

Notes on Species Belonging to the Genus *Coreomyces* (Laboulbeniales) Collected from Java Island, Indonesia

Yong-Bo Lee^{1*}, Young-Hee Na¹, Sung-Jun Kim² and Chae-Kyu Lim³

¹Division of Science Education, Collage of Education, Chosun University, Gwangju 501-759, Korea

²Major in Biology Education, Graduate School of Education, Chosun University, Gwangju 501-759, Korea

³Department of Herbal Medicine Resources Development, Naju Collage, Jeonnam, 520-713, Korea

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Four species of Laboulbeniales collected from Java Island, Indonesia between August and September in 2006 are described. These species, which belong to the genus *Coreomyces* and were found on the family Corixidae of the order Hemiptera, were as follows; *Coreomyces corixae* Thaxter, *Coreomyces micronectae* Thaxter and *Coreomyces orientalis* Thaxter, which were found on *Micronecta sedula* Horvath, and *Coreomyces recurvatus* Thaxter, which was found on *Micronecta sedula* Horvath and *Xenocorixa* sp. *C. corixae* Thaxter and *C. orientalis* Thaxter were originally found on *Micronecta*, whereas *C. recurvatus* Thaxter was originally found on *Xenocorixa*. All species described herein are new to Java Island. The specimens were deposited in the Biological Herbarium, Division of Science Education, College of Education, Chosun University

KEYWORDS : *Coreomyces*, Indonesia, Java Island, Laboulbeniales

The authors had the opportunity to collect host insects of Laboulbeniales between August and September in 2006 from Java Island, Indonesia. Therefore, we collected 600 individuals host insects belonging to the family Corixidae of the order Hemiptera. The collected host insects were immediately placed in vials with 70% ethanol, after which they were placed on a depression slide and inspected for the presence of thalli using a dissecting microscope. Host insect specimens with visible thalli were then separated for subsequent evaluation. Thalli were transferred to a microscopic slide and then enclosed in a slide mount, after which the corresponding hosts were preserved appropriately. The thalli were then prepared by the method described by Benjamin (1971) using mount liquid (neoshigaral, K.K. Japan) as a mounting medium. Prior to this study, 83 species of Laboulbeniales belonging to 16 genera had been reported on Java Island (Lee, 1986). In this paper, four additional species belonging to one genus were described and added the Laboulbeniales of Java Island.

1. *Coreomyces corixae* Thaxter, Proc. Amer. Acad. Arts Sci. 38: 56, 1902; (*C. corisae*); *C. italicus* Sprgazzini, Anales Soc. Cient. Argentina 85: 321, 1918; Majewski, Pol. Bot. Stud. 7: 62, 1994 (Fig. 1).

Thallus slightly bent or nearly straight, pale yellowish brown. Total length to the perithecium 236~281 μm . Receptacle consisting of superposed three cells, 103~113 \times 20~30 μm ; the basal cell usually stouter or tapering to

the foot, about 1.5 times longer than broad, 38~43 \times 25~30 μm ; the subbasal cell slightly longer than the basal cell, about 2 times longer than broad, 43~45 \times 20~23 μm ; the third cell slightly narrower than the others of receptacle, about as long as broad or somewhat narrower than long, 20~23 \times 18~20 μm .

Appendiculate cells 2~4 in number, broader than long. Appendages longitudinal, rising secondary branchlets on the basal cells, 150~200 μm long.

Perithecium composed of the stalk cell and the proper perithecium; the stalk cell somewhat longer than the third cell of receptacle, about 1.5 times longer than broad, 25~30 \times 18~20 μm ; the proper perithecium usually straight, ellipsoidal inflated, somewhat darker brown, tapering gradually to the apex, where is usually slightly bent to one side, 90~110 \times 20~35 μm .

Host genera: *Callicorixa*, *Corixa*, *Cymatia*, *Hesperocorixa*, *Micronecta* and *Sigara* (Corixidae, Hemiptera).

Species in Java Island: *Micronecta sedula* Horvath.

Distribution: Cosmopolitan.

Specimens examined: Cibubur Lake, Cibubur Danau Cibubur, Jakarta, Indonesia, 22 September, 2006. L-Y-2191 and 2199.

