

**A new species of the genus *Cyparium*
from northern Sulawesi, Indonesia
(Coleoptera: Staphylinidae: Scaphidiinae)**

Ryo OGAWA¹⁾, Ivan LÖBL²⁾ & Kaoru MAETO¹⁾

¹⁾Laboratory of Insect Biodiversity and Ecosystem Science, Graduate School of Agricultural Science, Kobe University, 1-1 Rokkodai, Nada-ku, Kobe, 657-8501 Japan; e-mail: ailmasbl0854@yahoo.co.jp

²⁾Muséum d'histoire naturelle, Route de Malagnou 1, CH-1208 Geneva, Switzerland

Abstract. A new species of scaphidiine beetle, *Cyparium celebense* sp. nov., is described from northern Sulawesi, and a key to the species of the genus *Cyparium* Erichson, 1845 from the Sunda Islands is provided.

Key words. Coleoptera, Staphylinidae, shining fungus beetle, new species, key to species, Sunda Islands, Oriental Region

Introduction

The genus *Cyparium* Erichson, 1845 is readily distinguished from other scaphidiines by its robust body, compact antennal club, complete eyes, rows of punctures on elytra, and the spinous pro- and mesotibiae (LESCHEN & LÖBL 1995). The world fauna of this genus comprises of 52 species and three subspecies (FIERROS-LÓPEZ 2002; LÖBL 1997, 1999, 2011; LÖBL & LESCHEN 2003; OGAWA & SAKAI 2010). Among them, three species (*C. bowringi* Achard, 1922, *C. javanum* Löbl, 1990, and *C. variegatum* Achard, 1920) are known from Java and one species from the Banggi Island in northeast of Borneo (*C. punctatum* Pic, 1916). Interestingly, the genus is absent south of the Wallace line, although it occurs in New Zealand, whose species are probably more closely related to South African taxa than the Asian ones (LÖBL & LESCHEN 2003). Recently, the first author studied three specimens of an undescribed species of *Cyparium* from Sulawesi, which were collected during the Project Wallace Royal Entomological Society Expedition in 1985 (HEPPNER 1992) and are deposited in the Natural History Museum, London, United Kingdom.

In this study, we describe a new species of *Cyparium* collected in northern Sulawesi and provide a key to the known species of the genus from the Sunda Islands.

Material and methods

The specimens examined are deposited at the Natural History Museum, London, United Kingdom (BMNH), the Muséum national d'Histoire naturelle, Paris, France (MNHN), and

the Muséum d'histoire naturelle, Genève, Switzerland (MNHG). We follow OGAWA & LÖBL (2013) and the references quoted therein for the methods and terminology presented here. The dorsal and lateral habitus photographs were taken by a single-lens reflex camera (Canon EOS Kiss X7) with a macro photo lens (Canon MP-E 65mm Macro lens) attached to the stand (LPL CSC-10). A stereomicroscope (Olympus SZ61) and biological microscope (Nikon ECLIPSE 50i) with the single-lens reflex camera (described above) were used for making illustrations, which were later edited with Adobe Illustrator. The dissected specimens were preserved in the same manner as in MARUYAMA (2004), by using cover glasses, glue, and Euparal. Body length and width measurements were taken with an ocular micrometer on a stereomicroscope. Antennae were measured on slide-mounted specimens under a biological microscope. Single and double slashes, shown in the label data of the specimens examined, indicate the linefeed on a label and the different labels, respectively.

Type specimens studied. For comparative purposes, we studied the following type specimens of *Cyparium* species occurring in the Sunda Islands (see also Fig. 2):

Cyparium bowringi Achard, 1922: 42 (Fig. 2A). LECTOTYPE: ♀, 'Java // Bowring. / 63/47* // C. Bowringi / n. sp. m. / J. Achard det. // Cyparium / bowringi Achard // R. J. W. Aldridge det 1975 / SYNTYPE // LECTOYPUS / Cyparium bowringi Achard / det. Löbl 1977 // LECTO- / TYPE // SYN- / TYPE // Co- / type' (BMNH).

