

The Genus *Mycodrosophila* OLDENBERG (Diptera, Drosophilidae) of Southeast Asia and New Guinea I. Typical Species

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Abstract Twelve new and seven unrecorded typical species of the genus *Mycodrosophila* with more or less developed costal lappet and deep 2nd costal incision are described and recorded, respectively, from Southeast Asia and New Guinea.

Recent revision of the genus *Mycodrosophila* OLDENBERG has been given by WHEELER & TAKADA (1963, 1964) and BOCK (1980, 1982). Therefore, it is unnecessary to repeat description of generic diagnosis. It is enough to note that typical species of the genus have the costal lappet more or less well developed and 2nd costal incision deep. Present work is a taxonomic treatment of such typical species of Southeast Asia and New Guinea, with descriptions of 12 new species. Type specimens are deposited in Bishop Museum, Honolulu (BM) and the National Science Museum, Tokyo (NSMT).

1. *Mycodrosophila papuana* n. sp.

(Figs. 1A-D)

♂. Body about 2 mm in length. Antenna with 2nd joint yellowish gray, 3rd brownish black. Arista 4/1. Palpus broad, black. Periorbits shining black. Frons shining black, medially triangularly yellow, anteriorly nearly as broad as median length. Face mat gray, yellow above. Carina orange yellow, broad below. Clypeus black. Cheek black, 1/7 as broad as greatest diameter of eye. Mesoscutum shining black. Scutellum black, granulose. Thoracic pleura black, gray pruinose. Acrostichal hairs in 8 rows. Lateral scutellars half as long as apicals. Sterno-index 0.5. Legs yellow; femora black except distal ends; male mid tarsi with several long hairs ventrally (Fig. 1B). Wing hyaline; veins dark; costal lappet large, with faint dark patch below 2nd costal break. C-index 1.3; 4V-index 2.3; 4C-index 1.6; 5x-index 2.3; Ac-index 4.3; C3-fringe 5/7. Halter yellow, knob black. Abdominal tergites (Fig. 1A) mostly black, 1T and 6T yellow, 2T and 5T yellow on anterior halves. Periphallic organs (Fig. 1C) pale yellow, epandrium broad below; surstylus with about 9 teeth. Phallic organs (Fig. 1D) pale yellow; aedeagus shortly bifurcate and finely serrate apically.

Holotype. ♂, Wau, Papua New Guinea, 29. VIII. 1977 (OKADA). Paratype: 1 ♂, same locality as above, 28. VIII. 1977 (OKADA), ex fungi. Holotype in BM, paratype in NSMT.

Distribution. New Guinea.

Relationships. This species resembles *M. ponapeae* WHEELER et TAKADA in having long hairs on mid leg tarsi in male and in the shape of male genitalia. It differs from the latter by having femora black and the 4th abdominal tergite nearly entirely black.

2. *Mycodrosophila malayana* n. sp.

(Figs. 1E-H)

♂. ♀. Body about 3 mm in length. Antenna with 2nd joint orange, 3rd grayish brown. Arista 4/1. Palpus brownish black. Periorbit mat black. Frons anteriorly broader than median length, mostly orange brown, laterally fuscous. Face dark brownish black. Carina large, broader and darker below. Clypeus mat black. Cheek black, about 1/10 as broad as greatest diameter of eye. Mesoscutum dark brown. Scutellum black, somewhat pale apically. Thoracic pleura mat black. Acrostichal hairs in about 10 rows. Lateral scutellars 1/4 as long as apicals, which are nearer to each other than to laterals. Sterno-index 0.7. Legs pale; coxa and femora exclusive of apices black; male mid tarsi with several long hairs (Fig. 1F). Wing hyaline, costal lappet well developed, black patch below 2nd costal break weak. C-index 1.5; 4V-index 1.8; 4C-index 1.3; 5x-index 2.0, Ac-index 4.2; C3-fringe 4/5. Halter yellow, knob black. Abdominal tergites (Fig. 1E) mostly black, 1I and 7I yellow, 2I anterior 2/3 yellow, 3-5I lateroanteriorly yellow. Periphallallic organs (Fig. 1G) pale yellow; epandrium very broad below; surstylus with about 10 teeth. Phallic organs (Fig. 1H) pale yellow; aedeagus apically shortly bifid and finely serrate.

Holotype. ♂, Kuala Lumpur, Malaya, 20-22. VII. 1971 (OKADA). Type in NSMT.

Distribution. Malaya.

Relationships. This species resembles the foregoing species, *M. papuana*, in having long hairs on male mid tarsi, and femora and thoracic pleura black, but it is distinguished from the latter by paler frons and broader lower tip of aedeagus.

3. *Mycodrosophila calceus* n. sp.

