

The male of *Stephanopsylla thomasi* (Siphonaptera: Macropsyllidae)

by

F. G. A. M. SMIT

The description of the flea *Stephanopsylla thomasi* (Rothschild, 1903) was based on a single female specimen collected by J. TUNNEY from *Mus* [now *Pseudomys*] *ferculinus* on Barrow Island, off the coast of Western Australia, in 1901. The very unusual structure of the head made this specimen one of the great curiosities in the ROTHSCHILD collection of fleas. It remained a unique specimen for some sixty years.

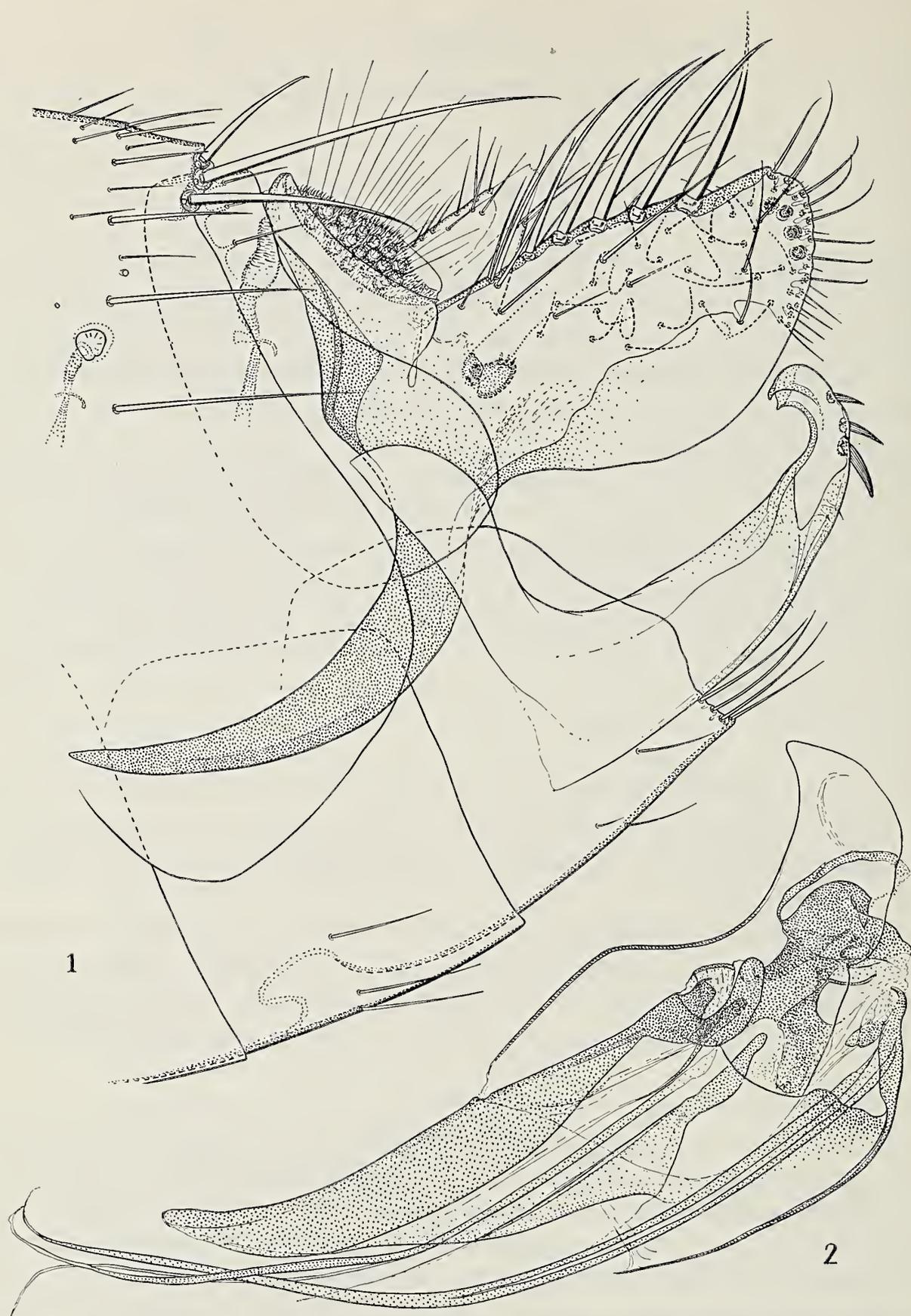
Barrow Island is situated just to the south of the Monte Bello Islands which, in the fifties, had to endure the devastating effects of atombomb testing. At the time it was feared, therefore, that perhaps the single museum specimen would remain the sole known representative of what might have become an extinct species. Eventually this fear proved quite ungrounded. On April 23rd, 1964, W. H. BUTLER collected specimens from *Antechinus flavipes* which he obtained at 16 km south of Wandering (32.41 S. 116.40 E., in the south-west corner of Australia), Western Australia, and — an even greater surprise — on June 1st, of the same year, R. M. WARNEKE found specimens on *Phascogale tapoatafa* at Warrenbayne (36.41 S. 145.52 E., in the south-east corner of Australia), Victoria! Through the courtesy of Dr. G. P. HOLLAND I have been able to study a pair of the specimens from Wandering, while Dr. G. M. DUNNET kindly enabled me to examine specimens from Warrenbayne.

Like most female fleas from the early period of the N. C. ROTHSCHILD collection, the holotype of *Stephanopsylla thomasi* at the time received the beauty treatment and had her "nasty brown gland" removed; the opportunity is taken here to give an illustration of the offending spermathecae — they are quite pretty, actually.

Stephanopsylla thomasi (Rothschild, 1903).

