DESCRIPTION OF *ORNITHODOROS (RETICULINASUS) MADAGASCARIENSIS* n. sp. (IXODOIDEA, ARGASIDAE) [1].

BY

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INTRODUCTION.

The subgenus *Reticulinasus* (Schulze) of the genus *Ornithodoros* is characterized in the larval stage by a reticulated Haller's organ and in the adult stage (where known) by small size ; pyriform shape ; absence of eyes, cheeks, and distinct hood ; small dics or no apparent discs ; absence of dorsal tarsal humps ; and mammillated integument. All stages have pads (pulvilli) that are unusually large for *Ornithodoros* ticks.

So far as known, only cave-inhabiting fruit bats (Megachiroptera) are infested. Members of this subgenus are *batuensis* Hirst of Malaya, Mindano, and Borneo, *solomonis* Dumbleton and *rennellensis* Clifford and Sonenshine of the Solomon Islands (both known only by larvae), *steini* Schulze of Timor (a questionable species known by larva only), *piriformis* Warburton of India (adult only), *madagascariensis* n. sp. of Madagascar (larva only), *salahi* Hoogstraal of Egypt, Lebanon, and Palestine, and *faini* Hoogstraal of the Congo.

This subgenus has recently been reviewed by DUMBLETON (1958), HOOGSTRAAL (1960), and CLIFFORD and SONENSHINE (1961).

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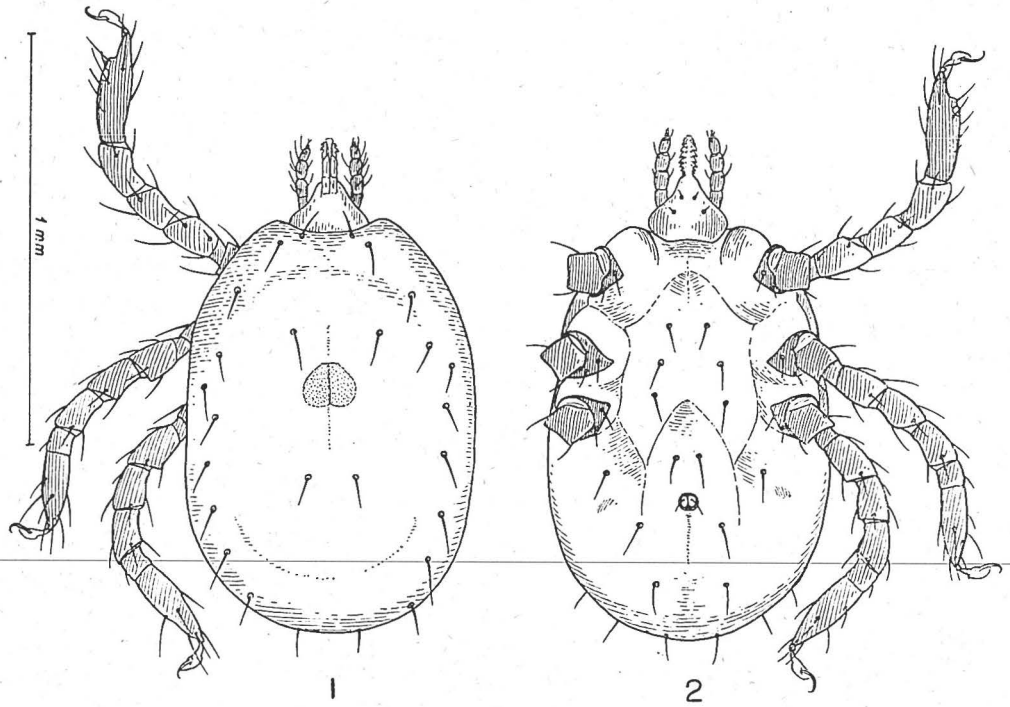
Ornithodoros (Reticulinasus) madagascariensis n. sp.
(Figures 1 to 7).

HOLOTYPE. Larva (mounted in Canada balsam), from bat, near Fianarantsoa and Andranobaka on the Tananarive — Majunga Road, 1951, V. J. TIPTON *legit.* Deposited in collection of the Rocky Mountain Laboratory, Hamilton, Montana. [Previously reported as *Ornithodoros* sp. near *salahi* (HOOGSTRAAL, 1953, p. 95)].

PARATYPES. Two larvae, data as for holotype. Deposited in Hoogstraal collection.

