

Two New Fleas (Siphonaptera: Rhadinopsyllinae) from Japan

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RECENT COLLECTIONS have added two unnamed fleas to the fauna of Japan. Both species are in the subfamily Rhadinopsyllinae; one belongs to the genus *Rhadinopsylla* Jordan and Rothschild and the other is a species of the closely allied genus *Stenischia* Jordan. Attention is called to the recent discussion by Morland and Prince (1954: 1037) on the status of *Rhadinopsylla* and several of its subgenera; they place *Rectofrontia* Wagner as a subgenus of *Rhadinopsylla*, a combination we shall continue to use. Previously Hopkins (1952: 365) placed *Rangulopsylla* Darskaya as a synonym of *Rectofrontia*.

Heretofore *Rhadinopsylla* (*Rectofrontia*) *attenuata* Jameson and Sakaguti has been the only species of Rhadinopsyllinae known from Japan. The two species described in this paper bring this number to three. A fourth species, *Rhadinopsylla* (*Rectofrontia*) *fraterna* ssp., was taken by the senior author from the mouse, *Apodemus geisba*, at Kamikochi in Nagano-Ken (1,500 meters, elevation) 3 December 1952. Several species of *Rhadinopsylla* which are known from the adjacent Asiatic mainland are unknown in Japan. More of these interesting fleas may be found if collectors examine the nests of small mammals.

Rhadinopsylla (*Rectofrontia*) *japonica* n. sp.
Fig. 1

MALE: Head (Fig. 1*a*) with an acute frontal tubercle and five genal teeth; the uppermost genal tooth is two times as wide as the adjacent tooth and overlaps it at its base. There are two rows of preantennal and three rows of postantennal (occipital) setae. A clear ocular area at the base of the uppermost genal spine. Labial palpus five-segmented, not quite reaching the tip of the fore-coxa.

Pronotum (Fig. 1*a*) with six or seven spines per side. Mesonotum (Fig. 1*b*) with three rows of setae as shown, and with two pseudo-setae per side, under the collar. Metanotum with two rows of setae.

Coxa III with a mesal patch of setae. Fifth tarsal segment of each leg with four pairs of lateral plantar bristles.

Each abdominal tergite with a row of alternating long and short setae; abdominal terga I-V each with a small anterior row, and with two to four marginal teeth, placed dorsally. Abdominal sternites each with two or three long setae ventrally.

Fixed process of clasper (Fig. 1*c*) entire, with one long seta laterally near the dorsal margin, and several (six to eight) small setae on the dorsal margin. Moveable finger not extending to the dorsal margin of the clasper. Sternite VIII rudimentary. Sternite IX (Fig.

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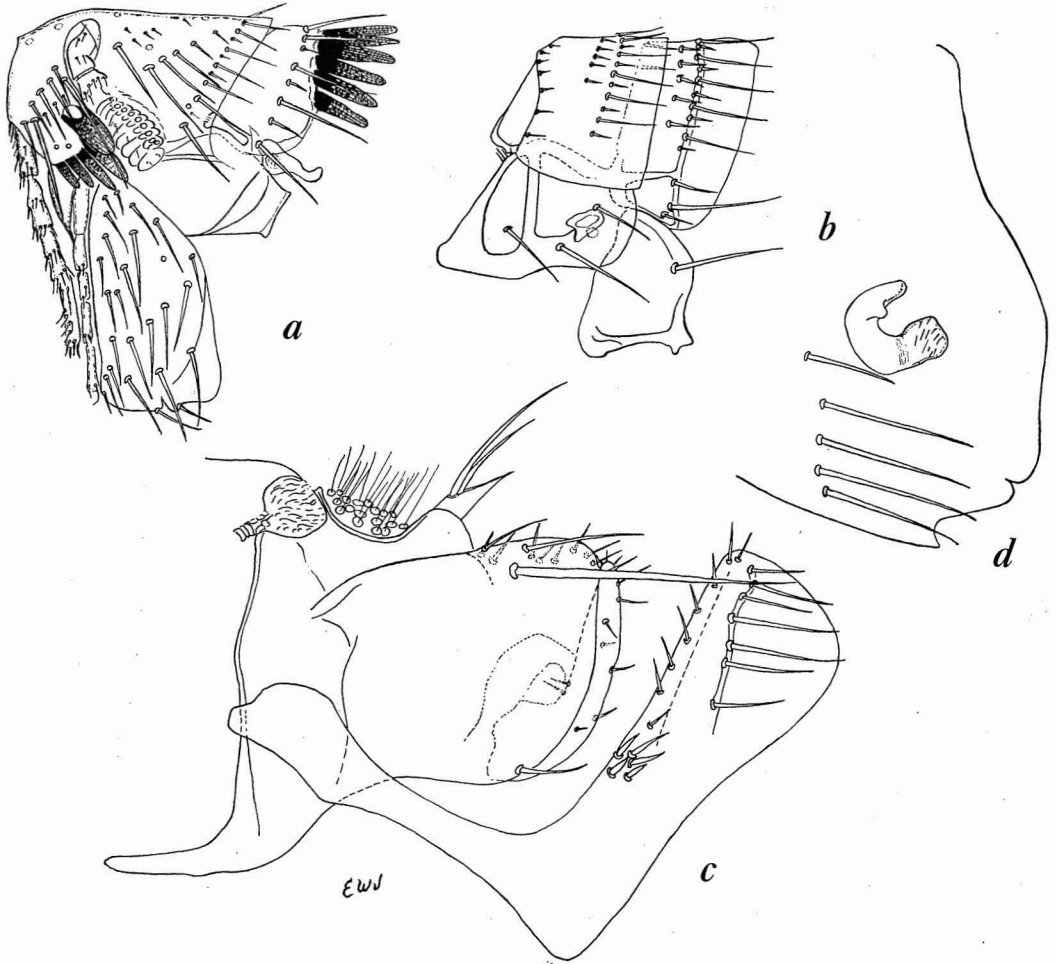


