

TICKS IN THE SOUTH AFRICAN ZOOLOGICAL SURVEY  
COLLECTION - PART XI - *ORNITHODOROS EBORIS* N. SP.

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*ORNITHODOROS EBORIS* N. SP.

*Adults and Nymph*

The males, females and nymphae are alike in the main characters.

*Male*.—Size: 9 mm. × 5 mm. to 11 mm. × 6 mm.; *female*: 11 mm. × 6 mm. to 13½ mm. × 7 mm. unengorged. Engorged females may reach 15 mm. × 9 mm.

*Nymph* varying up to 8 mm. by 4 mm. Unengorged.

*Body*, unengorged, elongate parallel sided, twice as long as broad, if very hungry may be constricted in posterior half, widely rounded posteriorly; a sharp conical prow-like projection anteriorly; periphery in unengorged specimens upturned, forming antero- and postero-lateral depressions on the dorsal surface; a large transverse median depression at the level between legs 2 and 3; on the raised central parts a wide median anterior depression, and a longitudinal median posterior depression; all depressions with indefinite outlines and associated with discs.

*Colour*.—When thoroughly dusted, a dark ivory (*L. ebur*) both in the living and in the freshly killed specimens.

*Dorsal integument*.—The raised portions of the integument studded with *pits*, each pit surrounded by radially arranged striae to look like the conventional daisy pattern. *Discs* present in the sunken areas. These discs are surrounded by a raised wrinkled edge. In the median anterior depression two central discs side by side, also an indefinite anterior and posterior one. In the median posterior depression an irregular row of small indefinite discs, in the central transverse depression two plus two very large discs; in the anterior lateral depression one near to the central depression; in the posterior lateral depression three large discs in the front half of the depression. The intervening integument is thrown up into coarse irregular wrinkles and folds.

The discs in the depressions do not show up well in the photograph, but the uneven wrinkling and the pits are easily seen.

Each pit seems to be associated with one excentric hair, caducous.

*Lateral integument* wrinkled, carrying a few smaller pits; anteriorly in the conical region bearing numerous long hairs, caducous. Supracoxal fold present. *Spiracle* between legs III and IV; *eyes* absent.

*Ventral surface* in unengorged specimens shows a ridge running from the level of leg II to the posterior edge of the body. Depressions ill-defined; a transverse post anal and a longitudinal post anal. Integument shows long parallel wrinkles anteriorly; smaller wrinkles—as on dorsum—further back; pits with radiating striae present on the longitudinal and post anal ridges; one hair associated with each pit.

*Anus* posterior to leg IV.

*Genital aperture*, at level of posterior edge of Coxa I. *Male* a short curved slit, anterior lip a semicircular chitinous fold, posterior lip a semilunar flap. *Female* a wide slit with a wide fleshy anterior lip, edged on its free margin with a row of hairs, easily seen when the aperture is opened. Posterior lip a large triangular flap. *Nymph*. In the larger nymphs a small circular depression is present in the position of the adult genital aperture.

*Rostrum*.—Moderately large, somewhat elongate, can be extruded quite a long way and at right angles to the body; situated in a depression, the camero-stome, around which the integument is thrown into long, deep folds; its dorsal surface with many long hairs. Anterior to the rostrum the integument forms a prowlike ridge to the conical projection; strongly wrinkled.

*Basis capituli*, roundly rectangular, about twice as broad as long, surface wrinkled. In nymphae the basis tends to be square. *Palps* longer than hypostome; articles decreasing in length and size from I to III. Articles I, II and III with many dorsal hairs. Article I long; article II and III together the same length as I, article III short and squat. Article IV nearly as long as I with but few hairs. *Hypostome* parallel-sided, with median indentation, this division running the length of the hypostome. Corona of four rows of weakly developed denticles; dentition 2/2 blunt teeth, of four to five files; a few posterior denticles. Anteriorly weakly developed 4/4 for three files. Posthypostomal hair shorter than article I.

*Legs*, long and robust, increasing in length from I to IV. Coxae stout triangular, decreasing in size from I to IV; II, III and IV contiguous. Tarsus I with a sharp abrupt terminal hump carrying two hairs; followed by a small almost hemispherical hump carrying one hair immediately after Haller's organ; the main part of the length of the tarsus is taken up by two widely rounded sub-equal dorsal humps. Apparently no false articulation. Tarsi II to IV with a single sharp terminal hump, a flattened hump proximal to the false articulation; tarsi increasing in length from II to IV. Pads weakly developed; claws not strong.

#### *Larva*

*Size*.—Unengorged, including rostrum, 1.3 mm. average; body circular to slightly elongate averaging 7.7 mm. Colour whitish to ivory. Integument with fine wavy striations.