DESCRIPTION. LARVA. Engorged, measures slightly over 1.0 mm from apex of hypostome to posterior body margin. A heartshaped squamous area on dorsomedian surface.

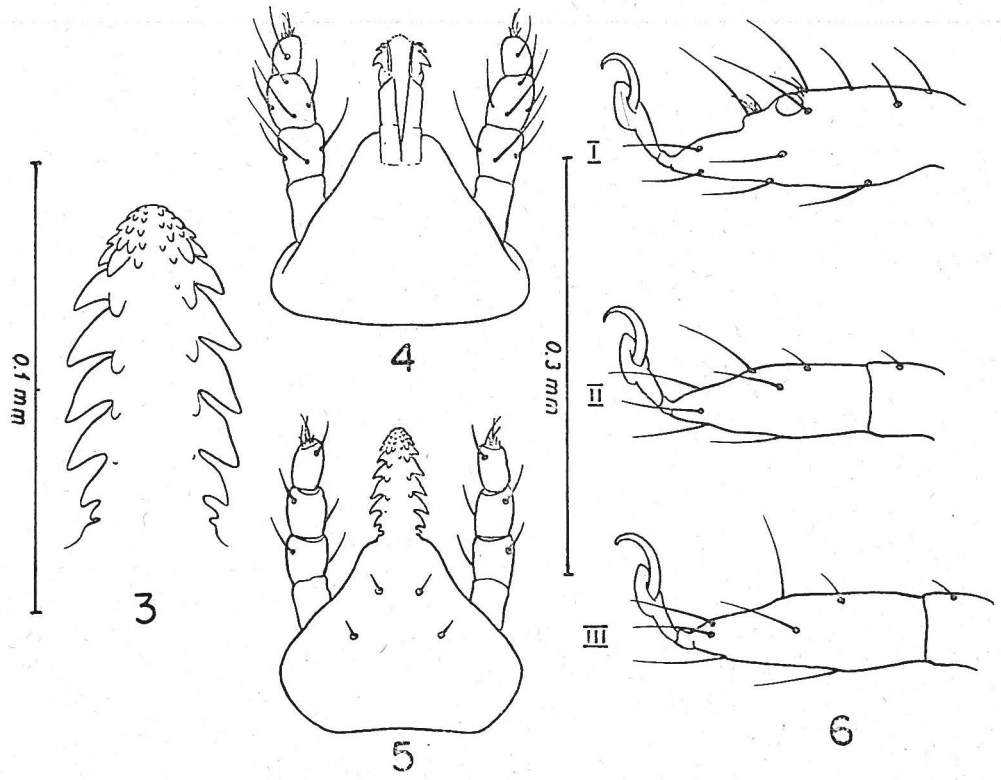


Ornithodoros (Reticulinasus) madagascariensis n. sp. Larva (engorged).
Figs. 1, 2, dorsal and ventral views, entire larva.

Setae on dorsal surface of body (exclusive of capitulum) totalling 13 pairs, consisting of 11 sublateral pairs 5 of which arise anteriorly and 6 of which arise posteriorly, and 2 submedian pairs. Setae on ventral surface of body (exclusive of capitulum) totalling 13 pairs (14 if the pair on the anus is included), consisting

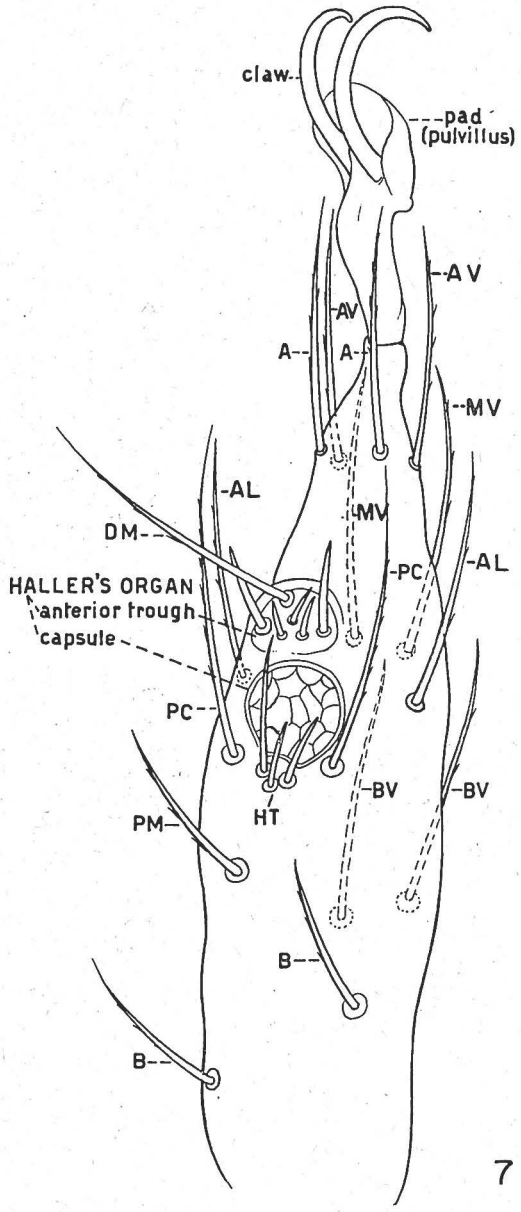
of 1 pair on each coxa, 3 pairs in the intercoxal area, 3 circumanal pairs, and 1 sublateral pair posterior of coxae III. All setae fairly long and lightly fringed on apical half.

