zeylanicum*.

Venter. Prosternum with several very large punctures near middle; provided with a pair of extensive, densely punctured depressions each stretching toward side (Fig. 4C); clothed rather sparsely with pale, short, erect, disarrayed hairs. Prosternal process narrow, truncated on apex. Mesosternum concave in the apical middle; thickly furnished with pale, recumbent hairs near sides. Mesosternal process flat and broad, bi-lobed in apical third. Metasternum sparsely clothed with pale, short, recumbent hairs; more densely so on sides and apex.

Abdomen. 5th visible sternite short; apex very widely emarginated.

Genital organs as in Figure 16A–I. Median lobe about 3/8 the length of abdomen; very broad in dorsal view, slender and arcuate in profile; dorsal plate parallel-sided, gradually narrowed in apical sixth and rounded at apex, dehiscent in basal 3/5; ventral plate longer than dorsal plate, rather suddenly narrowed toward apex; dehiscent in basal 4/5; median struts apicad dilated. Tegmen 7/8 the length of median lobe with parameres broad in dorsal view and thick in profile; with long setae on apex. Ejaculatory duct complex in Figure 16F–H; large, nearly half as long as median lobe; ejaculatory duct itself anchored to a sclerotized loop; apical sclerite bi-lobed with each lobe strongly and sharply hooked; basal sclerite slender and elongated. 8th sternite bi-lobed, with apex widely and deeply emarginated in semi-V-form; clothed with medium to long setae in the apical half. 8th tergite a little wider than the corresponding sternite; bell-shaped; slightly emarginated on apex; with short, stout setae near apex.

Distribution. Sibuyan Is., Romblon Province, Philippines.

Comparative notes. This new species resembles *C. zeylanicum* regarding the body structure in general. Pronotum of the latter is, however, obviously less regularly punctured and much more setose. The puncture on pronotum of the new species resembles rather that of *C. mediocre*, whose pronotum is, in turn, shorter and more setose. Further, it can be compared to *C. lingafelteri* Vives, 2013 from the nearby island Luzon. It lacks, however, the remarkable band on elytra, and its pronotum differs in outline and integument. As for male genital organs of the new species, median lobe is distinctly wider and the 8th sternite much more deeply emarginated on apex than those of the other species examined.

Ceresium huedepohli sp. nov.
Figs 5, 17A–I

Types. Holotype ♂: "Espana, Sibuyan Is., Romblon, Philippines" 1979–1980, P. Witzgall et local collector leg. (ZSM). – Paratypes: 3♂♂, 1♀, ditto (ZSM).

Diagnosis. Small-sized, fulvous. Head and pronotum extensively punctured and clothed with pale, stout disorderly hairs. Pronotal sides distinctly and evenly arcuate. Femora flattened, clavate without peduncle.

Etymology. The name of this species is dedicated to late Dr. Karl-Ernst Hüdepohl, to honour his contribution to the understanding of cerambycid fauna of the Oriental region.

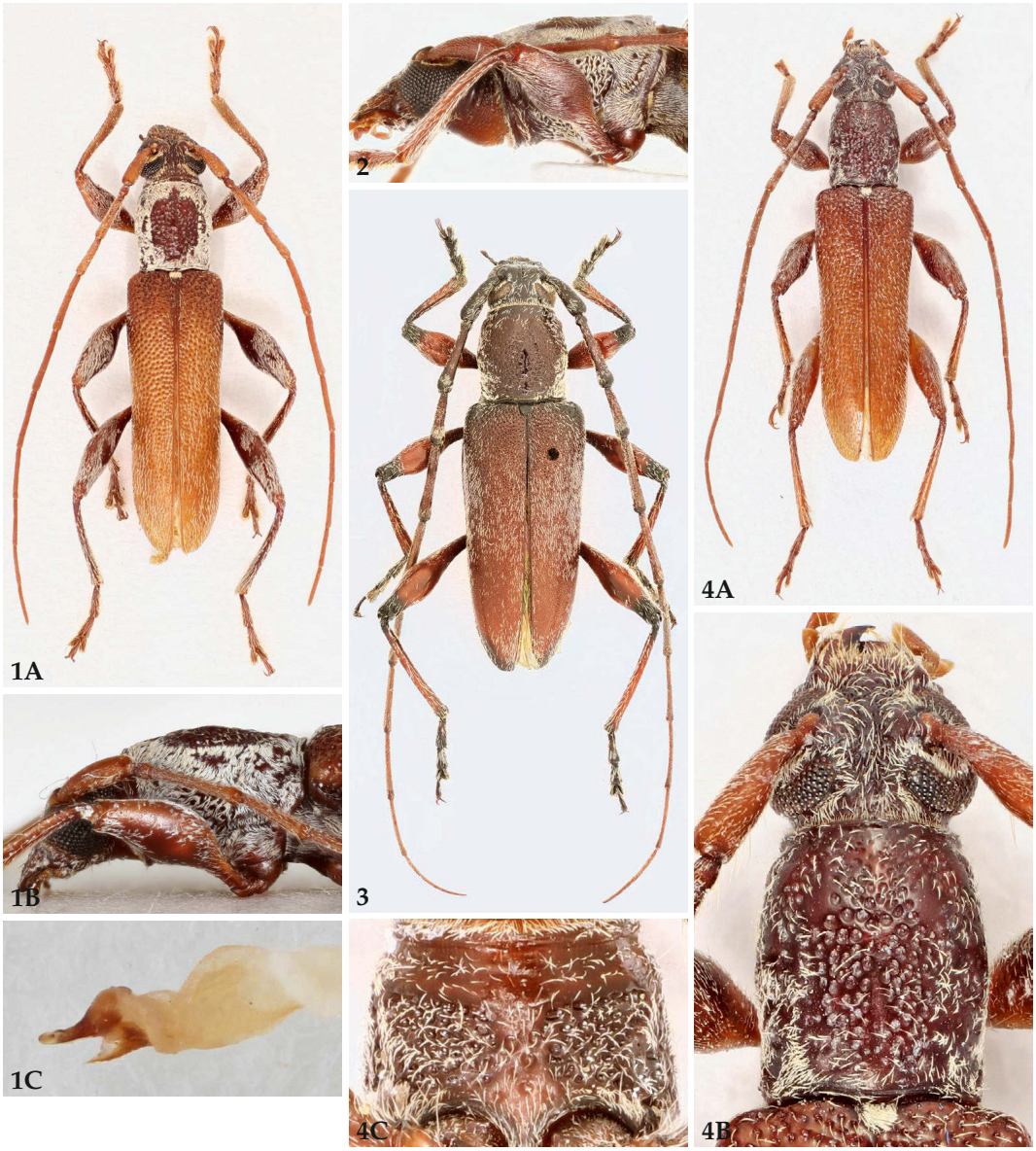


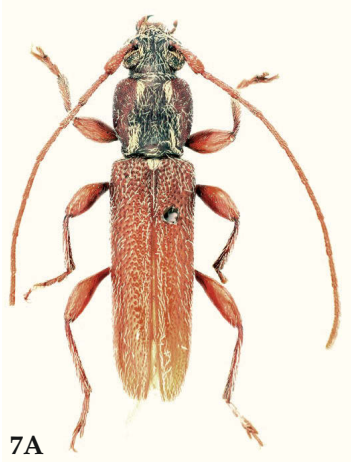
Fig. 1A. *Ceresium rusticum* sp. nov., holotype ♂; **B.** ditto, pronotum, lateral view; **C.** ditto, endophallus with ejaculatory duct complex, reversed.
Fig. 2. *C. zeylanicum*. Pronotum, lateral view.
Fig. 3. *C. solidum* sp. nov., holotype ♂.
Fig. 4A. *C. balkei* sp. nov., holotype ♂; **B.** ditto, pronotum and head; **C.** ditto, prosternum, ventral view.

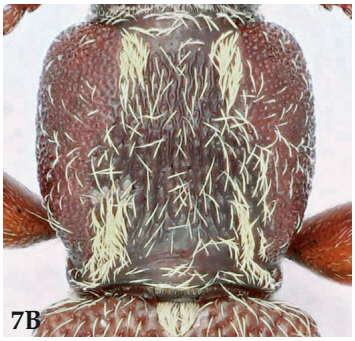
Description

Measurements for male. TL = 7.4–8.0 mm; EL/EW = 2.95–3.05 (M 2.94); HW/PW = 0.93–1.0 (M 0.98); PL/PW = 1.12–1.20 (M 1.15); PA/PW = 0.71–0.75 (M 0.72); PB/PW = 0.76–0.80 (M 0.79). Ditto for female. TL = 8.5 mm; EL/EW = 2.94; HW/HP = 0.98; PL/PW = 1.12; PA/PW = 0.70; PB/PW = 0.76.

Colour. Brown to yellowish brown. Elytra, legs and antennae paler in some individuals.

Head. Slightly narrower than pronotum, shiny and clothed with pale, short, stout and disorderly





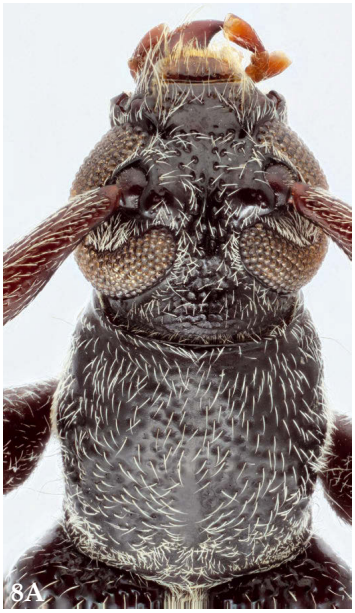


Fig. 5. *Ceresium huedepohli* sp. nov., holotype ♂.
Fig. 6A. *C. sibuyanum* sp. nov., holotype ♂; **B.** ditto, venter; **C.** ditto, pronotum.
Fig. 7A. *C. ikuoyokoii* sp. nov., holotype ♂; **B.** ditto, pronotum.
Fig. 8A. *C. atricolle* sp. nov., holotype ♂; **B.** pronotum and head.

hairs. Frons transversally rectangular, flattened, provided rather densely with large regular punctures. Vertex very broad, moderately concave. Eyes large, separated from one another by half the length of occiput. Occiput densely provided with medium-sized punctures. Antennal supports dorsally rather flattened. Antennae moderate in length, surpassing elytral apices by the last article. Scape about 1.4× longer than article 3 and 4; moderately arcuate and clavate. Articles 1–4 finely punctured; each fringed

with longer hairs on the undersides and at apex.

Pronotum. Distinctly longer than wide; base a little wider than apex; widest just before the middle; lustrous; almost universally and regularly provided with medium to large-sized punctures; clothed with pale, short, stout, and disarrayed hairs. Sides distinctly, almost evenly, arcuate. Disc a little flattened in the basal half; provided with a naked post-median stripe; with a pair of shorter, oblique elevations on each sided of the median stripe.

Scutellum semi-triangular, clothed with several short recumbent hairs.

Elytra. Sub-parallel-sided; shiny and rather densely provided with setiferous punctures of medium size; finer so near apex. Apices almost jointly rounded.

Legs. Short and stout, clothed moderately with erect hair of medium length. Femora flattened, clavate from the base on, without peduncle.

Venter. Shiny. Prosternum well convex; densely and extensively provided with punctures of varying sizes; clothed with pale hairs near sides. Prosternal process very narrow, truncated on apex. Mesosternum punctured and haired as prosternum, though the punctures smaller and hairs thicker; apical margin thickly bordered. Mesosternal process flat and broad, weakly and widely emarginated on apex; densely punctured. Metasternum finely punctured on each side of the shiny median stripe; clothed sparsely with pale, short, recumbent hairs; more densely so near sides.

Abdomen. Obtusely punctured. Hairs as on metasternum. 5th sternite trapezoidal.

Genital organs as in Figure 17A–I. Median lobe nearly half as long as abdomen; bullet-shaped in dorsal view, slender and moderately arcuate in profile; dorsal plate dehiscent in basal 3/5; ventral plate distinctly longer than dorsal plate, dehiscent in basal 3/4. Tegmen about 6/7 as long as median lobe; widest near the apical third; weakly double-sinuate in profile. Parameres 1/3 the length of tegmen, dehiscent in the apical third; apicad irregularly punctured, clothed with short to medium hairs on apex. Ejaculatory duct complex as in Figure 17F–H; somewhat tegmen-like in outline; very slender; bent sharply downward at apical 1/3; apical and basal sclerites thin and narrow, both apicad extensively dehiscent. 8th sternite very broad, widely and moderately emarginated on apex, which is clothed with middle to long setae. 8th tergite a little wider than the corresponding sternite, bell-shaped; clothed with medium to long setae on apex.

