

# NATURE AND LIFE IN SOUTHEAST ASIA

Edited by

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VOLUME I

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## Editorial Note

The present serial volumes are published at irregular intervals to present the results of biological and anthropological investigations recently made in Southeast Asia. Contributors are mainly Japanese, but future volumes will also be open to other nations.

Volume I contains the scientific results brought by the Osaka City University Biological Expedition to Southeast Asia 1957-58, outlines of which are given in the text by the leader. The 2nd volume is expected to appear in the next year, dealing above all with the botanical, entomological and anthropological contributions from the same expedition. In the lastly mentioned field, an article by Y. Huzioka, *Rohrschach test in Thai villages*, has already been submitted to the editors, but the publication was reluctantly held over to the next volume due to financial difficulty.

In initiating the series, the editors are especially grateful to the members of the Fauna and Flora Research Society, Kyoto for their cordial assistances, and to the Ministry of Education of Japanese Government for a grant in aid of the publication.

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March 1961



## Diptera from Southeast Asia (Part I)\*

Mitsuhiro SASAKAWA\*\*

By courtesy of Dr. K. Yoshikawa I had an opportunity to study a great many specimens of Diptera collected by him, Prof. T. Umesao and Mr. K. Yoda of the Osaka City University and Mr. H. Ikoma in Thailand, Cambodia and Laos. In the following pages is given the first report on 31 species in the collection, among which two are new to science. I wish to express my cordial thanks to these colleagues for their kindness in entrusting this study to me. My thanks are also due to Prof. M. Tokunaga and Mr. H. Ishida for their eager guidance rendered in the course of the present study and to Dr. H. Takahashi for his kind identification of the family Tabanidae.

### NEMATOCERA

#### I. TIPULIDAE

1. *Styringomyia ceylonica* EDWARDS

*Styringomyia ceylonica* EDWARDS, 1911, *Ann. Mag. Nat. Hist.*, 8: 62.

Head yellowish; thorax brownish; abdomen yellow, each tergite with brown caudal margin in male but entirely dark brown in female. Legs yellow, femora with two blackish rings on apical half, tibiae with a narrow ring in middle and a rather broad one at tip. Easily recognized by the highly characteristic wing pattern which is formed of a slight brownish spots over the anterior and posterior cross-veins, and the outer side of the discal cell. Body length 5½-6 mm; wing length 4-5 mm.

Specimens examined: 1♂, 1♀, Chieng Mai, Thailand, 6. II. 1958 (Ikoma).

Distribution: Ceylon, India and Thailand.

2. *Trentepohlia (Trentepohlia) trentepohlii* WIEDEMANN

*Limnobia trentepohlii* WIEDEMANN, 1828, *Auss. Zweifl.*, 1: 551.

Yellowish; abdomen with distal two segments and epandrium brown to blackish brown. Wings with a dark cloud at tip of wing, especially along R<sub>2</sub> and R<sub>3</sub>, differing distinctly from all other Oriental species in this group. Body length 5-6 mm; wing length 5½-6½ mm.

\* Contribution from Ent. Lab., Kyoto Pref. Univ. No. 70.

\*\* Entomological Laboratory, Kyoto Prefectural University, Kyoto, Japan.

Specimens examined: 1♀, 30. XII. 1957; 1♀, 20. I. 1958; 4♂♂, 15-18. II. 1958; 1♂, 16. IX. 1958, Chieng Mai, Thailand (Ikoma).

Distribution: India and Thailand.

3. *Trentepohlia (Mongoma) tenera* OSTEN SACKEN

*Mongoma tenera* OSTEN SACKEN, 1882, *Berl. Ent. Zeit.*, 26: 89.

Brown to dark brown, but pleurae, coxae, trochanters and proximal ends of femora paler, tarsi whitish distally. Wings with a slight gray tinge. Body length 4 mm; wing length 4½ mm.

Specimens examined: 2♂♂, Chieng Mai, Thailand, 30. XII. 1957 (OCUBE).

Distribution: India and Thailand.

4. *Conosia irrorata* WIEDEMANN

*Limnobia irrorata* WIEDEMANN, 1828, *Auss. Zweifl.*, 1: 574.

This species is widely distributed and highly specific in possession of the produced anterior margin of the mesonotum, and the position of the anterior cross-vein distinctly beyond the discal cell, and the wing pattern with anterior brown margin and rows of minute pale brown spots along the veins. It shows a rather wide range of variation in the color markings of the wings and legs. Body length 7(♂)-13(♀) mm; wing length 7½(♂)-9(♀) mm.