The habits of this species were reported by Thaxter (1908), Picard (1913, *C. italicus*), Spegazzini (1918, *C. italicus*), Colla (1934, *C. italicus*), Benjamin (1973), Majewski (1973 and 1988, *C. italicus*, 1994), Sugiyama & Hayama (1981, *C. italicus*) and Santamaria (1989, *C. italicus*).

The present specimens are similar to the majority of the thalli described by Benjamin and Majewski. The speci-

*Corresponding author <E-mail: ybalee@chosun.ac.kr>

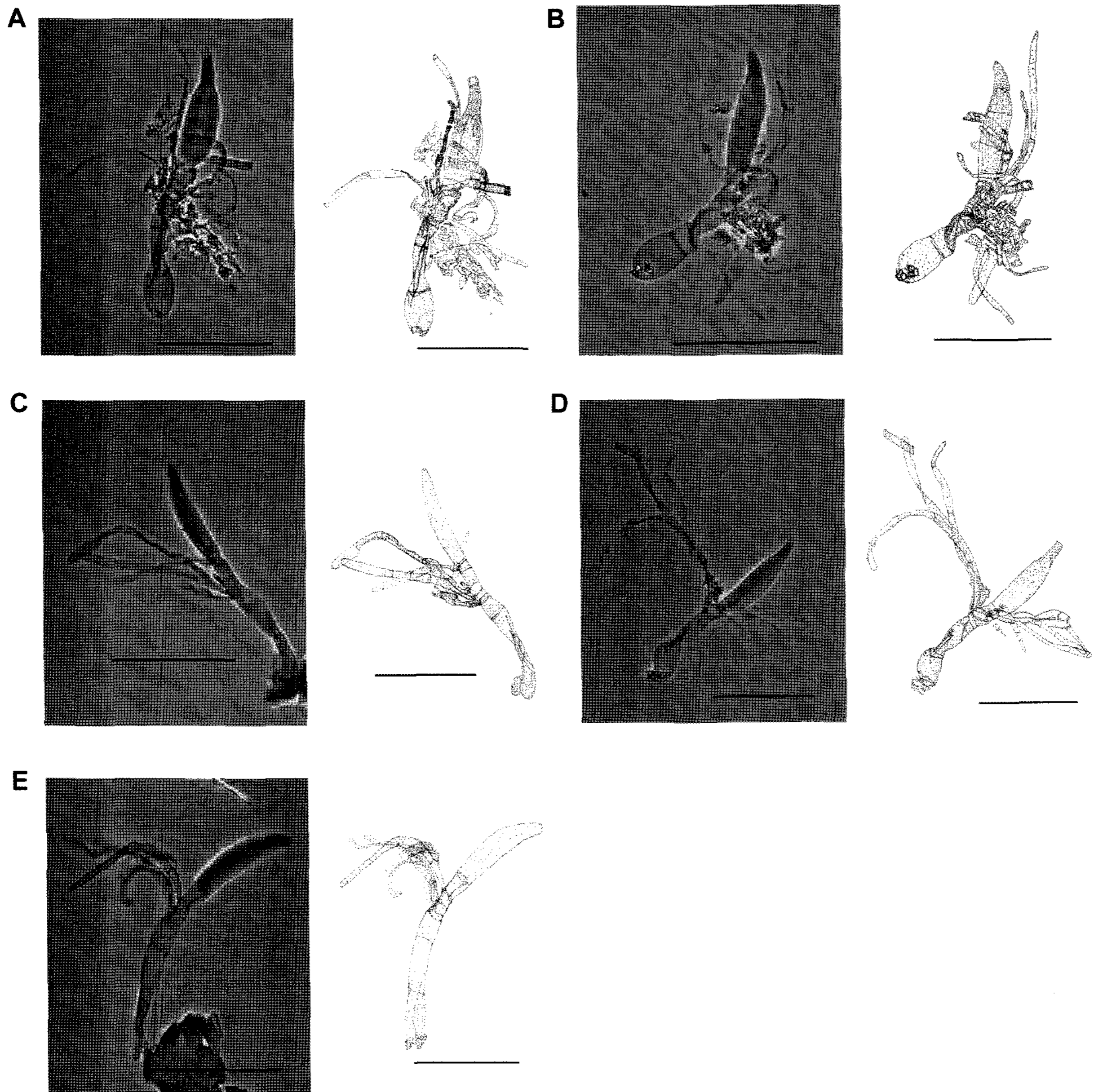


Fig. 1. *Coreomyces corixae* on the inferior margin of the left elytra of *Micronecta sedular*. Scale bar: 100 μm .

mens described here poses the additional appendiculate cells between the subbasal cell and the third cell, and immediately below the perithecium, as shown in the thalli drawn by Majewski (Fig. 1C and D). However, the necks of perithecia are considerably longer in the present materials than in those described by Majewski.

