

A new Genus and Species of Aradidae from Fiji (Hemiptera)

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(Presented by E. C. Zimmerman at the meeting of December 8, 1947)

The material upon which the present paper is based is part of a magnificent collection of Hemiptera made by E. C. Zimmerman in the Fiji Islands in 1938 during Bishop Museum's Henry G. Lapham Fijian Expedition. The aradids are especially well represented. Reports on the various groups of aradids will appear from time to time, in connection with revisions of the Aradidae of Oceania. Meanwhile, a remarkable new genus is described below so that the name can be used in phylogenetic studies.

Zimmermania Usinger, new genus

Elongate, strongly attenuated anteriorly. Body surface covered with a white incrustation. Head relatively small, the clypeus obsolescent, so reduced that there is no anterior process between the antennae, the anterior-most part of the head being the antero-ventral point of origin of the rostrum. Antennae long, the first segment as long as head, second two-thirds as long as first, third longest, one-sixth longer than first, fourth shortest. Rostrum shorter than head, its base exposed to anterior view, the ventral surface of the head deeply sulcate.

Pronotum trapezoidal, narrowed anteriorly, the lateral margins, especially anteriorly, thickly but openly incrustate. Scutellum short, strongly transverse, its margins sinuate. Hemelytra reduced to small, oval pads at basal angles of scutellum. Abdomen depressed, moderately dilated, the anterior connexival angles but little prominent, those of fifth visible segment roundly prominent, the connexival margins of sixth visible segment deeply scalloped and then angulately produced. Spiracles of first and second visible segments lateral, the remaining spiracles sublateral with the exception of those of the eighth segment which are, of course, terminal.

Under surface moderately convex. Prosternum distinctly sulcate. Ostiolar orifices obscure, reduced to short, incrustate grooves behind middle coxae, not reaching lateral margins of body.

Legs very long and slender. Front tibiae with a slender, acute spine subapically. Tarsi with bristle-like arolia.

Genotype: *Zimmermania brachyptera*, new species

This is one of the most unusual of all aradids in general appearance. I do not know of any close relatives. However, it belongs to the group of genera with incrustate bodies and reduced ostiolar canals, including *Carventus* and *Proxius*. It differs from these and from all other aradids in the greatly reduced anterior process of the head and in the presence of subapical spines on the front tibiae. I take great pleasure in dedicating this genus to my friend and

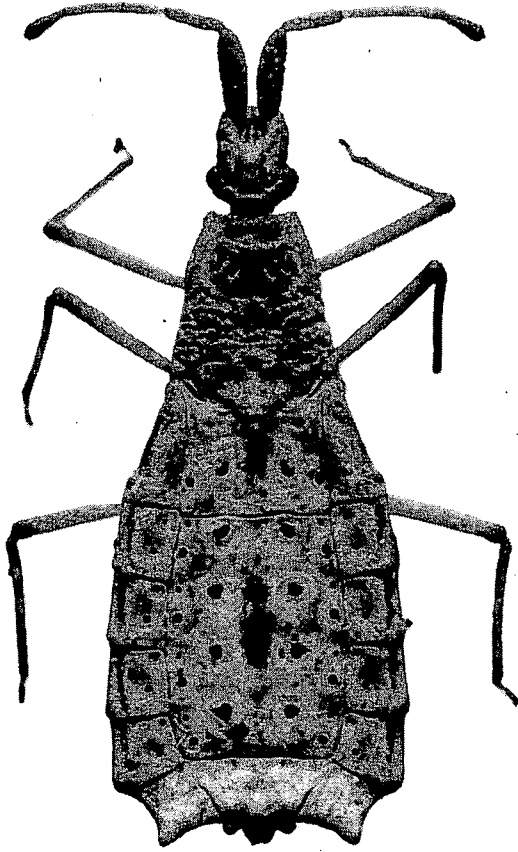


Figure 1. *Zimmermania brachyptera* Usinger, new genus and species, female holotype, dorsal view.

colleague, E. C. Zimmerman, who has done so much to advance our knowledge of the Hemiptera and other groups of Pacific Island insects.