Cyparium javanum Löbl, 1990: 126 (Fig. 2B). PARATYPE: ♂, 'F. C. DRESCHER / G. Tangkoeban Prahoe / 4000-5000 Voet / Preanger. Java / XI. 1935 // Cyparium / javanum Löbl / det. Löbl 1990 // Paratypus // MHNG / ENTO / 00004481' (MNHG).

Cyparium punctatum Pic, 1916: 18 (Fig. 2C). HOLOTYPE: ♀, 'Banguay / J. W. [handwritten] // Cyparium / punctatum / Pic // Type // TYPE // Cyparium / punctatum / Pic / det. Löbl 1970' (MNH).

Cyparium variegatum Achard, 1920: 127 (Fig. 2D). HOLOTYPE: unsexed, 'MUSEUM PARIS / JAVA (MEUWEN BAY) / DÉTR. DE LA SONDE / RAFFRAY MAINDRON / 1878 // Cyparium / variegatum m / J. Achard det. TYPE // TYPE' (MNH).

Abbreviations. The following abbreviations are used in the text:

EL	length of elytra from base of pronotum to apex of elytra;
EW	maximum width of elytra;
HW	maximum width of head including eye;
ID	interocular distance;
PL	maximum length of pronotum;
PW	maximum width of pronotum;
BMNH	Natural History Museum, London, United Kingdom;
MHNG	Muséum d'histoire naturelle, Genève, Switzerland;
MNHN	Muséum national d'Histoire naturelle, Paris, France.

Taxonomy

Cyparium celebense Ogawa & Löbl sp. nov.

(Figs 1A–C, 3A–C)

Type locality. Indonesia, Sulawesi Utara, Dumoga-Bone National Park.

Type material. HOLOTYPE: ♂, 'INDONESIA: SULAWESI UTARA / Dumoga-Bone N. P. / Plot A, ca 200m / Lowland forest / 24. II. 1985 // Flight interception trap 2 // R. Ent. Soc. Lond. / PROJECT WALLACE / B. M. 1985–10' (BMNH). PARATYPES: 1 ♀, same data holotype but 'Flight interception trap 1 // +31| -7' (BMNH); 1 ♀, same data above but 'Flight interception trap 3' (BMNH).

