

**Seven new species of *Agromyzidae* from Spain,
together with other new and interesting records
(Diptera)**

BY

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I. DESCRIPTION OF NEW SPECIES.

***Melanagromyza foeniculi* sp. nov. (fig. 1).**

On 18. iv. 1958 puparia were obtained from last season's stems of *Foeniculum vulgare* L. growing around the quarry at Castelldefels, Barcelona. Three flies emerged at the beginning of May and the species is new to science:

Head: frons twice width of eye, at foremost ocellus. Orbits conspicuously raised above frons and projecting above eye in profile, widening anteriorly to broadest point at upper margin of lunule, here each orbit occupying about one-third distance between eye margins. Cheeks forming broad ring around eye, slightly wider below centre of eye. Jowls uniformly rounded below eye, together with cheeks one-fifth vertical height of eye. Two strong upper orbital bristles, the upper directed upwards and outwards, the lower upwards and inwards; three (sometimes four) lower orbitals, incurved, long, the lower only slightly weaker than upper two, these scarcely weaker than upper orbitals. Upper four bristles equidistant, spacing between front two conspicuously wider. Orbital setulae relatively long, in two rows, those nearest eye margin sparser, proclinate, those nearest orbital bristles more numerous, reclinate. Ocellar triangle large, conspicuously shining, indented in frons, extending to upper ori. Lunule large, higher than semicircle, with deep furrow above and narrow indentation along centre, which develops into sharp facial keel dividing base of antennae. Narrow epistoma present. Third antennal segment rounded, without conspicuous pubescence, arista bare, equal in length to width of eye. Eye length: width ratio 23:17.

Mesonotum: 2 dorso-centrals, second at level of supra-alar, two-thirds length of first. Acrostichals short, thick, in 10-12 rows.

Legs: mid-tibia with 2 strong postero-dorsal bristles.

Wing: length in male 2.4 mm, in female 2.6 mm.

Costa extending to vein $m1 + 2$, r-m at front third of discal cell.

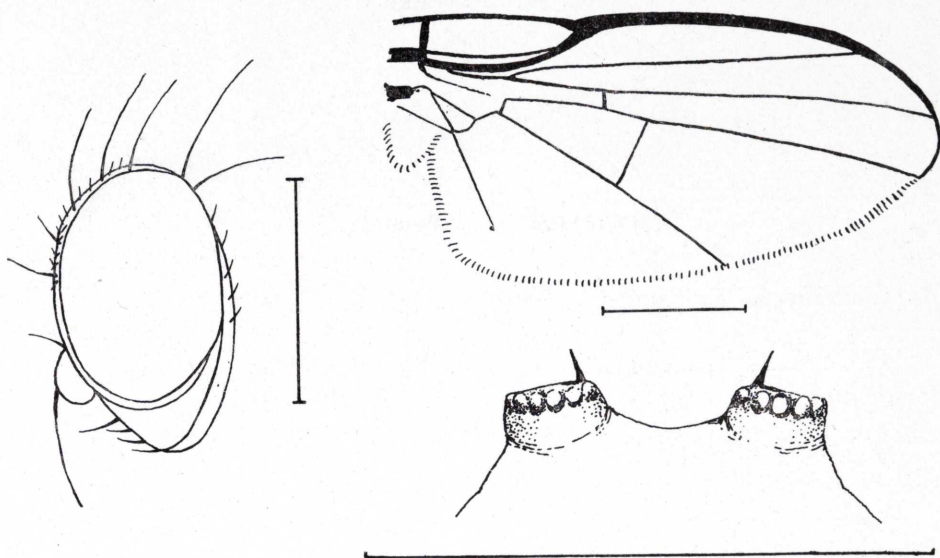


Fig. 1.—*Melanagromyza foeniculi* sp. nov., head, wing and posterior spiracles of puparium (the scale line represent 0,5 mm.).

Colour: frons, jowls matt black. Ocellar triangle shining, coppery-black. Orbits, face and lunule moderately shining-black. Mesonotum slightly shining, predominantly black but with distinct bluish tinge. Abdomen bluish-coppery. Wings hyaline, veins blackish-brown. Squamae whitish, margins pale brown, fringe white.

Puparium 3 mm. \times 1.2 mm., uniformly pale whitish yellow. Posterior spiracular processes each forming raised circle of 10 buds, separated by slightly more than own diameter. The buds are pale brown, weakly chitinised, enclosing a minute horn which arises from a small black central area.

