

Noona Dan Papers No. 14.

Notes on the Oriental Agromyzidae (Diptera) - 2
Agromyzidae from the Philippines.

By
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I am very grateful to Dr. L. Lyneborg of the Zoological Museum, Copenhagen for the opportunity to study an interesting collection of 47 Agromyzidae from the Philippines obtained by the Noona Dan Expedition, 1961-62.*

Agromyzidae have been collected in the Philippines on a number of occasions and consistently only a very few species have been discovered. I spent some days collecting there myself in February, 1960 and the absence of leaf-mines on apparently suitable host-plants was remarkable. A total of only 16 species has hitherto been known in the Philippines out of more than 100 recorded for the Oriental Region. 19 species are known in the much smaller Micronesian Islands (Spencer, 1962b: 651; 1963b).

The present material comprises 12 species. These include two new species described below and also six species recorded for the first time in the Philippines.

References are not given in full for earlier species; these can all be found in my synopsis of Oriental Agromyzidae (Spencer, 1961a).

Genus **Japanagromyza** Sasakawa

Japanagromyza sp.

Balabac: Dalawan Bay, 1 ♀, 12. x. 1961.

It is impossible to identify this single caught female satisfactorily, as recent studies are showing there are a great number of extremely similar species in this genus. Two species

* See Wolff 1963 (Nature, vol. 198 pp. 1044—1045).

have been recorded in the Philippines — *J. stylata* Sasakawa from Palawan and *J. yoshimotoi* Sasakawa from Mindanao (Sasakawa, 1963).

Genus **Melanagromyza** Hendel

Melanagromyza albisquama (Malloch), 1927.

Mindanao: Sapamoro, Curuan District, 1 ♂, genitalia slide 860, 22. xii. 1961; 3 ♀, 16, 20 and 22. xii. 1961.

Not previously recorded from the Philippines but widespread in the Pacific (Spencer, 1961a: 74; 1962a: 669) and also known from Australia (Spencer, 1963a: 311).

Melanagromyza atomella (Malloch), 1914.

Palawan: Pinigisan, Mantalingajan Range at 600 m., 1 ♀, 6. ix. 1961.

Balabac: Dalawan Bay, 1 ♀, 8. x. 1961.

Previously recorded in the Philippines (Spencer, 1961a: 68; 1962a: 669). An epidermal leaf-miner known throughout the Oriental Region, the Pacific area and Australia as far south as Sydney (Spencer, 1963a: 312).

Melanagromyza metallica (Thomson), 1869.

Palawan: Pinigisan, Mantalingajan Range at 600 m., 3 ♂, 3 ♀, 1—23. ix. 1961.

Tawi Tawi: Tarawakan, north of Batu Batu, 2 ♂, 1 ♀, 13. xi. 1961.

Mindanao: Sapamoro, Curuan District, 9 ♂, 8 ♀, 16—22. xii. 1961.

Previously recorded in the Philippines from Luzon, Mindanao, Negros and Palawan (Spencer, 1961a: 74; 1962a: 672). Widespread in the Oriental, Ethiopian, Australian Regions and Micronesia (Spencer, 1959: 278; 1963a: 317; 1963b: 148).

Melanagromyza rotata sp. n.

A small, shining black species.

Head: frons narrow, slightly less than width of eye; jowls extremely narrow, almost linear, about one-fifteenth vertical height of eye.

Wing: length up to 1.8 mm., last section of vein m₄ short, two-fifths length of penultimate. Externally otherwise agreeing with *M. polyphaga* Spencer, 1961a.

Male genitalia: aedeagus as in Figs. 1a, b, basiphallus asymmetrical, as in *M. centrosematis* de Meijere (cf. Spencer, 1961b: Fig. 2c; 1963a: Fig. 12), distiphallus with bowl-shaped process bearing 12 short, strong spines and partially rotated by 90° and now lying along axis of aedeagus; the two distal tubules greatly elongated; ninth sternite with short, finely-pointed hypandrial apodeme; spermal sac with large blade.