Thalli of this species have always been found on the inferior surface of the host's abdomen, however the present materials were always found on the inferior margin of the left elytra. The present species was originally collected on the genus *Micronecta*.

2. *Coreomyces micronectae* Thaxter, Mem. Amer. Acad. Arts Sci. 16: 327, 1931 (Fig. 2).

Thallus nearly straight, slender, hyaline and yellowish-

brown. Total length to the perithecium 207~231 μm . Receptacle consisting of three superposed cells, 83~91 \times 18~20 μm ; the basal cell about 1.5 times longer than broad, broader than the two cells above, 30 \times 20 μm ; the sub-basal cell about 2.5 times longer than broad, longer than the others of receptacle, 33~38 \times 13~15 μm ; the third cell about 2 times longer than broad, shorter and slender than the others of receptacle, 20~23 \times 10~13 μm .

Appendiculate cells 2 in number, nearly symmetrical, producing appendages, usually branched on third cell of them, up to 175 μm long.

Perithecium composed of the stalk cell and the proper peritheium; the stalk cell about 2 times longer than broad, as long as third cell of receptacle; the proper perithecium long and slender, the margins hardly convex below, the tip

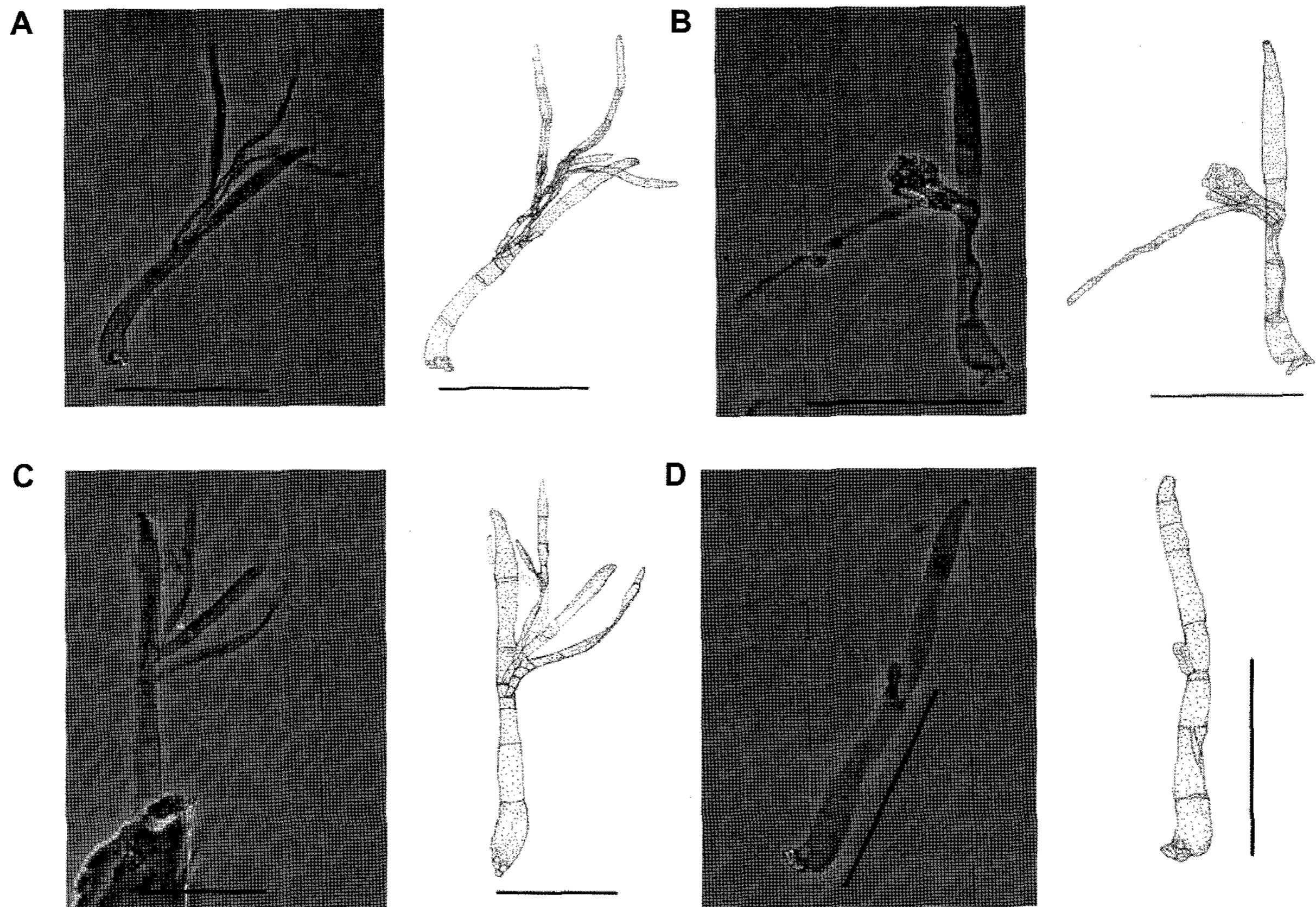


Fig. 2. *Coreomyces micronectae* on the margin of the left elytra of *Micronecta sedula*. Scale bar: 100 μm .

portion long, slightly bent outward, tapering evenly to the blunt termination, $88\text{--}100 \times 10\text{--}18 \mu\text{m}$.

Host genus: *Micronecta* (Corixidae, Hemiptera).

Host species in Java Island: *Micronecta sedula* Horvath.

Distribution: Malaysia (Sumatra) and Indonesia (Java).

Specimens examined: Cibubur Lake, Cibubur Dana Cibubur, Jakarta, Indonesia, 22 September, 2006, L-Y-2161 and 2189.