Holotype δ , Spain, Castelldefels, near Barcelona, bred ex stems *Foeniculum vulgare* L. 12. v. 1958 (K. A. Spencer). Paratypes 1 δ , 1 ♀ , same data, all in author's collection.

The species runs to couplet 12 in the author's key of *Melanagromyza* species (1957a) which should now be extended as follows:

12. Squamal fringe fine, silvery-white.
 Posterior spiracular processes of puparium separated at least by own diameter. 12a.
- Squamal fringe coarser, darker. Posterior spiracular processes adjoining. 13.
- 12a. First cross-vein conspicuously close to second.
 Well-defined, narrow epistoma present *foeniculi* sp. nov.
- First cross-vein nearer centre of discal cell. Epistoma lacking, at most scarcely distinguishable from mouth margin *nibletti* Spencer.

The new species is extremely close to *nibletti* Spencer but the characteristic posterior spiracular processes immediately establish it as a distinct species.

***Phytobia (Praspedomyza) cisti* sp. nov.** (fig. 2).

Head: frons broad, twice width of eye, conspicuously projecting above eye in front. One ors directed outwards, three ori directed inwards, all equal. Orbital setulae sparse, directed inwards,

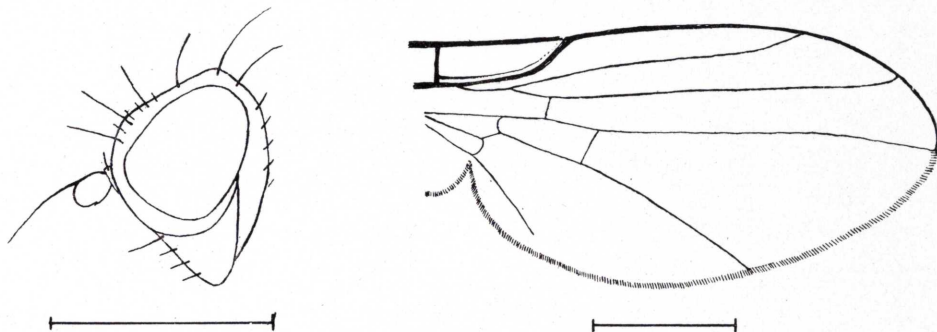


Fig. 2.—*Phytobia (Praspedomyza) cisti* sp. nov., head and wing (the scale line represent 0,5 mm.).

almost forwards. Lunule small and narrow, enclosed by raised frons. Jowls greatly extended at rear, cheeks forming broad ring below eye. Eye conspicuously oblique. Third antennal segment small, round; arista short. Broad epistoma present.

Mesonotum: 3 + 1 dc; second little shorter than first, third and fourth equal, shorter than second. 3 or 4 small hairs preceding first dc, acrostichals and intra-alar hairs entirely lacking.

Wing: length in male 2 mm. Costa extending strongly to just

beyond vein $m1 + 2$, first cross-vein at (or slightly beyond) centre of discal cell, last segment of vein $m4$ $2\frac{1}{2}$ to 3 times penultimate.

Colour: frons dark brownish-yellow, orbits and hind-margin of eye black. Jowls yellowish; face and antennae black. Mesonotum predominantly matt-black, slightly shining from rear; pleura uniformly black, apart from linear whistish-yellow upper margin of mesopleura. Legs black, knees on fore-femora distally yellow, on mid- and hind-legs scarcely differentiated. Abdomen uniformly black. Wings hyaline, veins black. Halteres yellow.

Holotype ♂, Barcelona, Tibidabo, 26. iii. 60 swept on *Cistus crispus* L.; paratypes 5 ♂, same data (K. A. S.). One paratype presented to Prof. E. M. Hering, remainder in author's collection.

These specimens were obtained only on *Cistus crispus* and it seems established that this is the host-plant.

The species runs to couplet 15 in Hendel's (1936) key and is immediately distinguishable from other species in the sub-genus by the lack of acrostichals; the couplet should be extended as follows to include this species and also *Phytobia flavomaculata* described below:

- | | | |
|------|---|---|
| 15. | Stirnstrieme schmutzig gelb. Letzter $m4$ Abschnitt über 2mal so lang wie der vorletzte | 15a. |
| — | Stirnstrieme dunkelbraun bis schwarz. Letzter $m4$ Abschnitt $1\frac{1}{2}$ mal so lang wie der vorletzte | 15b. |
| 15a. | acr in 4-5 Reihen vorhanden | <i>approximata</i> Hend. |
| — | acr fehlen | <i>cisti</i> sp. nov. |
| 15b. | Suturaldepression schwarz | (<i>Amauromyza</i>) <i>monfalconensis</i> (Str.). |
| — | Suturaldepression hellgelb | <i>flavomaculata</i> sp. nov. |

Phytobia (Praspedomyza) flavomaculata sp. nov. (fig. 3).