Male (Figs. 1, 2). Genal ctenidium consisting of 11 spines (as in the ♀). Labial palp of 8 segments (8—11 in ♀). Antennal clava longer than that of ♀, its apical unit reaching on to the prosternosome. Pronotal ctenidium with 24—26 spines (28—30 in ♀). In other respects the head, thorax and legs resemble those of the female. It may be noted that the dorsal outline of the head is slightly undulate in some specimens. Ctenidia of terga I—IV with 19—20, 13—14, 11—12 and 9—11 spines respectively (for the female these figures are: 23—27, 21—26, 14—21 and 11—14). Basal abdominal sternum without a patch of lateral setae (which are present in the female), only with a pair of ventral setae. Three antesensilial setae (as against four in ♀). The intersegmental membranes are quite thick in both sexes; this indicates that the abdomen can expand a good deal.

Modified abdominal segments and genitalia: these are fully shown in Figs. 1 and 2, which obviates the need for a detailed description. There are 4—5 sub-apical knoblike spiniforms on the inner side of the basimere and there is a good



Figs. 1, 2. *Stephanopsylla thomasi* (Rothschild), ♂ (from Warrenbayne): 1. Terminal abdominal segments; 2. Phallosome.

deal of variation in their arrangement. The telomere, situated at the base of the basimere, is vestigial (reminiscent of that in *Dinopsyllus*). The phallosome is quite characteristic (Fig. 2).

F e m a l e (Fig. 3). The two spermathecae are of unequal size (as in *Macropsylla hercules* Rothschild, 1905) while the ductus bursae and bursa copulatrix are short and feebly sclerotized.

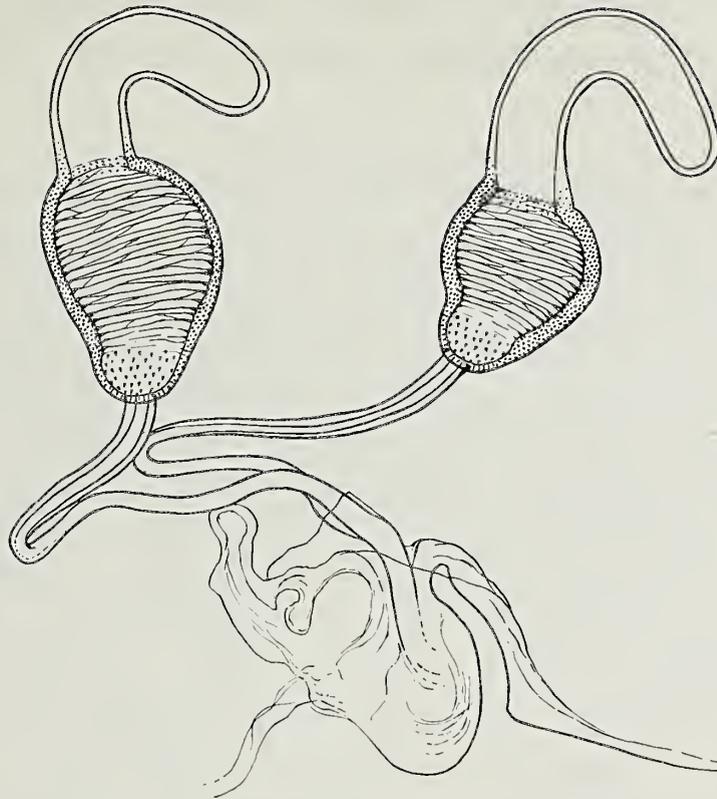


Fig. 3. *Stephanopsylla thomasi* (Rothschild), ♀ (from Warrenbayne). Genitalia.

JORDAN (1950, *Proc. 8th int. Congr. Ent.*: 95) stated — without any specification — that the peculiar head of *S. thomasi* combines characters of bat-fleas (Ischnopsyllidae) and helmet-fleas (Stephanocircidae). Although the similarity to the structure of the head of bat-fleas is superficial, HOPKINS & ROTHSCHILD (1956, *Cat. Roths. Coll. Fleas* 2: 183) likewise assumed that the family Macropsyllidae “may well be descended from a stock that also gave rise to these two families”. The bat-fleas, however, are related to the Leptopsyllidae and the other two families mentioned to the Hystrichopsyllidae.

As the genitalia of both sexes of *Stephanopsylla* are now known, the close relationship to *Macropsylla* can be confirmed. The new knowledge also does not affect previous assumptions concerning the close affinities of the Macropsyllidae with the Stephanocircidae. The families Hystrichopsyllidae, Pygiopsyllidae, Macropsyllidae and Stephanocircidae might well form a superfamily, Hystrichopsylloidea, while the Ceratophylloidea should then contain only Ceratophyllidae, Leptopsyllidae, Ischnopsyllidae and Ancistropsyllidae.

Afdeling „Zuid-Holland”. Behoudens bijzondere omstandigheden zal de afdeling „Zuid-Holland” nog vergaderen op donderdag 13 december 1973 in het Museum van Natuurlijke Historie, Raamsteeg 2 te Leiden, op woensdag 13 februari 1974 in de Riviëra-Hal, Diergaarde Blijdorp te Rotterdam, en op een nog nader te bepalen datum in april 1974, opnieuw in het Museum. Alle vergaderingen beginnen om 20 uur.

Voor verdere bijzonderheden wordt verwezen naar de circulaire, die inmiddels aan de in Zuid-Holland woonachtige leden is toegezonden. Desgewenst kunnen alsnog exemplaren van deze circulaire worden aangevraagd bij ondergetekende.

I. A. KAIJADOE, Regentesselaan 16, Oegstgeest, secretaris-penningmeester.