Notes on flies of medical importance in Japan

Part XVII. Descriptions of two new species of
genus *Sarcophaga* (Sarcophagidae, Diptera)

By

Rokuro Kano*

Sarcophaga asahinai n. sp.

Japanese name: Asahina-nikubae

MALE

Body length: 8 mm

Head: Frons about half as wide as one eye; frontal vitta black; parafrontals and parafacials with golden pollen; antennae blackish brown and length of 3rd segment about two times that of 2nd; bucca black and silverly pollinose; bucca with numerous black hairs, bucca about 1/3 eye height; face brown, facial angle black with several black setae; metacephalon with several black hairs among numerous white hairs; left row of frontal bristles ten and right row of frontal bristles eleven; outer vertical bristle absent, three rows of black postocular setae present; palpi blackish brown and slender.

Thorax: Scutum with silvery pollen and with three dark longitudinal stripes; acrostical bristles 3+1, dorsocentral bristles 5+3, intra-alar bristles 1 (very fine)+3, supra-alar bristles 1+3, humeral bristles three, posthumeral bristles two, notopleural bristles four, apico-scutellar bristle one, discoscutellar bristle

one, lateroscutellar bristles two; upper part of propleura bare, sternopleural bristles three, mesothoracic spiracle with blackish brown pile.

Wings: Hyaline; r_1 bare; r_{4+5} with about nine short setae located dorsally from basal node to r-m; ventral side with three to five setae on the basal node of r_{4+5} ; section V of costa same length as section III, section V of costa with short spines on basal half of anterior margin; basicostal scale yellowish white; epaulet black; squamae yellowish white; halter brown.

Legs: Black; fore femur with a row of moderately long bristles each on dorsal and posterodorsal surface, a row of long bristles on posteroventral surface, and numerous long hairs on posterior surface; fore tibia with two short bristles at the proximal part of anterodorsal surface, one bristle at the distal one-third portion of posteroventral surface; mid femur with two short bristles on anterolateral surface, three short bristles at the distal part of posterodorsal surface, numerous long hairs on ventral surface, and a row of bristles each on anteroventral and posteroventral surface; mid tibia with one bristle at the middle of anterolateral surface, two bristles on posterodorsal surface, one bristle each at the distal one-third portion of posterodorsal and

* 加納六郎: Department of Medical Zoology, Tokyo Medical and Dental University.

ventral surface; hind femur with two rows of moderately long bristles on anterodorsal surface, two bristles on the distal part of posterodorsal surface, and numerous long hairs and few long bristles on ventral and anteroventral surfaces; hind tibia with three bristles on anterodorsal surface, two bristles on posterodorsal surface, two bristles on anteroventral surface, a row of numerous long hairs on anteroventral surface, and a fringe of numerous long hairs curled at apex on posteroventral surface.

Abdomen: Black and silvery grey checkered pattern; median marginal bristles on 3rd tergite absent, lateral marginal bristles of 3rd tergite one pair; one pair of median marginal bristles and several pairs of lateral marginal bristles present on 4th and 5th tergites; 5th sternite shown in Fig. 1; 1st genital tergite black covered with greyish pollen, 2nd genital tergite shiny black; 1st genital tergite with numerous hairs and several marginal bristles,

2nd genital tergite with numerous long hairs; forceps and genitalia shown in Fig. 1; inner forceps very broad.

Locality: Okinawa Main Island (Ryukyu University Forest, Yona)

TYPE

Holotype: Male; Ryukyu University Forest, Yona, Okinawa Main Island; May 30th, 1962; collected by the author; in collection of Tokyo Medical and Dental University.

Remarks: Only one specimen of this species was obtained on the rock of a mountain stream with numerous specimens of *Sarcophaga* sp. (*Shiraki-nikubae*) and *S. josephi*. This species is of small size and easily differentiated from the related species by the characteristic shape of phallosome (Fig. 1. C.).

The specific trivial name of this

Fig. 1. *Sarcophaga asahinai* n. sp. (Drawing is from the Entomology Division, 406th MGL, APO 343, USA). A: male, B: head of male, C: male terminalia, D: 5th sternite of male.