Specimens examined: Bangkok, 1♂, 1♀, 18. XII. 1957 (Umesao); Chieng Mai, 1♀, 8. XII. 1957 (Ikoma), 1♂, 2. I. 1958 (Ikoma), 1♀, 23. I. 1958 (Umesao), 1♀, 28. I. 1958 (Yoshikawa), 2♂♂, 1♀, 10-16. II. 1958 (Ikoma), 2♂♂, 1♀, 20-28. II. 1958 (Ikoma), 2♂♂, 1♀, 7-12. III. 1958 (Ikoma), 2♂♂, 24-27. III. 1958 (Ikoma), 1♂, 2♀♀, 20-26. IV. 1958 (Ikoma).

Distribution: India, Burma, Thailand, Java, China, Japan and Australia.

5. *Erioptera* sp.

The present specimen may be probably identified with *E. grandior* BRUNETTI (1912, *Faun. British India, Dipt., Nematocera*, p. 456, ♀). But, I have some hesitation in determining the above fact certainly, since further examinations of more specimens are necessary before a definite identification can be satisfactorily given.

Specimen examined: 1♂, Chieng Mai, Thailand, 10. IV. 1958 (Ikoma).

## II. PSYCHODIDAE

6. *Psychoda alternata* SAY

This is a cosmopolitan species. Body length 1½-2 mm.

Specimens examined: 1♂, 2♀♀, Bangkok, Thailand, 18. XII. 1958 (Umesao & Yoda).

7. *Telmatoscopus albipunctatus* WILLISTON

This species is tropical in distribution, and highly specific in the mottled pattern of the wing; body length 3-4 mm.

Specimens examined: 2♂♂, 1♀, Bangkok, 29. XI. 1957 (Umesao); 5♂♂, 10♀♀, Bangkok, 18. XII. 1958 (Umesao & Yoda); 1♀, Chieng Mai, 14. I. 1958 (Ikoma); 2♀♀, Chieng Mai, 4-5. II. 1958 (Ikoma); 1♂, Chieng Mai, 18. IV. 1958 (Ikoma).

## BRACHYCERA

## III. STRATIOMYIIDAE

8. *Eulalia angulata* PANZER

This species is widely distributed throughout Europe and Central Asia.

Head with vertex brown, frons ventrally, face and genae green; antennae brown, short. Thorax green; mesonotum black, with brown pubescence; scutellum anteriorly blackish and posteriorly brownish, bearing a pair of brown spines; mesopleura ventrally with a slight brown tinge, sternopleura ventrally blackish. Wings hyaline, slightly tinged with yellow anteroproximally; veins pale yellowish brown. Legs yellowish brown. Abdomen green, tergite with broad black median band. Body length 10 mm, wing length 8 mm.

Specimen examined: 1♀, Chieng Mai, Thailand, 24. I. 1958 (Umesao).

## IV. TABANIDAE

9. *Chrysops dispar* FABRICIUS

*Chrysops dispar* FABRICIUS, 1798, *Ent. Syst., Suppl.*, p. 567.

Specimens examined: 1♀, Mae Fack, Thailand, 18. V. 1958; 1♀, Chieng Mai, Thailand, 10. V. 1958; 1♀, Chieng Mai, 10. IV. 1958 (Ikoma).

Distribution: India, Burma, Thailand, Cambodia, Annam, Malaya, Sumatra, S. China and Formosa.

10. *Chrysozona pachycera* BIGOT

*Chrysozona pachycera* BIGOT, 1890, *Nouv. Arch. Mus. Hist. Nat., Paris* (3) 2: 206.

Specimen examined: 1♀, Chieng Mai, Thailand, 11. VII. 1958 (Ikoma).

Distribution: Thailand, Cambodia and Malaya.

11. *Tabanus brunnipennis* RICARDO

*Tabanus brunnipennis* RICARDO, 1911, *Rec. Ind. Mus.*, 4: 160.

Specimen examined: 1♀, Chieng Mai, Thailand, 11. IV. 1958 (Ikoma).

Distribution: S. W. India, Thailand, Burma and Java.