Distribution. Sibuyan Island, Philippines.

Comparative notes. This new species is distinguishable by colour, characteristic form of pronotum and legs, as well as by the integument on head and pronotum. It can be compared to *C. promissum* Dillon & Dillon, 1952 from Fiji Island. It obviously differs, however, regarding body hair, integument of pronotum and the proportion of antennal segments. As for male genital organs, the 8th sternite is much wider and more widely emarginated on apex than those of the other species examined. Ejaculatory duct complex is remarkably slender and extraordinarily curved in lateral view.

Ceresium sibuyanum sp. nov.

Figs 6A–C, 18A–F

Type. Holotype ♂: "Espana Sibuyan Is. Romblon, Philippines", 1979–1980, P. Witzgall et local collector leg. (ZSM).

Diagnosis. Prothorax elongated-cylindrical; with surface obtusely punctured. Almost universally flavus including eyes. Solely apices of femora and bases of tibiae blackish.

Etymology. The name of this new species refers to the sole location of collection and distribution.

Description

Measurements. TL = 7.8 mm; EL/EW = 3.17; HW/PW = 0.98; PL/PW = 1.32; PA/PW = 0.8; PB/PW = 0.8.

Colour. Universally flavus, including eyes. Solely apices of femora and base of tibiae dark brown to blackish.

Head. As broad as pronotum; clothed sparsely with yellowish, short, disarrayed hairs; furnished fairly densely with large, coarse punctures on frons and vertex. Frons nearly rectangular, shorter than broad; not steep. Vertex broad, provided with a deep median furrow stretching onto frons. Upper eye-lobes separated by 3/10 the width of occiput. Antennal supports weakly raised. Antennae distinctly longer than body, reaching elytral apices by the middle of 9th article. Scape moderately arcuate and clavate, minutely punctured; 1.1 × longer than 3rd and 1.65 × longer than 4th article. Articles 1–7 more or less sparsely clothed with yellowish hairs of medium length.

Pronotum. Cylindrical; almost one third longer than wide; sides sub-parallel, feebly bi-sinuate. Pronotal surface lustreless with microstructure; provided with fine though very shallow punctures; sparsely clothed with minute yellowish hairs. Disc convex; provided with a very narrow, shiny median stripe; with a pair of small semi-spherical elevations near base.

Scutellum triangular, naked and nitid.

Elytra. Sub-parallel-sided; apices almost jointly rounded; clothed regularly with yellowish, short and stout hairs.

Legs. Similar as those of *C. detanii* (Yokoi 2015).

Venter. Prosternum lustreless with microstructure; shallowly punctured; clothed with pale, short hairs near sides and with several longer flying hairs near middle. Prosternal process very narrow, compressed by fore coxae; weakly emarginated on apex. Mesosternum shiny; shallowly and obtusely punctured; clothed with pale, short, recumbent hairs near sides. Mesosternal process moderately broad, slightly concave; bi-lobed in apical third. Metasternum shiny, clothed sparsely with pale, short, recumbent hairs; more densely so near sides.

Abdomen. Clothed as metasternum; additionally furnished with several longer, flying hairs. 1st visible sternite twice as long as 2nd to 5th; 5th with apex widely rounded.

Genital organs as in Figure 18A–F. Median lobe a little more than 2/5 the length of abdomen; fusiform in dorsal view, weakly arcuate in profile; dorsal plate dehiscent in basal half; ventral plate a little longer than dorsal plate, apicad sharply narrowed, dehiscent in basal 3/4. Tegmen about 5/6 the length of median lobe. Paramere about 9/20 the length of tegmen; strongly arcuate in profile; dehiscent in the apical half; each lobe gradually narrowed toward apex, which is clothed with short to medium hairs. 8th sternite bi-lobed like a ginkgo leaf; apicad gradually narrowed; doubly emarginated on apex; with latero-apical corners bluntly edged; clothed with medium to long setae on apex and sides. 8th tergite distinctly wider than the corresponding sternite; bell-shaped and widely truncated on apex; clothed with medium to long setae on sides. (Ejaculatory duct complex damaged).

Distribution. Sibuyan Island, Romblon Prov. Philippines.

Comparative notes. This new species can be compared to *C. detanii* Yokoi, 2015 and *C. gracile* (Perroud, 1855), from Bali and Sri Lanka respectively. Both of them are almost entirely yellowish in colour and provided with elongated cylindrical prothorax, whereas the prothorax of the former is shorter and that of the latter longer than of the new species. Puncture and setae on pronotum are meanwhile obviously different. The new species lacks also the remarkable maculation of *C. gracile*, instead provided with conspicuous black colouration on legs. As to genital organs, median lobe of *C. detanii* is distinctly slenderer and tegmen more strongly arcuate in profile.

It can be also compared to *C. angustulum* Gahan, 1906 from South India. Prothorax of the new species, is, however, clearly more strongly elongated. Both species differ also in colouration of body, eyes and legs. In addition, elytra of the new species are clothed properly with setae, though short, like the other *Ceresium* species, in contrast to the more obtusely setose elytra of *C. angustulum.*

The new species shares the similar remarkable colouration of legs with *C. helleri* Gressitt, 1940 from the nearby Luzon. Pronotum of the latter is, however, sub-conic (Fig. 13B) instead of cylindrical. Further, its elytra are clothed only with minute hairs and instead furnished with sporadic, long, flying hairs on pronotum, which the new species lack. In addition, venter of *C. helleri* is extensively naked and shiny (Fig. 13A), and its femora are more suddenly clavate with longer peduncle (Fig. 13A).

It should be added, that the new species bears certain resemblance to species of the neighbouring genus *Stenodryas*, on account of elongated and rather obtusely punctured pronotum. In particular, *Stenodryas filipinus* (Vives, 2009) shares even the remarkable colouration of legs with the new species and with *C. helleri.* Other important characteristics such as body structure, length of antennae, structure of legs, integument on elytra and body indicate, however, that the new species should be indeed integrated in the genus *Ceresium* (see Discussion).

Ceresium ikuoyokoii sp. nov.

Figs 7A–B, 19A–L

Types. Holotype ♂: "SUMATRA, ACEH, III-89" (ZSM).

Diagnosis. Small-sized, bi-color. Pronotum unlike any other species of the genus; very voluminous, with peculiar integument.

Etymology. The name of this species is dedicated to late Ikuo Yokoi, younger brother of the author, who continuously supported and encouraged the author for studying the cerambycid fauna of the Asia-Pacific area.

Description

Measurements. TL = 8.5 mm; EL/EW = 2.94; HW/PW = 0.8; PL/PW = 1.0; PA/PW = 0.66; PB/PW = 0.75.

Colour. Testaceus; head and reticulate part of pronotum fuscus.

Head. Densely furnished with deep, coarse punctures of medium to large size; clothed with yellowish, stout, curly, disarrayed hairs. Frons transversally rectangular, slightly elevated in middle. Vertex very broad, feebly concave, with an obtuse median groove. Eyes moderately large, separated from one another by half the width of occiput. Antennal support flattened. Antennae rather stout

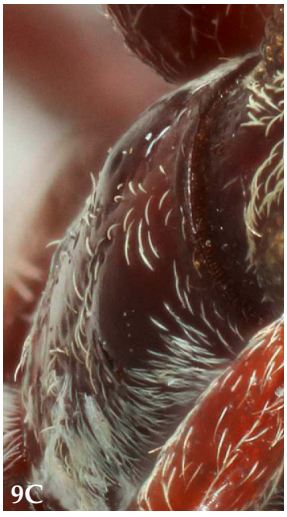


Fig. 9A. *Ceresium gibbicolle* sp. nov., holotype ♂; **B.** ditto, pronotum; **C.** ditto, pronotum, from latero-apical angle.
Fig. 10. *C. coloratum* sp. nov., holotype ♂.
Fig. 11. *C. cylindrithorax* sp. nov., holotype.

Fig. 12. *Ceresium indigum* Holzschuh, ♂ from Sumatra.
Fig. 13A. *C. helleri* Gressitt, holotype ♀, venter; **B.** ditto, pronotum.

and short, hardly reaching the last visible sternite. Scape 1.25 × and 1.33 × longer than 3rd and 4th article respectively, equally long as 5th; moderately arcuate and clavate; densely and coarsely punctured; clothed sparsely with short recumbent hairs. Articles 2–11 densely clothed with pale minute hairs; articles 3–9 each additionally fringed with short hairs on the underside.

Pronotum as in Figure 7B. Somewhat resembles that of *C. brevipes* Pic, 1943 in outline, but even more voluminous; almost as wide as body or elytra; well convex and about as long as wide. Sides very strongly constricted at apex; weakly arcuate in apical half and distinctly so in basal half; moderately constricted near base. Disc reticulate with fusiform meshes in a median trapezoidal area tapering from base toward apical 1/8; clothed with two pairs of pale yellow, oblong, tomentose macula; the pair of parallel ones in apical 1/3 nearer to each other, the other two arcuate ones oblique in basal 1/3 reaching the base. Pronotum otherwise densely and regularly provided with medium-sized, rather coarse punctures; clothed with sporadic, pale yellow, short, disarrayed hair. Apical and basal margins shiny and impunctate in middle.

Scutellum nearly triangular, pale-yellowish tomentose.

Elytra sub-parallel-sided. Disc densely provided with large setiferous punctures each bearing a pale curly hair. Sides and apex less densely so with smaller punctures.

Legs rather short and stout. Femora moderately clavate.

Venter. Prosternum well convex and rounded; densely and regularly provided with medium-sized punctures; furnished sporadically with yellowish, stout, curly hairs; naked and shiny near apical margin. Prosternal process narrow; well-bordered and truncated on apex. Mesosternum also well rounded, with similar integument as prosternum; additionally with thick, longer hairs near sides. Mesosternal pro-

cess moderately broad; feebly emarginated on apex. Metasternum obtusely punctured; clothed with pale, moderately long, recumbent hairs.

Abdomen shiny, obtusely punctured; rather sparsely clothed with whitish lying hairs. 5th visible sternite weakly narrowed apicad; with apex truncated.

Genital organs as in Figure 19A–L. Median lobe about 2/5 the length of abdomen; bullet-shaped and rather short in dorsal view; moderately arcuate in profile; dorsal plate dehiscent in basal 11/20; ventral plate equally long, dehiscent in basal 3/4. Tegmen nearly 4/5 the length of median lobe, broad in dorsal view; weakly double-sinuous in profile. Parameres about 2/5 the length of tegmen, dehiscent in apical 1/3; with each lobe strongly narrowed toward apex which is rounded and furnished with short to medium setae; dorsally provided with several horizontal furrows near middle. Ejaculatory duct complex as in Figure 19F–H; apical sclerite long, flattened, apicad largely dehiscent; basal sclerite sharply bent upward; ejaculatory duct itself broad and flattened. 8th sternite bi-lobed like a ginkgo leaf, though moderately emarginated on apex; clothed with medium to long setae on apex and sides. 8th tergite as wide as the corresponding sternite; semi-spherical; with hairs of short to medium length on apex. 7th sternite similar in outline as 8th tergite; clothed with short, stout setae near apex. 9th tergite thinly stretched on spicum gastrale; more than 3/4 circular; well sclerotized.

Distribution. Sumatra, Aceh, Indonesia.

Comparative notes. Pronotum of this new species is peculiar, differing from those of all the other known species of the genus *Ceresium*. *C. brevipes* or *C. grandicolle* Holzschuh, 2015 shares an analogously large pronotum, though not quite reaching the volume of the new species. Structure, setae and colour of pronotal surface are, however, obviously different. *C. striaticolle* Holzschuh, 2011 has also a rather large pronotum with striate surface and macula. The pronotum is, however, different in outline. As to genital organs of the new species, not only 8th sternite, ejaculatory duct or spicum gastrale, but also the outline and surface of tegmen is rather singular in the genus.

Remarks. Holotype was found among "indet." specimens in "Hüdepohl Collection" (ZSM).

Ceresium atricolle sp. nov.

Figs 8A–B, 22A–I

Types. Holotype ♂: "N-Sumatra, Aik Tarum, Diehl 1.I-84" (ZSM).