*Dorsal plate* elongate, about half total length of body, situated slightly forward. *Dorsal body hairs* on each side: two short on anterior margin; peripherally 12 very long, standing upright on body surface; on body surface one anteriorly at level of anterior edge of dorsal plate; one at lateral edge of dorsal plate at level of posterior quarter; two close together posteriorly in line with edge of plate.

*Rostrum*, elongate narrow, palps as long as hypostome, posthypostomal hairs minute. *Basis capituli* rounded. *Hypostome* long, rounded anteriorly; corona of weakly developed denticles. Teeth well developed, extending almost the entire length of the hypostome; outer file of ten teeth, of which the anterior five are very well developed. Anteriorly the dentition is 4/4 of four to five files of small denticles diminishing to 2/2; these four to five files of small denticles are however larger than those of the ill-defined corona, increasing in size from before backwards. *Palps* long and slender. Article II curved with concavity externally. Article II the longest, averaging 158 $\mu$ ; article III short 87 $\mu$ ; article IV long 140 $\mu$ ; article I short.

### Legs

Well developed, long, almost as long as body plus rostrum. Tarsus I elongate, two slight humps at level of Haller's organ, tapering gradually distally; pulvillus hardly developed; claws medium; Tarsi II and III elongate, tapering gradually.

*Type material* males, females and nymphae from a porcupine burrow on the farm Uitkomst near Skeerpoort, in the Pretoria District, owner Mr. Scott, collected in February 1956 by C. K. Brain. Paratype material sent to Dr. Hoogstraal at Cairo and to Dr. Glen M. Kohls at the Rocky Mountain Laboratory Hamilton, Montana.

The larval description is based on the off-spring of some of the females, reared at the Onderstepoort laboratories. The larvae took 15 days to moult.

### AFFINITIES

*Ornithodoros eboris* belongs to the group of *Ornithodores* with "madreporian" sculpturing of the integument i.e. *lahorensis*, *foleyi*\* and *delanoëi*.\*

In *O. foleyi* Parrot 1928 there are no discs; the entire surface, not only the raised portions, is covered with pits, so that there are few areas showing wrinkling only; the ventral wrinkles are short. The humps on Tarsus I, are much as in *O. eboris* except that the two proximal humps are higher and further apart.

In *O. delanoëi* Roubaud and Colas Belcour 1931, as also in the variety *acinus* Whittick 1938, the sculpturing shows similar pitting; discs are present as an antero-median patch and as a postero-median patch, there are apparently no discs in the transverse or the lateral grooves or on the ventral surface; the integument in non-pitted areas is roughly mamillated in irregular rows and is not thrown up into coarse wrinkles as in *eboris*. The terminal hump on Tarsus I, is not pronounced in *delanoëi*, though it is well developed in var. *acinus* (var. *acinus* not seen).

In *O. lahorensis* the sculpturing most closely resembles that of *O. eboris*. The depressions and discs follow the same distribution pattern. In *O. lahorensis* the pits are smaller, the wrinkling finer, and the discs more pronounced. The dorsal humps on tarsus I, are unequal.

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\* Material kindly put at our disposal by H. Hoogstraal.

## HABITAT

The five ticks, *O. delanoei* and *O. delanoei acinus*, *O. eboris*, *O. foleyi* and *O. lahorensis* are all apparently well adapted to exist in dry areas. Of these *O. foleyi* appears to be the hardiest to aridity. It is able to maintain itself in the most arid niches. In Wadi Na'am Hoogstraal and Kaiser report it from very small, dry hillside caves where no vegetation occurs and where an exceptional hedgehog or lizard seeks shelter i.e. it can maintain itself under conditions which are extremely unfavourable both as to expectancy of finding a host and as to aridity. *O. delanoei*, also seems to be able to exist under unfavourable conditions. It was first recorded from a porcupine burrow in Morocco, but Hoogstraal also records it in the Western Desert of Egypt in small cliffside caves or crevices, where it is usually buried about one inch under the sand, serving as shelters for hedgehogs and meriones. It is more frequently recorded from burrows in isolated sandy ridges or mounds in or adjacent to the Nile Valley and Delta of Lower Egypt. All these Valley records are from hedgehog or grass rat burrows, frequently in association with *O. eraticus* and none from the many caves in hills or cliffs bordering the valley. Not much is known of the ecology of the variety *acinus*; it was first reported as being found buried two inches in caves of Bulleh-Tir in British Somaliland. *O. lahorensis*, compared with the other ticks in the group, is much more frequently met with, has a much wider dispersal area and a larger range of hosts and of habitats. It apparently can withstand more humid conditions than can the others.

*O. eboris* from a porcupine burrow at Skeerport in the Magaliesberg, averaging 20 in. rainfall in the form of summer thunderstorms with long dry winters, in all probability will approach *O. delanoei* in its tolerance range.