(Figs. 1I-J)

♂. Body about 2.5 mm in length. Antenna white. Palpus brown. Periorbit black, narrow. Frons broadly mat whitish yellow. Face white, brownish below. Carina narrow, white. Clypeus brown. Cheek narrow, yellowish white. Mesoscutum dark brown, anteriorly and humeral callus paler. Scutellum brownish black, apically yellowish orange. Acrostichal hairs in about 10 rows. Lateral scutellars 2/7 as long as apicals, which are equally apart from each other and from laterals. Sterno-index 0.6. Legs yellowish gray, femora white. Wing hyaline; costal lappet large; black patch below 2nd costal break distinct. C-index 2.0;

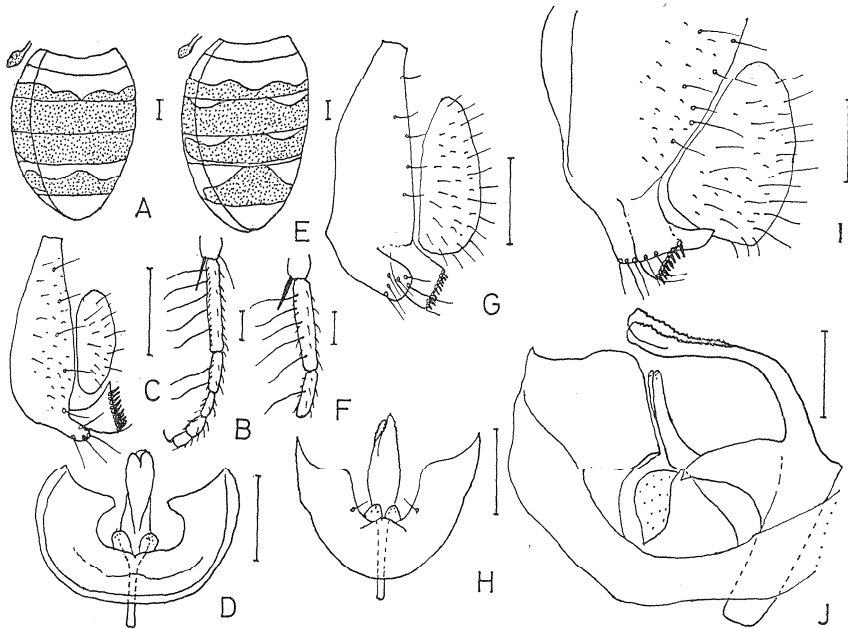


Fig. 1. A-D, *Mycodrosophila papuana*; E-H, *M. malayana*; I-J, *M. calceus*. — A, E, Abdomen; B, F, ♂ mid leg tarsi; C, G, I, periphallallic organs; D, H, J, phallic organs. Scale 0.1 mm.

4V-index 0.6; 4C-index 1.0; 5x-index 1.2; Ac-index 3.0; C3-fringe 2/5. Halter entirely yellowish white. Abdominal tergites mostly black, 1T yellow, 2T anterior half and 7T anterolaterally and caudal margin yellow.Periphallallic organs (Fig. 1I) black; epandrium shoe-shaped below, thus the specific name; surstylus with about 9 teeth. Phallic organs (Fig. 1J) black; aedeagus slender, curved, distally serrate.

Holotype. ♂, Mt Kinabaru, Sabah, 19. XI. 1975 (SHIMA). Type in NSMT.

Distribution. Sabah.

Relationships. This species resembles *M. gracilis* in having thoracic pleura black and scutellum apically pale, but differs by the shape of male genitalia, well developed costal lappet, and halter and legs pale.

4. *Mycodrosophila ciliophora* n. sp.

(Figs. 2A-D)

♂, ♀. Body about 2.5 mm in length. Antenna grayish orange or yellowish white. Arista 4/1. Palpus brownish black. Periorbit black. Frons black, anteriorly and medially orange brown, silvery shining. Face gray. Carina narrow, slightly broader below. Clypeus brownish black. Cheek gray, narrow. Mesoscutum glossy black. Scutellum mat black. Thoracic pleura whitish yellow, usually darkened on

pteropleura, mesopleura and sternopleura. Scutellars as usual. Sterno-index 1.5. Legs yellow; male mid tarsi with several long hairs caudally (Fig. 2D). Wing hyaline; costal lappet large; black patch below 2nd costal break large, reaching R_{4+5} . C-index 1.3; 4V-index 2.2; 4C-index 1.7; 5x-index 2.1; Ac-index 5.0; C3-fringe 7/10. Halter yellow, knob basally black. Abdominal tergites mostly black, 1T yellow, 2T medioanteriorly and laterally, 4T caudolaterally, and 5T anterolaterally yellow. Periphallic organs (Fig. 2A) pale; aedeagus rather broad below; surstylus with 8–9 teeth. Phallic organs (Fig. 2B) pale; aedeagus apically weakly bifid and finely serrate. Ovipositor (Fig. 2C) slender, apically with about 2 pointed teeth.

