

Six New and Two Newly Recorded Species of the Genus
Mycodrosophila (Diptera, Drosophilidae) from China

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Abstract Six new and two newly recorded species of the genus *Mycodrosophila* are recorded from China.

There have been no records of the genus *Mycodrosophila* OLDENBERG from China before the present report, which is to record eight species of this genus including six new species. Type specimens are deposited in the Institute of Genetics, Fudan University, Shanghai (FU); some paratypes in the National Science Museum (Nat. Hist.), Tokyo (NSMT).

1. *Mycodrosophila stylaria* CHEN et OKADA, n. sp.

(Fig. 1 A-D)

♂, ♀. Body about 2.7 mm in length. Antenna yellowish brown; arista with about 5 upper and 1 lower branches and a large fork. Palpus reddish brown, with a few very long setae. Ocellar triangle black; periorbit dark brown, paler at the insertions of orbital bristles. Frons glossy silvery white, without frontal hairs, about half as broad as head width. Face reddish brown; clypeus black; carina long and high, orange brown. Cheek yellowish orange, about 1/5 as broad as greatest diameter of eye. Anterior reclinate orbital minute; second oral bristle as long as vibrissa. Mesoscutum black. Thoracic pleura yellow, black at notopleural rigde. Humerals 3, long. Acrostichal hairs in about 10 irregular rows. Lateral scutellars convergent, shorter than apicals. Sterno-index about 0.5. Legs yellow, pre-apicals on hind tibia, apicals on fore and middle. Wing hyaline. A black patch below second break of costa reaching cubitus below. C-index 1.5; 4V-index 2.5; 4C-index 1.7; 5x-index 2.0; C1-bristle 1; C3-fringe 2/3. Halter black.

Periphallalic organs (Fig. 1 A): epandrium pale yellowish brown, caudal margin

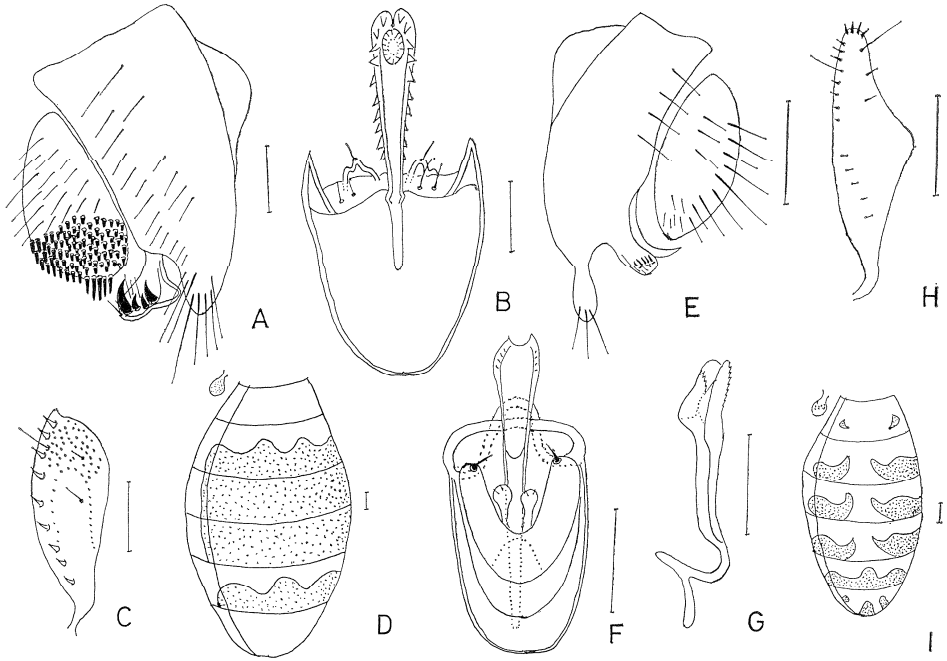


Fig. 1. A-D, *Mycodrosophila stylaria*; E-I, *M. arcuata*. — A, E, Peripheralhallic organs; B, F, phallic organs; G, aedeagus; C, H, ovipositor; D, I, male abdomen. Scale 0.1 mm.

gently pointed; surstylus with about 4 black teeth; cercus with about 50–60 black stout setae on lower 1/3. Phallic organs (Fig. 1 B) dark yellowish brown; aedeagus club-shaped, bilobed at tip, laterally serrated with about 12 denticles; anterior paramere small, with sensilla; novasternum with small submedian spines. Ovipositor (Fig. 1 C) pale yellow, elongate, apically darker.