This species is nearly identical to *C. minor*; however, it has a nearly straight habit and a perithecium that is long and slender, hardly convex below, and a long portion of the tip that is bent slightly outward and tapers evenly to a blunt apex. In addition, the length of the stalk cell of perithecium in the present specimens is shorter than those of the specimens described by Thaxter.

According to the description by Thaxter (1931), this species varies considerably in size and habit and the thalli always grow on the margin of the left elytra.

3. *Coreomyces orientalis* Thaxter, Mem. Amer. Acad. Arts Sci. 16: 328, 1931 (Fig. 3).

Thallus nearly hyaline, yellowish-brown, strongly flexed throughout. Total length to the perithecium $232\text{--}252 \mu\text{m}$. Receptacle consisting of superposed three cells, $93\text{--}103 \times 20\text{--}25 \mu\text{m}$; the basal cell above 1.5 times longer than broad, $35\text{--}40 \times 20\text{--}25 \mu\text{m}$; the subbasal cell about 2 times

longer than broad, longer than the other cells of receptacle, $38\text{--}43 \times 18\text{--}20 \mu\text{m}$; the third cell about as long as broad, inflated, $20 \times 20 \mu\text{m}$.

Appendiculate cells flattened, two or three, somewhat broader than long, slight constriction; appendages bearing one to three secondary branchlets on the basal cell, $135\text{--}163 \mu\text{m}$ long.

Perithecium consisting of the stalk cell and the proper perithecium; the stalk cell somewhat longer than broad or about two times longer than broad, $20\text{--}25 \times 13\text{--}20 \mu\text{m}$; the proper perithecium elliptical, nearly uniform or narrower below, inflated in the middle portion, tapering gradually to the apex, $95\text{--}100 \times 20\text{--}25 \mu\text{m}$.

Host genera: *Corixa* and *Micronecta* (Corixidae, Hemiptera).

Host species in Java Island, Indonesia: *Micronecta sedula* Horvath.

Distribution: Malaysia (Sumatra) and Indonesia (Java).

Specimens examined: Cibubur Lake, Cibubur Dana Cibubur, Jakarta, Indonesia, 20 September, 2006, L-Y-2170 and 2187.