Holotype. ♂, Mt Maquilang, Luzon, Philippines, 23. X. 1975 (KURAHASHI). Paratypes: 4 ♂, 5 ♀, same data as above. Types in NSMT.

Distribution. Philippines.

Relationships. This species resembles *M. pauana* in having long hairs on male mid tarsi, mostly black abdominal tergites and only medially pale frons, but it differs from the latter by not entirely black thoracic pleura, narrow carina and ventrally narrower epandrium.

5. *Mycodrosophila gordonii* McEVEY et BOCK ?

(Figs. 2E–G)

Thoracic pleura striped, halter with knob black, abdominal tergites black with yellow bands (Fig. 2G), epandrium narrow below (Fig. 2E), and aedeagus finely serrate apically (Fig. 2F) as in *gordonii*, but body smaller and hypandrium (Fig. 2F) not pubescent, different from *gordonii*.

Specimen examined. 1 ♂, Peradeniya, Sri Lanka, 17–19. VIII. 1971 (OKADA).

Distribution. Sri Lanka.

6. *Mycodrosophila missima* n. sp.

(Figs. 2H–J)

♂, ♀. Body about 2 mm in length. Antenna black. Arista 4/1. Palpus brownish black. Periorbits glossy black. Frons velvety black, medioanteriorly yellowish brown, silvery shining. Face brownish black. Carina narrow and long. Mesoscutum glossy black, somewhat shining blue. Scutellum velvety black. Thoracic pleura yellow, medially with a long black stripe, sternopleura dark at middle. Lateral scutellars 2/5 apicals, which are nearer to laterals than to each other. Sterno-index 0.7. Legs yellow. Wing with costal lappet large; black patch below 2nd costal break distinct. C-index 1.0; 4V-index 2.2; 4C-index 2.0; 5x-index 1.3; Ac-index 4.0; C3-fringe 1/2. Halter black, tip of knob pale. Abdominal tergites subshining deep black, 1T yellow, 2T medioanteriorly yellow. Periphallic organs (Fig. 2H) yellowish brown; epandrium pointed below; surstylus with about 9 teeth. Phallic organs (Fig. 2I) yellowish brown; aedeagus weakly bifid apically.

Holotype. ♂, Mt Missim, Wau, Papua New Guinea, 2. X. 1977 (OKADA).

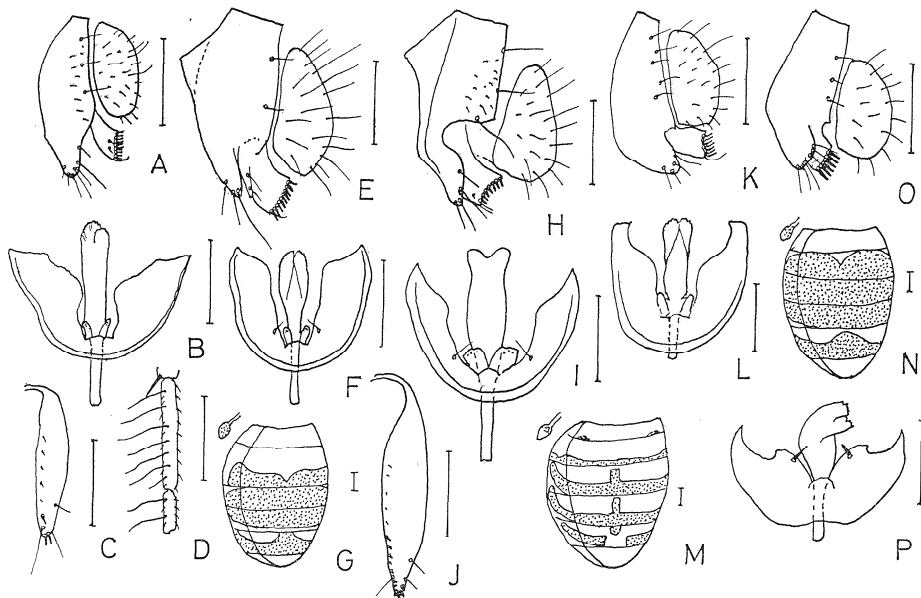


Fig 2. A-D, *Mycodrosophila ciliophora*; E-G, *M. gordoni*?; H-J, *M. missima*; K-M, *M. aqua*; N-P, *M. minor*. — A, E, H, K, O, Peripheral phallic organs; B, F, I, L, P, phallic organs; C, J, ovipositor; D, ♂ mid leg tarsi; G, M, N, abdomen. Scale 0.1 mm.

Paratypes: 2 ♂, same data as above; 1 ♂, 2 ♀, Wau, Papua New Guinea, 18-27. VIII, 9. IX. 1977 (OKADA). Holotype in BM, paratypes in NSMT.

Distribution. New Guinea.

Relationships. This species resembles *M. joalahae* BOCK in well developed costal lapet, distinct black patch below 2nd costal break, and in having black longitudinal stripe on mesopleuron, but it differs from the latter by having dark patch on sternopleura, 4V-index lower, and 6T entirely black.