Diagnosis. Medium-sized. Almost entirely black. Antennae long. Venter thickly clothed with pale hairs.

Etymology. The name refers to the colour of pronotum.

Description

Measurements. TL = 11.6 mm; EL/EW = 2.94; HW/PW = 0.97; PL/PW = 1.14; PA/PW = 0.75; PB/PW = 0.92.

Colour. Black. Femora and antennal articles 1–6 reddish black, segments 7–11 testaceous.

Head. Frons almost square though emarginated on sides; not steep; horizontally depressed in the middle; shiny; sparsely furnished with large punctures; clothed with pale, stout, curly, rather adpressed hairs, though the apical half naked near middle. Vertex strongly concave between antennal supports; lustreless; punctured as frons but more strongly setose along the upper eye-lobes. Occiput only shallowly punctured. Eyes separated from one another by 1/3 the width of occiput. Antennal supports rather raised though without tubercle. Antennae long, well surpassing elytral apices by the last three articles. Scape feebly arcuate and clavate; 1.25×, 1.55× and 0.95× as long as 3rd, 4th and 5th article respectively. Articles 1–4 shallowly and minutely punctured; 3–11 more or less whitish pubescent; articles 1–4 additionally fringed with pale short hairs on the underside and at apex.

Pronotum as in Figure 8B, lustreless with microstructures; longer than wide; sub-cylindrical, though sides feebly double-sinuate and constricted near apices. Disc setose as head, though basal margin more densely clothed with short adpressed hairs; densely provided with shallow punctures of varying sizes; median stripe in the basal half naked and nitid.

Scutellum bell-shaped; whitish pubescent.

Elytra moderately long; closely furnished with setiferous punctures of medium-size; finer so toward apices. Hairs on discs shorter than those of comparable species.

Legs. Hind legs rather long. Hind femora slenderer and less clavate than fore and mid ones.

Venter. Prosternum punctured as pronotum; more setose with longer hairs pointing to the basal middle. Prosternal process narrow; widely emarginated on apex. Mesosternum a little raised in middle; obtusely punctured; thickly clothed with pale, recumbent hairs near sides. Mesosternal process

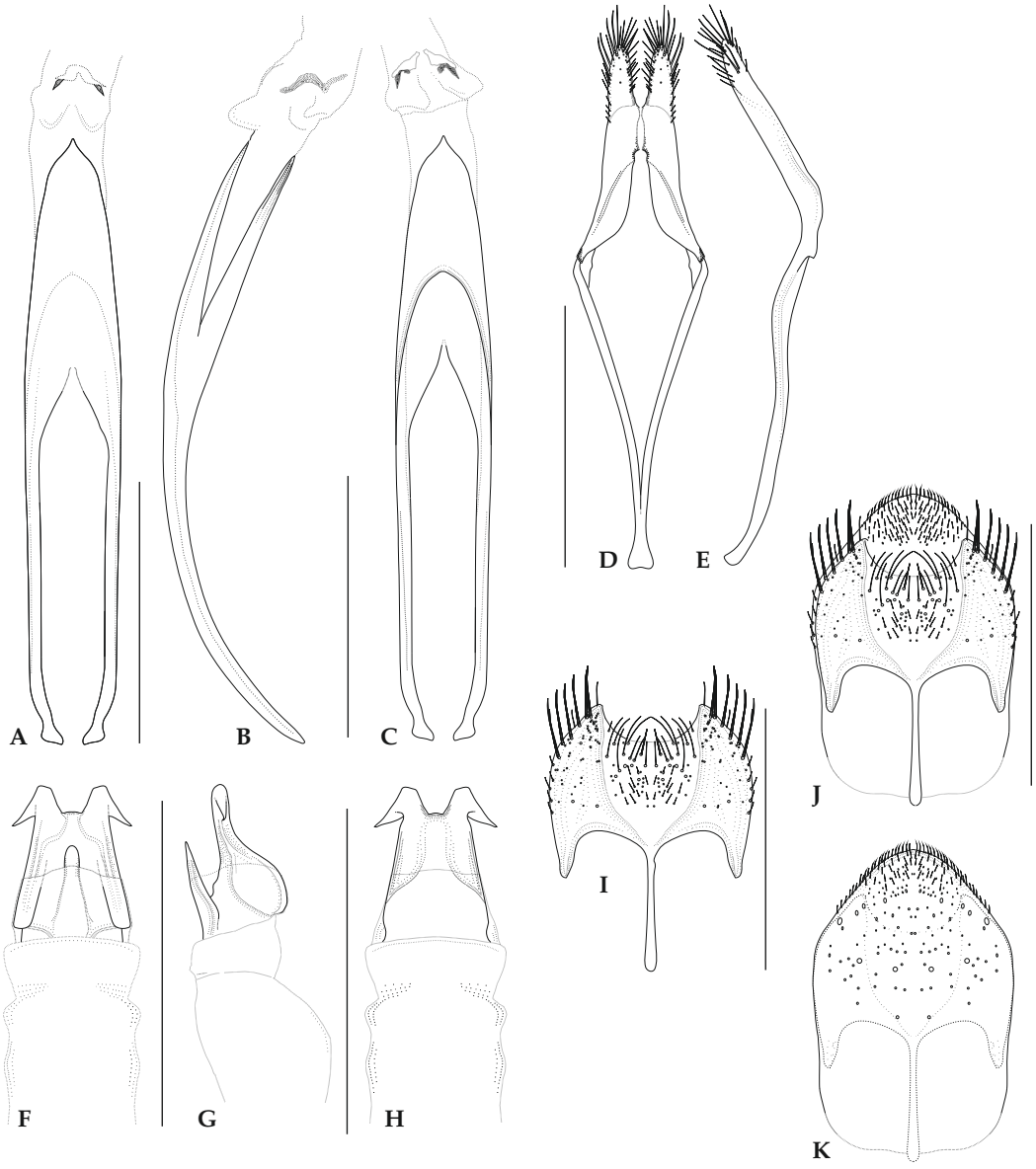


Fig. 14. *Ceresium rusticum* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view; **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view; **I.** 8th sternite, ventral view; **J.** 8th tergite with 8th sternite in foreground, ventral view; **K.** 8th tergite, dorsal view. Scale bars: 0.5 mm for F,G,H; 1.0 mm for the others.

moderately broad; with apex thickened and deeply emarginated; rather thickly clothed with pale hairs. Metasternum shiny in middle; clothed otherwise as mesosternum.

Abdomen. 1st to 4th visible sternites thickly clothed with pale recumbent hairs near sides. 5th narrowed toward apex, which is widely and weakly emarginated in the middle.

Genital organs as in Figure 20A–I. Median lobe about 2/5 the length of abdomen; nearly fusiform in dorsal view, though delated toward base; moderately arcuate in profile; dorsal plate dehiscent in basal 11/20;

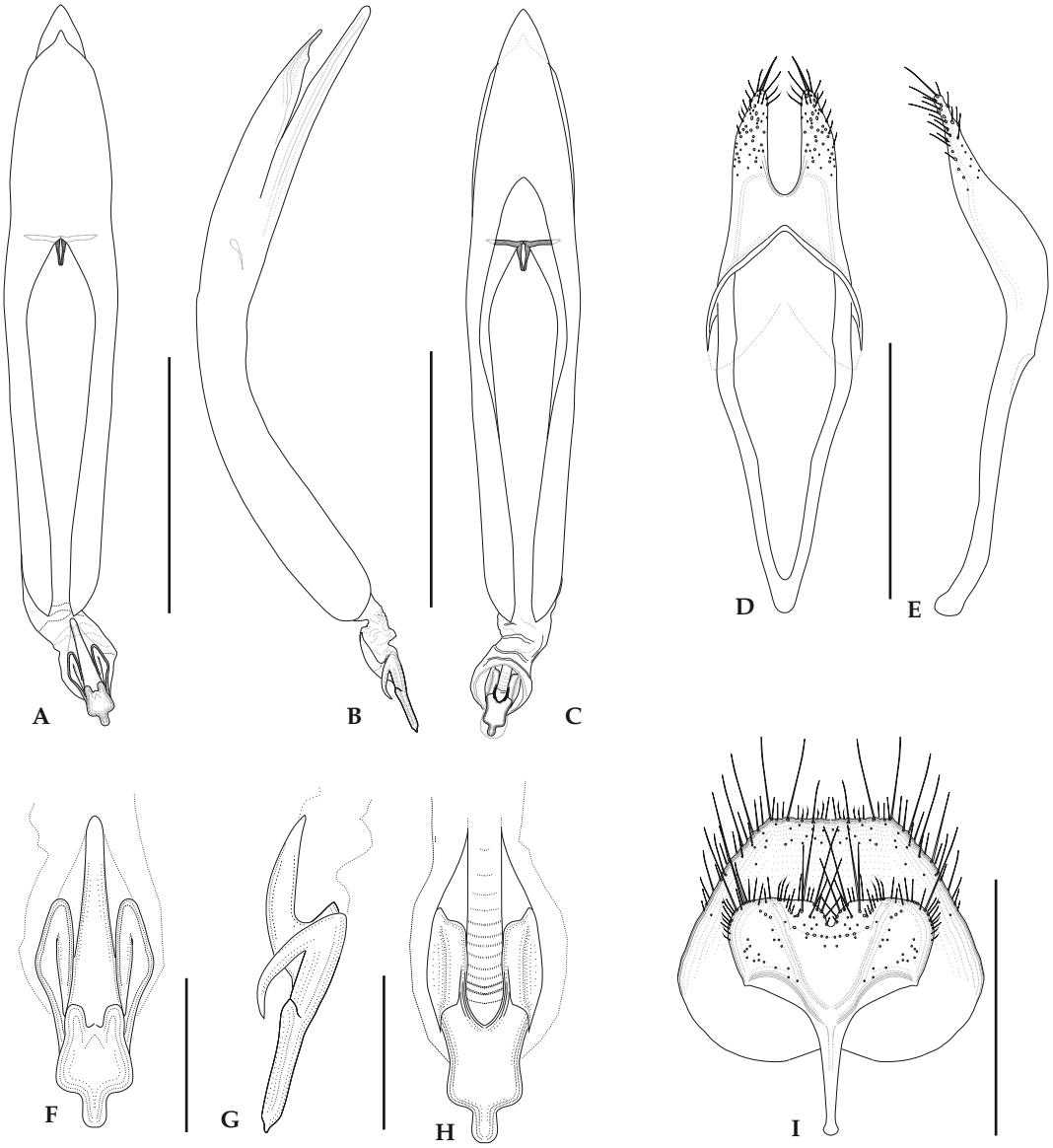


Fig. 15A–I. *Ceresium solidum* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.2 mm for F, G, H; 1.0 mm for the others.

ventral plate longer than dorsal plate, dehiscent in well over basal 4/5. Tegmen 4/5 the length of median lobe; moderately arcuate in profile. Parameres about 1/3 the length of tegmen; dehiscent in apical 2/5, with each lobe gradually narrowed to apex which is rounded and furnished with short to medium setae. Ejaculatory duct complex as in Figure 20F–H; rather narrow and slender in profile; apical sclerite apicad dehiscent, with each lobe strongly bent downwards and hooked; basal sclerite long, parallel-sided, thin and apicad dehiscent. 8th sternite broad; thickly bordered on sides; triangularly emarginated on apex with latero-apical corners well rounded; clothed with medium to long setae on apex and sparsely so with

