A new species of *Prolinognathus* (Anoplura: Linognathidae) and a redescription of *P. leptocephalus* (Ehrenberg, 1828) from the Hyrax.

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INTRODUCTION

The genus *Prolinognathus* Ewing, 1929 comprises seven species which are ectoparasites of hyraxes (Hyracoidea : Procaviidae). Useful characters for separating species are the shape and size of the head, and the presence or absence of long lateral setae on certain abdominal segments. The latter character may be used to divide the genus into three species-groups. *P. leptocephalus* (Ehrenberg, 1828) has long lateral setae on abdominal segments IV, V and VI; *P. faini* Benoit, 1961, *P. ferrisi* Fahrenholz, 1939 and *P. foleyi* Fahrenholz, 1939 lack such setae on V and VI, while *P. caviaecapensis* (Pallas, 1767), *P. arcuatus* Fahrenholz, 1939 and *P. aethiopicus* Fahrenholz, 1939 lack long lateral setae on IV, V and VI. All species have single long lateral setae on II and III, and paired long lateral setae on VII and VIII.

Recently I received specimens, taken from hyraxes in the Cape Province and South West Africa, which resemble *P. leptocephalus* in the chaetotaxy of the abdomen, and hereby describe the form as a new species. The opportunity is also taken of providing a short redescription of *P. leptocephalus*, and designating a neotype for this species.

Prolinognathus schulzi n. sp., figs. 1a, 2a, 2c, 3a.

TYPE-HOST: *Procavia capensis capensis* (Pallas, 1766) (*sensu* Ellerman et al., 1953).

FEMALE. General appearance and chaetotaxy as in fig. 1a. Total length 1.6—2.6 mm.

Head. As in fig. 2a, length 0.51—0.63 mm, width 0.24—0.27 mm. Head index (length/width), 2—2.4.

Thorax. As for other members of the genus; 1 long, 1 short setae associated with each thoracic spiracle. Sternal plate lacking.

Abdomen. Long lateral setae on segments II—VI, paired long setae laterally on VII & VIII. Medially, 9 pairs of stout tergal setae, 6 pairs of stout sternal setae. Spiracles small.

Genitalia. As in fig. 2c. Gonapophyses V-shaped, somewhat broader, more rounded apically and with lateral sclerotizations more strongly developed than in *P. leptocephalus* (compare fig. 2d).

Gonapophyses appear trilobed in some specimens; three long apical setae, 3—4 medium setae on outer margin and 10—14 short setae on inner margin.

Median sclerotization well-developed and larger than in *P. leptocephalus*, 82—105 μ long, 58—71 μ wide. Apical lobe with stout spine, 51—78 μ long.

MALE. General appearance similar to female, total length 1.6—2.4 mm.

Head. Length 0.46—0.69 mm; width 0.18—0.23 mm; head index 1.8—2.4.

Abdomen. Tergal chaetotaxy as for female, 7 pairs sternal setae.

Genitalia. As in fig. 3a. Basal apodeme longer than in *P. leptocephalus*, 259—364 μ. Parameres long (101—147 μ), convergent at apices.

HOLOTYPE. ♀ ex *Procavia capensis*, Vrolijkheid, Robertson, Cape Province (K. Schulz, 15.vii. 1969).

PARATYPES. 2 ♂♂, same data as holotype; 1 ♀ ex *Procavia capensis*, Niekerkshoop, Hay District, Cape Province (7.iii.1969); 1 ♂ ex *Procavia capensis*, Robertson District, Cape Province (26. xi.1968); 1 ♂ ex *Procavia capensis windhoeki*, Erongo Mts, Omaruru, South West Africa; 3 ♂♂ ex *Procavia capensis windhoeki*, Onguati, Erongo Mts, South West Africa; 1 ♂ ex *Procavia capensis*, Brukkaros Mountain, South West Africa (6.iii. 1937); 1 ♀ ex *Procavia capensis*, 80 miles West of Windhoek, South West Africa (F. Zumpt, 6.iii. 1970); 1 ♂, 3 ♀♀ ex *Procavia capensis*, Lake Mentz, Vrolijkheid, Cape Province (24.ii.1970).

The holotype has been deposited at the South African Institute for Medical Research; paratypes at the same institution and at the British Museum (Natural History), London; United States National Museum, Washington; Veterinary Research Institute, Onderstepoort and the State Museum, Windhoek.

The new species is named for Dr. K. Schulz, Predator Control Research Farm, Robertson, Cape Province, who collected part of the material studied.

Prolinognathus leptocephalus (Ehrenberg, 1828), figs. 1b, 2b, 2d, 3b.

