

STUDIES ON ORIBATEI (ACARINA) FROM THE SOUTH PACIFIC¹III. *Cosmohermannia monstruosa*, n. sp. from New Guinea²By Jun-ichi Aoki³

Abstract: The genus *Cosmohermannia* Aoki & Yoshida has hitherto been monotypic and known only from South Japan. The 2nd representative of the genus, *Cosmohermannia monstruosa*, n. sp., is described from New Guinea. The new species is distinguishable from the type-species, *C. frondosa*, by the strongly branching rostral setae, the short and clavate sensilli, the long lamellar setae, and the strongly barbed setae on the legs.

Cosmohermannia monstruosa Aoki, n. sp.

FIG. 1-10

Material examined: Holotype (BISHOP 10,267) W. IRIAN: Sibil Valley, 1250 m, Star Mts, "Neth. New Guinea," 15-20.X.1961, L. & S. Quate.

Measurements: Length 770 μ ; width 310 μ . **Prodorsum:** Rostral, lamellar and interlamellar setae distinctly different in shape from one another. Seta *ro* quite unusual, having 2 main branches, each with multiple branching, forming a complicated structure somewhat resembling a tree (FIG. 9); the whole seta and also almost all apices of branches bend downward. Setae *la*, on the contrary, simple, long and slightly flattened (FIG. 5), being inserted close together on a short chitinous arch. Setae *in* (FIG. 4) shorter and somewhat broader than *la*, their mutual distance wider than that of *in*. Sensillus with a small head and a short pedicel (FIG. 8). A pair of frame-like ridges found behind bothridia; no chitinous dentations on ridge. **Notogaster:** Anteromarginal part smoothly rounded. Two pairs of prominent tubercles situated on posterior part (FIG. 1, 3); in lateral view, posterior pair more pronounced than the anterior one. Fifteen pairs of notogastral setae, each small and leaf-shaped and provided with a distinct mid-rib; setae strongly curved proximally and often twisted on apical portion, so that they appear, under low magnification, to be sharply pointed at tip (FIG. 6); in dorsal aspect of notogaster, 13 pairs of setae are arranged in 6 transverse rows: 3 pairs in anteriormost row and 2 pairs each in remaining rows; setae of posteriormost 2 rows (*h*₁, *ps*₁, *h*₂ and *ps*₂) situated on tops of the notogastral tubercles mentioned above, so that each tubercle bears a couple of setae inserted close together. Two pairs (*h*₃ and *ps*₃) among 15 pairs of notogastral setae cannot be observed in dorsal aspect, because of their ventral positions (FIG. 2, 3); they are somewhat longer than remaining notogastral setae on dorsal side. Surface of notogaster covered with thick cerotegument; true surface bears pits of rather irregular shape and various sizes; on anterior ½ of notogaster, pits arranged in a median longitudinal row and some transverse rows. **Ventral side:** Genital aperture rounded; each genital plate bears 9 setae along median margin (in FIG. 3 only 6 setae are drawn, because remaining 3 setae are hidden behind protruding ovipositor). Two pairs of long aggenital setae, representing longest setae among body setae. Anal aperture with 2 pairs of leaf-shaped setae and a pair of inconspicuous fissures (*ian*). Three pairs of adanal setae also leaf-shaped. Adanal fissures (*iad*) situated in front of anal opening, aligned almost transversely. Two pairs of notogastral setae (*h*₂ and *ps*₂) as well as 2 pairs of notogastral fissures (*ih* and *ips*) can be observed in ventral aspect. The area between genital and anal apertures covered with pits which are polygonal or irregularly rounded. All epimeral and infracapitular setae distinctly barbed. **Legs:** Monodactyle. Setae on the apical part of tarsi (*tc*, *p*, *u*, *a* and *s*) smooth and leaf-shaped; most of remaining setae very strong and markedly barbed (FIG. 7, 10).

¹ Polynesia (except Hawaiian Islands), Melanesia, Micronesia and New Guinea are included here in "the South Pacific," excluding Java, Borneo, Celebes and other islands in the vicinity of South Asia.

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³ National Science Museum, Tokyo. Present address: Yokohama National University, Yokohama, Japan.