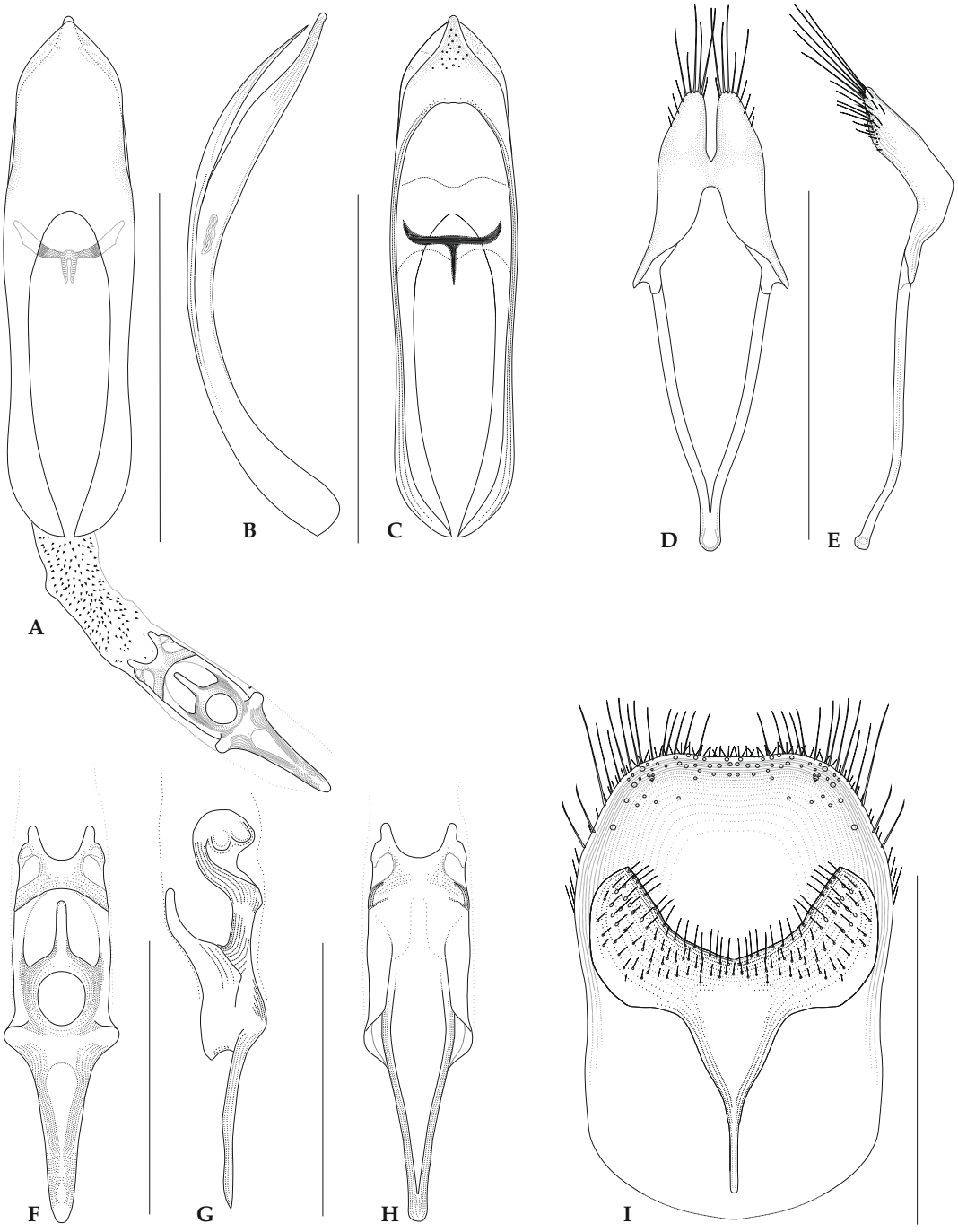


Fig. 16. *Ceresium balkei* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.5 mm for F, G, H; 1.0 mm for the others.

short, stout setae on apical half; with short peduncle. 8th tergite as wide as the corresponding sternite, semi-spherical; clothed with hairs of medium length on apex and with several shorter hairs on sides.

Distribution. North Sumatra, Indonesia.

Comparative notes. This new species can be compared to *C. femoratum* Aurivillius, 1927, *C. flavicorne* Aurivillius, 1927, *C. raripilum* Newman, 1842 or *C. rouyeri* Pic, 1943. All of them are almost entirely black in colour, their pronotal surfaces more or less closely provided with medium-sized punctures. Antennae of the new species are, however, distinctly longer. Further, punctures on pronotum are shallower and hairs on elytra shorter. *C. femoratum* and *C. flavicorne* differ additionally regarding the colour of legs or antennae, while *C. raripilum* and *C. rouyeri* differ with the presence of erect hairs on pronotum and legs.

Longer antennae and moderately raised antennal supports are suggestive of the closely related genus *Examnes* (Pascoe 1869). Its frons is, however, neither short nor steep. In addition, the new species is slenderer than *C. philippensis*, the nominotype of *Examnes*, and other members of the genus.

Remarks. Holotype was found among "indet." specimens in "Hüdepohl Collection" (ZSM). A label with "*Examnes* undet." was attached. In view of the above observation, however, it should be described as a *Ceresium* species, not as an *Examnes*.

Ceresium gibbicolle sp. nov.
Figs 9A–C, 21A–I

Types. Holotype ♂: "N-Sumatra, Pema tang-Siantar, Diehl leg., 85" (ZSM).

Diagnosis. Colour analogous to *C. zeylanicum*, *C. humerale* Schwarzer, 1931 or *C. aemulator*. Smaller and slenderer. Pronotum longer; sub-conical; raised distinctly in apical half; less punctate and less setose. Elytra more sparsely punctured. Legs more strongly clavate.

Etymology. The name of this species refers to the elevations on the pronotum.

Description

Measurements. TL = 8.4 mm; EL/EW = 3.12; HW/PW = 1.06; PL/PW = 1.20; PA/PW = 0.80; PB/PW = 1.04.

Colour. Similar to the above-mentioned species. Elytra darker near sides and toward apices.

Head. Analogous to that of *C. humerale*; though wider than pronotum and less setose. Vertex wider, less concave. Scape 1.23× longer than 3rd antennal article.

Pronotum as in Figure 9B; long and sub-conical. Sides tapering weakly and linearly toward apex; constricted there; each provided with three small glossy elevations; thickly clothed with pale, curly, adpressed hairs otherwise. Base clothed similarly as sides. Disc strongly elevated in apical half forming a pair of glabrous, oblique and oval humps (Fig. 9C); provided sparsely with shallow, medium-sized setiferous punctures around the elevations and median stripe, with the belonging pale setae short and adpressed. Median stripe in basal half broad, flattened and triangular in shape, naked and shiny. Scutellum as of *C. zeylanicum*.

Elytra. Long and slender; moderately narrowed toward apex. Setiferous punctures less dense than those of comparable species.

Legs. Femora more sharply clavate with longer peduncles than those of comparable species.

Venter. Prosternum a little raised in middle; provided with several large and deep punctures near middle and smaller ones near sides; thickly clothed with pale, short, adpressed hairs near sides. Prosternal process narrow, truncated on apex. Mesosternum concave in apical middle; hardly punctured; setae as on prosternum, though sides even more thickly furnished with pale hairs. Mesosternal process flat and broad; with apex produced and deeply emarginated in U-form. Metasternum naked and shiny in middle; thickly clothed with pale recumbent hairs of medium length otherwise.

Abdomen. Sides moderately clothed with pale hairs as metasternum. 5th visible sternite rather short, narrowed apicad, with apex very widely emarginated in the middle.

Genital organs as in Figure 21A–I. Median lobe half the length of abdomen; bullet-shaped in dorsal view, though a little emarginated in basal half; arcuate in profile; dorsal plate declivous on sides, dehiscent in basal half; ventral plate distinctly longer than dorsal plate, dehiscent in basal 3/4. Median struts narrow though apicad dilated. Tegmen almost 6/7 the length of median lobe. Parameres about 2/5 the length of tegmen; dehiscent in apical 1/5; with each lobe tapering gradually in sub-linear line toward apex, which is rounded and furnished with long setae; arcuate and rather thick in profile. Ejaculatory duct complex as in Figure 21F–H; stout and thick in profile; apical sclerite moderately sclerotized, with a broad and thin projection on apex, produced at the latero-apical corners. 8th sternite strongly arcuate on sides; apex emarginated in V-form; clothed with

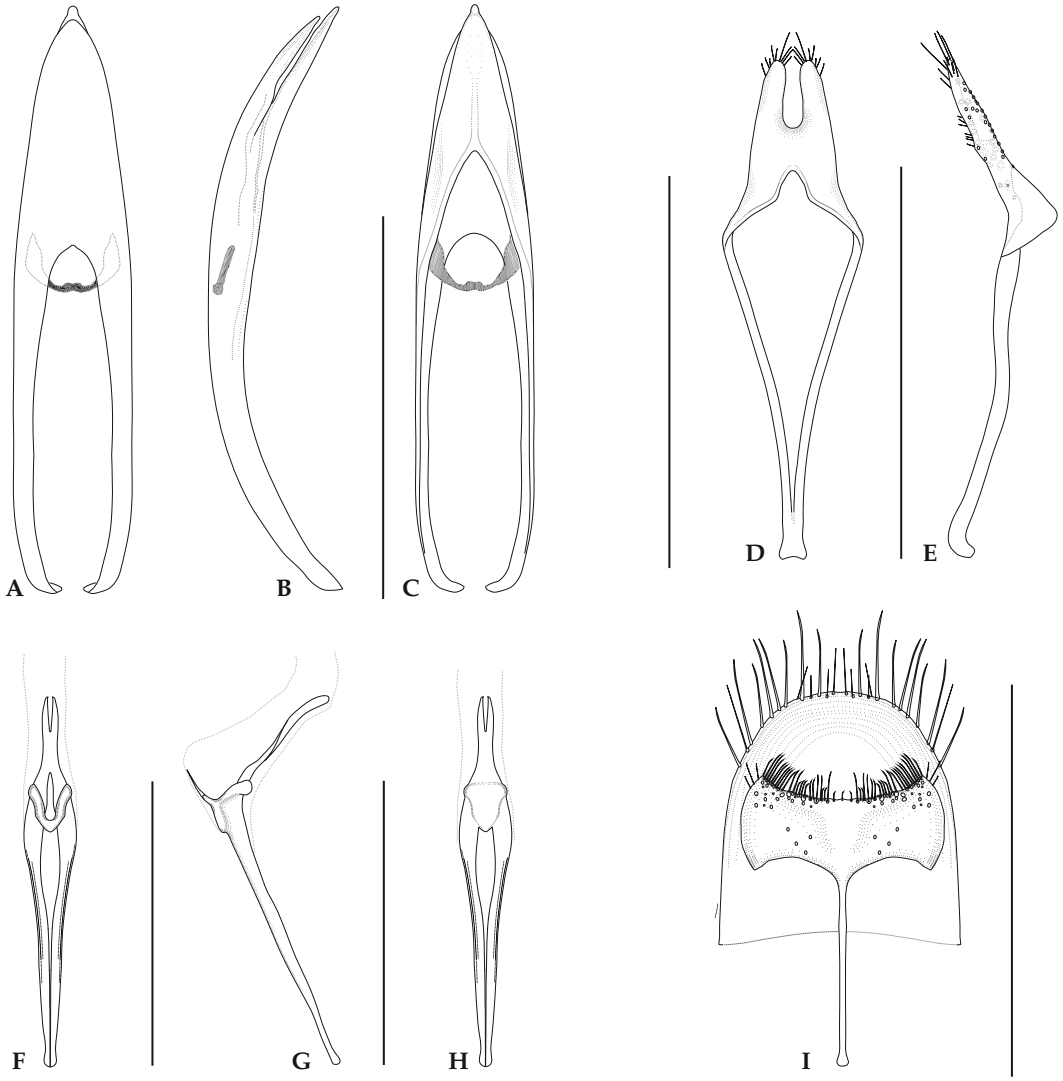


Fig. 17. *Ceresium huedepohli* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.5 mm for F,G,H; 1.0 mm for the others.

medium-sized setae on apex and sparse short hairs near middle. 8th tergite as wide as the corresponding sternite; bell-shaped with apex moderately pointed; clothed with long hairs on apex.

Distribution. North Sumatra.

Comparative notes. This new species resembles *C. zeylanicum* or *C. aemulator* regarding colouration, *C. humerale* regarding antennal structure. Its pronotum is, however, distinct. It is sub-conical in outline with almost straight sides, much less punctured and setose, with its apical elevations more prominent. Further, its elytra are more sparsely punctured and femora more sharply clavate. In addition, it is smaller.

Remarks. Holotype was found in a group of specimens with a label "*Examnes* undet." in "Hüdepohl Collection" (ZSM).

Ceresium coloratum sp. nov.
Figs 10, 22A–I

Types. Holotype ♂: "N-Sumatra, Aik Tarum, Diehl, 1.I-84" (ZSM).

Diagnosis. Similar to *C. mediocre* Holzschuh, 2011 from Borneo, differing in colour, hair and genital organs.

Etymology. The name of this species refers to the homogeneously testaceous colouration.

Description

Measurements. TL = 10.0 mm; EL/EW = 2.94; HW/PW = 1.0; PL/PW = 1.1; PA/PW = 0.76; PB/PW = 0.96.

