

SYRPHIDAE OF THE PALAU ISLANDS (INSECTA, DIPTERA)

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Introduction

Among the Diptera collected in the Palau Islands by the second author when he joined the Scientific Expedition of Kagoshima University Research Center for the South Pacific, in 1995, the Syrphidae is represented by three species. All species, belonging to two genera, have a wide distribution almost throughout the Indo-Australian Region and Micronesia.

Systematic papers on the Syrphidae of the Palau Islands are not very numerous, however, the majority of species in these islands, including these three, can be identified from the comprehensive work by SHIRAKI (1963).

The present paper lists three species, and the male genitalia of *Syritta orientalis* and *S. oceanica* are described and illustrated.

Subfamily Syrphinae

Tribe Syrphini

1. *Ischiodon scutellaris* (FABRICIUS, 1805)

Scaeva scutellaris FABRICIUS, 1805. Syst. Antl., p. 252.

Syrphus scutellaris : WIEDEMANN, 1830. Aussereurop. zweifl. Insekt., 2: 130.

Sphaerophoria scutellaris : DE MEIJERE, 1908. Tijdschr. v. Ent., 51: 288.

Ischiodon trocanterica SACK, 1913. Ent. Mitt., 2: 6.

Melithreptus ogasawarensis MATSUMURA, 1916. Ent. Mag., Kyoto, 2 (1): 23.

Ischiodon scutellaris : BRUNETTI, 1923. Fauna Brit. Ind., 3: 97.; BEZZI, 1928. Dipt. Fiji Is., p. 72.; CURRAN, 1928. J. Fed. Malay St. Mus., 14 (2): 243.; HULL, 1929. Ins. Samoa, 6: 192.; CURRAN, 1931. J. Fed. Malay St. Mus., 16 (3, 4): 321.; SHIRAKI, 1963. Ins. Micronesia, 13 (5): 132.; KNUTSON et al., 1975. Cat. Dipt. Orient. Reg., 2: 315

Epistrophe magnicornis SHIRAKI, 1963. Ins. Micronesia, 13 (5): 141.

This species is similar to a member of the genus *Sphaerophoria* or *Allograptia*, but is quite distinct and can be recognized by vein Rs reaching tip of costa (or tip of R_{2+3} in *scutellaris*), very large and prominent male genitalia, and ventral surface of hind trochanter with a characteristic process in the male.

Specimen examined: 1 ♀, [PALAU], Malakal Is., Koror, 24. x. 1995, K. KUSIGEMATI.

Distribution: South East Asia to Japan (Ryukyus, Kyushu, Bonin Isls.), Micronesia, Australia.

Subfamily Eristalinae

Tribe Milesiini

2. *Syritta orientalis* MACQUART, 1842

Syritta orientalis MACQUART, 1842, Dipt. Exot. II, 2: 136 (76).

Syritta illucida WALKER, 1860, Linn. Soc. London, Proc. 4: 121.

Syritta rufifacies BIGOT, 1883, Soc. Ent. France, Ann. VI, 3: 538.

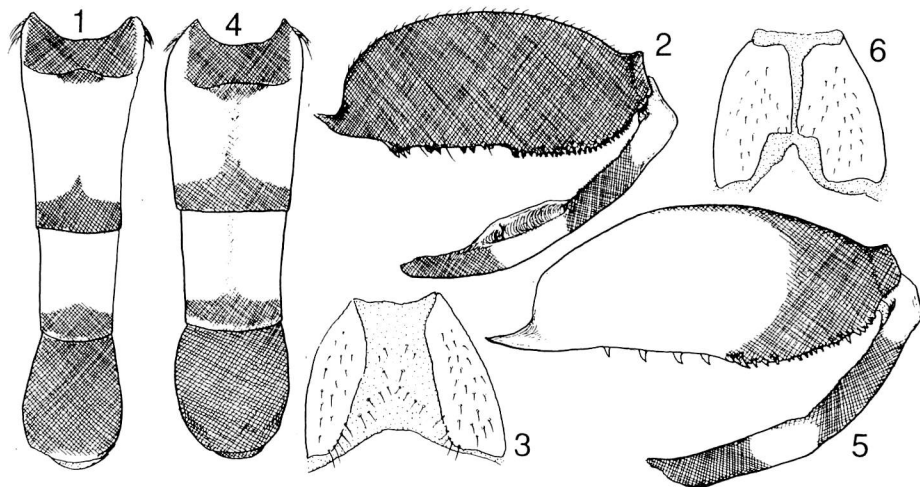
Syritta femorata SACK, 1911, Ent. Mitt. II, 1: 8, fig. 7.

Male: Head black and dull yellow in ground color. Frons black, densely greyish yellow puruinose, face and cheek dull yellow to yellow. Antenna dull yellow; arista yellowish brown to brown, basal 1/5 yellow. Ocellar tubercle shining black. Hairs on face and cheek yellow; occipital hairs yellowish. Lunula slightly produced, but without central knob.

Thorax black in ground color; humerus dull yellow with greyish pollinosity, mesonotum subshining black, anterior margin with dense greyish yellow pollinosity, short yellow haired; scutellum subshining black, hairs on scutellum yellow, pleural hairs yellow.