This species is closely related to *C. corixae*; however, it differs in the following features: 1) the form of the thallus is strongly flexed throughout in the present species, while it is straight or somewhat flexed in the previously described species. 2) the distal portion of the perithecium

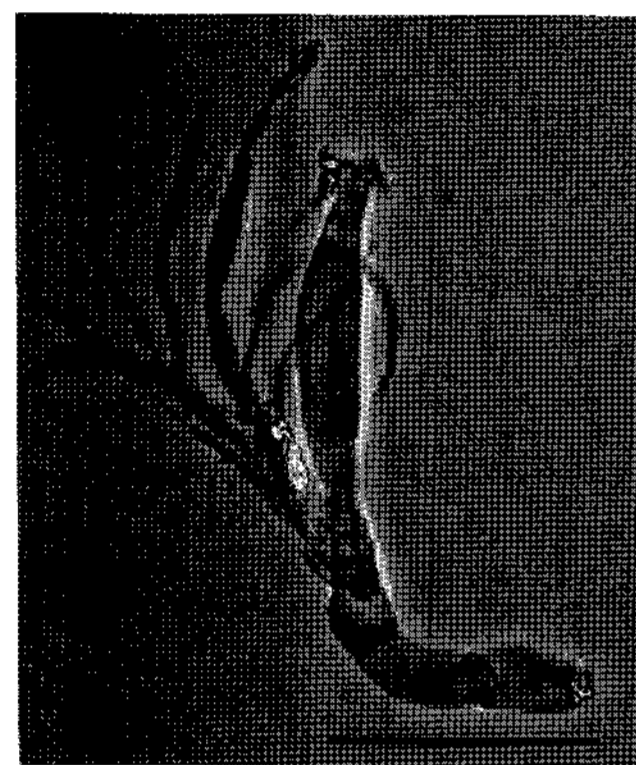
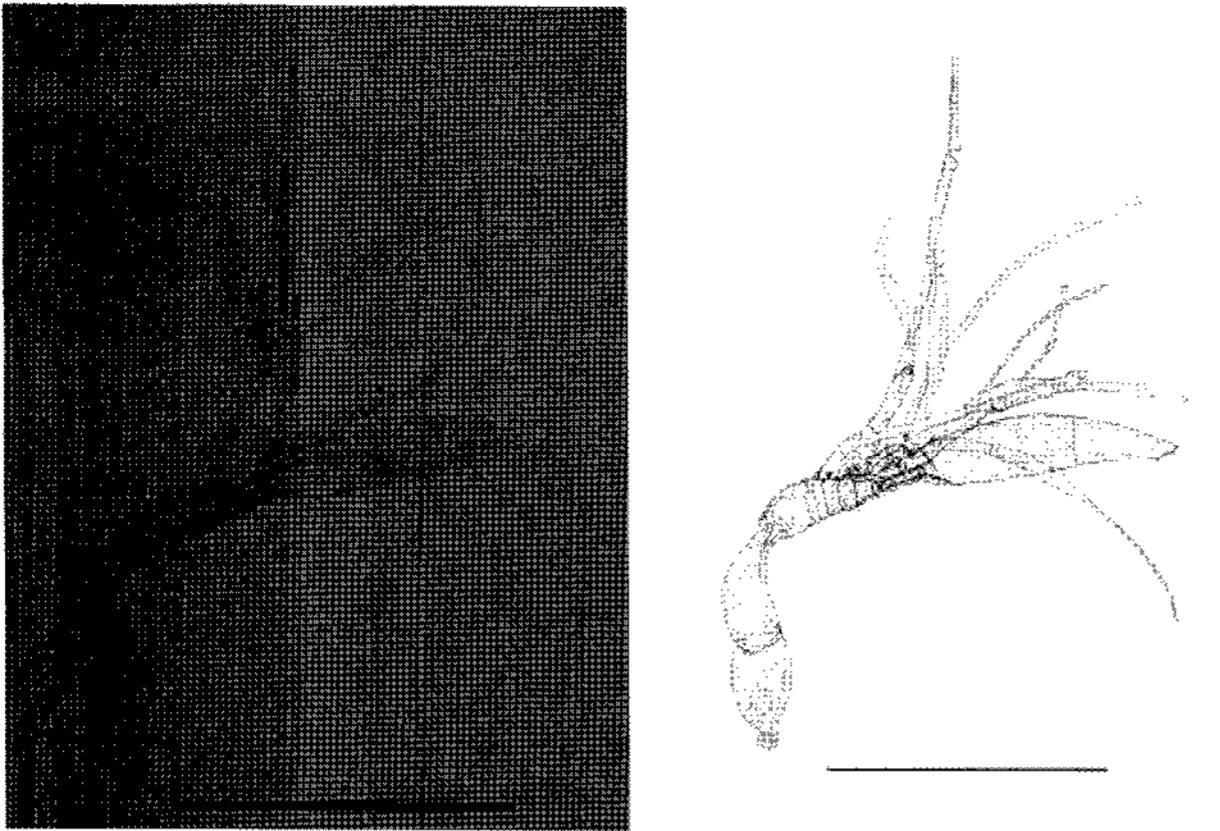


Fig. 3. *Coreomyces orientalis* on the inferior margin of the left elytra of *Micronecta sedula*. Scale bar: 100 μm .

has a tapered habit in the present species, while it is truncated in the previously described species. Thalli always grow on the margin of the left elytra.