Colour. Homogeneously testaceous; solely antennae are a little paler. Eyes dark grey.

Head. Similar to that of *C. mediocre*. Vertex and occiput less setose with sporadic short hairs. Antennae a little longer, reaching elytral apices by 9th article.

Pronotum. Similar as of *C. mediocre* in outline and as of *C. contiguum* Holzschuh, 2015 in puncture. The two glossy callosities near latero-apical corners smaller; basal ones more transversal and nearer to base. Distinctly less setose; sparsely clothed with pale, short, adpressed hairs which grow a little thicker toward sides.

Scutellum as of *C. zeylanicum*.

Elytra and legs. Similar as those of *C. mediocre*.

Venter. Prosternum convex; furnished with several large, deep punctures; clothed with sporadic short hairs near middle; more thickly so with longer hairs near sides. Prosternal process narrow, feebly emarginated on apex. Mesosternum concave in the apical middle; impunctate; setae as prosternum. Mesosternal process moderate in width; feebly concave in middle; dilated toward apex which is deeply emarginated in middle. Metasternum widely shiny in middle; setae as mesosternum.

Abdomen. Surface as of metasternum, though hairs on sides less thick. 5th visible sternite short; widely emarginated on apex.

Genital organs as in Figure 22A–I. Median lobe about 9/20 the length of abdomen; bullet-shaped in dorsal view though a little emarginated in the basal half; arcuate in profile; dorsal plate dehiscent in basal 6/7; ventral plate longer than dorsal plate, dehiscent in basal 7/8; median struts apicad dilated. Tegmen about 8/9 the length of median lobe. Parameres about 9/20 the length of tegmen; apicad gradually narrowed; dehiscent in apical 3/10; clothed with long setae on apices. Ejaculatory duct complex as in Figure 22F–H; slender; apical sclerite dehiscent, with each lobe bent downward and hooked; basal sclerite long and slender; extensively dehiscent. 8th sternite rather sharply narrowed apicad; apex widely emarginated in semi-circular form; latero-apical corners bluntly edged; clothed sparsely with short setae on and near apex. 8th tergite as wide as the corresponding sternite; semi-trapezoidal; clothed with short to medium hairs on apex and adjacent sides.

Distribution. North Sumatra, Indonesia.

Comparative notes. This new species from Sumatra resembles *C. mediocre* from Borneo in many aspects, above all regarding the structure of head, body and legs. It can be distinguished, however, by its homogenous colouration as well as by the distinctly less setose pronotum. In addition, its 8th sternite is emarginated in semi-circular form on apex, differing from the sternite of *C. mediocre*, which is emarginated in shallow U-form with acute latero-basal edges.

Remarks. The holotype was found among "indet." specimens in "Hüdepohl Collection" (ZSM).

Ceresium cylindrithorax sp. nov.
Figs 11, 23A–D

Type. Holotype ♀: "N-SUMATRA; Aik Tarum, Diehl 1.I." (ZSM).

Diagnosis. Medium sized, flavo-fulvum, with cylindrical pronotum. Resembles *C. detanii* Yokoi, 2015 from Bali, differing mainly in the integument of pronotum.

Etymology. The name of this new species refers to its characteristic prothorax.

Description

Measurements. TL = 10.3 mm; EL/EW = 2.90; HW/PW = 0.98; PL/PW = 1.30; PA/PW = 0.86, PB/PW = 1.0.

Colour. Reddish brown. Legs paler in colour. Elytra and antennae yellowish brown. Eyes darker.

Head. Similar to that of *C. detanii* in outline; lustreless; similarly clothed with hairs; more shallowly punctured. Vertex with deeper elliptical punctures. Eyes and antennae similar.

Pronotum. Similarly cylindrical as in *C. sibuyanum* sp. nov.; a little longer than in *C. detanii*. Sides feebly emarginated in double-sinuate line; constricted near apex. Disc uneven; surface lustreless; sparsely provided with large though very shallow and obtuse punctures; shallowly scabrous-rugose in part; hairs on disc somewhat resembling those of *C. subfulvum* Holzschuh, 2015; though the hairless area in the middle more extensive and the apical and dorsal pairs of hairless elevations much larger.

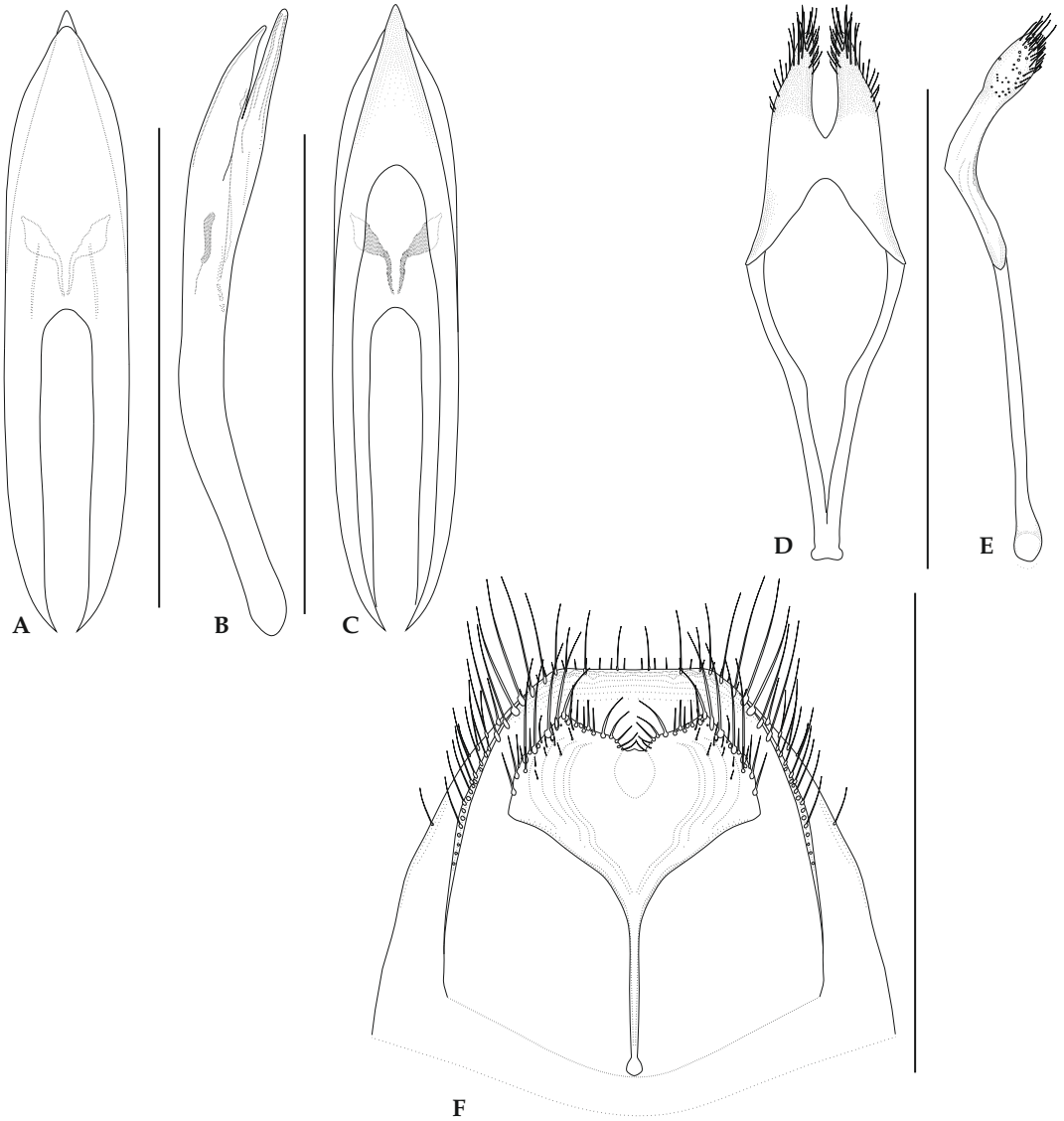


Fig. 18 *Ceresium sibuyanum* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F.** 8th sternite with 7th and 8th tergite in the background, ventral view. Scale bars: 1.0 mm.

Scutellum triangular; pale yellowish pubescent.

Elytra. A little shorter than those of *C. detanii*, longer than of *C. subfulvum*.

Legs. Similar as in *C. detanii*.

Venter. Similar. Prosternum obtusely punctured. Mesosternum extensively nitid.

Abdomen. Similar, 5th visible sternite with apex broadly rounded.

Female genital organs as in Figure 23A–D. 8th sternite and 8th tergite both squarish in outline. 8th tergite provided with several long and stout setae on apex. 9th abdominal sternite moderately long; coxite a little longer than paraproct; coxital lobe well sclerotized; furnished with several hairs of medium length. Spermatheca composed of thick shagreened membrane; shaped like a comma mark. Spermathecal duct extremely expanded at the base of spermatheca to form a spherical enlargement, which is longer than and three times as wide as spermatheca itself; surface thick, leathery, shagreened and wrinkled.

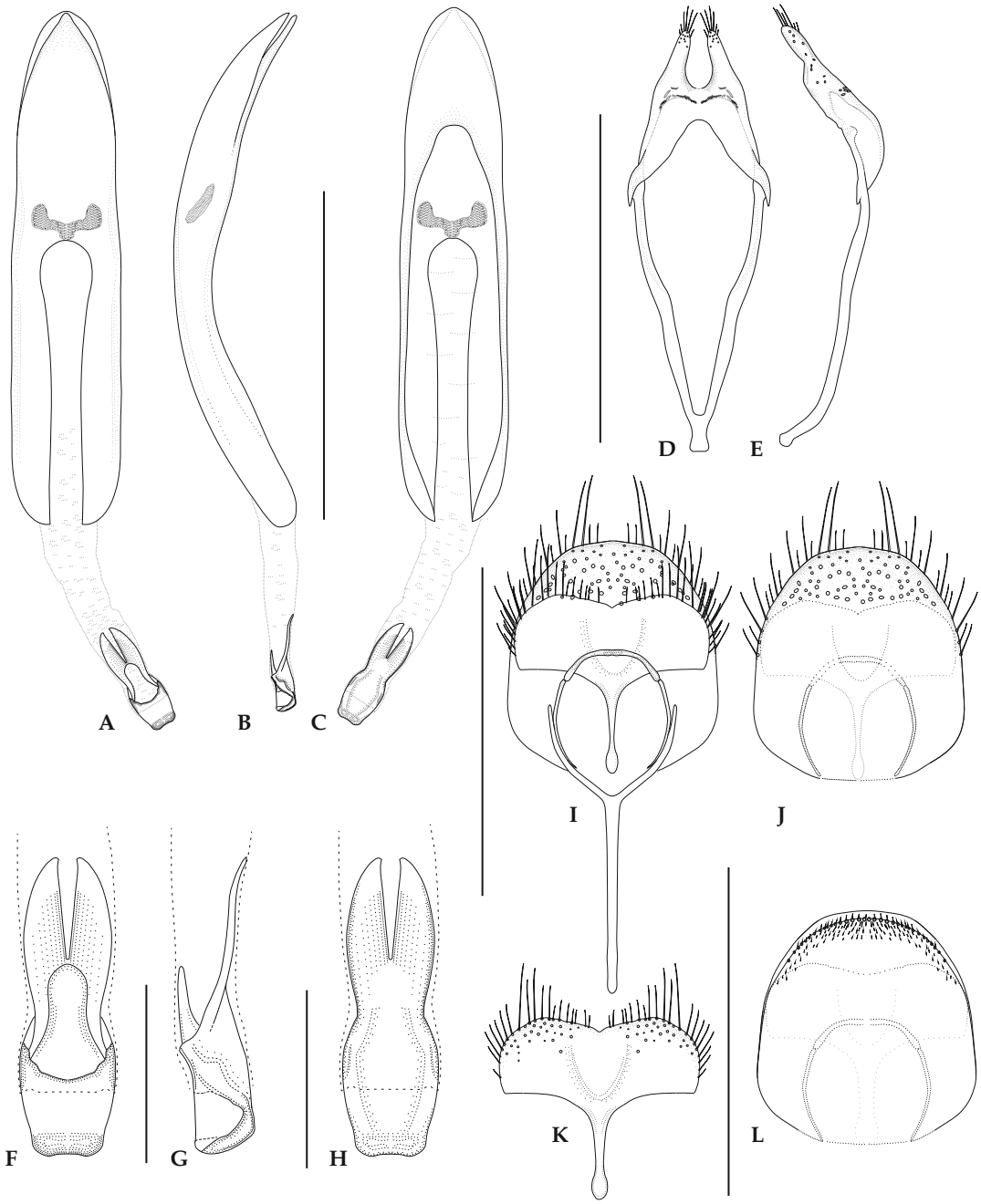


Fig. 19. *Ceresium ikuoyokoii* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th tergite with 8th sternite and 9th tergite (spiculum gastrale) in the foreground, ventral view; **J.** 8th tergite, dorsal view; **K.** 8th sternite, ventral view; **L.** 7th sternite with 8th tergite in the background. Scale bars: 0.5 mm for F, G, H; 1.0 mm for the others.