7. *Mycodrosophila aqua* BOCK

(Figs. 2K-M)

Mycodrosophila aqua BOCK, 1980. Aust. J. Zool., 28: 295 (Australia).

Peripheral phallic organs, phallic organs and abdominal tergites as in Figs. 2K-M.

Specimens examined. 7 ♂, 1 ♀, Lae, Papua New Guinea, 27-29. IX. 1977 (OKADA); 2 ♂, Botanical Garden, Singapore, 27. X. 1975 (OKADA); 1 ♂, 1 ♀, Mt. Maquiling, Luzon, Philippines, 23. X. 1975 (KURAHASHI); 3 ♂, 4 ♀, Kao Yoi, Thailand, 4-5. X. 1975 (KURAHASHI).

Distribution. Australia, New Guinea (n. loc.), Singapore (n. loc.), Philippines (n. loc.), Thailand (n. loc.).

8. *Mycodrosophila minor* BOCK

(Figs. 2N-P)

Mycodrosophila minor BOCK, 1980. Aust. J. Zool., 28: 290 (Queensland).

Periphallic organs, phallic organs and abdominal tergites as in Figs. 2N-P.
Specimens examined. 2 ♂, Swamp Forest, Singapore, 24. VII. 1971 (OKADA).
Distribution. Queensland, Singapore (n. loc.).

9. *Mycodrosophila cornea* n. sp.

(Figs. 3A-C)

♂. Body about 2.5 mm in length. Antenna gray. Arista 4/1. Palpus grayish brown. Periorbit mat brownish black. Frons dusty gray brown. Face mat gray. Carina broader below. Clypeus brownish black. Cheek narrow, black, paler below. Mesoscutum dark brownish black. Scutellum mat black. Thoracic pleura almost entirely yellow. Legs yellow; male fore tarsi with long hairs anteriorly. Wing hyaline; costal lappet absent. C-index 1.4; Ac-index 4.4; C3-fringe 4/5. Halter pale, base of knob fuscous. Abdominal tergites (Fig. 3C) yellow; 2T and 5T black on distal halves; 3-4T nearly entirely black. Periphallic organs (Fig. 3A) yellowish gray; epandrium truncate below; surstylus with about 5 teeth. Phallic organs (Fig. 3B) yellowish brown; aedeagus distally much expanded laterally and pointed horn-like, thus the specific name.

Holotype. ♂, Uluranga, Malaya, 4. VIII. 1973 (YATA). Type in NSMT.

Distribution. Malaya.

Relationships. This species somewhat resembles *M. ciliatipes* DUDA in having long hairs on male fore tarsi and yellow thoracic pleura, but it differs from the latter by male genitalia, obscure wing patch, and pale knob of halter.

10. *Mycodrosophila angularis* n. sp.

(Figs. 3D-F)

♂, ♀. Body about 2-2.2 mm in length. Antenna brown. Arista 3-4/1. Palpus yellowish gray. Periorbit mat black. Frons gray, anteriorly and medially orange yellow. Face brown. Carina long. Clypeus black. Cheek black, caudally pale, 1/8 as broad as greatest diameter of eye. Mesoscutum brownish black, anterolaterally paler. Scutellum black. Thoracic pleura yellow; metanotum black. Acrostichal hairs in 8 rows. Sterno-index about 0.5. Legs yellow, tarsi of male without long hairs. Wing hyaline; costal lappet large; dark patch below 2nd costal break small but distinct. C-index 1.0-1.2; 4V-index 2.1-2.5; 4C-index 2.2; 5x-index 2.3; Ac-index 5.6; C3-fringe 2/5-1/2. Halter black, stalk apically white. Abdominal tergites (Fig. 3F) largely black, 1T, 2T laterally, and 5T caudal margin yellow. Periphallic organs (Fig. 3D) pale yellow; epandrium narrowly pointed below; surstylus with about 5 teeth. Phallic organs (Fig. 3E) pale yellow, aedeagus distally with

2 pairs of angular process, thus the specific name.

Holotype. ♂, Penang, Malaya, 20. VII. 1971 (KUROKAWA). Paratypes; 4 ♂, same data as above; 1 ♀, Singapore, Mc Richi Forest, 16. VII. 1971 (OKADA). Types in NSMT.

Distribution. Malaya, Singapore.

Relationships. This species resembles *M. carola* WHEELER et TAKADA in having angular process of aedeagus, pale palpus, pale thoracic pleura, prominent wing patch, low C-index, black knob of halter, and narrowly pointed ventral tip of epandrium, but it differs from the latter by having no long cilia on fore leg tarsi in male and antenna dark.

11. *Mycodrosophila bicolor* n. sp.