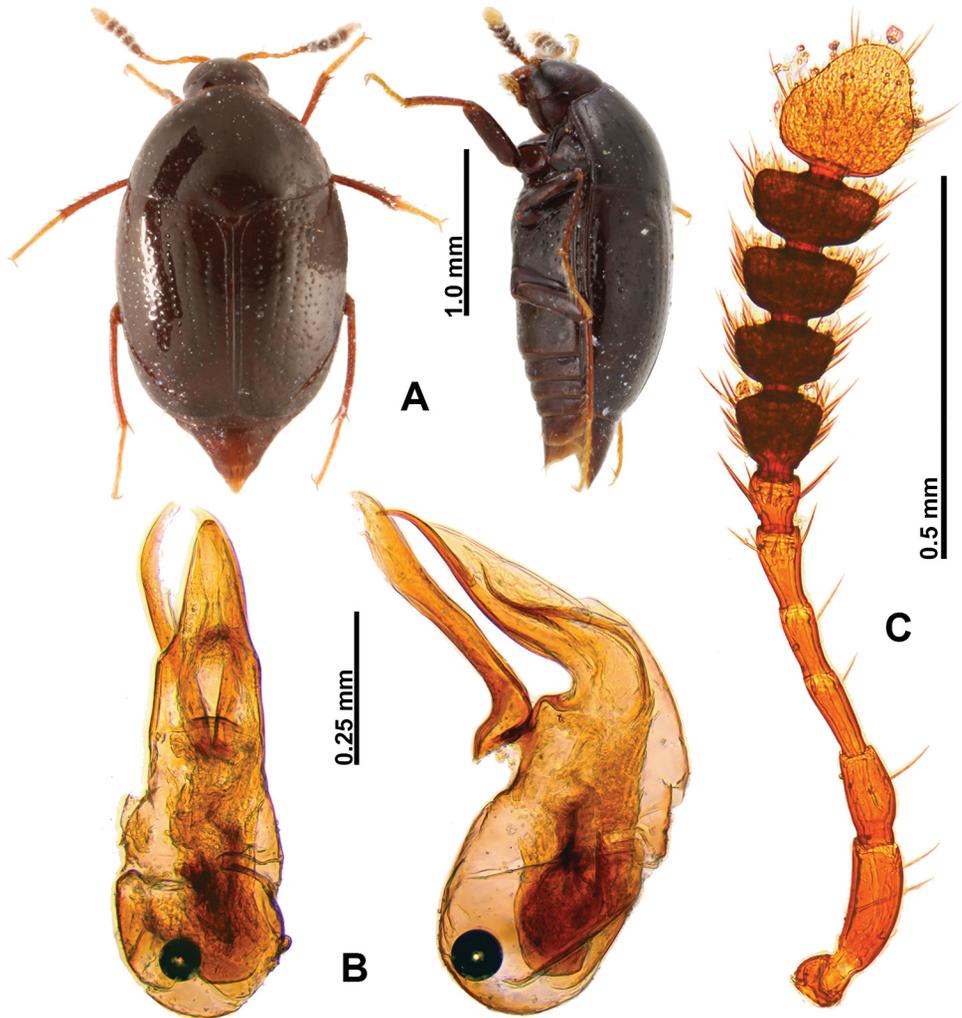


Fig. 1. *Cyparium celebense* sp. nov. A – habitus of male (left, dorsal view; right, lateral view); B – male genitalia (left, dorsal view; right, lateral view); C – antenna of female.

Description. Head. Almost black, clypeus and frons dark brown to reddish brown, mouth parts yellowish-brown. Antennomeres I–VI and apical half of XI brown to yellowish-brown; VII–X dark brown to black; XI light yellowish-brown. Head with eye width about 1.2 times as interocular distance. Punctuation sparse and fine. Antennomeres I–VI with few macrosetae, VII–XI covered with some macrosetae; I about 2.5 times as long as VI; VI and VII each almost as long as wide; VIII–XI each wider than long; XI about twice as long as III and 2.5 times as long as VI (Fig. 1C).