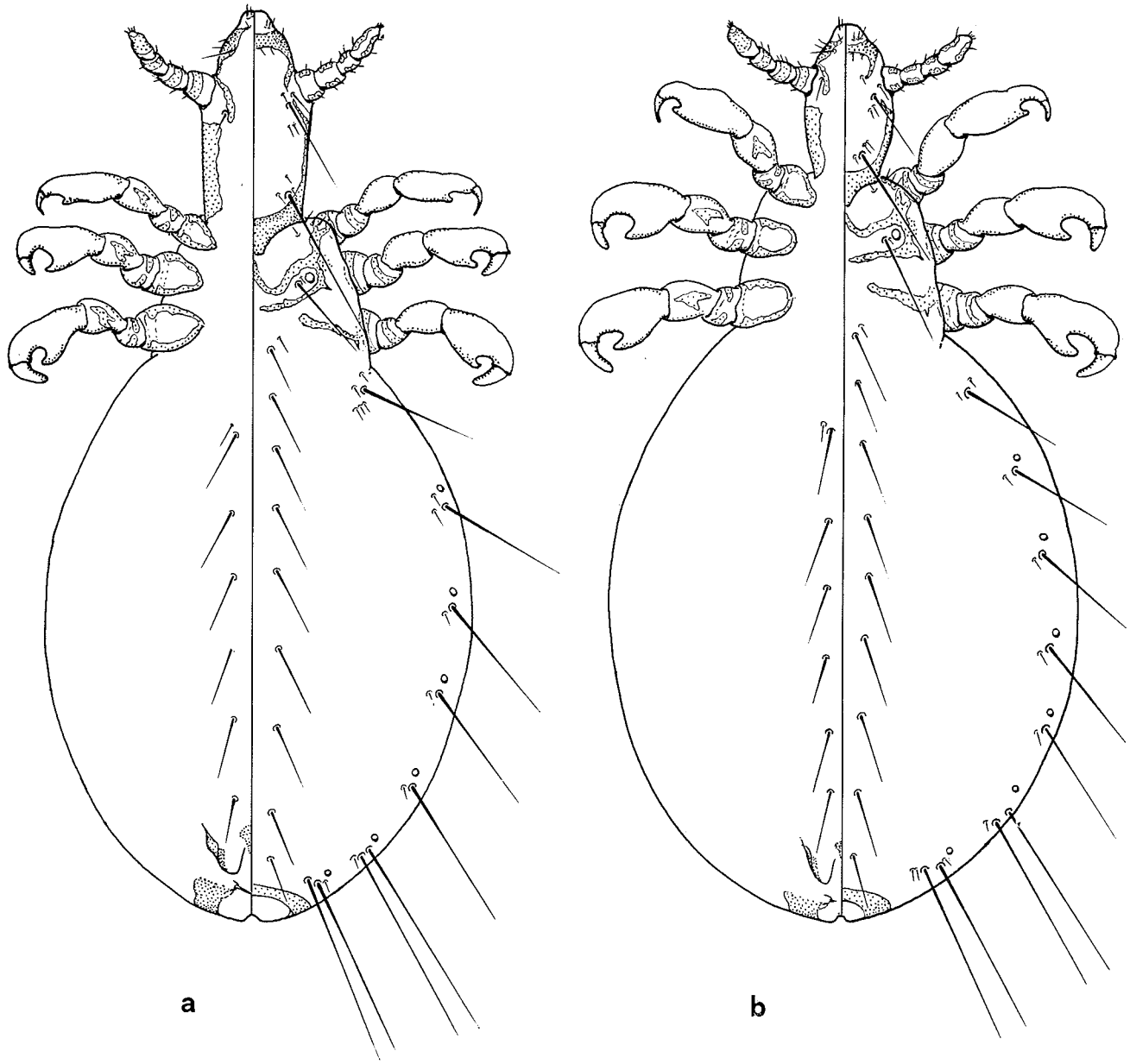

Figure 1. Dorsal//ventral view of *Prolinognathus* females, drawn to same scale. a) *P. schulzi* n. sp. b) *P. leptocephalus*.

Pediculus leptocephalus Ehrenberg, 1828, *Symboae Physicae, Mammalia, Decas Prima* : f.

Haematopinus leptocephalus, Giebel, 1874, *Insecta Epizoa* : 47 (*partim*)

Prolinognathus leptocephalus, Ferris, 1932, *Stanford Univ. Publs (Biol. Sci.)* 2(5):142, figs (*partim*); Fahrenholz, 1939, *Z. Parasitenk.* 11:8.

TYPE-HOST: *Procavia capensis syriaca* (Schreber) (*sensu* Ellerman & Morrison-Scott, 1951).

FEMALE. General appearance and chaetotaxy as in fig. lb. Total length 1.2—2.0 mm.