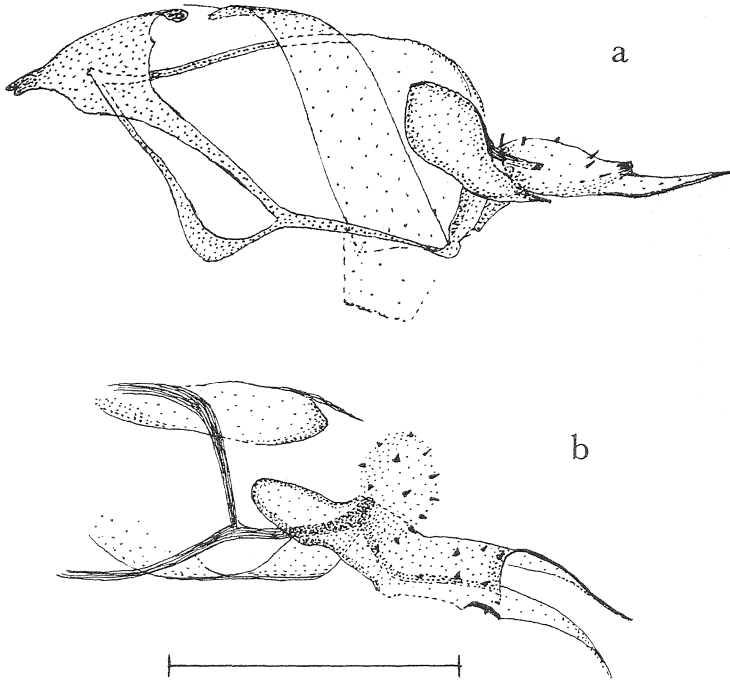


Fig. 1: *Melanagromyza rotata* sp. n. a) aedeagus, side view; b) same, dorsal view. Scale line = 0.1 mm.

Holotype ♂, Philippines, Mindanao: Sapamoro, Curuan District, 20. xii. 1961; paratypes, 1 ♂, 1 ♀, same data. Holotype and one paratype in Zoological Museum, Copenhagen; one paratype in author's collection.

This species can be included in an extension to couplet 23 of the author's (1961a: 67) key to Oriental *Melanagromyza* species as follows:

- 23 Jowls narrow 23a.
- Jowls broader, one-fifth to one-sixth height of eye 24.
- 23a Jowls one-tenth vertical height of eye, frons slightly wider than eye *polyphaga* Spencer.
- Jowls narrow, one-fifteenth vertical height of eye, frons slightly narrower than eye *rotata* sp. n.

Although this species most closely resembles *M. polyphaga*, the form of genitalia shows it is most closely related to *M. centrosematis* and it seems probable that it is also a feeder on Leguminosae.

Melanagromyza tawiensis sp. n.

Head: frons slightly wider than eye viewed from above, not projecting above eye in profile; two strong ors, two apparently weaker ori (all missing, detectable only from large basal pits); ocellar triangle small, apex not reaching level of lower ors; lunule in form of semicircle; cheeks linear, jowls narrow, only one-tenth vertical height of eye; eye apparently bare (but any pilosity possibly destroyed); third antennal segment small, slightly quadrate, arista long, equal to vertical height of eye, slightly pubescent.

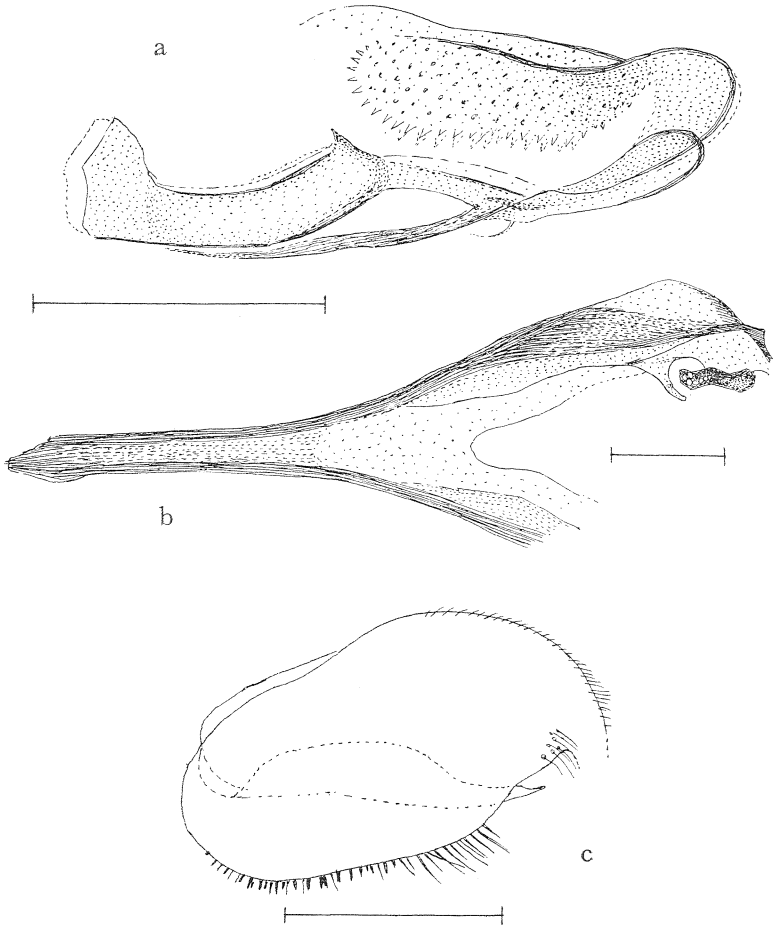


Fig. 2: *Melanagromyza tawiensis* sp. n. a) aedeagus, side view; b) ninth sternite; c) surstylus. Scale line = 0.1 mm.