(Figs. 3G-I)

♂, ♀. Body about 2 mm in length. Antenna with 2nd joint yellowish orange, 3rd gray. Arista 4/1. Palpus yellow. Periorbit black. Frons yellowish white nearly entirely. Face gray, black below. Carina pale, narrow. Clypeus black. Cheek yellow, black below eye. Mesoscutum glossy black, metapleura black. Scutellum mat black. Thoracic pleura yellow below notopleural region. Acrostichal hairs in about 10 rows. Lateral scutellars 1/4 as long as apicals, which are nearer to laterals than to each other. Sterno-index 0.5. Wing hyaline; costal lappet well developed; black patch below 2nd costal break large. C-index 1.0; 4V-index 1.7; 4C-index 1.7; 5x-index 2.0, Ac-index 3.4-4.4; C3-fringe 1/2. Halter yellowish white. Abdominal tergites (Fig. 3I) black, 1T laterally, 4T caudally, and 6-7T entirely yellow, thus the specific name. Periphallic organs (Fig. 3G) pale yellow; epandrium gently narrowing below; surstylus with about 5-7 teeth. Phallic organs (Fig. 3II) pale yellow; aedeagus apically bilobed and serrate.

Holotype. ♂, Kuala Lumpur, Malaya, 20-22. VII. 1971 (IKEDA, KUROKAWA). Paratypes: 2 ♂, Penang, Malaya, 20. VII. 1971 (KUROKAWA); 1 ♂, 1 ♀, Pekanbaru, Sumatra, Indonesia, 3-4. VIII. 1971 (OKADA); 1 ♂, 5 ♀, Khao Yoi, Thailand, 4-5. X. 1975 (KURAHASHI). Types in NSMT.

Distribution. Malaya, Indonesia, Thailand.

Relationships. This species somewhat resembles *M. amabilis* (DE MEJERE) in having largely pale frons and bifid and serrate tip of aedeagus, but it differs from the latter by distinct wing patch, ventrally narrow epandrium, and entirely yellow 5-7T.

12. *Mycodrosophila subciliatipes* n. sp.

(Figs. 3J-M)

♂, ♀. Body about 1.8 mm in length. Antenna with 2nd joint orange brown, 3rd gray. Arista 3/1. Palpus yellow, apically black. Periorbit subshining black. Frons nearly quadrate, subshining brownish black, with median narrow longitudinal

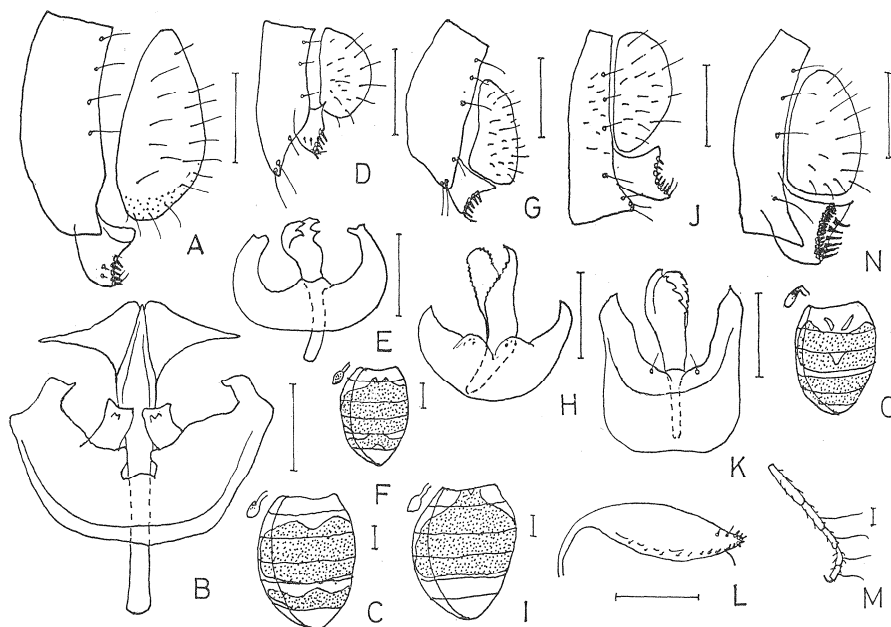


Fig. 3. A-C, *Mycodrosophila cornea*; D-F, *M. angularis*; G-I, *M. bicolor*; J-M, *M. ciliatipes*; N-O, *M. multidentata*. — A, D, G, J, N, Peripheralhallic organs; B, E, H, K, phallic organs; C, F, I, O, abdomen; M, ♂ fore leg tarsi. Scale 0.1 mm.