12. *Tabanus equicinctus* S. STEKHOVEN  
*Tabanus equicinctus* S. STEKHOVEN, 1926, *Treubia, Recueil Travaux Zool. Hydro. Ocean.*, 6: 282.  
 Specimen examined: 1♀, Doi Suthep, Thailand, 29. II. 1958 (Ikoma).  
 Distribution: Thailand.
13. *Tabanus rubidus* WIEDEMANN  
*Tabanus rubidus* WIEDEMANN, 1821, *Dipt. Exot.*, 69: 14.  
 Specimens examined: 1♀, Chieng Mai, 12. III. 1958; 1♀, Chieng Mai, 21. III. 1958; 1♀, Chieng Mai, 10. VII. 1958; 1♀, Chieng Mai, 29. VII. 1958; 1♀, Chieng Mai, 8. VIII. 1958; 1♀, Chieng Mai, Thailand, 13. IX. 1958; 1♀, Ban Phanang, Thailand, 20. IX. 1958 (Ikoma); 1♀, Poipet, Cambodia, XII. 1957 (Ume-sao).  
 Distribution: India, Ceylon, Thailand, Burma, Annam, Cambodia, Malaya, Sumatra, Java and S. China.

## V. BOMBYLIIDAE

14. *Anthrax (Hemipenthes) morio* L.  
 This species is very common in Europe and Asia Minor.  
 Head black, face with silvery white hairs. Thorax and abdomen black, lateral margins of mesonotum, pleurae and anterolateral parts of tergites covered with brownish yellow hairs. Wings brownish on proximal half. Legs blackish brown. Body and wing length 11 mm.  
 Specimen examined: 1♂, Pon Makampon, 4. VII. 1958 (Ikoma).
15. *Bombylius major* L.  
 This species is widely spread over Europe, North Africa, Thailand, Japan and North America.  
 Specimen examined: 1♂, Doi Chieng Dao, 19. I. 1958 (Yoda).

## VI. ASILIDAE

16. *Asilus crabroniformis* L.  
 This is a large brown species occurring in Europe, North Africa and Asia. Body length 22-25 mm.  
 Specimens examined: 1♂, 1♀, Chieng Mai, Thailand, 19. VIII. 1958 (Ikoma).

## VII. CONOPIDAE

17. *Physocephala calopus* BIGOT  
*Conops calopus* BIGOT, 1887, *Ann. Soc. Ent. France*, 7: 33.



Head yellow; frons brownish; antennae yellowish brown; proboscis black. Thorax orange-brown; mesonotum black excepting brown lateral sides; scutellum dark brown. Wings pale grey, with brown band anteriorly, extending laterally a little beyond level of termination of  $R_{2+3}$ ; halteres yellowish brown. Legs yellowish to pale brown except for dark brown coxae, hind femora with a broad black median ring occupying about one-half of their whole length, tibiae and tarsi blackish towards tips. Abdomen: first segment blackish brown; second brown, darker at middle, about five times as long as first; third to fifth segments brownish black, with yellow-brown dusted posterior margins, third brown on anterior half; sixth brown, blackish anterodorsally; epandrium and cerci dark brown. Length: Body  $10\frac{1}{2}$  mm, wing  $7\frac{1}{2}$  mm.

This species is easily separated from *P. annulifera* BRUNETTI by the coloration. In the related species, the thorax is entirely black and the abdomen is dark brown.

Specimen examined: 1♂, Doi Inthanon, Thailand, 7. I. 1958 (Yoshikawa).

Distribution: India and Thailand.

#### VIII. SYRPHIDAE

##### 18. *Ceriodes (Monoceromyia) trinotata* DE MEIJERE

*Ceria trinotata* DE MEIJERE, 1904, *Bijd. tot Dierk.*, 18: 97.

A large, black species (17-21 mm. in body length, 11-13 mm. in wing length); vertex with two large yellow spots laterally, face yellow except for black median stripe; antennae brownish black, style whitish; mesonotum shining, with two narrow, longitudinal yellow stripes behind suture on lateral sides and a median yellow triangle before scutellum; humeri, noto-, meso-, sterno- and pteropleura each with conspicuous yellow spot; scutellum yellow along caudal margin; first abdominal tergite with yellow spots laterally, second to fourth tergites each with yellow posterior margin, the fourth with a pair of elongate, yellow spot extending laterad, the second segment extremely narrow and over four times as long as the first; wing grayish hyaline, dark brown on anterior half; halteres yellow; legs with coxae black, femora, tibiae and tarsi dark brown, but former two proximally yellow.

Specimens examined: 1♂, 1♀, Thakhek, Laos, 9. III. 1958 (Yoshikawa).

Distribution: India, Burma, Laos and Cochin-china.