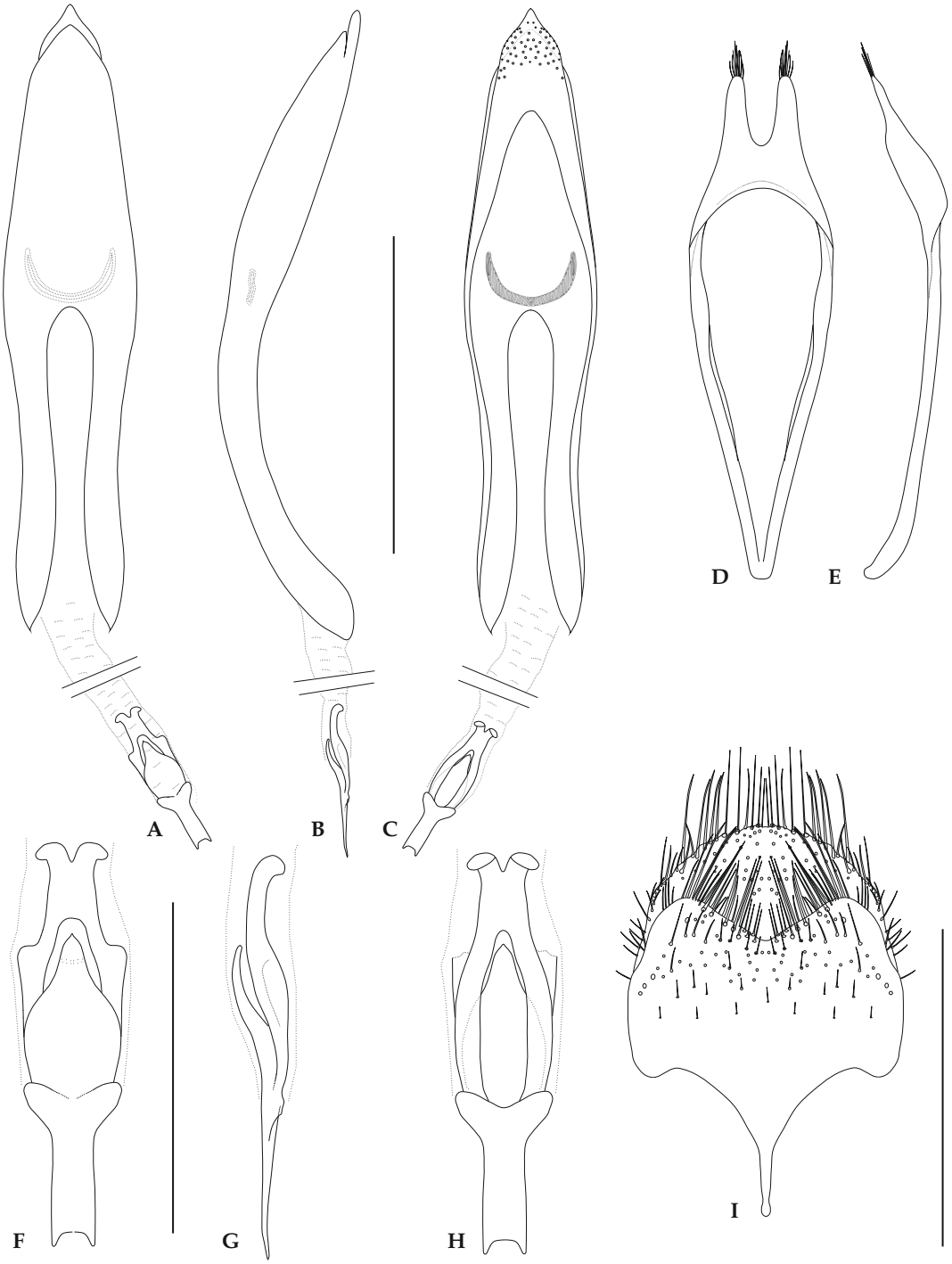


Fig. 20. *Ceresium atricolle* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.5 mm for F, G, H; 1.0 mm for the others.

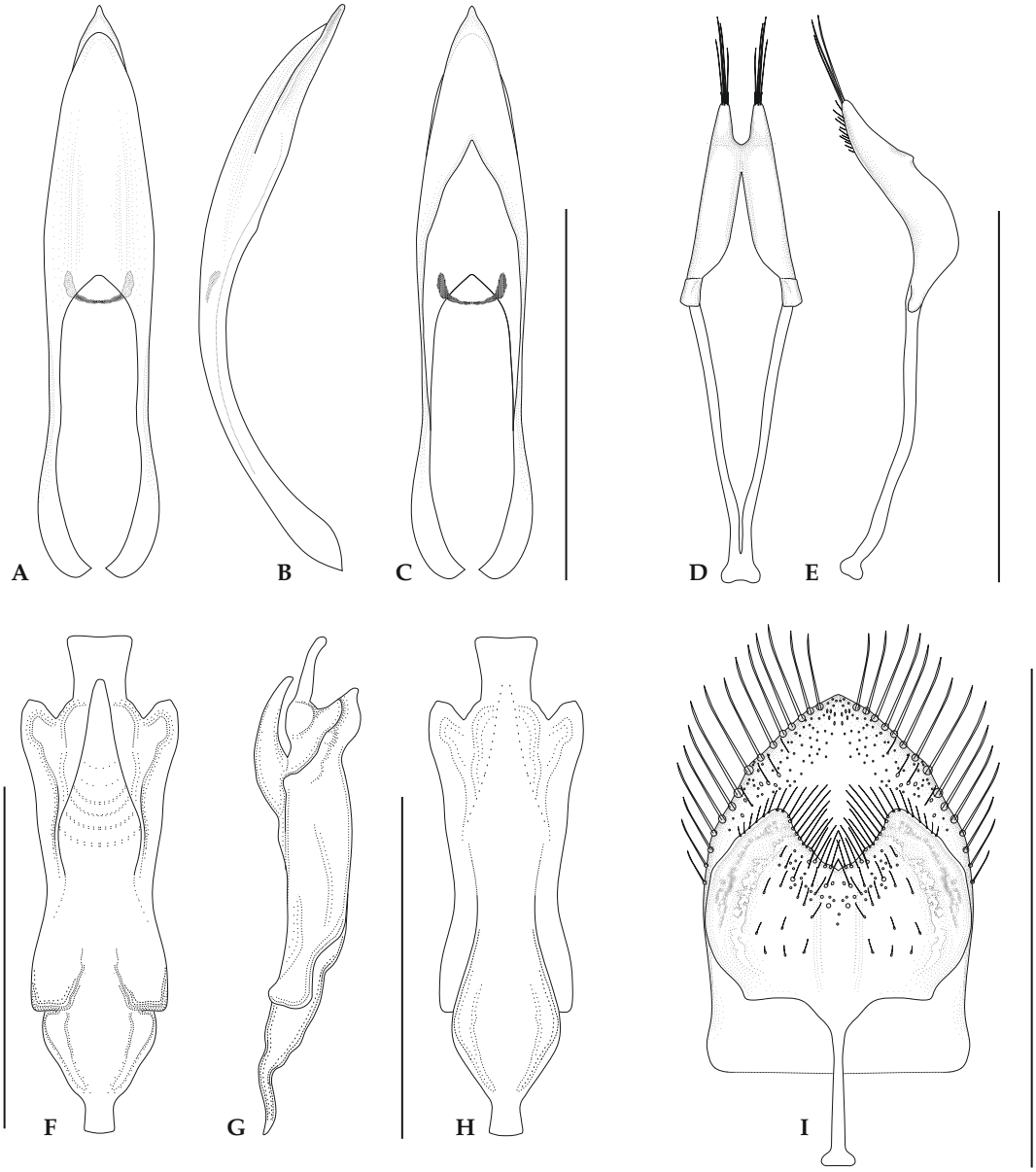


Fig. 21. *Ceresium gibbicolle* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** ditto, lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.5 mm for F,G,H; 1.0 mm for the others.

Distribution. N. Sumatra, Indonesia.

Comparative notes. Of the flavo-fulvum coloured species of *Ceresium*, solely *C. detanii*, *C. gracile* and *C. sibuyanum* sp. nov. have a cylindrical prothorax like this new species. However, they differ distinctly regarding puncture, hairs and maculation on pronotal disc. It is also comparable, to a lesser degree though, to *C. subfulvum* from Borneo, sharing the fundamental colouration pattern in common. Pronotum of the latter is, however, shorter, less cylindrical, more extensively punctate and setose.

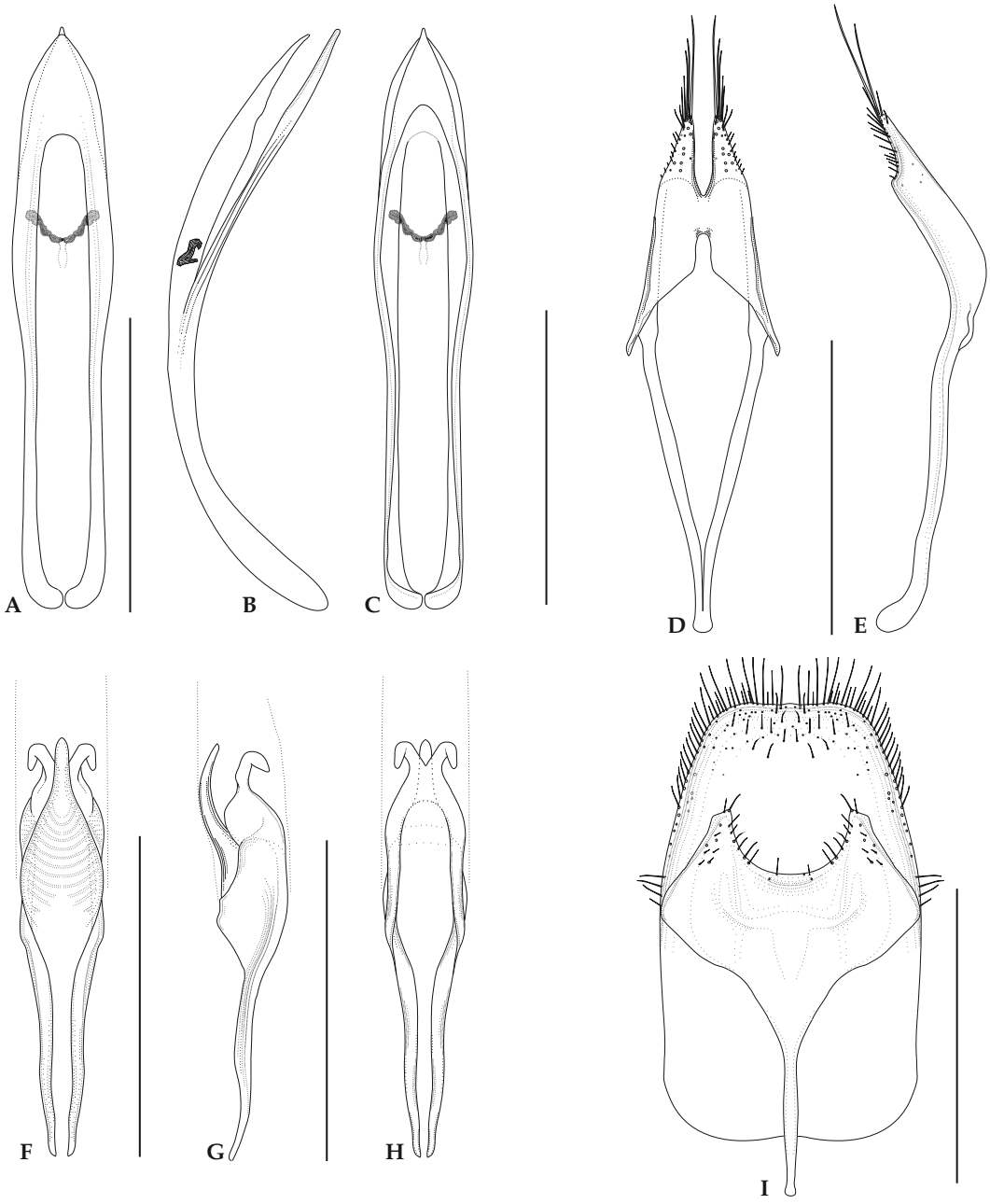


Fig. 22. *Ceresium coloratum* sp. nov., holotype ♂, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I.** 8th sternite with 8th tergite in the background, ventral view. Scale bars: 0.5 mm for F,G,H; 1.0 mm for the others.