orange gray area. Face brown. Carina long. Cheek whitish yellow, anteriorly black, 1/10 as broad as greatest diameter of eye. Mesoscutum glossy black, humeral callus brownish. Scutellum mat black, apex rounded. Thoracic pleura white. Acrostichal hairs in 8 rows. Lateral scutellars 1/4 as long as apicals, which are nearer to laterals than to each other. Sterno-index 0.5. Legs yellow, male fore tarsi with a few sparsely arranged long hairs (Fig. 3M). Wing hyaline; costal lappet large; black patch below 2nd costal break distinct. C-index 1.1; 4V-index 2.2-2.6; 4C-index 1.9-2.3; 5x-index 2.0; Ac-index 4.0; C3-fringe 1/2 or more. Halter yellow, base of knob black. Adbominal tergites mostly black, 1T and 6T yellow, 5T lateroanteriorly yellow. Peripheralhallic organs (Fig. 3J) yellow; epandrium broadly truncate below; surstylus with about 10 teeth. Phallic organs (Fig. 3K) yellow; aedeagus orange brown, apically bifid and serrate. Ovipositor (Fig. 3L) yellow, rather broad.

Holotype. ♂, Wau, Papua New Guinea, 19. IX. 1977 (OKADA), *ex fungi*. Paratypes: Papua New Guinea: 9 ♂, 6 ♀, same place as above, 19. VIII-21. IX. 1977 (OKADA); 4 ♂, 1 ♀, Mt Missim, Wau, 2. X. 1977 (OKADA); 1 ♂, Lae, 27-29. VIII. 1977 (OKSADA), all *ex fungi*. Holotype in BM, paratypes in NSMT.

Distribution. New Guinea.

Relationships. This species is closely related to *M. ciliatipes* DUDA in having

ciliated tarsi in male fore leg, well developed costal lappet, and in abdominal pattern, but it differs from the latter by having the leg cilia much more sparse, sternopleura yellow, palpus and antenna paler, and 4V-index larger.

13. *Mycodrosophila multidentata* n. sp.

(Figs. 3N-O)

♂. Body about 2.7 mm in length. Antenna grayish brown. Arista 4/1. Palpus yellow. Periorbit brownish black. Frons grayish brown, medially broadly yellowish gray. Face brownish black. Carina narrow and long. Clypeus black. Cheek black. Mesoscutum deep mat black. Scutellum mat black. Thoracic pleura yellowish orange below notopleural region. Acrostichal hairs in 8 rows. Lateral scutellars 1/3 as long as apicals. Sterno-index 0.4. Legs yellow. Wing hyaline; costal lappet large; black patch below 2nd costal break small. C-index 1.3; 4V-index 2.9; 4C-index 2.3; 5x-index 0.4; Ac-index 4.2; C3-fringe 3/5. Halter yellow, base of knob black. Abdominal tergites (Fig. 3O) mostly black, 1T except laterocaudally, 2T medio-anteriorly and caudally, and 6T yellow. Periphallic organs (Fig. 3N) pale yellow; epandrium truncate and concave below; surstylus with about 15 teeth and several long setae.

Holotype. ♂, Tugu, Java, Indonesia, 27-30. VII. 1971 (OKADA). Type in NSMT.

Distribution. Indonesia.

Relationships. This species is unique among the genus in having numerous teeth on surstylus.

14. *Mycodrosophila parallelinervis* DUDA

(Figs. 4A-D)

Mycodrosophila parallelinervis DUDA, 1926. Suppl. Ent., 14: 57 (Sumatra).

Phallic organs, periphallic organs, ovipositor, and abdominal tergites as in Fig. 4A-D.

Specimens examined. Singapore: 2 ♀, Mc Richi Forest, 16. VII. 1971 (IKEDA). Malaya: 10 ♂, 2 ♀, Penang, 15-20. VII. 1971 (KUROKAWA, IKEDA, OKADA); 3 ♂, 2 ♀, Kuala Lumpur, 18-20. VIII. 1971 (IKEDA, OKADA). Sri Lanka: 5 ♂, 11 ♀, Kandy, 18-20. VIII. 1971 (KUROKAWA, IKEDA, OKADA); 1 ♂, 1 ♀, Colombo, 16-20. VIII. 1971 (OKADA). Papua New Guinea: 10 ♂, 7 ♀, Wau, 25. VIII-11. IX. 1977 (OKADA); 1 ♀, Mt Kaindi, Wau, 3. IX. 1977 (OKADA); 1 ♂, 4 ♀, Bulolo, 23. VIII. 1977 (OKADA); 1 ♀, Lake Kutuba, 1000 m, 7. II. 1978 (KANO).

Distribution. Indonesia, Thailand (n. loc.), Malaya (n. loc.), Singapore (n. loc.), Sri Lanka (n. loc.), New Guinea (n. loc.).

15. *Mycodrosophila amabilis* (DE MEIJERE)

(Figs. 4E-F)

Drosophila amabilis de MEIJERE, 1911. Tijdschr. Ent., 54: 405 (Java).

Periphallic and phallic organs as in Figs. 4E–F. 6T with or without black spot.