4. *Coreomyces recurvatus* Thaxter, Mem. Amer. Acad. Arts Sci. 16: 329, 1931 (Fig. 4-6).

Thallus long and slender, hyaline or faintly tinged with brown, abruptly bent or irregularly strongly sigmoid habit. Total length to the perithecium 306~366 μm . Receptacle

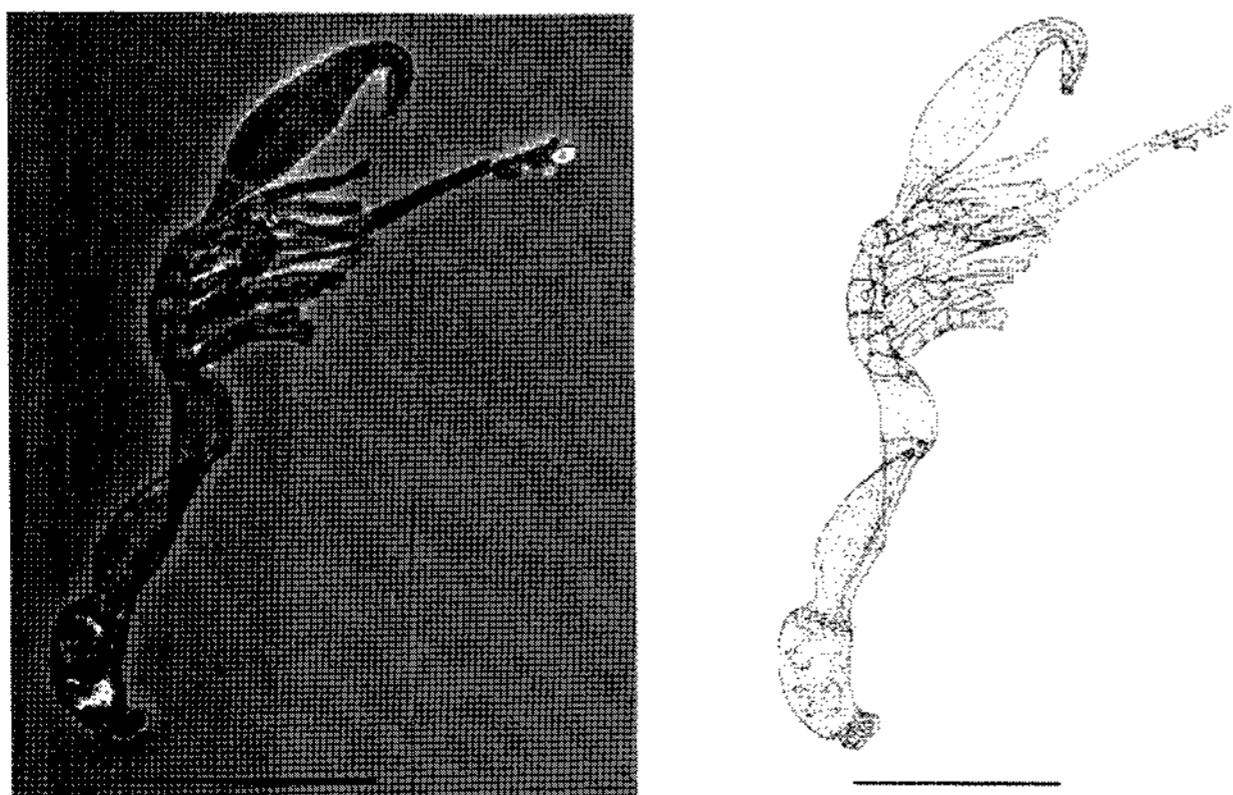


Fig. 4. *Coreomyces recurvatus* on the thorax of *Micronecta sedula*. Scale bar: 100 μm .

