

**PSORERGATES RATTUS (ACARI: PSORERGATIDAE), A NEW SPECIES
OF PARASITIC MITE FROM *RATTUS NORVEGICUS* IN HAWAII¹**

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ABSTRACT—*Psorergates rattus*, n. sp., (Acari: Psorergatidae) is described from the skin at the base of the tail of a specimen of *Rattus norvegicus* Berk. on Oahu Island, Hawaiian Islands.

INTRODUCTION

Examination of specimens collected on the island of Oahu revealed a new species of *Psorergates* described below. The specimens were collected from the tail base of a specimen of *Rattus norvegicus* and a mange condition was associated with the site of the infestation. Activities of the mites appeared to be restricted to the tail.

All measurements are given in microns.

Psorergates rattus Fain & Goff, n. sp.
(Figs. 1-4, 6-8)

FEMALE (Figs. 1-4) — Length of holotype including gnathosoma (until tip of palps) 132, maximum width 114. Length and width of 5 paratypes: 139 X 117; 135 X 115; 133 X 116; 130 X 112; 123 X 110. *Dorsum*: With a punctate plate 90 long at midline and 82 wide (maximum); in 4 paratypes the plate measures 93 X 90; 91 X 84; 90 X 87; 88 X 84. Plate bearing 3 pairs of thin setae, measuring 3.5-4.5, inserted on margins of the plate; 1 pair of small paramedian pores borne on anterior portion of plate, 19-20 apart. *Venter*: Epimera I long and strongly bent outwards, forming large loops. Other epimera poorly sclerotized. Vulva 10 long, situated between 2 elongated lobes each bearing 2 long setae (60-70). Ventral setae measuring 6-7, inserted 13 apart.

Gnathosoma — 27-28 long (in ventral view and until tip of palps) and 36 wide; paratypes measuring

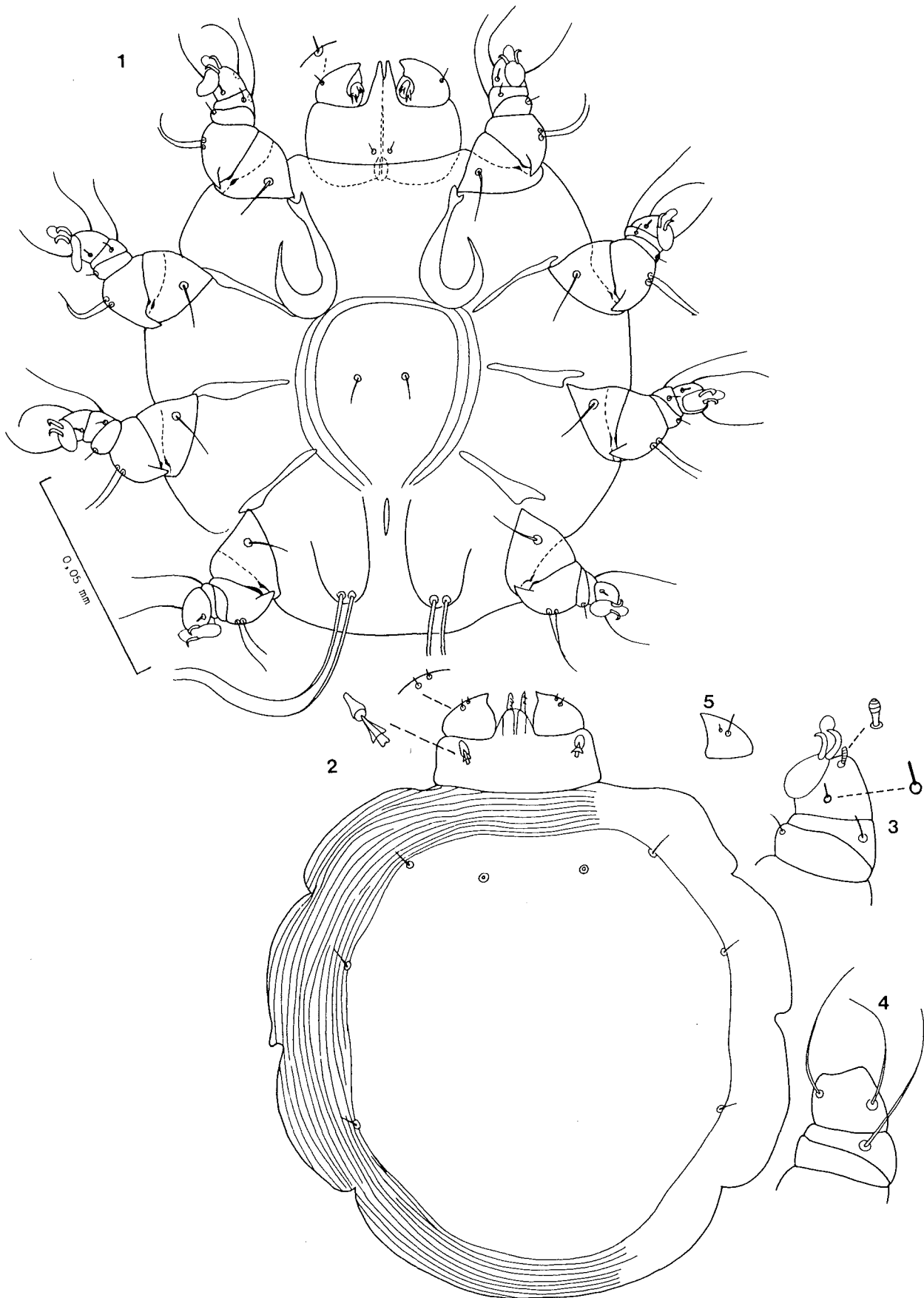
27-30 X 36-39. Dorsal surface of gnathobase with 1 pair of modified setae laterally; 1 pair of very short, subequal setae inserted closed to anterior border of palp, measuring 1.2-1.5. Ventrally gnathobase bearing 1 pair of small paramedian setae and palps with a pair of short, thin lateral setae. Palpal tarsus inserted ventrally and bearing several small curved pointed processes.