Fig. 2. *Sarcophaga fieldi* n. sp. (Drawing is from the Entomology Division, 406th MGL, APO 343, USA). A: male, B: head of male, C: male terminalia, D: basal lobe of phallosome, E: 5th sternite of male, F: female terminalia, G: spermatheca and signum.

species is dedicated to Dr. Syoziro Asahina, a chief of the Department of Medical Entomology, National Institute of Health, who went to Okinawa with the author for survey of medically important insects.

***Sarcophaga fieldi* n. sp.**

Japanese name: Field-nikubae

MALE

Body length: 7 mm—11 mm

Head: Frons about $\frac{3}{5}$ as wide as one eye; frontal vitta black; parafrontals and parafacials with silvery (rarely golden) pollen; antennae blackish brown and length of 3rd segment about 2.5 times that of 2nd; bucca black and silvery pollinose; bucca with numerous black hairs, bucca about $\frac{2}{7}$ eye height; face black and covered with silvery pollen,

facial angle black with several black setae; anterior part of metacephalon with numerous black hairs and posterior part of that with numerous yellowish white hairs; frontal bristles nine to thirteen; outer vertical bristle absent, three rows of black postocular setae present; palpi blackish brown and slender.

Thorax: Scutum with silvery pollen and with three dark longitudinal stripes; acrostical bristle 0+1, dorsocentral bristles 3~5+3, intra-alar bristles 1 (fine)+3, supra-alar bristles 1+3, humeral bristles three, posthumeral bristles two, notopleural bristles four, apicoscutellar bristle one, discoscutellar bristle one, latero-scutellar bristles two; upper part of propleura bare, sternopleural bristles three, mesothoracic spiracle with blackish brown pile.

Wings: Hyaline; r_1 bare; r_{4+5} with about twelve short setae located dorsally more than half way from basal node to $r-m$; ventral side with several setae on the basal node of r_{4+5} ;

Fig. 3. *Sarcophaga josephi* (Drawing is from the Entomology Division, 406th MGL, APO 343, USA). A: male, B: head of male, C: male terminalia, D: basal lobe of phallosome, E: 5th sternite of male, F: female terminalia, G: spermatheca and signum.

section V of costa same length as section III, section V of costa with short spines on basal 3/5 of anterior margin; basicostal scale yellowish white; epaulet black; squamae yellowish white; halter brown.

Legs: Black; fore femur with a row of bristles each on dorsal and posterodorsal surface, a row of long bristles and numerous long hairs on posteroventral surface; fore tibia with three (rarely two) short bristles at the proximal part of anterodorsal surface, one bristle at the distal one-third portion of posteroventral surface; mid femur with several short bristles on anterolateral surface, three short bristles at the distal part of posterodorsal surface, numerous long hairs on posteroventral surface, and a row of bristles each on anteroventral and posteroventral surface; mid tibia with two bristles on anterolateral surface, one bristle each at the distal one-third portion of posterodorsal and ventral surface, three bristles on posterolateral

surface; hind femur with two rows of moderately long bristles on anterodorsal surface, two or three bristles on the distal part of posterodorsal surface, one bristle on the distal part of posterolateral surface, numerous long hairs and few long bristles on anteroventral surface, and numerous long hairs on ventral and posteroventral surfaces; hind tibia with a row of bristles on anterodorsal surface, moderately long hairs and several bristles (distal one bristle much stronger than others) on anteroventral surface, and a fringe of numerous long hairs curled at apex on posteroventral surface.

Abdomen: Black and silvery grey checkered pattern; median marginal bristles on 3rd tergite usually absent, but rarely present lateral marginal bristles of 3rd tergite usually one pair, but sometimes two pairs, a pair of median marginal bristles and several pairs of lateral marginal bristles present on 4th and 5th tergites; 5th sternite shown in Fig. 2; 1st genital

tergite black covered with greyish pollen, 2nd genital tergite shiny black; 1st genital tergite with numerous hairs and several marginal bristles, 2nd genital tergite with numerous long hairs; forceps and genitalia shown in Fig. 2. C. D.; inner forceps broad.