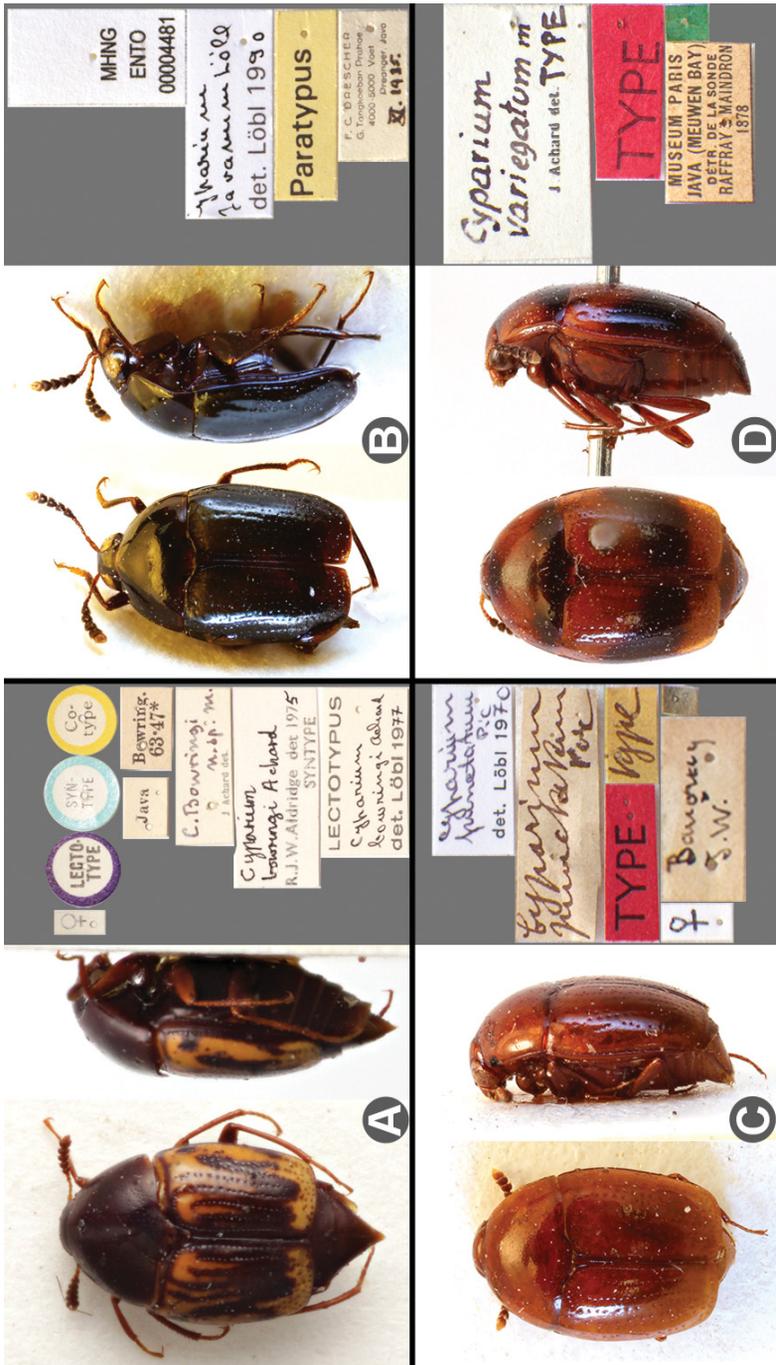


Fig. 3. Habitus and labels of four species of the genus *Cyparium* from Indonesia and Malaysia. A – *C. punctatum* Pic, 1916 (holotype); B – *C. javanum* Löbl, 1920 (paratype); C – *C. punctatum* Pic, 1916 (holotype); D – *C. variegatum* Achard, 1922 (lectotype).

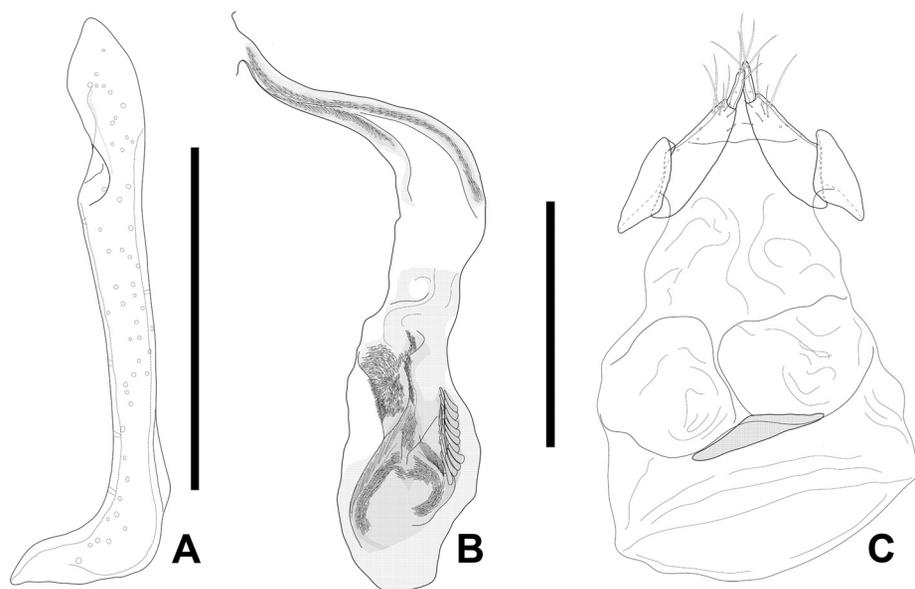


Fig. 2. Genital characters of *Cyparium celebense* sp. nov. A, B – male genitalia in lateral view (A – paramere, B – internal sac); C – female genitalia in ventral view. Scales = 0.25 mm.