Head. As in fig. 2b, length 0.46—0.69 mm, width 0.23—0.36 mm, head index 1.8—2.1

Thorax and abdomen. As in *P. schulzi.*

Genitalia. As in fig. 2d. Gonapophyses more acutely pointed than in *P. schulzi*; 3 long apical setae, 3 medium setae on outer margin, 12—15 short setae on inner margin. Gonapophyses may sometimes appear trilobed, and in general are more weakly sclerotized than in *P. schulzi*. Median sclerotization pear-shaped, poorly defined, often difficult to see; length 58—61 μ, considerably smaller than in *P. schulzi*. Apical lobe with a stout spine 21—33 μ long, considerably shorter than in *P. schulzi*.

MALE. General appearance similar to female total length 1.0—1.4 mm.

Head. Length, 0.34—0.41 mm, width 0.14—0.22 mm, head index 1.8—2.4.

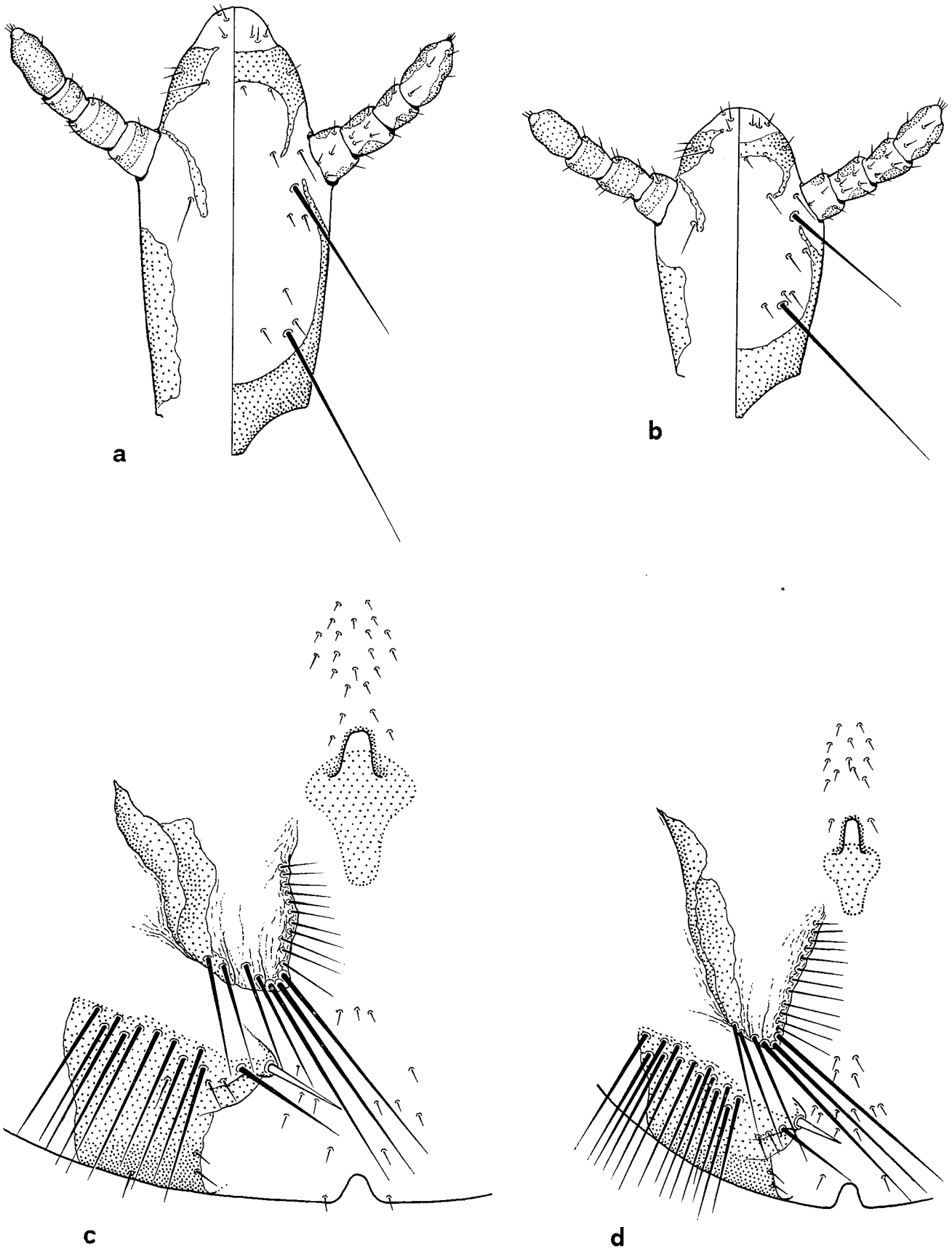

Figure 2. Heads and genitalia of *Prolinognathus* females, drawn to same scale. a) *P. schulzi* n. sp., head. b) *P. leptocephalus*, head. c) *P. schulzi* n. sp., genitalia. d) *P. leptocephalus*, genitalia.