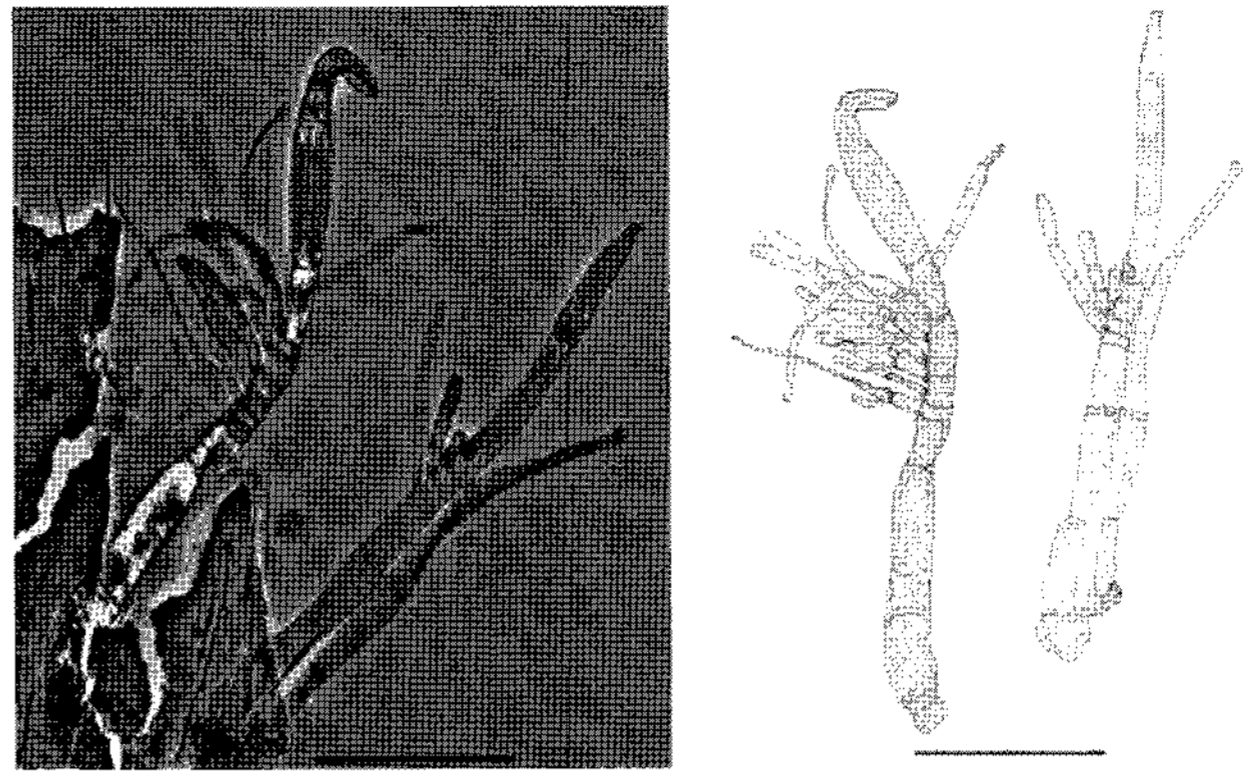


Fig. 5. *Coreomyces recurvatus* on the inferior surface of the abdomen of *Micronecta sedula*. Scale bar: 100 μm .

consisting of superposed three cells, 143~161 \times 20~28 μm ; the basal cell usually distinctly stouter, about 2~3 times longer than broad; the subbasal cell cylindrical, about 3~4 times longer than broad, longer than the others of receptacle, 68~83 \times 20~25 μm ; the third cell somewhat narrower than the others, about 2 times longer than broad, 25~35 \times 15~25 μm .

Appendiculate cells 4~6 or rarely 9 in number, slightly broader than long, nearly squarish; appendages longitudinal and stouter, usually producing the secondary branchlets on the third cell, 150 μm long.

Perithecium composed of the stalk cell and the proper perithecium; the stalk cell somewhat narrower below, somewhat longer than the third cell of receptacle, about 2~3 times longer than broad, 25~38 \times 13~15 μm ; the proper perithecium slightly inflated, the margins subsymmetrically convex, becoming rather darker brown, abruptly recurved tip-portion, the apex blunt or truncate, 90~115 \times 20~30 μm .

Host genera: *Micronecta* and *Xenocorixa* (Corixidae, Hemiptera).