Legs — Trochanters I-IV with a seta 8-9 long. All femora with a strong posteroventral conical spur and posteriorly a pair of relatively long equal or subequal thin setae measuring 15-18 long and generally bent. All genua with a thin, short posterior seta, 3-3.5. Tibiae I-III with anteroventral thin spine and long dorsal seta (20 long on tibia I) with a thickened base; tibia IV with a short dorsal seta (10-12) and lacking spine. Tarsi I-IV with anteroventral short, rodlike, spine with raised sclerotized base and bearing 2 long setae; tarsus IV with 1 thin seta; short, inflated solenidion present on tarsi I and II.

MALE (Figs. 6-8) — Single male 102 long, 88 wide. *Dorsum*: With plate measuring 80 X 66, bearing 3 pairs of marginal setae (3 long) and 2 pairs of very small setae inserted near genital orifice, the latter being surrounded by an oval sclerotized area. Penis 27.5 long, sheath 19 long. *Venter*: General aspect as in female. Ventral setae 7.5 long inserted 7.2 apart. Single pair of terminal setae, 50-60 long. legs as in female.

TYPE DATA — Holotype and 10 paratypes female; 1 paratype male, HAWAIIAN ISLANDS: Oahu I., Nuuanu, VII.1970, ex *Rattus norvegicus*, J. Ikeda, coll. Holotype and 6 female paratypes and paratype male in U.S. National Museum of Natural History/Smithsonian Institution, Washington; 4