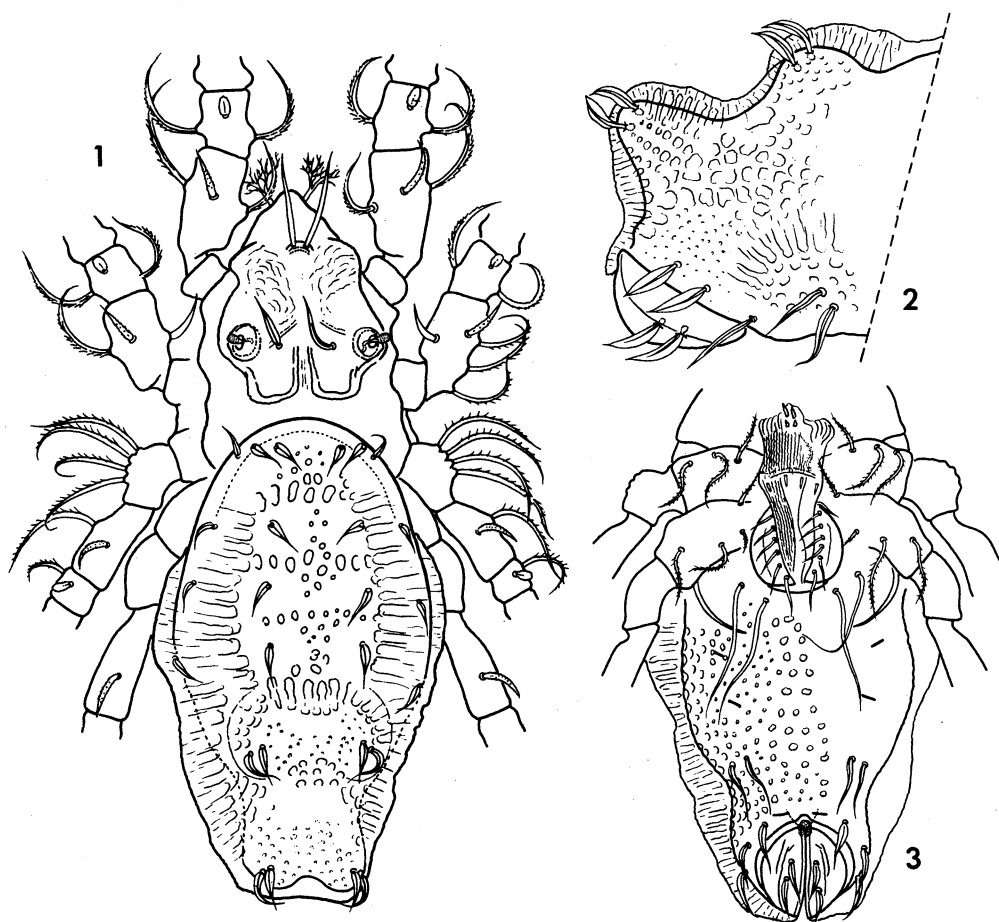


FIG. 1-3. *Cosmohermannia monstruosa*, n. sp. (1) Dorsal. (2) Posterior part of hysterosoma in lateral view. (3) Ventral view of hysterosoma.

TABLE 1. A comparison of some important features between *Cosmohermannia frondosa* Aoki & Yoshida, 1970, and *C. monstruosa*, n. sp.

	<i>C. frondosa</i>	<i>C. monstruosa</i>
Rostral setae	short and simple	strongly branching out
Lamellar setae	leaf-shaped	long and narrow
Interlamellar setae	leaf-shaped	leaf-shaped
Notogastral setae	leaf-shaped	leaf-shaped
Setae on legs	mostly leaf-shaped	mostly rough setiform
Sensilli	rather long, slightly thickened apically	very short, distinctly thickened apically
Posterior margin of prodorsum	with dentation	without dentation
Position of setae h_3	dorsal	ventral
Setal formula for epimerata	3 - 1 - 5 - 5	3 - 1 - 4 - 4