Head: frons broad, slightly more than half width of eye. Orbist conspicuous, raised above frons, distinctly projecting above eye in profile. Two equal ors, the upper directed slightly outwards, the lower slightly inwards; three ori, only slightly shorter than ors, directed inwards (on one side additional short fourth hair in front). Orbital setulae long, regularly reclinate from lower ori to upper ors. Jowls deepest at rear, in centre below eye one-seventh height of eye; cheeks forming narrow ring below eye. Third antennal segment almost rectangular, though rounded above; arista almost bare, length equal to width of

eye. Linear epistoma present. Lunule narrow, slightly higher than semicircle.

Mesonotum: normally 3 + 1 dc, fourth only slightly shorter than third, but small additional bristles may be present on either side of suture. Acr conspicuously long, in 5-6 irregular rows, a few hairs extending to midway between second and first dc. ia longer than third dc., i. pa conspicuously long, equal to second dc.

Wing: length in female 2.6 mm. Costa extending strongly to vein m 1 + 2, r-m slightly beyond midpoint of discal cell, last segment of m 4 one and a half times length of penultimate.

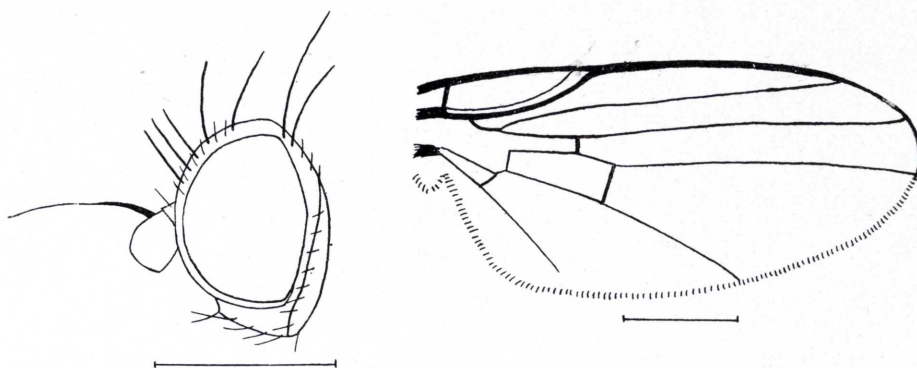


Fig. 3.—*Phytobia (Praspedomyza) flavomaculata* sp. nov., head and wing (the scale line represent 0,5 mm.).

Colour: frons brown above becoming darker in front, orbits and ocellar triangle black, weakly shining, jowls brown, face matt black, epistoma yellowish. Antennae entirely black. Mesonotum matt, dark grey. Sides of thorax black below, bright yellow above; humeral callus black in front of humeral bristle, yellow band commencing at or slightly in front of this bristle and continuing along entire notopleural area; upper and hind margins of mesopleura narrowly yellow. Wing base bright yellow, squamae yellowish-grey, margin and fringe blackish. Wings hyaline, veins dark. Legs entirely black.

Abdomen somewhat shining blackish, narrow hind-margin of sixth tergite bright yellow.

Holotype ♀, Spain, Tibidabo, 20. iv. 58; paratype, same data, both in author's collection.

The species runs to couplet 15 in Hendl's (1936) key and is included in the extension to this couplet given on page 378.

***Phytagromyza iberica* sp. nov.** (fig. 4).

Head: frons at foremost ocellus twice width of eye. Orbits well-defined, raised above frons, clearly projecting above eye in profile, increasingly so anteriorly. Two equal ors projecting predominantly upwards; three ori directed inwards, the two upper similar to ors, the lower somewhat weaker. Four upper or equidistant, two lower ori significantly closer. No orbital setulae. Ocellar triangle bluntly rounded at end, scarcely reaching upper ors. Lunule small, low, below plane of frons, upper margin at level of centre ori. Cheeks forming

