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原 報

NOTES ON FLIES OF MEDICAL IMPORTANCE IN JAPAN

Part XVI. Three New Species of the Genus *Melinda*
(Calliphoridae, Diptera) from Japan

By

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1. *Melinda itoi* n. sp.

Japanese name : Ito-kokurobae

Body length : 5 to 8 mm

MALE

Head : Eyes contiguous and covered with short sparse minute hairs ; frontal vitta blackish brown ; parafrontals and parafacials covered with silvery pollen ; face yellow or light brown ; facial ridge and anterior part of bucca reddish brown ; frontal bristles 8 pairs ; bucca black and silverly pollinose and with numerous black hairs ; bucca about one-fourth eye height ; facial ridge with several black bristles ; postocular setae black ; metacephalon with numerous black hairs ; hairs on occiput long and yellow ; antennae blackish brown, anterior surface of 2nd segment and base of 3rd reddish brown, 3rd segment 2.5 times as long as 2nd ; arista blackish brown ; basal two-thirds of arista feathered ; proboscis black ; palpi orange.

Thorax : Propleuron with fine yellowish white hairs ; scutum and scutellum black and covered with greyish white pollen ; scutum with 5 black longitudinal stripes ; acrostichals 2 (rarely 1)+3, dorsocentrals 2+3, intraalars 1

+2, humerals 3, posthumerals 2, presuturals 1, supraalars 3, and sternopleurals 1+1 ; mesothoracic spiracle with yellowish brown pile ; metathoracic spiracle dark brown.

Wings : Hyaline, infuscated toward base and costa ; basicosta brown, subcostal sclerite brown and with light brown pile ; squamae and halter light brown ; dorsal surfaces of squamae bare.

Legs : Femora and tarsi black, tibiae brown ; fore tibia with a row of short anterodorsal bristles and 1 posterolateral bristle ; mid tibia with 1 ventral bristle, 2 anterolateral bristles, 1 posterodorsal bristle and 2 posterolateral bristles ; hind tibia with a row of anterodorsal bristles, 1 to 3 fine anteroventral bristles and 2 (rarely 3 or 4) posterodorsal bristles.

Abdomen : With black and silvery grey checkered pattern ; 3rd tergite (2nd visible tergite) with long marginal bristles ; sternites and genitalia as Figs. 1-6.

FEMALE

Characteristics of head similar to those of male, but frons the same width as one eye and with two reclinate fronto-orbital bristles ; outer vertical bristle well developed.

Characteristics of thorax similar to those of male.

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- Fig. 1. First to fifth sternites of male of *M. itoi*
 Fig. 2. Hind view of forceps of *M. itoi*
 Fig. 3. Lateral view of forceps of *M. itoi*
 Fig. 4. Ejaculatory apodeme of *M. itoi*
 Fig. 5. Parameres of *M. itoi*
 Fig. 6. Phallosome of *M. itoi*
 Fig. 7. First to fifth sternites of female of *M. itoi*
 Fig. 8. Tergites of ovipositor of *M. itoi*
 Fig. 9. Sternites of ovipositor of *M. itoi*
 Fig. 10. Spermatheca of *M. itoi*

Characteristics of abdomen similar to those of male, except for sternites and genitalia. Sternites, ovipositor and spermatheca are as Figs. 7-10.

Localities: Honshu (Tokyo, Saitama and Osaka)

Shikoku (Ehime)

Kyushu (Oita, Miyazaki)

Holotype: Male, Seto-cho, Ehime Prefecture, Shikoku; July 25, 1960; collected by the author, in collection of Tokyo Medical and Dental University.

Allotype: Female, Mt. Suishi, Oita Prefecture, Kyushu; October 29, 1961; collected by the author, in collection of Tokyo Medical and Dental University.

Paratypes: 2 males, the same data as holotype. 2 males and 1 female, the same data as allotype. 12 males; Takeda City, Oita Prefecture, Kyushu; April 4, 1961; collected

by the author. 4 males and 3 females; Todamachi, Saitama Prefecture; July 10, 1959; collected by the author. 12 males; Todoroki-cho, Tokyo; March 15, 1961. 1 male; Nobeoka City, Miyazaki Prefecture, Kyushu; August 16, 1957; collected by Kiyotoshi Kaneko.

Remarks: This species is dedicated to Dr. Shushiro Ito, Professor of the Osaka Municipal University, who is performing the ecological study of this species. This species is found from February to October, especially common in March and April. Bionomics of this species will be published by Dr. S. Ito in near future. Differentiation from related species is shown in Table 1.

2. *Melinda okazakii* n. sp.

Japanese name: Okazaki-kokurobae

Body length: 8 to 9 mm

MALE

Head: Eyes contiguous and covered with short sparse minute hairs; frontal vitta blackish brown; parafrontals and parafacials covered with silvery pollen; face yellow or light brown; facial ridge and anterior part of bucca reddish brown; frontal bristles more than ten; bucca black and silvery pollinose and with numerous black hairs; bucca about one-third eye height; facial ridge with several black bristles; post-ocular setae black; metacephalon with numerous black hairs; hairs on occiput long and yellow; antennae blackish brown; 3rd segment 2 times as long as 2nd; arista blackish brown; basal two-thirds of arista feathered; proboscis black; palpi brown.