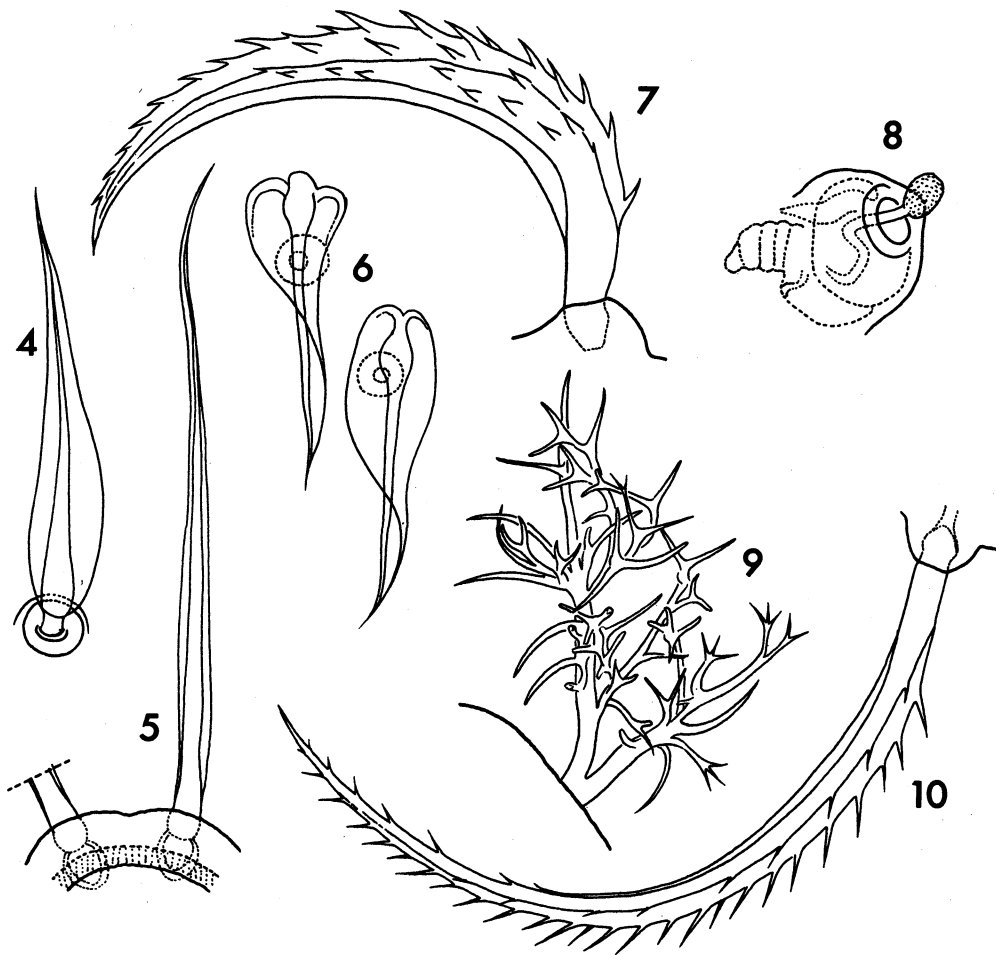


FIG. 4–10. *Cosmohermannia monstruosa*, n. sp. (4) Interlamellar seta. (5) Lamellar setae inserted on a chitinous ridge (most part of the left seta omitted). (6) Notogastral setae. (7) Paraxial seta on genu I. (8) Bothridium and sensillus (the right side). (9) Rostral seta (the right side). (10) One of long setae on trochanter III.

Remarks: Aoki & Yoshida (1970) described a peculiar genus, *Cosmohermannia*, and its type-species *C. frondosus*⁴ from South Japan. The species resembles *Masthermannia* species in having tubercles on the notogaster, 15 pairs of notogastral setae and 9 pairs of genital setae. The notogastral setae of *C. frondosa* are, however, not bifid as in *Masthermannia*, but are leaf-shaped. *C. monstruosa*, new species from New Guinea, also has such characters and is treated here as the 2nd member of the genus *Cosmohermannia*. A comparison between important features of both the species is shown in TABLE 1. The most striking feature of *C. monstruosa* is the shape of the rostral setae, which branch strongly like limbs of a tree. These structures are so strange and unexpected that I thought at a glance that they were produced by adhesion to the mite body of some plant material from the soil.

⁴ The original spelling of the species name "*frondosus*" is hereby emended to "*frondosa*."

LITERATURE CITED

- Aoki, J. & K. Yoshida. 1970. A new oribatid mite, *Cosmohermannia frondosus*, gen. n. et sp. n. from Yaku-shima Island. *Bull. Biogeogr. Soc. Jap.* 26(1): 1-4.