Thorax. Pronotum and elytra black, without iridescent luster. Tibiae and femur dark reddish-brown; tarsus lighter than tibiae and femur. Ventral surface almost black, except for dark reddish-brown coxae (Fig. 1A). Pronotum wider than long, with anterior bead. Punctuation sparse and fine, as on head. Scutellum wider than long, with exposed apex. Hypomeron and lateral portion of mesoventrite smooth. Lateral portion of metaventricle coarsely and sparsely punctate. Elytra slightly wider than long, widest at basal third to fourth, lateral margins gradually narrowed apically, minutely serrate at inner part of posterior margin, latero-posterior margin with some setae. Disc of elytra with punctuation coarser than that on pronotum, with five distinct and one indistinct rows of punctures; first row extending outwards along basal margin and joined with third row. Intervals between rows of punctures finely and sparsely punctate. Sutural striae extending outwards along basal margin to form basal striae, reaching humeral area and not joined with lateral striae. Mesocoxa almost as wide as space between them. Mesepimeron about twice as long as wide. Metepisternum about six times as long as wide, without longitudinal line. Metepimeron almost as long as wide. Metacoxa almost as wide as metacoxal process. Protarsomeres I–III each 1.2 times as long as IV; V 1.5 times as long as III and twice as long as IV. Mesotarsomeres I and V each 2.0 times as long as each II–IV. Metatarsomeres I and V 1.2 times as long as III; II 1.2 times as long as III or IV.

Abdomen. Propygidium and pygidium dark brown to black. Propygidium and pygidium with microsculptures. Median portion of ventrite I coarsely and sparsely punctate, with punctures slightly weaker than those on metaventricle.

Male. Pro- and mesotarsomeres I–III with tenent setae, not enlarged. Aedeagus 0.8 mm long; parameres symmetrical, slightly enlarged subapically and narrowed apically (Fig. 2A); internal sac without sclerites, covered with fine scale-like and denticulate structures (Figs 1B, 2B).

Female. Pro- and mesotarsomeres I–III without tenent setae, not enlarged. Ovipositor simple; bursa copulatrix sclerotized, broadly triangular (Fig. 2C). Spermatheca not detected.

Measurements (n = 3). Length (PL+EL): 2.13–2.36 mm. PW: 1.31–1.42 mm. EW: 1.44–1.67 mm. HW: 0.56–0.60 mm. ID: 0.16–0.18 mm. PL/PW: 0.64–0.67, EL/EW: 0.84–0.89. Approximate ratio of each antennal segment in length (width) (n = 1) = 1.5 (0.6) : 1.1 (0.5) : 1.0 (0.4) : 0.8 (0.4) : 0.9 (0.5) : 0.6 (0.6) : 0.9 (1.0) : 0.8 (1.1) : 0.8 (1.3) : 0.9 (1.4) : 1.6 (1.4).

Differential diagnosis. This species is very similar to *Cyparium javanum* Löbl, 1990 from Java, Indonesia, in particular by its colour pattern, the small body size, and the antennomere XI yellowish-brown, but may be easily distinguished from *C. javanum* by the lateral portion of the metaventricle and the median portion of the abdominal ventrite I coarsely punctate, and the apical portion of parameres hardly widened.

Etymology. The species epithet (*celebensis*, *-is*, *-e*) is an adjective derived from Celebes, the former name of Sulawesi.

Distribution. Indonesia: northern Sulawesi.