FIG. 1. *Rhadinopsylla (Rectofrontia) japonica*, new species: a, head and prothorax of male; b, meso- and meta-thorax of male; c, sternite IX, movable finger, and fixed process of clasper; d, sternite VII and seminal receptacle of female.

1c) expanded distally; characteristic and unique is the cluster of five or six thick, short setae near the base of the distal arm.

FEMALE: In general similar to male. Chaetotaxy of head as in male. Two antepygial bristles per side. Sternite VII (Fig. 1d) with a sharp incision and a shallow sinus on the ventral margin. Body of seminal receptacle slightly enlarged caudally, the neck gradually narrower than the body; neck with a caudal projection.

TYPES: Holotype male and allotype female from the flying squirrel, *Petaurista leucogenys oreas* Thomas, Mt. Kurama, Kyoto-Fu, Honshu, Japan; 2 Nov. 1952; coll. Kôhei Sakaguti and deposited in the collection of Kôhei Sakaguti. Paratypes with same data as types, 2 Nov. 1952 and from the same host; Kibune, Kyoto-Fu, Honshu, Japan; 10 Jan. 1954; coll. Kosaburo Torii. Paratypes deposited at the British Museum (at Tring) and in the collections of the authors.

REMARKS: This new species resembles *R. pentacanthus* (Rothschild), but the uppermost genal tooth is even more enlarged. The first occipital row of setae is markedly reduced in this new species, and it is unique in the thick setae near the base of sternite IX.

The genus *Stenischia* has been known heretofore only from one female from Szechuan, China. In a recent letter, Mr. Smit of the British Museum wrote that this flea (*Stenischia mirabilis* Jordan) has not since been collected. This second collection of *Stenischia* is from Mt. Fuji, and also consists of but a single female. The Mt. Fuji specimen differs in several respects from *S. mirabilis* and represents an additional species of this genus.

Stenischia fujisania n. sp.

Fig. 2

FEMALE: Head (Fig. 2a) with five genal teeth; the uppermost quite small, and overlapping the adjacent genal tooth at its base. The remaining four genal teeth twice as wide and twice as long as the uppermost tooth. Chaetotaxy as illustrated. Labial palpus five-segmented, extending to the apex of the fore-coxa. A narrow, transparent ocular area.

Pronotum (Fig. 2a) with seven pigmented teeth per side. Mesonotum (Fig. 2b) with a row of four moderately long setae near the caudal margin, and with two pseudosetae under the collar. Metanotum with a strongly