Legs: fore-tibia with one lateral bristle, mid-tibia with two.

Wing: length 2.7 mm, costa extending to vein m_{1+2} , first cross-vein at mid-point of discal cell, last section of vein m_4 short, in ratio 17:30 with penultimate.

Colour: frons matt black, ocellar triangle only weakly shining, orbits slightly more so; mesonotum shining black, with only faintest coppery tinge, abdomen similar; squamae greyish-brown, margin brown, fringe ochrous brown; halteres brownish-black.

Male genitalia: aedeagus as in Fig. 2a, distiphallus complex symmetrical, mesophallus with two large lateral sidepieces bearing centrally numerous pale, fine spinules; ninth sternite with greatly elongated hypandrial apodeme (Fig. 2b); surstyli large, occupying entire lower half of epandrium, bearing numerous short spines and larger hairs (Fig. 2c).

Holotype ♂, Philippines, Tawi Tawi: Tarawakan, north of Batu Batu, 27. x. 1961, in Zoological Museum, Copenhagen.

In the author's (1961a) key to Oriental *Melanagromyza* species, *M. tawiensis* runs to couplet 20, first alternative, where it can be included in place of *setigera* (Malloch), which has been transferred to the genus *Japanagromyza* (Spencer, 1961c: 326). If the squamal fringe were taken as pale (couplet 1), *tawiensis* would run to *M. alternata*, which is immediately distinguishable by its entirely white squamal fringe.

The aedeagus in this species has no exact parallel but the general form of genitalia is that found in numerous species in the genus.

Melanagromyza sp.

Palawan: Uring Uring at Brookes Point, 1 ♀, 15. viii. 1961.

Mindanao: Sapamoro, Curuan District, 1 ♀, 20. xii. 1961.

It is impossible to identify these specimens with certainty, but they are near *M. cuscutae* Hering (cf. Spencer, 1962a: 670), now known from N.E. Burma, N.E. India and Pakistan, as well as from Europe.

Genus **Ophiomyia** Braschnikow.

Ophiomyia lantanae (Froggatt).

Tawi Tawi: Lapid Lapid at Manalik Channel, 2 ♂, 2 ♀, 19–21. xi. 1961.

Not previously recorded in the Philippines but widespread throughout the Oriental Region (cf. Spencer: 1961a: 80).

Genus **Phytobia** Lioy.

Shizukoa Sasakawa, 1963, *syn. nov.* Type of genus *Shizukoa seticopia* Sasakawa, 1963, in Bishop Museum, Honolulu.

The genus *Shizukoa* was erected because the sub-costa apparently joins vein r_1 as found in the sub-family Agromyzinae, but the surstyli are separated from the epandrium by a suture, which had hitherto only been known in the Phytomyzinae. The species placed by Sasakawa in *Shizukoa* in fact belong to the genus *Phytobia*; the species in this genus are large, with the sub-costa appearing to join vein r_1 but always continuing to the costa at least as a fold and have frequently been misidentified as *Agromyza* species. The difference in venation between *Agromyza* and *Phytobia* was illustrated by Spencer (1961a: Fig. 19).

The species known in Europe all feed in trees, the larvae boring in the cambium of young twigs.

Phytobia seticopia (Sasakawa), *comb. nov.*

Shizukoa seticopia Sasakawa, 1963.

Tawi Tawi: Tarawakan, north of Batu Batu, 1 ♀, 5. xi. 1961.

This species was described from North Borneo from a single male. This second specimen agrees closely with the description but has only two bristles on the mid-tibia, not three as in the holotype. However, many species show variation in this respect and in isolated specimens the number of bristles on the mid-tibiae cannot safely be used as a differentiating characteristic.

Phytobia nigrita (Malloch), 1914.

Tawi Tawi: Tarawakan, north of Batu Batu, 1 ♀, 27. x. 1961.

This is the first record for the Philippines. The species was described from Formosa and was subsequently recorded in Java (cf. Spencer, 1961a: 83).

Genus **Cerodontha** Rondani.**Cerodontha (Icteromyza) floresensis** Spencer, 1961a.

Mindanao: Sapatmor, Curuan District, 1 ♂, 16. xii. 1961.

This species has previously been recorded from Negros in the Philippines (Spencer, 1962a: 677).

Genus **Liriomyza** Mik.**Liriomyza palauensis** Spencer, 1963b.

Palawan: Uring Uring at Brookes Point, 1 ♀, 18. viii. 1961.

This female agrees exactly with the only other specimen known, the male holotype from Palau (Spencer, 1963b: 159).

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