Thorax: Propleuron with fine black hairs; scutum and scutellum black and covered with

greyish white pollen; scutum with 5 black longitudinal stripes; acrostichals 2+3, dorsocentrals 2+3, intraalars 1+2, posthumeral 2, presuturals 1, humerals 3, supraalars 3, sternopleurals 1+1; mesothoracic spiracle usually with black pile and rarely blackish brown; metathoracic spiracle blackish brown or black.

Wings: Hyaline, infuscated toward base and costa; basicosta and subcostal sclerite brown; squamae and halter yellowish brown, dorsal surfaces of squamae bare.

Legs: Femora orange, but distal one-third of ventral surfaces black; tibiae orange; tarsi black; fore tibia with a row of short anterodorsal bristles and 1 posterolateral bristle; mid tibia with 1 ventral bristle, 1 posterodorsal bristle and 1 anterolateral bristle; hind tibia with a row of anterodorsal bristles, 2 anteroventral bristles and 2 posterodorsal bristles.

- Fig. 11. First to fifth sternites of male of *M. okazakii*
 Fig. 12. Hind view of forceps of *M. okazakii*
 Fig. 13. Lateral view of forceps of *M. okazakii*
 Fig. 14. Ejaculatory apodeme of *M. okazakii*
 Fig. 15. Parameres of *M. okazakii*
 Fig. 16. Phallosome of *M. okazakii*
 Fig. 17. First to fifth sternites of female of *M. okazakii*
 Fig. 18. Tergites of ovipositor of *M. okazakii*
 Fig. 19. Sternites of ovipositor of *M. okazakii*
 Fig. 20. Spermatheca of *M. okazakii*

Abdomen: With black and silvery grey checkered pattern; 3rd tergite (2nd visible tergite) with long marginal bristles; sternites and genitalia as Figs. 11-16.

FEMALE

Characteristics of head similar to those of male, but width of frons five-sixths of that of one eye and with two reclinate fronto-orbital bristles; outer vertical bristles well developed.

Characteristics of thorax similar to those of male.

Characteristics of abdomen similar to those of male, except for sternites and genitalia.

Sternites, ovipositor and spermatheca are as Figs. 17-20.

Localities: Honshu (Tokyo, Nagano)
Kyushu (Oita)

Holotype: Male; Mt. Suishi, Oita Prefecture, Kyushu, October 27, 1961; collected by the author; in collection of Tokyo Medical and Dental University.

Allotype: Female; the same data as holotype

Paratypes: 4 males; Tokyo; March 29, 1961 (1 male) and April 4, 1961 (3 males); collected by Tsunetaro Okazaki. 1 female; Ina City, Nagano Prefecture, Honshu; May 10, 1958; collected by Hitoshi Tange.

Remarks: This species is dedicated to Mr. Tsunetaro Okazaki, who has been a student of

entomology for over 60 years and collected some specimens of this species. This species is found in spring and fall, but is not so common. Differentiation from related species is shown in Table 1.

3. *Melinda tsukamotoi* n. sp.

Japanese name: Tsukamoto-kokurobae
Body length: 6 to 10 mm

MALE

Head: Eyes contiguous and covered with short sparse minute hairs; frontal vitta blackish brown or reddish brown; parafrontals and parafacials covered with silvery pollen; face yellow; facial ridge and anterior part of bucca reddish brown; frontal bristles 8 to 12; bucca black and silvery pollinose and with numerous black hairs; bucca about one-fourth eye height; facial ridge with several black bristles; post-ocular setae black; metacephalon with numerous black hairs; hairs on occiput long and yellow; antennae blackish brown, apex of 2nd segment and base of 3rd segment orange or reddish brown; arista brown or blackish brown; basal three-fourths of arista feathered; proboscis black; palpi yellow.

Thorax: Propleuron with fine black or yellow hairs; scutum and scutellum black and covered with greyish white pollen; scutum with

Table 1. Differentiation of closely related six species of the genus *Melinda*

Species Parts of fly bodies	<i>M. tsukamotoi</i>	<i>M. itoi</i>	<i>M. okazaki</i>	<i>M. caerulea</i>	<i>M. gentilis</i>	<i>M. polita</i>
Postintraalars	3	2	2	3	3	2
Preintraalars		or		0 or		or
Palpus	yellow	orange	brown	blackish brown	reddish brown	yellow to blackish brown
Wing	base light brown; marginal cell dark brown	base light brown	base light brown	base light brown	base light brown	base light brown
Sternopleurals	1 + 1	1 + 1	1 + 1	2 + 1	2 + 1	2 + 1
Legs	black, but sometimes femora yellow	femora and tarsi black, tibiae brown	femora and tibiae orange, tarsi black	black	black	black
Posterior view of forceps	Fig. 22.	Fig. 2.	Fig. 12.