Wing hyaline, veins brown, basal portion of veins brownish yellow, stigma brown; squama and its fringe dull yellow. Halter yellow.

Legs almost yellow and following areas brown to brownish black: all coxae and trochanters, basal 1/5 of front and middle femora, hind femur, basal 1/2 of hind tibia except knee, apical 1/3 of hind tibia, dorsal surfaces of all tarsomeres of hind tarsus. All coxae grey pollinose; front and middle legs clothed with yellow hairs. Front tibia short yellow haired; front tarsus short yellow haired and 2-3 black hairs mixed on apical portions on 2nd to 4th tarsomeres. Middle femur clothed with longish yellow to pale yellow hairs on posterior surface, middle tibia short yellow haired, all tarsomeres with many short black bristly hairs on ventral surfaces. Hind femur strongly swollen, with yellow hairs on basal 1/2 of anterior and ventral surfaces, dorsal surface nearly bare, other portion of the femur clothed with short hairs which mostly follow the ground color. Hind tibia sparsely clothed with short yellow hairs, the hairs on distal 1/4 of posterior surface brownish yellow; tibia weakly arched ventrally, antero- and posteromedian portions of ventral surface concaved and developed into strong ridge. Hind tarsus with short black hairs



Figs. 1-6. *Syritta orientalis* and *S. oceanica*. 1-3: *S. orientalis*, 4-6. *S. oceanica*. 1, 4; male abdomen in dorsal view. 2, 5; male left hind femur and tibia in anterior view. 3, 6; male 4th sternite in ventral view.

on dorsal surface and short yellow hairs on ventral surface.

Abdomen dull yellow to orange yellow; 1st tergite, anteromedian portion and posterior 1/4 of 2nd tergite, posterior 1/4 of 3rd tergite, 4th to 6th tergites black. Abdomen long and slender, slightly constricted, being narrowest at posterior portion of 3rd segment. First sternite brown, greyish yellow pollinose, 2nd and 3rd sterna pale yellow, 4th sternite brownish black; sclerotization of the median portion of the 4th sternite weak, the sternite separated into two plates.

Male genitalia: Surstylus with well-defined ventral lobe, without median lobe, ventral lobe conspicuous large, ventral and anterior margin with many long hairs; surstylus long and slender, parallel sided in lateral view, basal portion with many stiff bristles on innersurface. Hypandrium tubular, strongly constricted at posterior 1/3. Cercus large and sclerotized, basal portion convexed laterally.

Length: Body 8-10 mm, wing 5-6 mm

Female: Similar to male, but differs as follows; blackish area of abdominal terga wider, median black line of 2nd and 3rd terga usually distinct.

Length: Body 6-8 mm, wing 4-5 mm

Specimens examined: 1 ♂, [PALAU], Babeldaob Is., Airai, 18. x. 1995, K. KUSIGEMATI; 2 ♂, [PALAU], Ngetengchau, Peleliu Is., 20. x. 1995, same collector; 1 ♂, [PALAU], Elausachel, Imeliik, Babeldaob Is., 23. x. 1995, sweet potato field, same collector; 1 ♂, [PALAU], Malakal Is., Koror, 24. x. 1995; 2 ♀, [PALAU], Ngerngesang, Melekeok, Babeldaob Is., 26. x. 1995, sweet potato field, same collector; 2 ♂ 1 ♀, 29. x. 1995, same locality and collector.

Distribution: India, Malaysia, Java Is., Taiwan, New Zealand, Hawaii, Micronesia.

3. *Syritta oceanica* MACQUART, 1855

Syritta oceanica MACQUART, 1855, Dipt. Exot., 5: 112 (95).

Syritta orientalis (*oceanica*-type): SHIRAKI, 1963. Ins. Micronesia, Diptera, Syrphidae.

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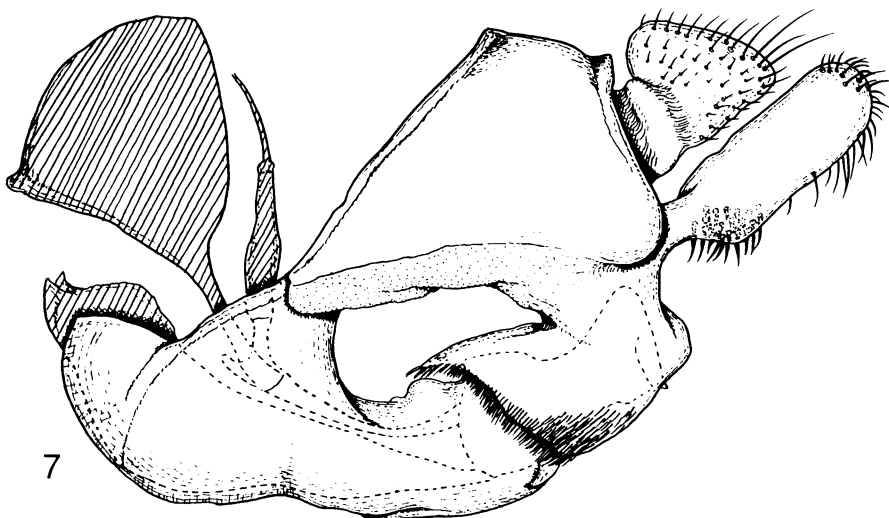


Fig. 7. Male genitalia of *S. orientalis*.