## SUMMARY

*Ornithodoros eboris* n. sp. male, female, nymph and larva are described for the first time.

It belongs to the group of *O. lahorensis*, *O. foleyi* and *O. delanoei* with "madreporian"-like sculpturing.

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FIG. 1.—*O. eboris*, adult, dorsal view.

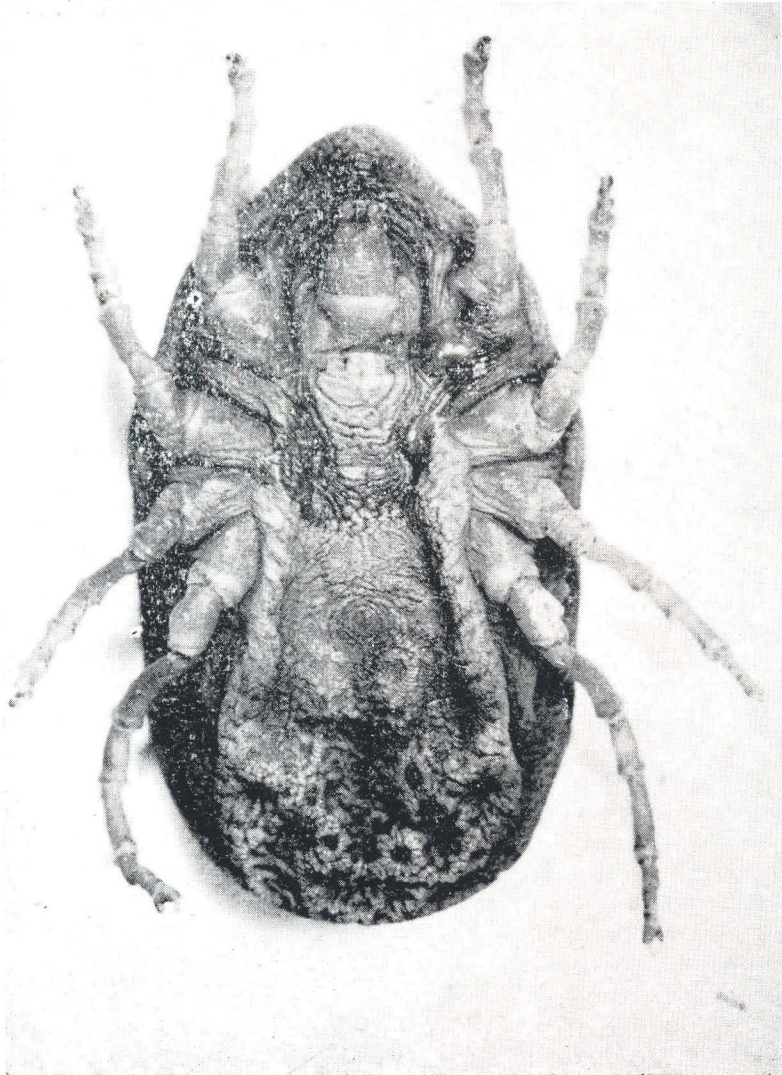


FIG. 2.—*O. eboris*, adult, ventral view.

ORNITHODOROS  
SP. NOJ. THEILER.