5 black longitudinal stripes; sometimes humerus and apex of scutellum yellow; acrostichals 2+3, dorsocentrals 2+3, intraalars 1+3, posthumeral 2, presuturals 1, humerals 3, supraalars 3, sternopleurals 1+1; mesothoracic spiracle with orange pile; metathoracic spiracle blackish brown.

Wings: Hyaline; base of wing yellow and anterior part of wing dark brown, namely, costal cell, subcostal cell, 2nd basal cell and 3rd basal cell yellow, and marginal cell dark brown. Basicosta and subcostal sclerite brown; squamae yellow or light brown and bare.

Legs: All black, but sometimes femora yellow and distal one-third of ventral surfaces black; some specimens in between. Fore tibia with a row of short anterodorsal bristles and 1 posteroventral bristle, mid tibia with 1 ventral bristle, 1 posterodorsal bristle and 1 anterolateral bristle; mid tibia also with 2 posterolateral bristles; hind tibia with a row of anterodorsal bristles, 2 posterodorsal bristles and 3 fine anteroventral bristles.

Abdomen: With black and silvery grey checkered pattern, but sometimes abdominal tergites yellowish brown, except for median and distal part. Sternites black or yellow. Sternites and genitalia as Figs. 21-26.

FEMALE

Characteristics of female similar to those of male, except for frontal width, reclinate fronto-orbital bristles, outer vertical bristles, abdominal sternites and genitalia. Frontal width is five-sixths of eye width. Two reclinate fronto-orbital and outer vertical bristles well developed. Sternites and genitalia are as Figs. 27-30.

Localities: Honshu (Gumma)
Shikoku (Tokushima)
Kyushu (Saga, Oita)

Holotype: Male; Mt. Suishi, Oita Prefecture, Kyushu; October 29, 1961; collected by the author; in collection of Tokyo Medical and Dental University.

Allotype: Female; the same data as holotype.

Paratypes: 11 males and 25 females; the same data as holotype. 2 males and 35 females; Mt. Suishi; October 27, 1961; collected by the author. 4 males; Mt. Suishi; October 25, 1961; collected by the author 5 males and 2 females; Mt. Kuju, Oita Prefecture, Kyushu;

Fig. 21. First to fifth sternites of male of *M. tsukamotoi*

Fig. 22. Hind view of forceps of *M. tsukamotoi*

Fig. 23. Lateral view of forceps of *M. tsukamotoi*

Fig. 24. Ejaculatory apodeme of *M. tsukamotoi*

Fig. 25. Parameres of *M. tsukamotoi*

Fig. 26. Phallosome of *M. tsukamotoi*

October 28, 1961; collected by the author. 2 males; Mt. Suishi; April 5, 1961, collected by the author. 3 males and 4 females; Arita, Saga Prefecture, Kyushu; April 14, 1958; collected by the author and Teruhiko Tsukamoto. 3 males; Mt. Bizan, Tokushima Prefecture, Shikoku; April 9, 1961; collected by the author. 2 males and one female; Hagi, Yamaguchi Prefecture, Honshu; November 4, 1958; collected by Susumu Ueda. 1 male; Hatomachi Toge, Oze, Gumma Prefecture, Honshu; July 7, 1951; collected by Hitoshi Hasegawa.

Remarks: This species is dedicated to Dr. Teruhiko Tsukamoto, who is a author's friend and collected many specimens of this species with the author. This species is relatively common in spring and fall in southwestern part of Japan. The specimens found in spring have black bodies and legs, but those found in

Fig. 27. First to fifth sternites of female of *M. tsukamotoi*

Fig. 28. Tergites of ovipositor of *M. tsukamotoi*

Fig. 29. Sternites of ovipositor of *M. tsukamotoi*

Fig. 30. Spermatheca of *M. tsukamotoi*

fall have usually yellow femora, yellow humerus and yellow pattern of abdomen. Some inter-

mediate types of them are found in summer and fall. Differentiation from related species is shown in Table 1.

Key to three new species of *Melinda*

- 1) Tibiae black, anterior part of wing dark brown *M. tsukamotoi*
Tibiae yellow or brown, base of wing light brown or yellow (2)
- 2) Femora black *M. itoi*
Femora yellow or orange *M. okazakii*

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LITERATURE

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DESCRIPTIONS OF TWO NEW SPECIES OF SARCOPHAGID FLIES (DIPTERA: SARCOPHAGIDAE) FROM KOREA

By

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During the period from April of 1959 to September of 1961, the author had made an intensive collection of flies from Korea totaling 5,892 specimens of *Sarcophaga*.

A close examination of the specimens revealed that three species of *Sarcophaga* were new and one of these species was published in the Japanese Journal of Sanitary Zoology (Vol. XII, No. 2) in collaboration with Dr. Rokuro, Kano,

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The author will describe two new species in this paper.

1. *Sarcophaga kanoi* n. sp.

Korean name: *Kanap-shuepali*

MALE

Body length: 10 to 15 mm

Head: Front about 1/2(26:45) as wide as