##### 19. *Ceriodes (Primocerioides) yoshikawai* sp. nov. (Fig. 1)

Male. *Head*: Yellow, shining; ocellar triangle, occiput, postgenae and median parts of postorbital dark brown; frons and face each with V-shaped brown-black mark, the former inverted, embracing base of antennal prominence and laterally not touching eyes, and the latter with dorsal both apices extended

for a short distance to base of antennal prominence and ventrally not quite reaching oral margin; genae with a narrow blackish stripe from lower corner of eye to its cephaloventral corner. Eyes contiguous for a very short distance. Antennal prominence testaceous brown; antennae brown, basal parts of first and

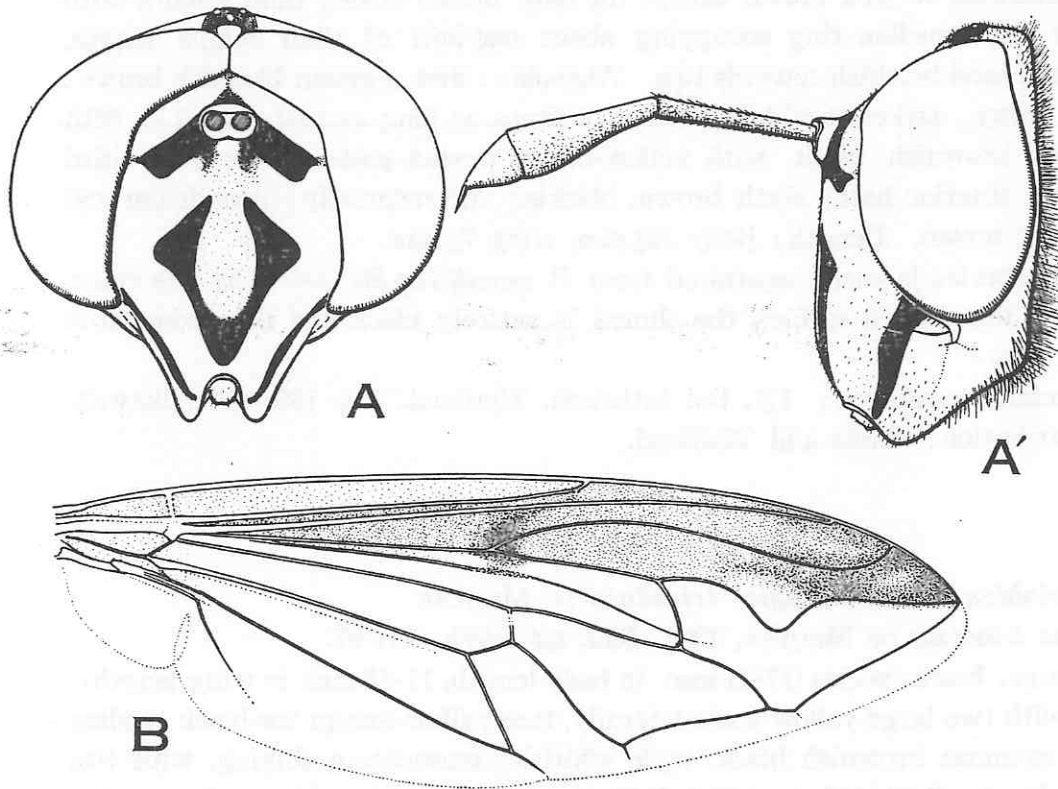


Fig. 1. *Cerioides yoshikawai* sp. nov.  
A. Head. A'. In profile. B. Wing.

third segments paler. Proboscis and palpi ferruginous brown. *Thorax*: Dull black; mesonotum with an inverted V-shaped yellow spot just before scuto-scutellar suture and two pairs of elongate yellow stripes extending posteriorly behind transverse suture on lateral sides, and a pair of broad stripes from humeri to notopleura; scutellum broadly yellow along caudal margin; pro- and mesopleura broadly yellow on about posterior half, sternopleura yellow on dorsal third, hypopleura yellow on dorsal fifth; pleurotergite with large yellow spots. *Wings* grayish hyaline, anterior margin caudad to  $R_{4+5}$  brown; calypteres and halteres yellow. *Legs* with coxae brownish black, trochanters brown, femora yellow, each with brown narrow ring at base, broad one on distal one-third to one-half, and irregular streak on ventral side, tibiae brown, and tarsi pale brown. *Abdomen*: First segment dark brown, paler posteriorly, with yellow lateral spots; second segment brown, with yellow posterior margin,

very narrow, nearly for times as long as first; third and fourth segments blackish brown, each with yellow posterior margin; fifth segment and epandrium brownish yellow.