Key to the species of *Cyparium* from the Sunda Islands

- | | | |
|---|--|-------------------------------|
| 1 | Body unicolorous. | 2 |
| – | Body bicolorous. | 4 |
| 2 | Body reddish. Elytra with five rows of punctures on disc (Fig. 2C). | |
| | <i>C. punctatum</i> Pic, 1916 | |
| – | Body blackish. Elytra with six or seven discal rows of punctures. | 3 |
| 3 | Elytra with six discal rows of punctures. Lateral portion of metaventricle and median portion of abdominal ventrite I coarsely punctate. Parameres of male genitalia slightly widened apically (Fig. 3A). | <i>C. celebensis</i> sp. nov. |
| – | Elytra with seven discal rows of punctures. Lateral portion of metaventricle and median portion of abdominal ventrite I finely punctate. Parameres of male genitalia distinctly widened apically. | <i>C. javanum</i> Löbl, 1990 |
| 4 | Pronotum almost entirely black. Elytra yellowish or ochraceous, each with blackish pattern along discal rows of punctures (Fig. 2A). Ventral surface black. | |
| | <i>C. bowringi</i> Achard, 1922 | |
| – | Pronotum almost entirely reddish, basal part blackish. Elytra reddish, each with blackish pattern on median portion (Fig. 2D). Ventral surface reddish. | |
| | <i>C. variegatum</i> Achard, 1920 | |

Acknowledgements

We wish to express our sincere gratitude to Roger Booth (BMNH) for the loan of specimens collected by the Project Wallace Expedition, Azadeh Taghavian (MNHN) for the loan of some type specimens preserved at MNHN, Giulio Cuccodoro (MHNG) for the loan of many

specimens from Indonesia preserved at MHNG, and Junsuke Yamasako (Tokyo University) for providing the photo of the lectotype of *Cyparium bowringi* preserved at BMNH. This research was supported by the Heiwa Nakajima Foundation and the Japan Society for the Promotion of Science (JSPS).

References

- ACHARD J. 1920: Notes sur les Scaphidiidae de la Faune Indo-Malaise. *Annales de la Société Entomologique de Belgique* **60**: 123–136.
- ACHARD J. 1922: Descriptions de Scaphidides nouveaux (Col. Scaphidiidae). *Fragments Entomologiques* **3**: 35–45.
- FIERROS-LÓPEZ H. E. 2002: Descripción de dos especies nuevas de *Cyparium* Erichson, 1845 (Coleoptera: Staphylinidae) de México. *Dugesiana* **9**: 27–14.
- HEPPNER J. B. 1992: Sulawesi (Minahasa) Lepidoptera and Project Wallace, 1985. *Tropical Lepidoptera* **3**: 13–22.
- LESCHEN R. A. B. & LÖBL I. 1995: Phylogeny of Scaphidiinae with redefinition of tribal and generic limits (Coleoptera: Staphylinidae). *Revue Suisse de Zoologie* **102**: 425–474.
- LÖBL I. 1990: *Cyparium javanum* sp. n., a new Scaphidiidae (Coleoptera) from Indonesia. *Elytron* **4**: 125–129.
- LÖBL I. 1997: *Catalogue of the Scaphidiinae (Coleoptera: Staphylinidae)*. Muséum d'histoire naturelle, Genève, xii + 190 pp.
- LÖBL I. 1999: A review of the Scaphidiinae (Coleoptera: Staphylinidae) of the People's Republic of China, I. *Revue Suisse de Zoologie* **106**: 691–744.
- LÖBL I. 2011: Notes on some Taiwanese Scaphidiinae (Coleoptera, Staphylinidae) described by Miwa and Mitono, with description of a new species and new records. *Japanese Journal of Systematic Entomology* **17**: 199–207.
- LÖBL I. & LESCHEN R. A. B. 2003: Scaphidiinae (Insecta: Coleoptera: Staphylinidae). *Fauna of New Zealand* **48**: 1–94.
- MARUYAMA M. 2004: A permanent slide pinned under a specimen. *Elytra* **32**: 276.
- OGAWA R. & LÖBL I. 2013: A revision of the genus *Baeocera* in Japan, with a new genus of the tribe Scaphisomatini (Coleoptera, Staphylinidae, Scaphidiinae). *Zootaxa* **3652**: 301–326.
- OGAWA R. & SAKAI M. 2010: A review of the genus *Cyparium* Erichson (Coleoptera, Staphylinidae, Scaphidiinae) of Japan. *Japanese Journal of Systematic Entomology* **17**: 129–136.
- PIC M. 1916: Diagnoses spécifiques. *Mélanges Exotico-Entomologiques* **17**: 8–20.