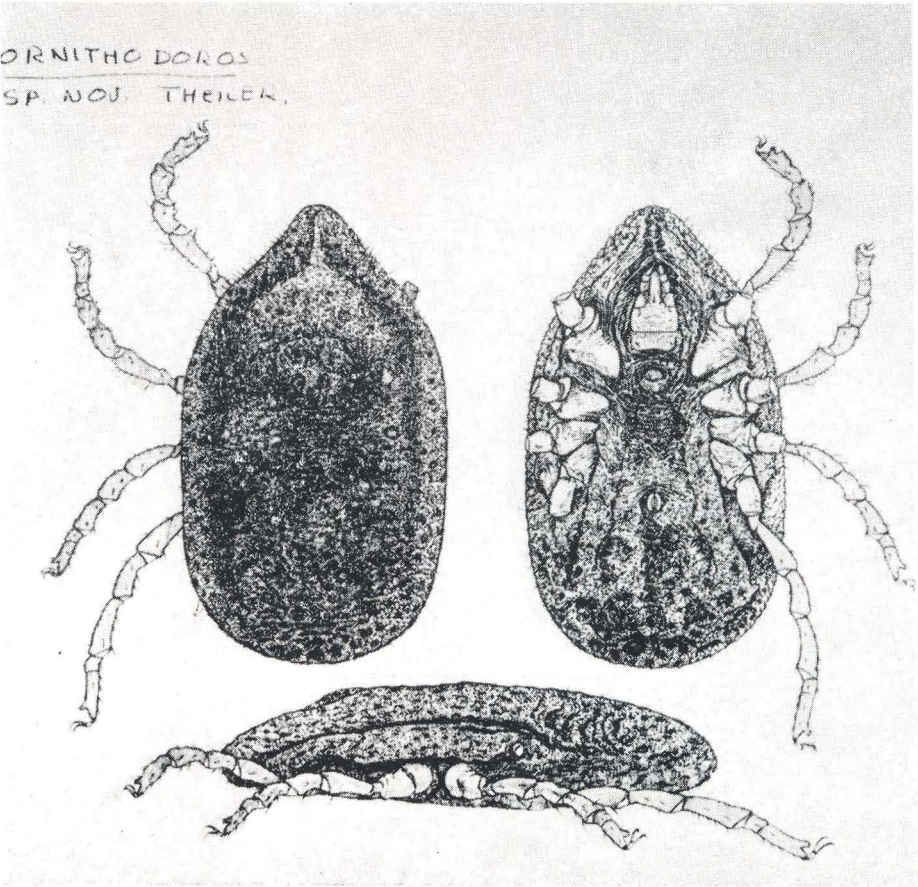


FIG. 3.—*O. eboris* adult, (a) dorsal view, (b) ventral view, (c) lateral view.  
R. Strekolovsky del.

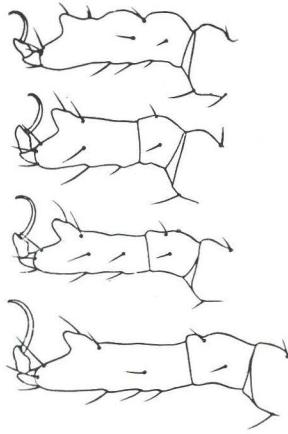


FIG. 4.—*O. eboris*, male, Tarsi I-IV. R. Strekolovsky del.

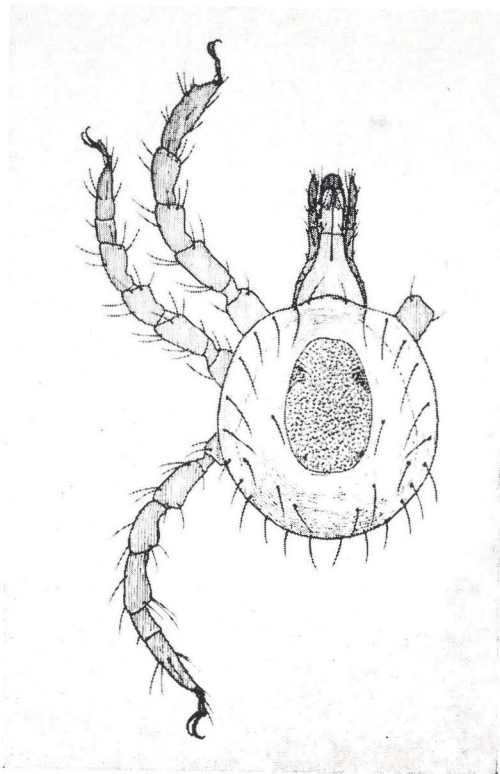


FIG. 5.—*O. eboris* larva, dorsal view. R. Strekolovsky del.



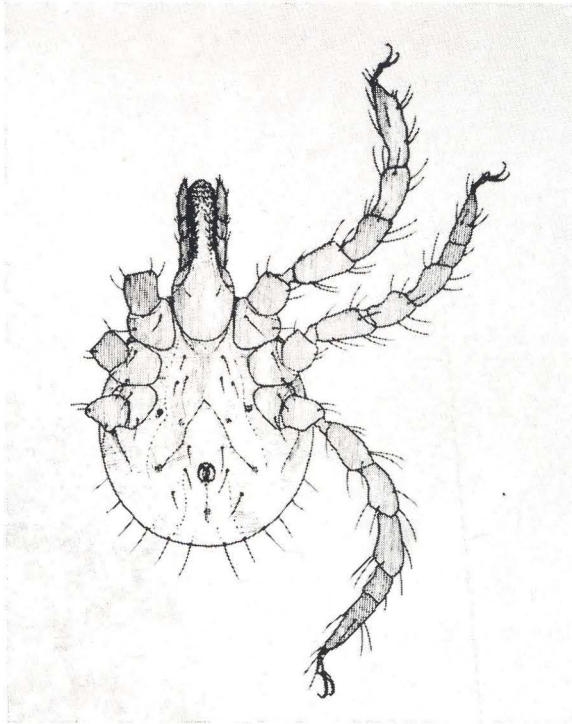


FIG. 6.—*O. eboris* larva, ventral view. R. Strekolovsky del.