Specimens examined. Thailand: 16 ♂, 18 ♀, Khao Yoi, 4–5. X. 1975 (KURAHASHI). Malaya: 6 ♂, 4 ♀, Penang, 20. VII. 1971 (KURAHASHI). Sri Lanka: 1 ♂, Peradeniya, 17–19. VIII. 1971 (OKADA). Indonesia: 1 ♀, Pekanbaru, Sumatra, 2–4. VII. 1971 (OKADA). Singapore: 1 ♂, Botanical Garden, 16. VII. 1971 (OKADA). Papua New Guinea: 6 ♂, Wau, 18. VIII–26. IX. 1977 (OKADA); 2 ♂, 3 ♀, Mt. Missim, 2. X. 1977 (OKADA); 1 ♂, Bulolo, 23. VIII. 1977 (OKADA).

Distribution. Indonesia, Malaya, Singapore (n. loc.), Thailand, Sri Lanka (n. loc.), Micronesia, Solomon Is., New Guinea (n. loc.).

16. *Mycodrosophila aciliata* n. sp.

(Figs. 4G–I)

♂. Body about 2 mm in length. Antenna with 2nd joint dark brown, 3rd gray. Arista 3/1–2. Periorbit mat black. Frons mat black, anteriorly and medially orange yellow, silvery shining. Face yellowish gray. Carina long, broad below. Cheek brown, caudally pale, about 1/7 as broad as greatest diameter of eye. Clypeus brownish black. Mesoscutum glossy black, orange brown at humeral callus. Scutellum mat black. Thoracic pleura yellow below notopleural region. Acrostichal hairs in about 10 rows. Lateral scutellars 1/4 as long as apicals, which are nearer to laterals than to each other. Sterno-index 0.4. Legs yellow; mid metatarsus in male without long hairs, thus the specific name. Wing with costal lappet large, black patch below 2nd costal break large. C-index 1.1; 4V-index 3.0; 4C-index 2.5; 5x-index 2.3; Ac-index 4.5; C3-fringe 2/3. Halter yellow, base of knob black. Abdominal tergites (Fig. 4G) mostly black, with yellowish areas. Periphallic organs (Fig. 4H) pale yellow; epandrium broad below, surstylus with 5–9 teeth. Phallic organs (Fig. 4I) pale; aedeagus not sharply bifid distally; paramere long.

Holotype. ♂, Mc Richi Forest, Singapore, 16. VII. 1971 (OKADA). *Paratype:* 1 ♂, Botanical Garden, Singapore, 16. VII. 1971 (OKADA). Types in NSMT.

Distribution. Singapore.

Relationships. This species resembles *M. biroi* DUDA in general coloration, but it differs from the latter by having no long hairs on male mid metatarsus.

17. *Mycodrosophila gratiosa* (DE MEIJERE)

Drosophila gratiosa DE MEIJERE, 1911. Tijdschr. Ent., 54: 404 (Java).

Further specimens examined. Singapore: 1 ♀, Botanical Garden, 16. VII. 1971 (OKADA); 2 ♂, Mc Richie Forest, 16. VII. 1971 (OKADA). Malaya: 1 ♂, Kuala Lumpur, 20–22. VII. 1971 (OKADA). Sri Lanka: 7 ♂, 3 ♀, Peradeniya, 17–19. VIII. 1971 (OKADA); 2 ♂, Kandy, 18–20. VIII. 1971 (OKADA). Thailand: 4 ♂, 4 ♀, Khao Yoi, 4–5. X. 1975 (KURAHASHI). Philippines: 1 ♂, 3 ♀, Mt. Maquilang, 29. X. 1975 (KURAHASHI). Indonesia: 1 ♂, 1 ♀, Pekanbaru, Sumatra, 1 ♂, 1 ♀, 2–4. VIII. 1971 (OKADA); 1 ♂, Tjibodas, Java, 28. VII. 1971. Ethiopia: 1 ♂, Nazret, 14–15. IX. 1971 (OKADA). Reunion: 3 ♂, 5 ♀, St Denis, 19. VIII. 1979 (KITAGAWA).