Holotype ♂, Mt. Zhang Jia Jie, 1,200 m, Hunan Province, China, 25. VIII. 1986 (CHEN, SHENG); allotype ♀, 8 ♂, 2 ♀ paratypes, same data as holotype. Types in FU, 1 ♂, 1 ♀ paratypes in NSMT.

Relationship. This species closely resembles *M. setipalpis* OKADA from Japan in general structure including male genitalia, but differs from the latter in having aedeagus more slender, epandrium more pointed below, and cercus with more numerous stout setae.

2. *Mycodrosophila arcuata* CHEN, SHAO et FAN, n. sp.

(Fig. 1 E–I)

♂, ♀. Body about 2 mm in length. Frons whitish; ocellar triangle and peri-orbits black. Antenna yellow; arista with 3 upper and 1 lower branches and a

large fork. Palpus yellow, apical seta long. Carina narrow and high. Face yellow. Anterior reclinate orbital minute. Cheek yellowish brown, anteriorly dark brown. Only one prominent oral. Mesoscutum and scutellum black. Thoracic pleura yellowish white. Humerals 2. Acrostichal hairs in about 9–10 rows. Lateral scutellars short and convergent. Legs pale yellow; tibia and tarsi of fore leg with long hairs anteriorly; preapicals on all tibiae, apicals on fore and middle. Wing hyaline, black at the end of 1st costal section, slightly fuscous below R_1 . C-index 1.1; 4V-index 1.8; 4C-index 1.7; 5x-index 1.1; C1-bristle 1; C3-finge 2/3. Halter yellow, black at the base of knob. Abdominal tergites (Fig. 1 I) pale yellow, 1T black at lateral corners; 2–4T with medially interrupted black caudal bands; 5T with medially and laterally protruded black caudal band; 6T with black spots medially and laterally. Periphallallic organs (Fig. 1 E) yellow. Epandrium tapering below; surstylus with about 3 black teeth; cercus large. Phallic organs (Fig. 1 F–G) yellow; aedeagus apically broadened and bilobed, with fine serration: anterior paramere small; posterior paramere arcuated; novasternum with stout submedian spines. Ovipositor (Fig. 1 H) pale yellow, slender.

Holotype ♂, Mt. Zhang Jia Jie, 1,200 m, Hunan Province, China, 25. VIII. 1986 (CHEN, SHENG). Allotype ♀ and 7 ♂, 4 ♀ paratypes, same data as holotype. Types in FU, 1 ♂, 1 ♀ paratypes in NSMT.

Relationship. This species is closely related to *M. poecilogastra* (LOEW), but differs from the latter in having aedeagus basally curved ventrad, posterior paramere arcuated, and novasternum with stout submedian spines.

3. *Mycodrosophila koreana* LEE et TAKADA

Mycodrosophila koreana LEE et TAKADA, 1959, Annot. zool. japon., 31: 113.

Specimens examined. 4 ♂, 4 ♀, Mt. Zhang Jia Jie, 1,200 m, Hunan Province, China, 25. VIII. 1986 (CHEN, SHENG).

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

4. *Mycodrosophila gratiosa* (DE MEIJERE)

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

Specimens examined. 5 ♂, 3 ♀, Mt. Zhang Jia Jie, 1,200 m, Hunan Province, China, 25. VIII. 1986 (CHEN, SHENG); 4 ♂, 4 ♀, Jing De Zhen, 500 m, Jiangxi Province, China (CHEN, SHENG, TONG); 3 ♂, 4 ♀, Shanghai, 20. IX. 1987 (CHEN).

Distribution. Indonesia, Malaysia, Sri Lanka, Micronesia, Fiji, Samoa, India, Ethiopia, Reunion, Africa, China (n. loc.), Japan.

5. *Mycodrosophila coralloides* CHEN, SHAO et FAN, n. sp.