FEMALE

Body length: 8 mm—9 mm

Head: Characters of head similar to those of male; but frons as wide as one eye; two reclinate fronto-orbital bristles present; outer-vertical bristles well developed.

Thorax and wings similar to those of male, but apicoscutellar bristles wanting.

Legs: Hind tibia without a fringe of long hairs.

Abdomen similar to that of male, except terminalia. Terminalia shown in Fig. 2. F. G. Localities: Hokkaido (Sapporo); Honshu (Aomori, Tochigi, Gumma, Saitama, Tokyo, Kanagawa, Nagano, Shizuoka); Kyushu (Kagoshima); Northern part on the Okinawa Main Island.

Holotype: Male: Karuizawa, Nagano Prefecture; September 8, 1962; collected by the author; in collection of Tokyo Medical and Dental University.

Paratypes: Female: Mt. Takao, Tokyo Prefecture; May 3, 1956; collected by the author; in collection of Tokyo Medical and Dental University.

1 male; same data as holotype. 7 males; Kogesawa, Tokyo Prefecture; (3) May 13, (4) July 15, 1962. 1 male; Yaentoge, Tokyo Prefecture; April 15, 1962. 4 males and 1 female; Kanuma, Tochigi Prefecture; (2 m) May 5, 1960 and (2 m, 1 f) May 6, 1962. 1 male; Hachioji, Tokyo Prefecture; August 26, 1962. 1 male; Kayanochaya, Aomori Prefecture; July 31, 1962. 4 males; Mt. Takamizu, Tokyo Prefecture; May 10, 1953. 2 males; Mt. Takao, Tokyo Prefecture; May 3, 1956. 6 males; Shomarutoge, Saitama Prefecture; June 17, 1953.

Remarks: *Sarcophaga fieldi* is closely related to *S. josephi*, but it differs from the latter by the shape of hook arising on basal lobe of phallosome. In female *S. fieldi* has several short bristles on the membrane around cerci, but *S. josephi* does not have such bristles. *S. fieldi* is relatively common on rocks, stones, pebbles and leaves in mountain streams, whereas, *S. josephi* is usually found in grassy plains and rice paddies.

The specific trivial name of this species is dedicated to Dr. Gordon Field, a former chief of the Department of Entomology, Medical General Laboratory 406th, U. S. Army Medical Command, who discussed with the author about morphologic features of this group of *Sarcophaga*.

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LITERATURE

- 1) Ho, C. (1934): Notes on a collection of Sarcophagid Flies from Chekiang and Kiangsu with Descriptions of two New Species. Bull. Fan. Mem. Inst. Biol. Vol. V, pp. 31-39. — 2) Hori, K. (1953-1955): Morphological studies on Muscoid Flies of Medical Importance in Japan IV-VIII. Scien. Rep. Kanazawa Univ. Vol. II. No. 1—Vol. III. No. 2. — 3) Kano, R. (1950-1957): Notes on the Flies of Medical Importance in Japan I, VIII, X and XIII. Jap. J. Exp. Med. Vol. 20, Vol. 23; Bull. Tokyo Med. Dent. Univ. Vol. III. No. 1, Vol. IV. No. 3. — 4) Quo, F. (1952): On the Species of the Genus *Sarcophaga* Meigen Occurring in the Shanghai Region. Annal. Ent. Sinici, Vol. II. No. 1, pp. 60-86. — 5) Rohdendorf, B. B. (1937): Sarcophagidae. Fauna SSSR, Insect, Diptera XIX, 1, pp. 1-500. — 6) Ségué, E. (1941): Mouches Parasites II, Caliphorines, Sarcophagines et Rhinophorines de l'Europe occidentale et meridionale. Encyclopidie Entomologique XXI, pp. 1-436. — 7) Senior-White, R., Aubertin, D. and Smart, J. (1940): Sarcophagidae. Fauna of British India, Diptera VI, pp. 208-283.