Species in Java Island: *Micronecta sedula* Horvath and

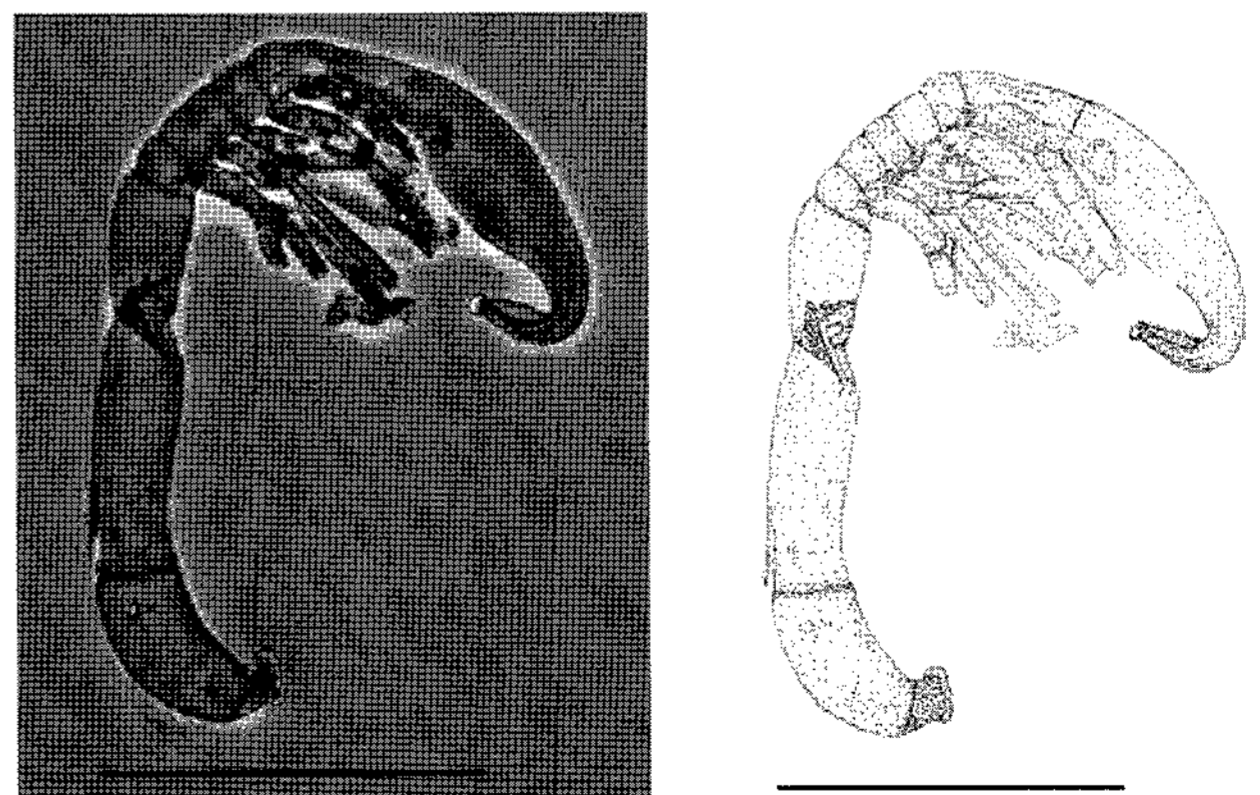


Fig. 6. *Coreomyces recurvatus* on the basal portion of the legs of *Xenocorixa* sp. Scale bar: 100 μm .

Xenocorixa sp.

Distribution: China (Soochow, Amoy) and Indonesia (Java).

Specimens examined: Raya Bogor, Jakarta, Indonesia, 20 September, 2006, L-Y-2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113 and 2114; Cibubur Lake, Cibubur Dana, Cibubur,

Jakarta, Indonesia, 22 September, 2006, L-Y-2148, 2152, 2154, 2155, 2156, 2157, 2160, 2165, 2167, 2171, 2172, 2173, 2184, 2185, 2186, 2195 and 2196.

This species is closely related to *C. curvatus*, but it is different from the latter due to its abruptly bent or strongly sigmoid habit and the recurved tip-portion of its perithecium.

The present species was always collected near the basal portion of the legs and on the inferior surface of the abdomen and thorax of its hosts, but according to Thaxter (1931), this species was always found on the inferior surface of the margin of the left elytra. The present materials were originally found on species belonging to the genus *Xenocorixa*.

Acknowledgement

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