(Fig. 2 A–D)

♂, ♀. Body about 2.2 mm in length. Antenna with 2nd joint yellowish brown,

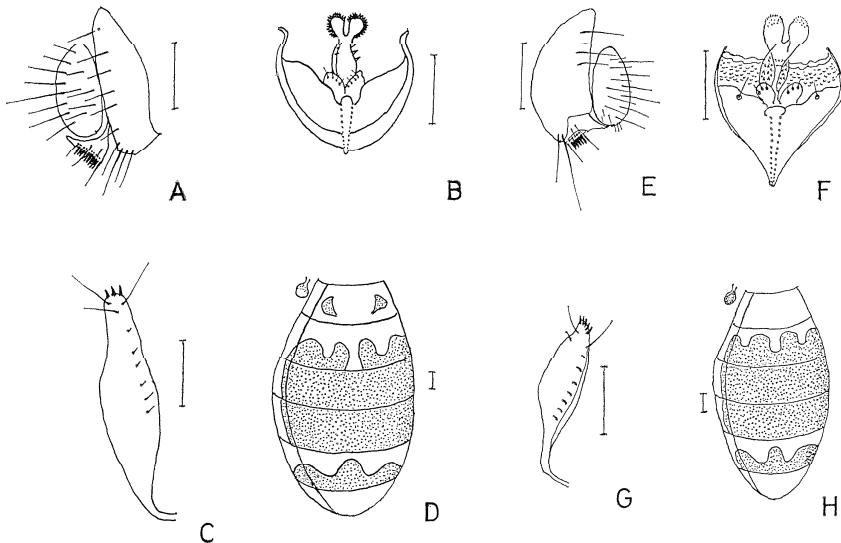


Fig. 2. A-D, *Mycodrosophila coralloides*; E-H, *M. echinacea*. — A, E, Periphallic organs; B, F, phallic organs; C, G, ovipositor; D, H, abdomen. Scale 0.1 mm.

3rd gray. Arista with about 4 upper and 1 lower branches and a fork. Palpus grayish black, with a few weak hairs. Periorbit subshining black. Frons yellowish brown, 3/4 as broad as head width. Face gray. Carina narrow, low. Clypeus brownish black. Thoracic pleura yellowish white, with dark longitudinal stripe along lower part of pteropleuron. Acrostichal hairs in about 10 rows. Lateral scutellars parallel, half as long as apicals, which are equally apart from each other and from laterals. Sterno-index 0.5. Legs yellow. Wing hyaline, with a trace of costal lappet, faintly dark below 2nd costal break. C-index 1.8; 4V-index 1.5; 4C-index 1.1; 5x-index 1.3; C3-fringe 2/3. Halter yellow, base of knob black. Abdominal tergites (Fig. 2 D) pale yellow; 1T black at lateral corners; 2T with large black band, interrupted at middle and incised submedially; 3-4T nearly entirely black; 5T with caudal black band projected at middle and laterally.

Periphallic organs (Fig. 2 A) pale yellow; epandrium quadrate below; surstylus with about 9 black teeth arranged in a row. Phallic organs (Fig. 2 B) pale yellow; aedeagus apically bilobed and finely serrated, laterally with about 3 short stout teeth; anterior paramere oblong, with about 4 sensilla. Ovipositor (Fig. 2 C) slender, pale yellow, with about 12 marginal teeth.

Holotype ♂, Jing De Zhen, 500 m, Jiangxi Province, China, 5. V. 1986 (CHEN, SHENG, TONG); allotype ♀, same data as holotype. Types in FU.

Relationship. This species resembles *M. (Promycodrosophila) quadrata* OKADA from New Guinea in having epandrium broadly truncate below, but it differs from

the latter in having knob of halter basally black, thoracic pleura black striped, black band of 2nd abdominal tergite interrupted at middle, and aedeagus laterally toothed.

6. *Mycodrosophila echinacea* CHEN, SHAO et FAN, n. sp.