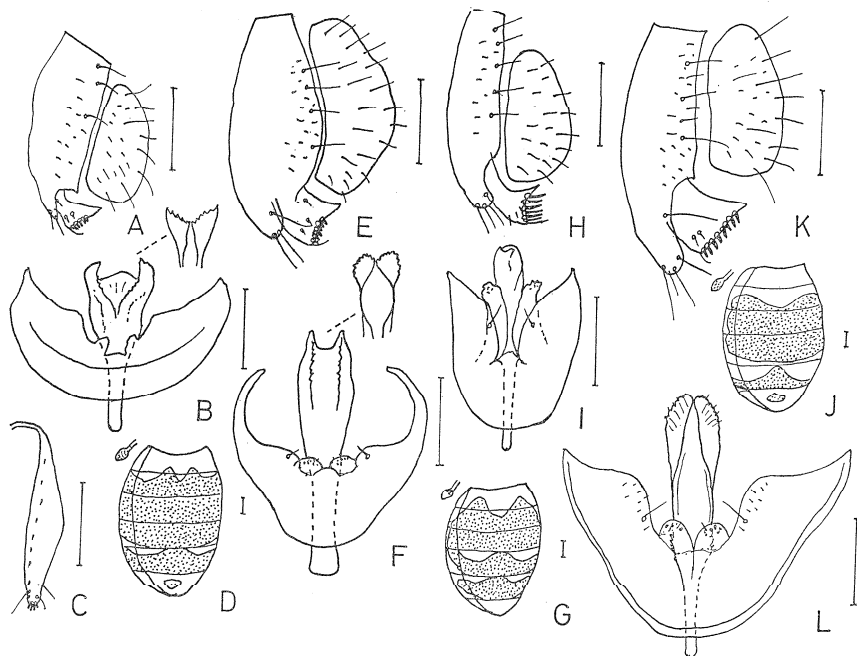


Fig. 4. A-D, *Mycodrosophila parallelinervis*; E-F, *M. amabilis*; G-I, *M. aciliata*; J-L, *M. serrata*. — A, E, H, K, periphallallic organs; B, F, I, L, phallic organs; C, ovipositor; D, G, J, abdomen. Scale 0.1 mm.

Distribution. Indonesia, Malaya, Singapore (n. loc.), Thailand (n. loc.), Sri Lanka (n. loc.), Samoa, Fiji, Micronesia, Tutuila, India, Japan, Korea, Africa.

Remarks. BOCK (1980) considers morphological stableness of *Mycodrosophila* species and different abdominal patterns described for *M. gratiosa* by me (1971) to represent a series of different species. I agree with him and at least move the form from the Ryukyus and the Bonin Is. to a new species described below.

18. *Mycodrosophila serrata* n. sp.

(Figs. 4J-L)

♂, ♀. Body about 2.5–3.0 mm in length. Antenna yellowish white. Arista 4/1. Palpus gray. Periorbit gray, anteriorly broadened. Frons yellowish white, laterally black. Face silvery white. Carina broad. Clypeus black. Cheek white, anteriorly dark. Mesoscutum glossy black. Scutellum mat black. Thoracic pleura yellow below notopleural region. Lateral scutellars 1/3 as long as apicals, which are nearer to laterals than to each other. Sterno-index 0.6. Legs yellow, tarsi fuscous. Wing hyaline; costal lappet large; black patch below 2nd costal break weak. C-index 1.6; 4V-index 2.5; 4C-index 1.2; 5x-index 2.4; Ac-index 4.5; C3-fringe 2/3. Halter white, knob black. Abdominal tergites yellow with black bands as in Fig. 4J.Periphallallic

organs (Fig. 4K) pale yellow; epandrium broad below; surstylus with about 7–10 teeth. Phallic organs (Fig. 4L) pale; aedeagus apically weakly bifid and serrate.

Holotype. ♂, Okiura, Hahajima, Bonin Is., 22–29. VII. 1970 (OKADA). Paratypes: 1 ♂, same data as above; 2 ♂, 2 ♀, Oomura, Chichijima, Bonin Is., 28–29. VIII. 1970 (OKADA, SUZUKI); Ryukyus: 3 ♂, Komi, Iriomote Is., 9. VII. 1966 (OKADA); 1 ♀, Goza, Iriomote Is., 10. VII. 1966 (HIHARA, OKADA); 1 ♀, Omotodake, Ishigaki Is., 6. VII. 1974 (SHINONAGA). Philippines: 3 ♂, Mt. Maquiling, Luzon, 23. X. 1975 (KURAHASHI). Types in NSMT.

Distribution. Bonin Is., Ryukyus, Philippines.

Relationships. This species closely resembles *M. gratiosa* in general features including male genitalia, but it differs from the latter by the color patterns of abdominal tergites.

19. *Mycodrosophila biceps* KANG, LEE et BAHNG

Mycodrosophila biceps KANG, LEE et BAHNG, 1966. Kor. J. Zool., 8: 26 (Korea).

Specimens examined. Taiwan: 1 ♂, 4 ♀, Yunshuei, 12–18. VIII. 1967 (THROCKMORTON); 1 ♂, Chitau, 16–17. VIII. 1967 (OKADA).

Distribution. Korea, Japan, Taiwan (n. loc.),

Other known species from Southeast Asia (typical species): *Mycodrosophila biroi* DUDA (Singapore), *M. ciliatipes* DUDA (Singapore), *M. erecta* OKADA (Ryukyus, Japan), *M. fumusala* LIN et TING (Taiwan), *M. nigropleurata* TAKADA et MOMMA (MALAYSIA), *M. subgratiosa* OKADA (Ryukyus, Taiwan), *M. takachihonis* OKADA (Japan incl. Amami, Korea), and *M. wassermannii* WHEELER et TAKADA (Ryukyus, Micronesia).

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