Length: Body 10 mm, wing  $7\frac{2}{3}$  mm.

Female: Unknown.

Habitat: Laos.

Holotype: 1♂, 9. III. 1958, Thakhek, Laos (Yoshikawa); deposited in the Entomological Laboratory, Kyoto Prefectural University.

This new species is closely related to *Cerioides triangulifera* BRUNETTI (1913), known from India and Burma, but differs from the latter in the coloration of the face, antennae and mesonotum. In *triangulifera* the face is provided with an irregular elongate-triangular spot, the antennae are black, and the mesonotum is entirely black.

20. *Microdon fuscicornis* sp. nov. (Fig. 2)

Male. *Head*: Shiny black, slightly broader than thorax; vertex slightly raised above dorsal level of eyes, frons about one-fifth width of head, its lateral sides converging ventrally; vertex and frons densely with yellowish brown pubescence; face more or less convex, almost parallel-sided, covered with golden white pubescence; antennal prominence glossy; occiput and postgenae grayish pruinose; upper parts of postorbis and postgenae with yellowish brown pubescence and lower parts with brown-whitish pubescence. Antennae

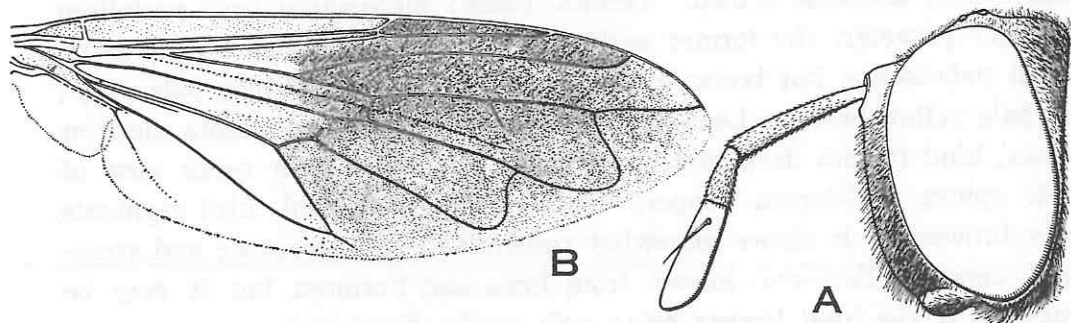


Fig. 2. *Microdon fuscicornis* sp. nov.  
A. Head, in profile. B. Wing.

black, first segment cylindrical, a little longer than third, second segment about one-third as long as first, third segment with a slight brown tinge, two and one-third times as long as second; arista brown proximally. Proboscis yellow. *Thorax*: Black, finely punctate; mesonotum with dense pubescence, which is black and short on mesal part of mesonotum but golden and more conspicuous along transverse suture, lateral and caudal margins of mesonotum and much longer on pleurae; scutellum with a pair of black spines on caudolateral

corners and rather long brown-whitish pubescence; pleurotergite shiny, bare. *Wings* brown on lateral half; calypteres whitish; halteres pale yellow. *Legs* black, slightly brown-tinged, with whitish pubescence. *Abdomen*: First segment black, with a narrow brown posterior margin; second and third segments brown; fourth to sixth segments brownish black, fourth with brown margin on anterior one-fourth; epandrium dark brown, cerci paler; anterior four segments finely punctate, with whitish pubescence, which is longer along caudal or lateral margins of first to third segments and on entire surface of fourth.

Length: Body 11 mm, wing 8 mm.

Habitat: Thailand.

Holotype: 1♂, Doi Inthanon, Thailand, 12. I. 1958 (Yoshikawa); deposited in the Entomological Laboratory, Kyoto Prefectural University.

The present new species somewhat resembles *Microdon apiformis* BRUNETTI and *M. stilboides* WALKER, but may be easily distinguished from these species by the coloration of the abdomen.

21. *Eristalomyia tenax* LINNÉ

Specimen examined: 1♀, Doi Suthep, Thailand, 16. I. 1958 (Yoshikawa).

This species is widely distributed throughout Europe, Africa, Asia, North America, Australia and New Zealand.

22. *Zelima bistrata* BRUNETTI

*Xylota bistrata* BRUNETTI, 1915, *Rec. Ind. Mus.*, 11: 235.