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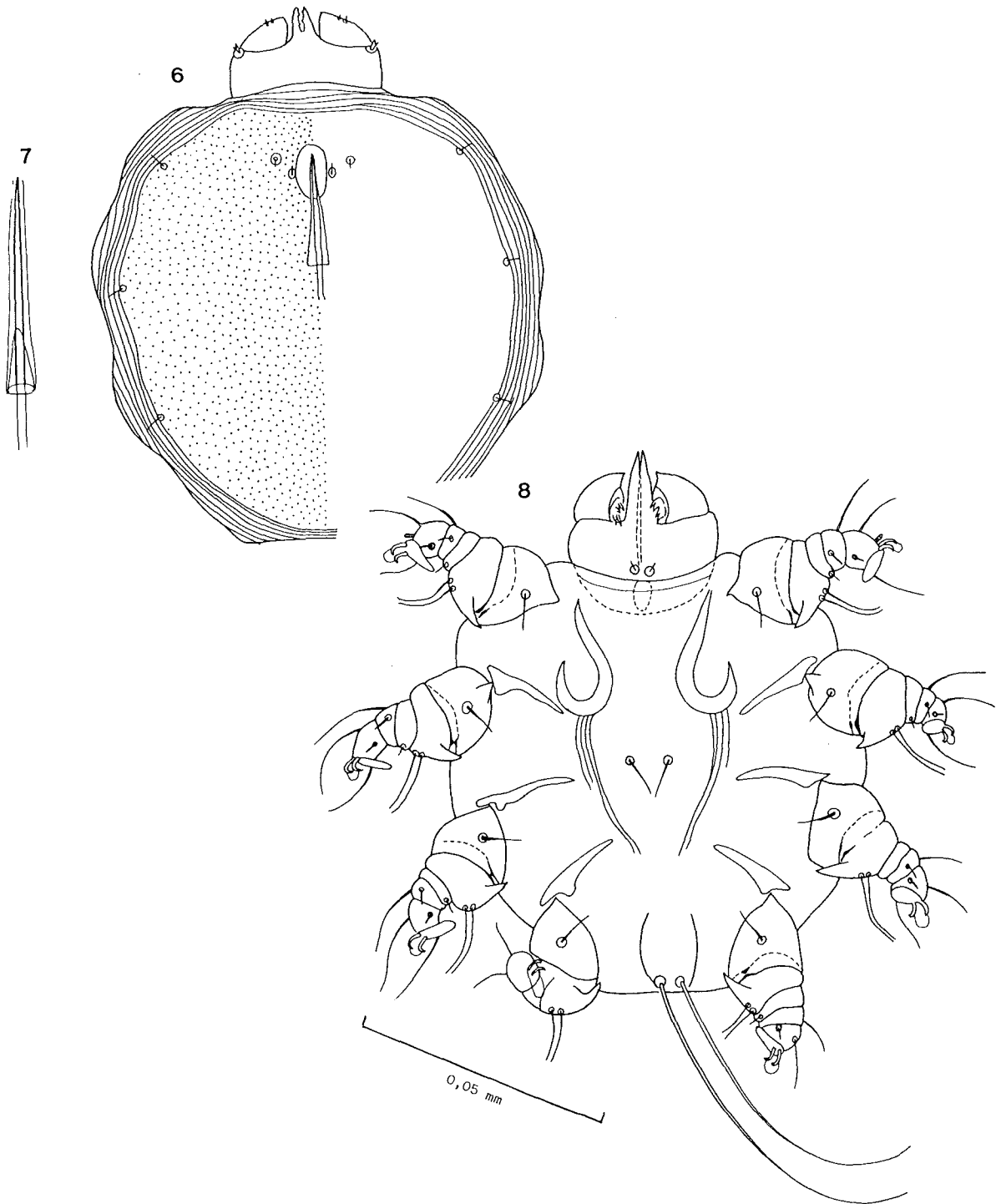


Fig. 1. *Psorergates rattus* Fain & Goff, n. sp. Ventral aspect of holotype female.

Figs. 2-4. *Psorergates rattus* Fain & Goff, n. sp. 2, dorsal aspect of holotype female; 3, ventral aspect of terminal segments of leg I; 4, dorsal aspect of terminal segments of leg I. Fig. 5. *Psorergates muricola* Fain, 1961. Dorsal aspect of palp.

Figs. 6-7. *Psorergates rattus* Fain & Goff, n. sp. 6, dorsal aspect of male; 7, penis and sheath; Fig. 8. *Psorergates rattus* Fain & Goff, n. sp. Ventral aspect of male.

female paratypes in Institut royal des Sciences naturelles de Belgique, Brussels.

REMARKS — *Psorergates rattus*, n. sp., belongs to a small group of species characterized as follows: setae of genua I-IV equal, very thin and short; all femora bearing a pair of thin equal to subequal setae; terminal setae long in both sexes, 1 pair in males, 2 pairs in females; dorsal surface of palps bearing 2 pairs of short unequal setae (4-6 long); dorsal setae of gnathosomal base short. Three species parasitic on rats are included in this group: *P. muricola* Fain, 1961; *P. agrestis* Lukoschus et al., 1967 and *P. hispanicus* Lukoschus et al., 1967. *Psorergates rattus* differs from these species by the shape of epimera I which forms larger loops, having a larger dorsal plate, dorsal palpal

setae much smaller and subequal (longer and distinctly unequal in the other species as shown in Fig. 5), shorter scutal setae, and the shorter penis and penial shield. This species further differs from *P. muricola* in having the anterior pair of genital setae situated more laterally.

REFERENCES

- Fain, A. 1961. Notes sur le genre *Psorergates* Tyrrell. Description de *Psorergates ovis* et d'une espece nouvelle. *Acarologia* 3: 60-71.
- Lukoschus, F., A. Fain and M.M.J. Beaujean. 1967. Beschreibung neuer *Psorergates*-Arten (*Psorergatidae*: *Trombidiformes*). *Tijdschr. Entomol.* 110(7): 133-81.