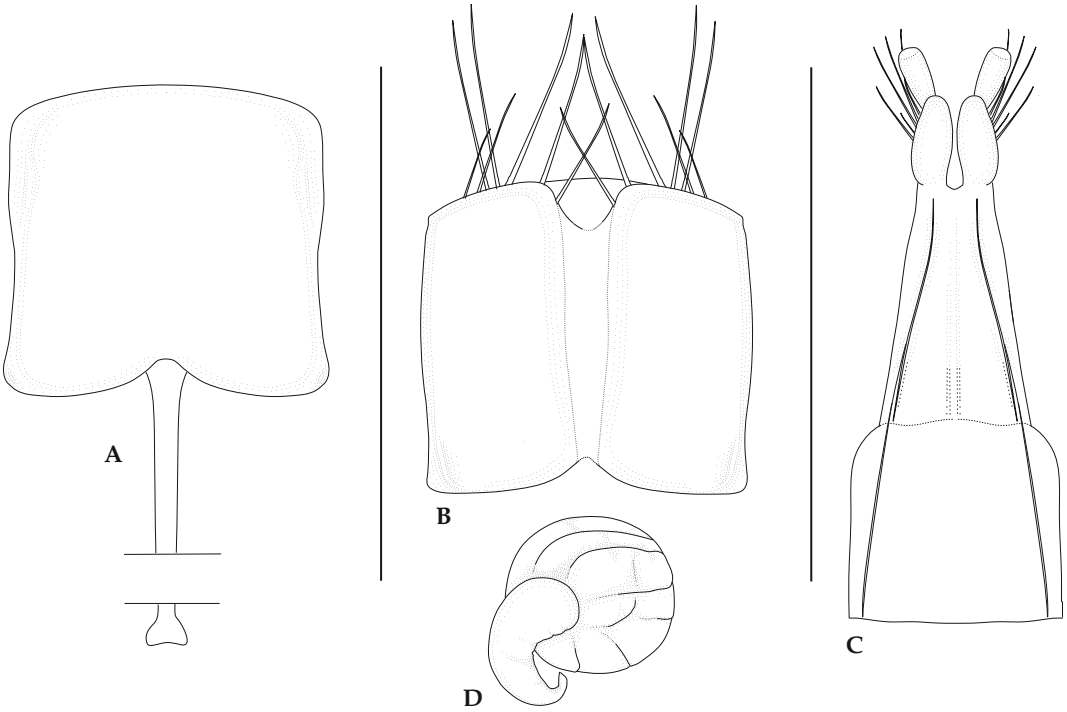


Fig. 23. *Ceresium cylindrithorax* sp. nov., holotype ♀, genital organs. **A.** 8th sternite, ventral view. **B.** 8th tergite, dorsal view; **C.** 9th sternite, dorsal view; **D.** spermatheca with sclerotized pre-expansion of spermathecal duct. Scale bars: 1.0 mm.

The extremely large spherical expansion of spermathecal duct at the base of spermatheca, as found in the holotype, is remarkable.

Remarks. Holotype was found among "indet." specimens in "Hüdepohl Collection" (ZSM).

Ceresium indignum Holzschuh, 2011

Figs 12, 24A–K

Ceresium indigum Holzschuh, 2011: type locality "Malaysia, Sabah, Trus Madi".

Specimen examined. 1♂, "N. Sumatra, Bandar Putah, Diehl, 1. III-84" (ZSM).

Description of genital organs

Genital organs as in Figure 24A–I. Median lobe about 9/20 the length of abdomen; bullet-shaped in dorsal view, though a little emarginated in the basal half; arcuate in profile; dorsal plate dehiscent in basal 3/5; ventral plate longer than dorsal plate, dehiscent in basal 3/4; median struts narrow. Tegmen about 7/8 the length of median lobe. Parameres about half the length of tegmen; apicad gradually narrowed; dehiscent in apical 1/4; clothed with long setae on apices. Ejaculatory duct complex as in Figure 24F–H; slender; apical sternite dehiscent, with each lobe bent downward and hooked, with a pair of lateral projections; basal sclerite somewhat like a basal ring of tegmen, arcuate in lateral view. 8th sternite as in holotype. 8th tergite as wide as the corresponding sternite, sub-trapezoidal, clothed with hairs as in holotype.

Distribution. Borneo; Malay Peninsula; Sumatra (new record).

Comparative notes. The examined specimen lacks those sparse, long, standing hairs of holotype on the underside and elytra, and its 8th tergite is trapezoidal in outline instead of rectangular. Otherwise, it well corresponds to the holotype regarding habitus and genital organs. Similarities in important characteristics outweigh by far those few deviations. The 8th sternite is identical, in particular. Thus it should be identified as a local form of *C. indigum*, without reaching the status of sub-species.

Remarks. The examined specimen was discovered among "indet." specimens in "Hüdepohl Collection" (ZSM); with a label "*Examnes* undet.".

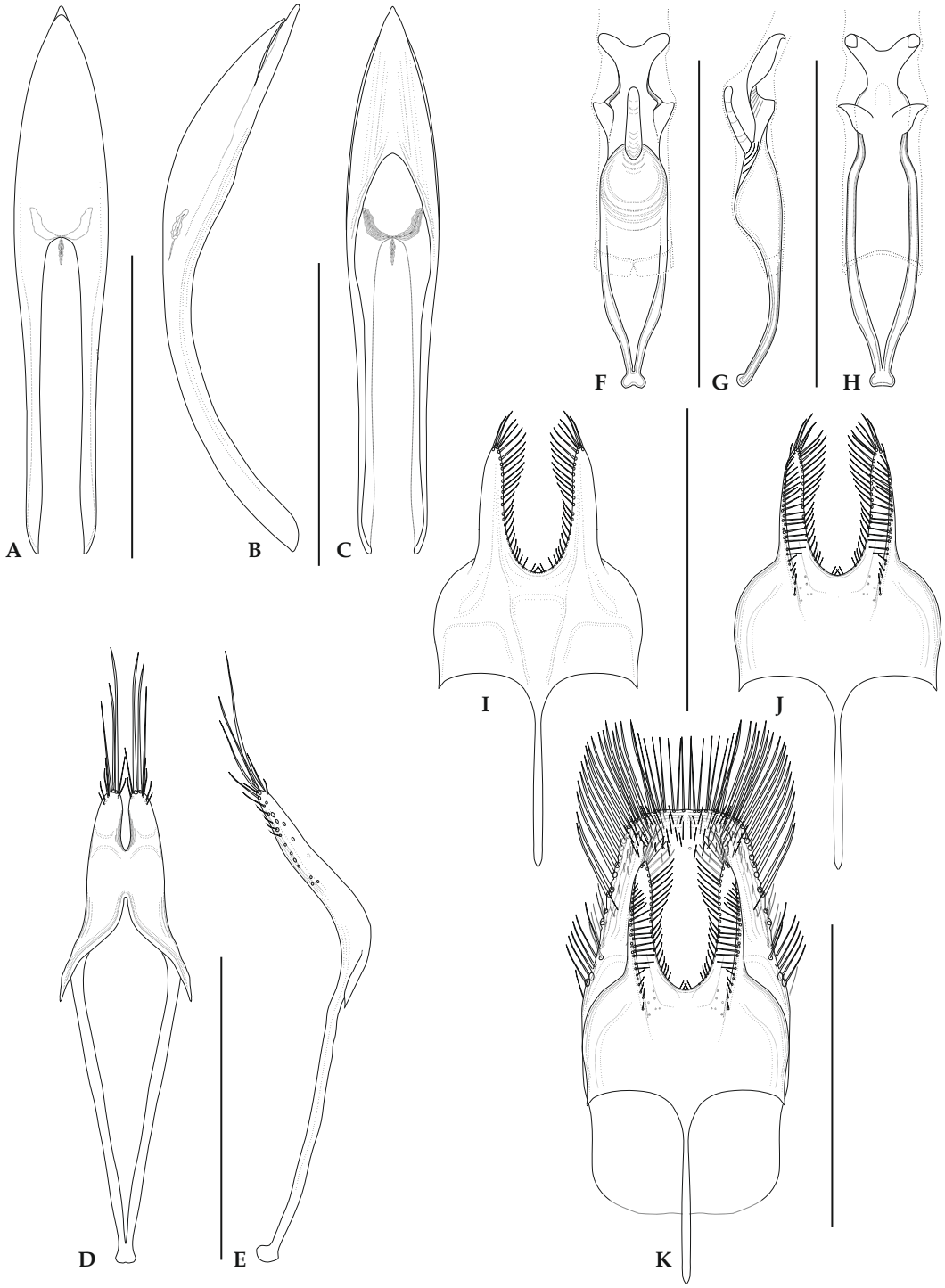


Fig. 24. *Ceresium indignum* Holzschuh, male from Sumatra, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F–H.** ejaculatory duct complex; **F.** dorsal view; **G.** lateral view; **H.** ventral view. **I–K.** 8th sternite; **I.** dorsal view; **J.** ventral view; **K.** with 8th tergite in the background. Scale bars: 0.5 mm for F, G, H; 1.0 mm for the others.

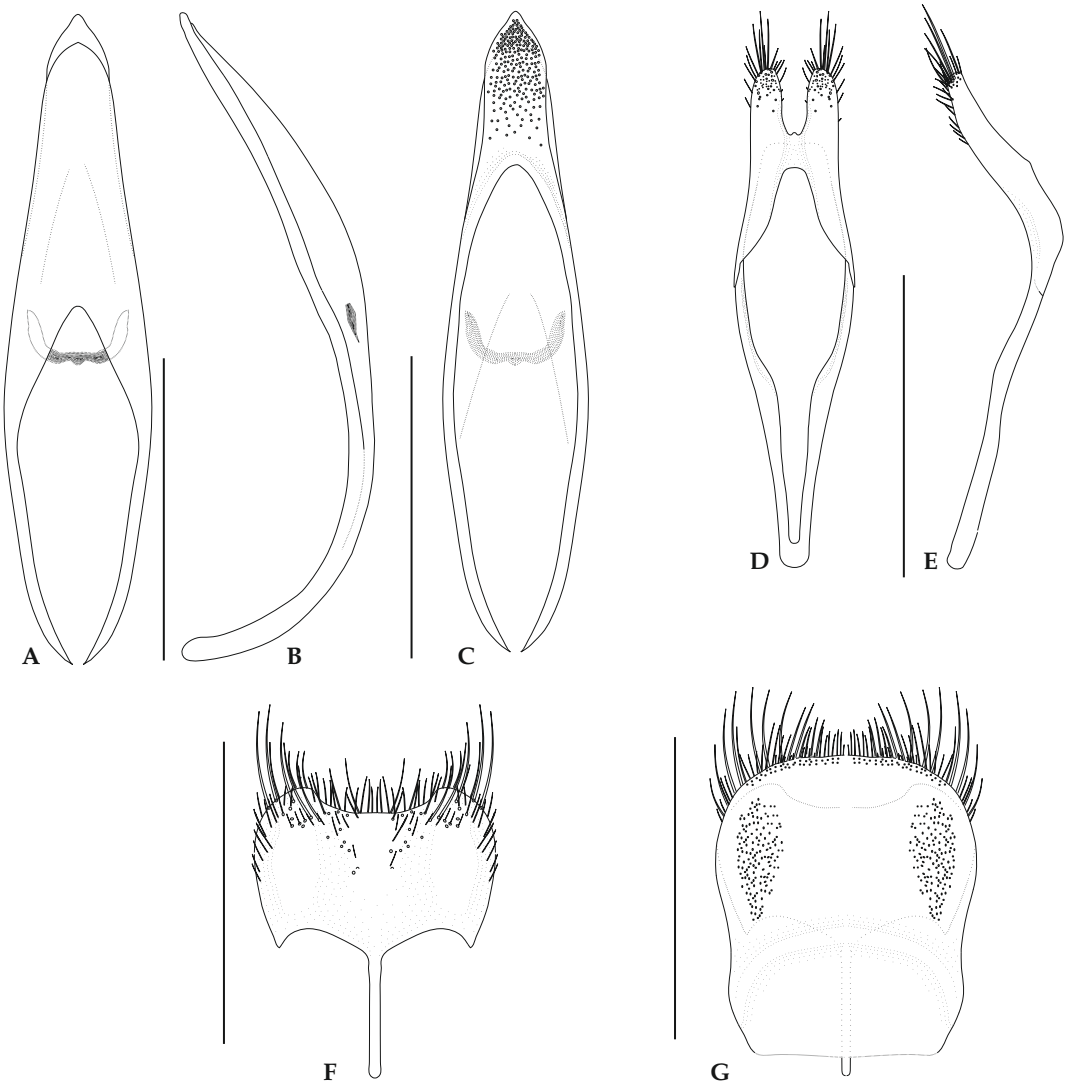


Fig. 25. *Ceresium zeylanicum*, male from Sri Lanka, genital organs. **A–C.** Median lobe; **A.** dorsal view; **B.** lateral view; **C.** ventral view. **D–E.** tegmen; **D.** dorsal view; **E.** lateral view. **F.** 8th sternite, ventral view; **G.** 8th tergite, dorsal view. Scale bars: 1.0 mm.