Capitulum (figs. 3 to 5) arising from anterior margin of body. *Basis capituli* subtriangular, elongate, ventrally bearing a pair of short *posthypostomal* bristles and a pair of short *postpalpal* bristles. *Hypostome* very short, only as long as segments 3 and 4 of palpi ; apex gradually rounded and bearing a small corona of approximately 10 hooklets on each side ; dental formula 2/2 ; outer denticles large and laterally directed, numbering 6 ; inner denticles weak, numbering 4 or 5. *Palpi* reaching level of apex of hypostome ; segments subequal in length and width, setae as illustrated.



Ornithodoros (Reticulinasus) madagascariensis n. sp. larva.
Fig. 3, hypostome. — Figs. 4, 5, capitulum, dorsal and ventral views.
Fig. 6, tarsi I to III, lateral view.

Legs moderately long and stout. *Tarsus* I (fig. 7, somewhat twisted to the left as drawn) specialized as follows : Haller's organ with subcircular (more broadly rounded proximally than distally) anterior trough and circular, reticulated capsule. Setae of tarsus I consisting of a dorsoapical pair (A), an apicolateral pair (AL), an apicoventral pair (AV), a midventral pair (MV) (arising level with capsule,



Ornithodoros (Reticulinasus) madagascariensis n. sp., larva.

Fig. 7, tarsus I, dorsal view (lettering explained below), somewhat twisted to the left as drawn.

Setae of tarsus I (figs. 7, 14) : A = apicodorsal pair. AV = apicoventral pair. AL = anterolateral pair. MV = midventral pair. PM = dorsal posteromedian (single). BV = basoventral pair. B = basodorsal pair. PL = posterolateral pair. Dorsal setae immediately adjacent to Haller's organ. DM = distal median (single). PC = paramedian capsular pair. HT = posterior hair tuft (3).

as in *O. faini*), a single distomedian seta (DM) appearing to arise on distal margin of trough, a paramedian capsular pair (PC) arising dorsally immediately posterior of capsule, 3 short setae (2 of equal length, 1 somewhat longer) forming a " hair tuft " (HT) immediately posterior of capsule and between PC, a single posteromedian seta (PM) arising dorsally basad of HT, a dosorbasal pair (B), and a ventrobasal pair (BV). In addition, the anterior trough contains 3 short and 2 moderately long setae. Two sets of setae do not appear to be present : posterolateral pair (PL) and dorsal prebasal pair (PB). Setae and outline of other tarsi as illustrated (fig. 6). *Claws* long and recurved. *Pads* (pulvilli) almost half as long as claws.

RELATED SPECIES. The larva of *O. madagascariensis* n. sp. differs from those of all other species in this subgenus by its elongate basis capituli and its very short hypostome. In addition, it differs from the Congolese *O. faini* Hoogstraal, its closest neighbor geographically, by reduction of the inner row of hypostomal denticles. Tarsus I of these 2 species is quite similar, differing chiefly in the anterior trough, which is ovate and contains 6 setae in *faini* and is more rounded and contains 5 setae in *madagascariensis* n. sp. Both species lack two pairs of setae (PL and PB) on tarsus I.

The very short hypostome of *madagascariensis* n. sp. is somewhat like that of *rennellensis* Clifford and Sonenshine, but these two species markedly differ in outline of basis capituli, number and fringing of integumental setae, characters of setae associated with Haller's organ, and other criteria.

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NOTE : The host of this tick is possibly *Miniopterus manavi* Thomas, a cave-inhabiting bat.