This species is very similar to *S. orientalis* in general appearance. SHIRAKI (1963) treated as a type of *S. orientalis*, but it seems to be a distinctive species by the characteristics of hind leg, male genitalia etc.

Male: Head black and dull yellow in ground color. Frons black, densely greyish white puruinose, face and cheek dull yellow to yellow. Antenna dull yellow to orange yellow; arista yellowish brown to brown, basal 1/5 yellow. Ocellar tubercle shining black. Hairs on face and cheek yellow; occipital hairs yellowish. Lunula slightly produced, but without central knob.

Thorax black in ground color; humerus dull yellow with greyish yellow pollinosity, mesonotum subshining black, anterior margin with dense greyish yellow pollinosity, short yellow haired; scutellum subshining black, hairs on scutellum yellow, pleural hairs yellow.

Wing hyaline, veins brown, basal portion of veins brownish yellow, stigma brown; squama and its fringe dull yellow. Halter pale yellow.

Legs almost yellow to yellow orange and following area brown to brownish black: all coxae and trochanters, apical 1/3 of hind femur, basal 1/2 except knee and apical 1/3 of hind tibia, dorsal surfaces of all tarsomeres of hind tarsus. Dorsal surface of hind femur entirely black to brown in some specimens. Hind femur strongly swollen, short haired, dorsal surface with minute hairs, other portion of the femur clothed with short hairs which mostly follow the ground color. Hind tibia arched ventrally, ventral surface not modified and without ventromedian ridge. Hind tarsus with short brown hairs on dorsal surface and short yellow hairs on ventral surface.

Abdomen dull yellow to orange yellow; 1st tergite, anteromedian portion and posterior 1/5-1/4 of 2nd tergite, posterior 1/4 of 3rd tergite, 4th to 6th tergites black; median portion of 2nd and 3rd terga usually pale brown to brown. First sternite brown, greyish yellow pollinose, 2nd and 3rd sterna pale yellow, 4th sternite brownish black; sclerotization of the median portion of the 4th sternite weak, the sternite narrowly separated. Abdomen slender, but wider than in *orientalis*, being narrowest at posterior portion of 3rd segment.

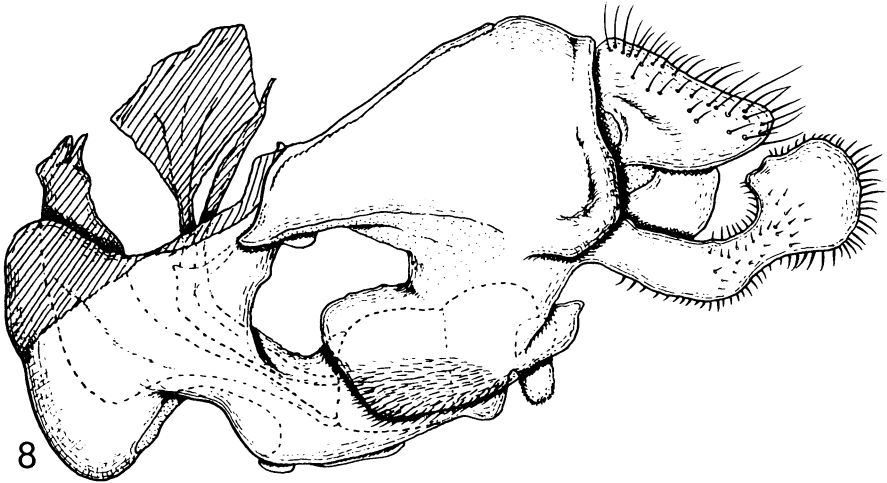


Fig. 8. Male genitalia of *S. oseaica*.

Male genitalia: Surstylus with well-defined ventral lobe, without median lobe, hairs on ventral lobe usually with ventrolateral surface; surstylus long and slender, curved dorsally in lateral view, basal portion without stiff bristles on inner surface, apical 1/3 flattened and dilated. Hypandrium tubular, strongly constricted at middle. Cercus large and sclerotized, basal portion convex laterally.

Length: Body 7.5-8.5 mm, wing 5.0-5.5 mm

Female: Very similar to male, but differs as follows; frons widely separated and with greyish white pollinosity, median black line of the 2nd and 3rd abdominal terga wider.

Length: Body 7.5-8.5 mm, wing 5.0-5.5 mm

Specimens examined: 5 ♂2 ♀, [PALAU], Babeldaob Is., Airai, 18. x. 1995, K. KUSIGEMATI; 3 ♂, [PALAU], Ngetengchau, Peleliu Is., 20. x. 1995, same collector; 1 ♀, [PALAU], Elausachel, Aimeliik, Babeldaob Is., 23. x. 1995, sweet potato field, same collector; 1 ♂, Malakal Is., Koror, 29. x. 1995, same collector.

Distribution: Australia, Tahiti, Hawaii, Micronesia.

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