

Ectoparasites from *Hyrax shoana*.

By
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In the Collection of Den Kongelige Veterinær- og Landbohøjskole, København, a tube is present containing a lot of Anoplura together with a few Mallophaga both taken from *Hyrax shoana* from Abyssinia, that had once been held in the Zoo of København.

The Anoplura presented at first look — besides a certain uniformity — a confusion of big and small specimens, and with long heads and short heads. The result of a sorting was two closely related species which almost only differed in the shape of the heads, some immature specimens, many small males all alike, and many bigger and smaller females; and I have no hesitation in identifying them as forms of the two species *Prolinognathus caviae-capensis* Cummings and *P. leptcephalus* Ehrenberg (see fig. 1).

The greater part of the specimens at hand belongs to the species *P. caviae-capensis* Cummings and includes two different forms of females. Predominant are the — normal — females of c. 2,4 mm length and 0,95 mm width. The small females are more scarcely represented and of a size of only $1,75 \times 0,675$ mm, while the males are measuring $1,40 \times 0,60$ mm, their abdomens being comparatively a little broader than those of the females.

If we do not regard the length in total, but for the head only, the differences in size will decrease very essentially, the heads of the above normal females being $0,71 \times 0,22$ mm and of the small females $0,68 \times 0,21$ mm, and measuring the length in total of antennae we find that the two forms agree very closely having a length of antennae of 0,27 mm. The heads of the males have the dimensions of $0,57 \times 0,18$ mm, and their antennae very constantly prove to be 0,26 mm in length. This species is previously recorded only from S. African forms of *Procapra* (*Hyrax*).

Prolinognathus leptocephalus Ehrenberg — by far as numerous as *P. cav.-cap.* — is represented by females of all sizes from $1,9 \times 0,85$ mm to $1,3 \times 0,6$ mm in total and by males of a size rather constantly of $1,15 \times 0,5$ mm, the dimensions of the head in the females varying only from $0,44 \times 0,20$ mm to $0,42 \times 0,17$ mm and of antennae $0,23$ mm to $0,22$ mm. The male head is about $0,38 \times 0,17$ mm with antennae of $0,22$ mm length.

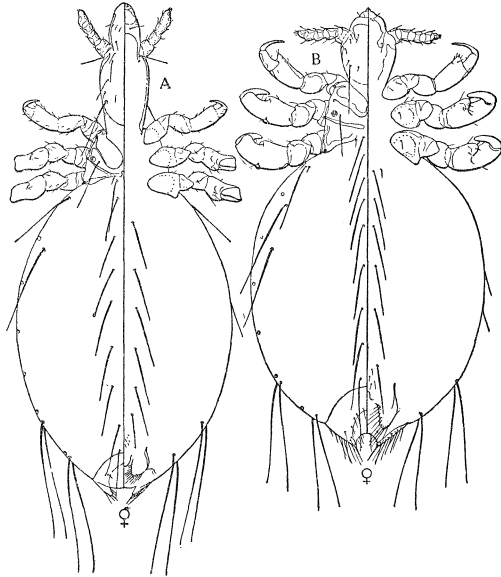


Fig. 1. *Prolinognathus caviae-capensis* Cummings (to the left) and *P. leptocephalus* Ehrenberg. (After Ferris.)

The above measurements show clearly enough that the differences in size in head and antennae among the adult females in both species lie within the normal range of variation, the great difference being essentially due to the abdomen. Further in most of the heavy abdomens of females eggs are to be seen, but I have seen no eggs in the small ones.

The question is, if the great difference in development of abdomen among the adult females should not be due to a somewhat unusual growth of abdomen in the adult stage essentially owing to a late development of the inner genitalia of the female, and I should suggest a reply in the affirmative.

Previously recorded from *Procavia* in Syria (one immature specimen) and South Africa (five adult specimens in all)*).

Two mallophagan genera belonging to the family *Trichodectidae* are represented, *Procavicola* Bedford and *Procaviphilus* Bedford, by one species each.

Procavicola shoana sp. n. Within the genus *Procavicola* this new species belongs to the "Sternatus group" which group was established by Bedford 1932 including at that time "nine very closely related species". Bedford has paid special attention to the *Trichodectidae* parasitic on *Procaviidae* and further he writes about the above group as follows „I have been unable to find reliable specific characters for the females. The males on the other hand, which are fortunately about as numerous as the females, can be distinguished by the shape of the basal plates, the terminal parts of the genitalia (parameres and endomeres), and the minute sclerites at the apices of the basal plates. . . . I have come to the conclusion that these differences, although slight, must be regarded as of specific value, after carefully examining a large number of parasites from different hosts in various localities“.

As I can not identify the male taken from *Hyrax shoana* with any of these species I should consider it a new species according to the shape of the male genitalia.

Description of species. — Head narrow in front, with a deep notch; marginal sclerite on dorsum of forehead enlarged anteriorly, separated in the middle by a hair-like hyaline line; temporal bands present, processes on posterior margin of head absent; antennae three-segmented, different in the two sexes. Sternite I with a well-developed transverse sclerotic bar. Pleurites present, those on the first three segments more developed than the others. Claws of legs not spinose serrate.

*) The species *P. leptocephalus* being based solely upon a single immature specimen from *Procavia syriaca* with long abdominal marginal setae on second to sixth segments is — as supposed by Ferris — a form different from the South African form. Ferris writes: "We know nothing however of the possible range of variation or of possible change during development“.

As I have had also immature stages at hand I can state that the South African and Abyssinian form is different from the Syrian one — a *forma africana* — as none of the immature and adult specimens, I have seen, and none of the specimens recorded from South Africa have any abdominal marginal setae on the second to sixth segments (which outfit present in immature stage might probably be present also in adult stage).

Tergites of male with two transverse sclerites. Genitalia (see fig. 2) with long and slender parameres and endomeres nearly as in *P. pretoriensis* Bedf. but with no small sclerites between endomeres and the median stout hair-like sclerite; on each side of the latter several small additional hair-like sclerites as shown in the figure.

Gonopophyses of the female are as shown in the figure and have a length of 0,14 mm.

Male: length 1,30 mm, head $0,40 \times 0,38$ mm.

Female: length 1,55 mm, head $0,44 \times 0,47$ mm.

Described from one male and several females.

Procaviphilus sclerotis Bedford var. *major* var. nov. The other species taken from *Hyrax shoana* I should consider the species *P. sclerotis* Bedf. if not for its considerably greater size; in *P. sclerotis* according to Bedford male and female being only 1,17 mm long, heads respectively $0,31 \times 0,31$ mm and $0,31 \times 0,36$ mm, while in those the length of male and female is

Fig. 2: to the left, above: *Procaviphilus sclerotis* v. *major* var. nov. Gonopophysis of female.

Below: *Procavicola shoana* sp. nov. Gonopophysis of female.

To the right: The same, male genitalia.

1,4 mm, head of male $0,36 \times 0,38$ mm and of female $0,38 \times 0,42$ mm, the small lobes on inner margins of gonopophyses of the female also seem to be longer and more well developed than in *P. sclerotis*.

Literature:

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 Bedford, G. A. H., Trichodectidae (Mallophaga) parasitic on Procaviidae. Proc. Soc. Lond. 1932.

Ribe, April 1936.