Discussion

On taxonomy

1. Overview of the new species from the Philippines. Two of the five above described species from the Philippines are more or less similar to their counterparts in the Oriental region. *C. rusticum* sp. nov. resembles namely *C. aemulator* Holzschuh from Sumatra as well as *C. zeylanicum* which is widely distributed in the Oriental region. *C. balkei* sp. nov. resembles *C. zeylanicum* as well as *C. mediocre*, both from Borneo.

Another new species, *C. huedepohli* sp. nov., does not resemble any Oriental species. It shares more morphological similarities with Oceanic species as *C. promissum* Dillon & Dillon from Polynesia.

The other two species, *C. solidum* sp. nov. and *C. sibuyanum* sp. nov. are rather singular in habitus.

2. *Ceresium* and *Examnes*. *Ceresium solidum* sp. nov. is much more similar to the nominotypical

E. philippensis of the closely related genus *Examnes* than to the nominotypical *C. raripilum* or any member of *Ceresium*, as far as structure of body, elytra and antennae are concerned. Solely its frons and antennal supports do not correspond to the definition of *Examnes*, as the former is neither steep nor short and the latter flattened (Pascoe 1869). Affinity with the genus *Examnes* is observed also for *C. atricolle* sp. nov., as noted in the description. Discussion on the relationship between these two genera will be continued in Part II, in which more *Examnes* species will be observed.

3. *Ceresium* and *Stenodryas*. In the above description of *Ceresium sibuyanum* sp. nov., its resemblance to some species of the neighbouring genus *Stenodryas* was mentioned. Its pronotum is namely distinctly elongated and its surface shallowly or obtusely punctured. Though most of the *Stenodryas* species have a more elongated prothorax than that of this new species, there are indeed some members of *Stenodryas* with the similar degree of elongation, such as the nominotypical *S. clavigera* Bates, 1873, *S. puberula* Holzschuh, 2016 or *S. filipinus*. However, their bodies, legs and antennae are usually longer and slenderer, their femora above all more suddenly clavate with longer peduncle. Further, they are clothed only with minute hair on elytra and instead clothed more or less with sporadic, long, erect hairs on body in general. The new species differs in all these aspects, and should, therefore, be integrated into *Ceresium*.

In case of *C. angustulum*, to which the new species was compared, the integument on elytra resembles rather more those of *Stenodryas*, lacking the usual setae of a *Ceresium* species. Its pronotum is on the contrary much shorter than the other species of *Stenodryas*. It is more similar to those of typical *Ceresium* species in outline.

As for *C. helleri* with its rather slender body and pronotum, an interesting question arises if it indeed belongs to *Ceresium*. Its peduncles of femora seem longer than usual for a *Ceresium* species, resembling more those of *Stenodryas* species. The hairs on elytra are also less distinct than usual. Above all, its pronotum is nearly glabrous and sporadically furnished with long, flying hairs, more similarly to those of *Stenodryas* and unlike to those of *Ceresium* (Fig. 13A–B).

The above three cases could be viewed as examples of species placed near the periphery of a genus, with a few external characteristics of a neighbouring genus. Otherwise, the definition of the concerned genera should be modified. In any case, it is noteworthy that the remarkable colouration of legs is shared by three species belonging to two different genera, as shown above for *Ceresium sibuyanum* sp. nov., *Ceresium helleri* and *Stenodryas filipinus*.

4. Overview of the new species from Sumatra. Of the five new species from Sumatra described above, two of them resemble species found in Borneo. *C. gibbicolle* sp. nov. namely bears resemblance to *C. humerale* from Borneo. They are eventually more or less related to each other. The same could be said for *C. coloratum* sp. nov. and *C. mediocre* from Borneo.

The other three species are rather unique in habitus or distribution. Prothorax of *C. ikuoyokoii* sp. nov. is singular. *C. atricolle* sp. nov. shares a few external characteristics with species of the closely related genus *Examnes*. In turn, *C. cylindrithorax* sp. nov. is comparable only to species distributed in geographically separated areas, namely to *C. detanii*, *C. gracile* and *C. sibuyanum* sp. nov., from Bali, Sri Lanka and the Philippines respectively.

The new record of *Ceresium indigum* Holzschuh indicates that it is commonly distributed in Sumatra and Borneo.

On genital organs

1. Male median lobes and tegmens. Median lobes of the above-described species are mostly bullet-shaped. Some are longer or more arcuate in profile than the others, a few are more fusiform. The difference is, however, more of a gradual nature than fundamental. Noteworthy is the extraordinarily broad outline of *Ceresium balkei* sp. nov. in dorsal view as well as the distinctly arcuate profile and fusiform outline of *C. zeylanicum*.

Their tegmens are a little more variable, though the difference is again more of a gradual nature. Remarkable is the broad outline of parameres as well as furrows and puncture thereupon in *Ceresium ikuoyokoii* sp. nov.

2. Male 8th sternites and tergites. Male 8th sternites observed above are bi-lobed or emarginated on apex. However, their forms are very diverse and characteristic for every species, as illustrated. 8th tergites, in turn, differ mainly in the structure of apex and relative width to 8th sternite.

3. Male ejaculatory complexes. Even more remarkable is the high degree of sclerotization and diversification in this part of endophalus. Ejaculatory ducts of the species above are surrounded or protected by a combination of sclerites, which are highly complex and diversified. They are elongated or moderate, stout or slender, straight in profile or extremely curved, heavily sclerotized in all parts or partly so, dehiscent or simply projected on apex, with apical hooks or none, with prominent lateral hooks

or none, etc. Each species shows thus its own distinct morphology. Five species, *C. rusticum* sp. nov., *C. balkei* sp. nov., *C. atricolle* sp. nov., *C. coloratum* sp. nov. and *C. indigum* Holzschuh, are provided with a pair of apical hooks on the apical sclerite. No further abstraction is, however, possible, as only a minor part of the known species are hitherto examined in this regard. The function of sclerites is unknown. More comprehensive observation is necessary to make any sensible statement on this subject.

4. Female spermatheca and spermathecal duct. The extreme pre-spermathecal expansion of the duct as observed in the female holotype of *C. cylindrithorax* sp. nov. is remarkable. It has not been documented before, at least in the tribe Callidiopini. At this stage, however, a case of pathological abnormality cannot be excluded, as there is no second record of this kind in the tribe. Again, observation and comparison of more individuals of this species and of related species are still necessary.

Acknowledgements

I am deeply indebted to Dr. Michael Balke, curator of Coleoptera in ZSM for kindly providing me with interesting cerambycid specimens from the collection of the museum. The material formed the basis for the observations made in this publication. I am grateful to Mr. Maxwell V. L. Barclay of the Natural History Museum, London, Dr. Klaus-Dieter Klass of Museum für Tierkunde, Dresden, and Dr. Damir Kovac of Senckenberg Naturmuseum, Frankfurt, for allowing the author to examine relevant holotypes preserved there. They played important roles for comparative observations. I would like to thank Prof. em. Nobuo Ohbayashi, Kanagawa, Japan and Mr. Carolus Holzschuh from Villach, Austria for useful information and discussions on important taxonomical aspects. I would like to thank Dr. Juliane Diller as well as Ms. Eva Karl for bibliographical assistance and Mr. Theodore L. Childers, San Diego, USA, for his advice regarding the wording of the text. Last but not least, I would like to thank Prof. Dr. Roland Melzer, Ms. Angela Pillukat and their colleagues of ZSM for the assistance regarding editorial aspects of this publication.

References

Aurivillius, C. 1927. Neue oder wenig bekannte Coleoptera Longicornia. 22. Arkiv för Zoologi 19A (17): 525–547.

Bates, H. W. 1873. On the longicorn Coleoptera of Japan. The Annals and Magazine of Natural History, Ser. 4, 12: 148–156.

Dillon, L. S. & Dillon, E. S. 1952. Cerambycidae of the Fiji Islands. Bernice P. Bishop Museum Bulletin 206: 1–114.

Gahan, C. J. 1906. The fauna of British India, including Ceylon and Burma. Coleoptera, Vol. I (Cerambycidae). xviii + 329 pp., 107 figs., London (C. T. Bingham).

Gressitt, J. L. 1940. New longicorn beetles from the islands of southwestern Pacific (Coleoptera Cerambycidae). Proceeding of Hawaian Entomological Society 10 (3): 415–419.

Holzschuh, C. 2011. Beschreibung von 69 neuen Bockkäfern und 6 neuen Gattungen aus Asien, vorwiegend aus Borneo, China, Laos und Thailand (Coleoptera, Cerambycidae). Entomologica Basiliensia et Collectionis Frey 33: 249–328.

– – 2015. Beschreibung von 50 neuen Bockkäfern aus Asien (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 20: 14–75.

– – 2016. Beschreibung von 24 neuen Bockkäfern und einer neuen Gattung aus Asien (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 21: 72–102.

Hüdepohl, K.-E. 1990. The longhorn beetles of the Philippines, Part II. Entomofauna, Zeitschrift für Entomologie 11 (3/1): 45–102.

– – 1994. Über südostasiatische Cerambyciden XII (Coleoptera, Cerambycidae). Entomofauna, Zeitschrift für Entomologie 15 (15): 185–196.

Newman, E., 1842. Cerambycitum Insularum Manillarum Dom. Cuming captorum enumeratio digesta. The Entomologist, London 1 (15): 243–248.

Pascoe, F. P. 1869. Longicornia Malayana; or a descriptive catalogue of the species of the three longicorn families Lamiidae, Cerambycidae and Prionidae, collected by Mr A. R. Wallace in the Malay Archipelago. The Transactions of the Entomological Society of London, Third Series, 3: 535–542, pl. 21.

Perroud, B. P. 1855. Description de quelques espèces nouvelles ou peu connues et création de quelques nouveaux genres dans la famille des Longicornes, première série. Annales de la Société Linnéenne de Lyon (n. s.) 2: 327–401.

Pic, M. 1943. Opuscula martialia X. L'Echange, Revue Linnéenne, Numéro spécial 10: 1–16.

Schwarzer, B. 1931. Beitrag zur Kenntnis der Cerambyciden (Ins. Col.) III. Senckenbergiana 13: 197–214.

Vives, E. 2009. New or interesting Cerambycidae from the Philippines, Part III (Coleoptera, Cerambycidae). Les Cahiers Magellanes 105: 1–20.

– – 2013. New or interesting Cerambycidae from the Philippines, Part IV (Coleoptera, Cerambycidae). Les Cahiers Magellanes, NS, 11: 66–79.

White, A. 1855. Catalogue of the coleopterous insects in the collection of the British Museum, Part 8, Longicornia vol. 2. Pp. 175–412, London (British Museum).

Yokoi, Y. 2015. Notes on the Callidiopini (Coleoptera, Cerambycidae) across the Lombok Strait. Elytra, Tokyo (n. ser.) 5: 185–205.