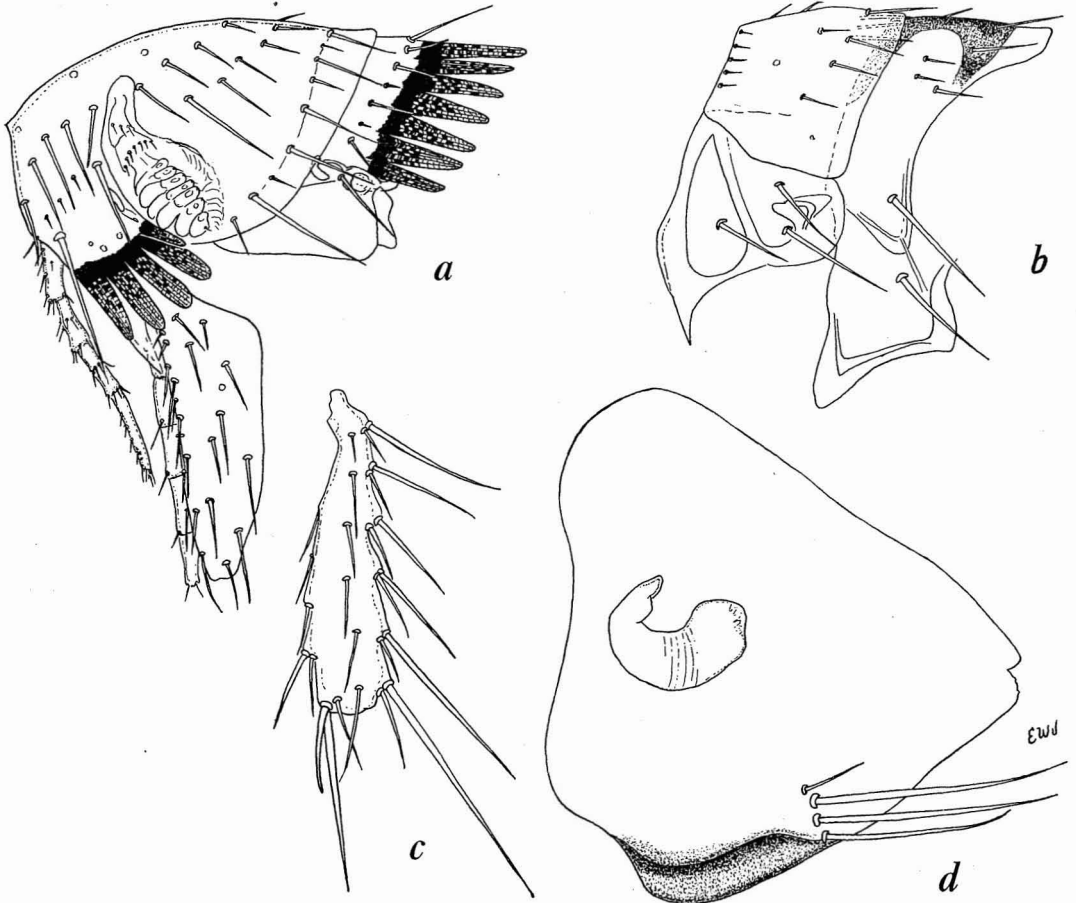


FIG. 2. *Stenischia fujisania*, new species: a, head and prothorax of female; b, meso- and metathorax of female; c, hind tibia of female; d, sternite VII and seminal receptacle of female.

sclerotized area dorsally; with two rows of setae on the dorsal half, and a long seta near the ventral margin. Episternum of metathorax fused with metepimerum.

Coxa III with a mesal patch of about thirty fine setae. Setae of hind tibia long (Fig. 2c), the long seta at the apex as long as the first tarsal segment. Fifth tarsal segments of the first and second legs each with four lateral plantar bristles; this segment of the third legs is missing in the holotype.

Each abdominal tergite with a row of one to five long setae, separated by smaller setae; on abdominal tergum I is an additional row of small setae anteriorly. Each terga with two or three apical spines, near the dorsal margin. Three antepygidial bristles per side, between which is a caudal extension (from tergum VII) bearing two teeth. Below the antepygidial bristles the margin of tergum VII projects as an acute point. Terga and sterna with dark sclerotized areas (Fig. 2d).

Body of seminal receptacle (Fig. 2d) evenly rounded, truncate ventrally at the tip. Neck with a caudal swelling. Sternite VII with a small but distinct cleft.

TYPE: Holotype female from *Mustela* sp.; Mt. Fuji, Shizuoka-Ken, Honshu, Japan; 10 July 1954; coll. L. W. Teller. Deposited in the

United States National Museum.

REMARKS: *Stenischia fujisania*, n. sp., differs from *S. mirabilis*, the genotype and only other species in the genus, in several features. In *mirabilis* the genal teeth are distinctly separate at their bases but touching in *S. fujisania*. The setae of the tibiae are conspicuous in the new species, and the seminal receptacle is much larger than that of *mirabilis*. In *S. fujisania* there is a distinct cleft or sinus on the margin of sternite VII which is absent in *S. mirabilis*.

It is a pleasure once again to acknowledge the aid we have received from Mr. F. G. A. M. Smit in preparing these descriptions. We are also grateful to Mr. L. W. Teller for allowing us to name the species of *Stenischia* from Mt. Fuji.

REFERENCES

- HOPKINS, G. H. E. 1952. Notes on synonymy in Siphonaptera. *Wash. Acad. Sci., Jour.* 42: 363-365.
- MORLAN, HARVEY B., and FRANK M. PRINCE. 1954. Notes on the subfamily Rhadinopsyllinae Wagner, 1930 (Siphonaptera, Hystrihopsyllidae), and description of a new species, *Rhadinopsylla multidenticulatus*. *Tex. Rpt. Biol. and Med.* 12: 1037-1046.