Head black; antennae brown. Thorax black; mesonotum and scutellum with coppery glimmer, the former with a pair of well-separated stripes bearing golden pubescence, but becoming narrower posteriorly. Wings pale gray; halteres pale yellow-brown. Legs yellowish-brown, coxae and femora more or less darker, hind femora dark brown at middle and tips, with outer row of six black spines. Abdomen coppery black, but second and third segments anteriorly brownish. It shows somewhat resemblance in appearance and structure to *Z. annulata* BRUNETTI known from India and Formosa, but it may be distinguished by the hind femora being pale to the distal ends.

Specimen examined: 1♀, Doi Inthanon, Thailand, 11. I. 1958 (Yoshikawa).

Distribution: India, Thailand and Cochin-China.

23. *Lathyrophthalmus arvorum* FABRICIUS

*Syrphus arvorum* FABRICIUS, 1787, *Mant. Ins.*, p. 335.

This species was originally described from China. The coloration of the femora will distinctly separate *L. arvorum* and *quinquestriatus*; in the present species those are orange or brownish yellow, while the latter black.

Specimen examined: 1♂, Bangkok, Thailand, 29. XI. 1957 (Umesao).

Distribution: China, Malaya, Java, India, Formosa and Okinawa.

24. *Lathrophthalmus quinquestriatus* FABRICIUS  
*Syrphus quinquestriatus* FABRICIUS, 1794, *Ent. Syst.*, 4: 28<sup>o</sup>  
Specimens examined: 1♂, 2♀♀, Doi Inthanon, Thailand, 8. I. 1958 (Umesao).  
This species is recorded from Sumatra, Java, India, Annam, Borneo, Formosa and Japan.
25. *Paragus serratus* FABRICIUS  
*Mulio serratus* FABRICIUS, 1805, *Syst. Antliat.*, p. 186.  
This species is widely distributed in the East (Ceylon, South India, Sumatra, Java, Borneo, New Guinea, Formosa and China), and is easily recognized by its serrated scutellum.
26. *Melanostoma orientale* WIEDEMANN  
*Syrphus orientale* WIEDEMANN, 1824, *Anal. Ent.*, p. 36.  
Specimen examined: 1♀, Doi Chieng Dao, Thailand, 19. I. 1958 (Umesao).  
Distribution: Ceylon, India, Singapore, Burma, Thailand, Annam, China, Java, Borneo, Formosa and Japan.
27. *Syrphus confrater* WIEDEMANN  
*Syrphus confrater* WIEDEMANN, 1830, *Auss. Zweifl.*, 2: 120.  
Specimens examined: 1♂, 1♀, Doi Inthanon, Thailand, 6 & 11. I. 1958 (Yoshikawa); 1♀, Doi Suthep, Thailand, 29. XII. 1957 (Yoshikawa).  
Distribution: New Guinea, Sumatra, India, Thailand, China, Formosa and Japan.
28. *Syrphus ribesii vitripennis* MEIGEN  
*Syrphus ribesii vitripennis* MEIGEN, 1822, *Syst. Besch.*, 3: 308.  
Specimens examined: 1♀, Doi Inthanon, 11. I. 1958; 1♂, Doi Suthep, Thailand, 16. I. 1958 (Yoshikawa).  
Distribution: Europe, India, Thailand, Formosa and Japan.
29. *Syrphus serarius* WIEDEMANN  
*Syrphus serarius* WIEDEMANN, 1830, *Auss. Zweifl.*, 2: 128.  
Specimen examined: 1♂, Doi Suthep, Thailand, 29. XII. 1957 (Umesao).  
Distribution: India, Java, Thailand, China, Korea and Japan.
30. *Syrphus torvus* OSTEN-SACKEN  
*Syrphus torvus* OSTEN-SACKEN, 1875, *Proc. Boston Soc. Nat. Hist.*, 18: 139.  
Specimen examined: 1♀, Doi Suthep, Thailand, 23. II. 1958 (Ikoma).  
Distribution: Europe, India, Thailand, Formosa, Japan and North America.

31. *Ischiodon scutellaris* FABRICIUS

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

This species is one of the most widely distributed Syrphidis in the East, and unique in having a stick-like tooth on the under side of the hind trochanters.

Specimens examined: 1♂, 1♀, Srakeo, Thailand, 9. XII. 1957 (Umesao).

Distribution: North Africa, India, Assam, Malaya, Thailand, Formosa, Ryukyu Islands and Japan (Amami-Oshima).