(Fig. 2 E-II)

♂, ♀. Body about 2 mm in length. Antenna grayish orange. Arista with about 4 upper and 1 lower branches and a fork. Ocellar triangle and periorbits blackish brown. Frons yellow, half as broad as head width. Palpus blackish brown, with a long apical and several short ventral setae. Clypeus black. Carina grayish orange, broad. Cheek yellow, caudally black, about 1/4 as broad as greatest diameter of eye. Anterior reclinate orbital minute. Mesoscutum black. Thoracic pleura yellow, with a dark longitudinal stripe along lower part of pteropleuron. Lateral scutellars 1/3 as long as apicals. Acrostichal hairs in about 10 rows. Sterno-index 0.5. Legs yellow. Wing hyaline, with a moderate black costal lappet, faintly dark below 2nd costal break. C-index about 1.0; 4V-index about 3.0; 4C-index about 2.4; 5x-index about 2.8; C3-fringe about 4/9. Halter yellow, black at the base of knob. Abdominal tergites (Fig. 2 H) yellow; 2T and 5T with broad black caudal bands which are anteriorly waving; 3-4T nearly entirely black.

Periphallalic organs (Fig. 2 E) pale yellow; epandrium obtuse below; surstylus with about 5 black teeth; cercus oval. Phallic organs (Fig. 2 F) pale yellow; aedeagus apically bilobed and pubescent, laterally echinaceous, thus the specific name; anterior paramere oval, with about 3 sensilla; novasternum pointed anteriorly. Ovipositor (Fig. 2 G) slender, with about 13 marginal teeth.

Holotype ♂, Mt. Hei Shi Ding, 1,200 m, Guangdong Province, China, 12. V. 1984 (CHEN, LIU, FANG), allotype ♀, 2 ♂, 2 ♀ paratypes, same data as holotype. Types in FU, 1 ♂, 1 ♀ paratypes in NSMT.

Relationship. This species resembles *M. koreana* in the shape of male genitalia, but it differs from the latter in having black stripe on thoracic pleura and abdominal tergite with caudal black bands not interrupted at middle.

7. *Mycodrosophila ampularia* CHEN, SHAO et FAN, n. sp.

(Fig. 3 A-D)

♂. Body about 2.7 mm in length. Antenna grayish orange. Arista with about 4 upper and 1 lower branches and a fork. Ocellar triangle and periorbit grayish orange. Frons brown, about half as broad as head width. Palpus blackish brown, with a long apical seta. Clypeus black. Carina grayish orange, broad below. Cheek yellow, about 1/4 as broad as greatest diameter of eye. Anterior reclinate orbital fine. Mesoscutum black; scutellum mat black. Thoracic pleura yellow. Acrostichal hairs in about 10 rows. Sterno-index 0.2. Legs yellow.

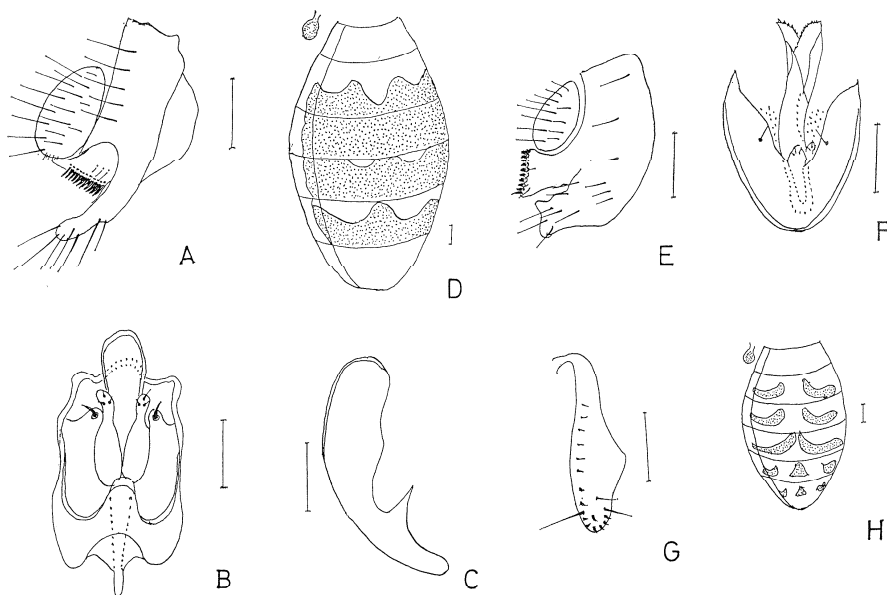


Fig. 3. A–D, *Mycodrosophila ampularia*; E–H, *M. liliacea*. — A, E,Periphallic organs; B, F, phallic organs; C, aedeagus; G, ovipositor; D, H, abdomen. Scale 0.1 mm.

male fore tarsi with long recurved hairs along anterior margin. Wing hyaline; costal lappet large; black patch below 2nd costal break indistinct. C-index 1.5; 4V-index 2.4; 4C-index 1.4; 5x-index 1.7; 3C-fringe 2/5. Halter yellow, knob basally black. Abdominal tergites (Fig. 3 D) yellow; 2T with broad black caudal band, which is incised medially and laterally; 3–4T mostly black; 5T with caudal black band projected medially and laterally.