Zimmermania brachyptera Usinger, new species (Figure 1).

Female. Head a little longer from posterior constriction to apex than wide across eyes, 35::31; subparallel in front of eyes and then rounded to brief, plate-like antenniferous tubercles which do not reach apex of head. Clypeus extremely short, deflected downward, reaching only to base of antennae, with a minute, finger-like jugum on each side. Antero-ventral portion of head produced beyond clypeus to basal third of first antennal segment, the rostrum arising from its tip. Disk of head convexly incrustate, deeply impressed on either side of middle, with two longitudinal, crescent-shaped pits. Eyes small, one-fourth as wide as interocular space, 5::21. Posterior portion of head strongly constricted, without trace of postocular tubercles, the neck short, less than half as wide as head across eyes, 14::35. Rostrum two-thirds as long as head, inserted at apex of an oblique, antero-ventrally directed process. Antennae about as long as head, pronotum and scutellum; proportion of segments 1 to 4 as 32:20:33:14; first segment stout, twice as wide at middle as an eye, slightly tapering at each end, beset with short, setigerous granules; second and third segments half as thick as first, subcylindrical, beset with short, stiff setae; last segment slender at base, enlarged towards apex and subrounded and densely pubescent at tip.

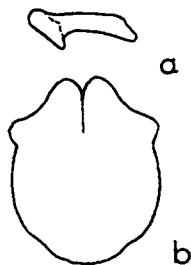


Figure 2. *Zimmermania brachyptera* Usinger, new genus and species, male allotype, (a) right paramere, (b) posterior surface of genital capsule.

Pronotum almost half again as long on median line as head, 47::35; one-seventh wider behind than long, 54::47; disk depressed at middle, the incrustation interrupted anteriorly by eight glabrous spots; surface with rows of fine granules, especially posteriorly. Lateral margins anteriorly and front margin with a pie-crust type of incrustation extending outward from actual pronotal margin, interrupted in side view, where the ventral incrustation meets the dorsal one.

Scutellum over twice as broad as long, 42::19; disk depressed, granular except at middle, the anterior margin notched at middle, the sides sinuate and apex rounded.

Hemelytral pads short, subtriangular as seen from above, approximately one-third as long as scutellum, 7::19.

Abdominal disk depressed, flattened, relatively smooth, the granules very sparse and small; a transverse suture just behind level of first visible abdominal segment and another at posterior margin of fifth abdominal segment. Two dorsal abdominal scent gland openings at levels corresponding to hind margins of second and third abdominal segments. Glabrous areas forming

a pattern in the otherwise uniformly incrustate surface. Connexivum elevated above, more coarsely granular.

Female genital segments produced posteriorly into a short, subtriangular process which is notched at apex and which exceeds the lobes of seventh visible segment. Ventral plates granular, convex, the inner apical angles of basal plates briefly, angulately produced.

Male genital segments strongly convex, the disk of sixth tergite strongly elevated. Strap-like projections of seventh visible segment short, half as long as genital capsule seen from above. Capsule deeply embedded in abdomen, its posterior surface (Figure 2, b) convex along middle, depressed laterally, granular laterally and dorsally, rugose at middle. Parameres (Figure 2, a) obliquely lobed apically.

Size: Male, length 5.45 mm., width (across fourth abdominal segment) 2.15 mm. Female, length 6.15 mm., width 2.55 mm.

Holotype, female, Tholo-i-suva, Viti Levu, Fiji, July 25, 1938, 500 feet elev., beating, E. C. Zimmerman collector. Allotype, male, same locality, July 21, 1938, elevation 500 to 600 feet, E. C. Zimmerman collector. The holotype is in B. P. Bishop Museum, Honolulu, T. H. The allotype is in the collection of the author.