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PSORERGATES ÖTTLÉI N. SP., A NEW MANGE-CAUSING MITE FROM THE MULTIMAMMATE RAT (ACARINA, PSORERGATIDAE).

BY

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Lavoipierre (1946) recorded that a long series of all stages of Psorergates simplex Tyrrell, a species first described from Mus musculus in Canada, had been dissected from nodules on the skin of a laboratory stock of Multimammate Rats, Rattus natalensis (= Mastomys coucha), in Johannesburg. Zumpt and Till (1955) identified further material from this host as P. simplex and published drawings of this species.

Recently, Dr. A. G. Öttlé of this Institute drew our attention to the fact that a number of animals from his laboratory stock of R. natalensis were heavily infested with a Psorergates species which caused the formation of masses of nodules on the skin of the host (fig. 1).

Examination of these mites, together with the material previously obtained from R. natalensis, and careful comparison with the drawings given by Baker et al. (1956) and by Dubinin (1957), have shown that the species under consideration is not P. simplex at all, but a new species which is here named Psorergates öttléi. Dr. R. J. Flynn, Argonne National Laboratory, U.S.A., has very kindly sent specimens of P. simplex taken from mice, which have enabled me to confirm that the two species are quite different.

Further confirmation is suggested by the results of a simple experiment in which three white mice (Mus musculus) were placed in a cage with an infected Rattus natalensis. Although the animals were always found huddled together, after a period of three months there were still no signs of infection in the white mice.

Psorergates öttléi n. sp.

Psorergates öttléi differs from P. simplex in that the male has no long posterior hairs; the male of P. simplex has a pair of long hairs at the posterior end of the body.

Male (fig. 2): Body length (including capitulum) 130 μ in holotype (120-134 μ in 9 paratypes); greatest width 106 μ in holotype (100-114 μ in 9 paratypes). The dorsal shield has a granular appearance and covers the central part of the body, leaving a narrow margin of striated integument. It has a median length of 92 μ (82-96 μ), greatest width 80 μ (80-88 μ), and bears three pairs of short, fine, marginal setae. The penis is situated dorsally and extends from the level of the posterior border of the third pair of legs to the posterior border of the first pair. At its anterior end it is flanked by two pairs of minute pore-like structures which may be the imprints of setae.

The four pairs of legs are short and stout and similar to one another in their size and structure. Each leg appears to consist of five segments. The trochanter bears a single ventral seta. The femur is a large segment, almost triangular in shape, and on its convex external surface it bears a pair of adjacent setae and a spine-like process which is directed towards the trochanter. These spines are present on the specimens of *P. simplex* too, but are not indicated in Dubinin's drawing. The genu and tibia are indistinctly separated; the former bears a minute seta on its external surface, and the latter bears a single dorsal seta. The tarsus terminates.
in a pair of claws and a transparent caruncle; tarsus IV bears a single long seta and a minute ventral one, whereas each of tarsi I to III bears two long setae in addition to the small ventral one. Four pairs of apodemes extend from the bases of the legs onto the venter of the male; the apodemes of the first pair are hooked terminally, the remaining three pairs are straight.

The palps consist of two segments. The basal segment bears a short, stout, seta-like structure at the outer antero-dorsal angle, and the apical segment bears a minute dorsal seta and, median to this, a minute circular structure which may be the imprint of another seta. According to Dubinin's drawing, the apical palpal segment of *P. simplex* bears two distinct dorsal setae, of which the inner one is stout and spine-like.

**Female** (fig. 3): Body length (including capitulum) of 10 paratypes is 134-154 μ; greatest width 114-130 μ. The dorsal shield, indicated in the figure by means of a dotted line, has a median length of 100-108 μ and greatest width 94-100 μ. As in the male, it bears three pairs of setae and is surrounded by a narrow margin of striated integument. The legs, apodemes and palps are the same as in the male.

On the ventral surface the female has two posterior tubercles, one on either side of the slit-like anus. Each tubercle bears a pair of setae, the members of which
are approximately half as long as the idiosoma. A pair of fine setae can be distinguished in the middle of the venter.

Material: Holotype (♀) and numerous male and female paratypes from the Multimammate Rat, Rattus natalensis (Smith), Johannesburg, 11-2-59. The specimens are in the collection of the South African Institute for Medical Research, Johannesburg.

Fig. 3. — Psorergates oetleti n. sp. Ventral view of female. Dorsal shield dotted.

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