Periphallic organs (Fig. 3 A) pale yellow; epandrium narrowing below; surstylus with about 11 black teeth; cercus oval. Phallic organs (Fig. 3 B) pale orange; aedeagus robust, curved ventrad near base (Fig. 3 C); anterior paramere large, ampuliform, thus the specific name, with about 3 sensilla; novasternum quadrate.

Holotype ♂, Mt. Hei Shi Ding, 1,200 m, Guangdong Province, 12. V. 1984 (CHEN, LIU, FANG).

Relationship. This species closely resembles *M. subgratiosa* OKADA, similar in male genitalia, but the epandrium is more elongated below and black patch below 2nd costal break indistinct.

8. *Mycodrosophila liliacea* CHEN et OKADA, n. sp.

(Fig. 3 E–H)

♂, ♀. Body about 2.3 mm in length. Antenna orange. Arista with about

4 upper and 1 lower branches and a large fork. Ocellar triangle yellow; periorbit blackish brown. Frons yellow, about half as broad as head width. Palpus yellow, with a long apical and a few short ventral setae. Clypeus brown. Carina orange, narrow. Cheek grayish orange, about 1/5 as broad as greatest diameter of eye. Anterior reclinate orbital minute. Second oral bristle fine. Mesoscutum black, caudally somewhat paler. Scutellum blackish brown. Thoracic pleura yellow. Acrostichal hairs in about 10 rows. Sterno-index 0.8. Legs yellow. Wing hyaline, costal lappet small. C-index 1.0; 4V-index 2.2; 4C-index 1.4; 5x-index 2.2; C3-fringe 4/7. Halter black. Abdominal tergites (Fig. 3 H) yellow; 2-4T with caudal black bands interrupted at middle; 5-6T with black spots.

Periphallic organs (Fig. 3 E) pale yellow; epandrium obtuse below; surstylus with about 4 black teeth; cercus oval. Phallic organs (Fig. 3 F) yellow; aedeagus distally bilobed and finely serrated; anterior paramere small, with about 3 sensilla; novasternum oval. Ovipositor (Fig. 3 G) pale yellow, with about 15 yellowish marginal teeth.

Holotype ♂, Guilin, Guangxi Province, China, 25. V. 1984 (CHEN, LIU, FANG); allotype ♀, 1 ♂, 3 ♀ paratypes, same data as holotype. Types in FU, 1 ♂, 1 ♀ paratypes in NSMT.

Relationship. This species resembles *M. koreana* in abdominal patterns and phallic organs, but differs from the latter in having epandrium more obtuse below.

Key to Species of Chinese *Mycodrosophila*

1. Thoracic pleura without black longitudinal stripe; aedeagus laterally not serrated 2.
- Thoracic pleura with black longitudinal stripe; aedeagus laterally serrated 6.
2. Black bands of abdominal tergites (2-4T) not interrupted at middle. 3.
- Black bands of abdominal tergites (2-4T) interrupted at middle..... 4.
3. Anterior paramere long, ample-like..... *M. ampularia*.
- Anterior paramere conical.....*M. gratiosa*.
4. Epandrium truncate below.....*M. liliacea*.
- Epandrium elongate below..... 5.
5. Posterior paramere arcuated.....*M. arcuata*.
- Posterior paramere obscure.....*M. koreana*.
6. Cercus (♂) with numerous short black teeth on lower 1/3; aedeagus style-like..... *M. stylaria*.
- Cercus (♂) without numerous short black teeth; aedeagus club-shaped, apically bilobed 7.
7. Epandrium truncate below; costal lappet small.....*M. coralloides*.
- Epandrium conical below; costal lappet developed.....*M. echinacea*.

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