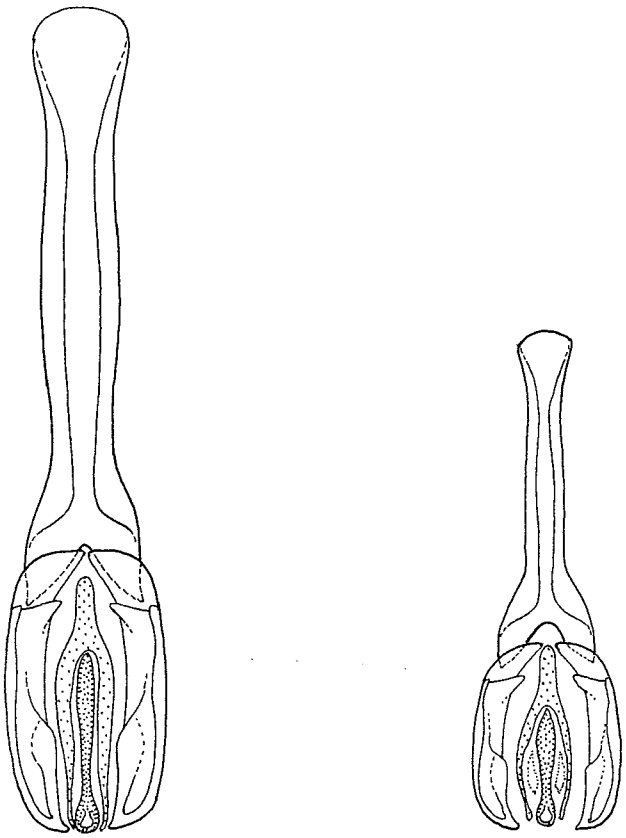

Figure 3. Male genitalia of *Prolinognathus*, drawn to same scale. a) *P. schulzi* n. sp. b) *P. leptocephalus*.

Genitalia. As in fig. 3b. Basal apodeme shorter than in *P. schulzi*, length 147—175 μ. Parameres short.

NEOTYPE. ♀ ex *Procavia capensis syriaca*, Kartaba, Lebanon (S. I. Atallah, 19.ii.1965).

NEOPARATYPES. 2 ♂♂, 1 ♀, same data as neotype; 1 ♀ ex *Procavia capensis syriaca*, near Tyr, Lebanon (25.xii.1959); 2 ♂♂, 2 ♀♀ ex *Heterohyrax s. syriacus*, Safad, Galilea, Palestine (R. S. F. Hennessey, 12.iv.1953); 3 ♂♂, 2 ♀♀ ex *Procavia capensis syriaca*, Wadi Seyal, Palestine.

The neotype will be deposited at the British Museum (Natural History), neoparatypes at the same institution, the South African Institute for Medical Research, Johannesburg and the United States National Museum, Washington.

DISCUSSION

No type material of *P. leptocephalus* is known to be in existence, and it has been considered advisable to designate a neotype series from the adequate material available to ensure the stability of the name. *P. leptocephalus* and *P. schulzi* are separated from all other *Prolinognathus* by the presence of long lateral abdominal setae on segments IV—VI. The two species appear to be closely related, and may be separated by the characters of the genitalia in both sexes, and by the shape of the head. Geographically, *P. leptocephalus* appears to be confined to the eastern Mediterranean part of the Palearctic region. The status of the host form *syriacus* Schreber is open to question — Ellerman & Morrison-Scott (1951) have included it as a subspecies of *Procavia capensis*. *P. schulzi* has been collected from *Procavia capensis* in the wetsern and southern parts of Southern Africa. The close relationship of *P. schulzi* and *P. leptocephalus* may be an indication of the affinities of the southern and north-western forms of the host — further collecting and a better knowledge of *Prolinognathus* may provide useful information on the relationships of the Procaviidae.

SUMMARY

A new louse named *Prolinognathus schulzi* is described from hyraxes in South West Africa and the Cape Province. The new species is closely related to *Prolinognathus leptocephalus* (Ehrenberg), which is parasitic on hyraxes in the Middle East. The latter species is redescribed and a neotype designated.

ACKNOWLEDGEMENTS

I thank Drs T. Clay and K. C. Emerson for the loan of material from the British Museum (Natural History) and the United States National Museum. Thanks are due to Messrs R. W. Downes and J. A. Ledger for assistance in the preparation of this paper, Mr E. M. Nevill for providing material from the Onderstepoort collection, Dr F. Zumpt for supervising my work and the Director of the South African Institute for Medical Research for library and research facilities. Investigations concerning the Arthropod parasites of Vertebrates in South West Africa are conducted with the kind co-operation of the Department of Nature Conservation and Tourism, the State Health Department and the State Museum.

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