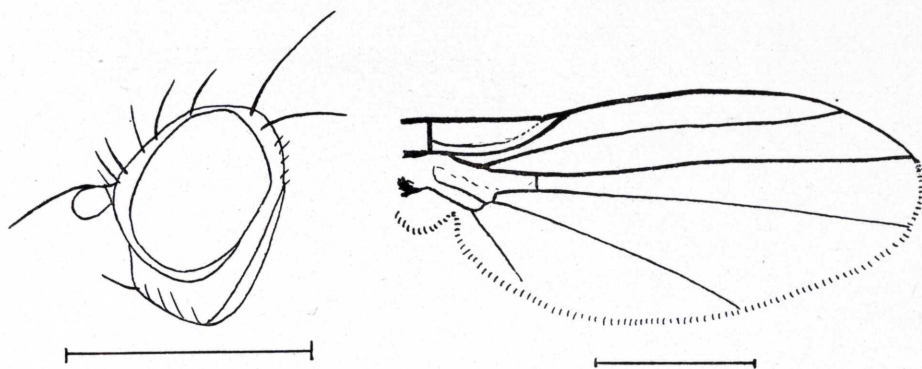


Fig. 4.—*Phytagromyza iberica* sp. nov., head and wing (the scale line represent 0,5 mm.).

broad ring below eye from widest point of orbits at base of antennae. Jowls flat below eye, greatly elongated at rear, in centre one-fifth height of eye. Vibrissa equal to ori, several smaller peristomal hairs. Narrow, tapering epistoma above mouth-margin. Third antennal segment small, rounded; arista bare, short.

Mesonotum: three post-sutural dorso-central bristles, decreasing uniformly in size, distance between first and second slightly greater than between second and third; second at level of supra-alar, third well behind suture. Acrostichals in six rows, extending decreasingly to first dc. Inner post-alar small, scarcely larger than acr.

Wing: length in female 1.9 mm. Costa terminating slightly beyond vein r 5, second costal segment three and a half times length of fourth. Second cross-vein lacking.

Colour: an all-dark species. Frons and jowls matt brown; orbits and ocellar triangle black, largely matt. Face similar, slightly more shining.

Mesonotum predominantly matt black but with distinct subshine. Legs all black, with exception of knees on front femora which are distinctly but narrowly yellow. Abdomen entirely shining black. Wings hyaline, veins blackish brown. Squamae grey, fringe black.

The species can be included in Hendel's (1936) key to this genus at couplet 7, extended as follows:

7. 2 dc hinter der Naht 7a.
 — 3 dc hinter der Naht 7b.
 7a. Der 2. Flügelrandabschnitt 5 mal so lang wie der 3. tp vorhanden
 **orphana** Hendel.
 — 2. Randabschnitt nur 3 mal so lang wie der 3. tp fehlend ... **buhri** de Meij.
 7b. tp vorhanden. Alle Knien schwarz **zernyi** Hendel.
 — tp fehlt. f 1 schmal gelb **iberica** sp. nov.

Holotype ♀, 20. iv. 58, Spain, Tibidabo, near Barcelona (K. A. Spencer), in author's collection.

Phytomyza antennata sp. nov. (fig. 5).

Head: frons twice width of eye, not projecting above eye in profile. Orbits broad, well-differentiated, only slightly raised above frons. Ocellar triangle short, rounded, scarcely extending to upper ors. Two equal ors, one similar ori, all equidistant. Orbital setulae in single row, from upper ors to midway between ori and base of antennae. Jowls deep, one third height of eye, cheeks prominent below eye but narrowing towards base of antennae. Antennae slightly separated, third segment conspicuously large, rounded, with short pubescence, arista relatively long, equal to vertical height of eye.

Mesonotum: 3 + 1 dc, second much smaller than first, only slightly longer than third, third and fourth equal; second dc at level of sa, third at suture, fourth in front of prs. acr short, irregular, four to five rows at fourth dc, single hairs extending to first dc. i. pa strong, equal to fourth dc.

Wing: length in female 2.8 mm. Second costal segment three times length of fourth.

Colour: frons orange-yellow, orbits paler. Black at hind-margin of eye extends only to vte, vti entirely on yellow ground. Jowls yellow. Face predominantly yellow but slightly greyish in depressions bordering central keel. First antennal segment yellow, second and third black. Mesonotum and scutellum matt greyish-black. Pleura predo-

minantly matt greyish-black; humeral area slightly yellowish, upper and hind-margins of mesopleura dull yellow. Legs mainly blackish; fore-coxae slightly yellowish, knees on all legs narrowly yellow. Abdomen dull blackish, front tergites slightly yellowish laterally. Wings hyaline, yellow at base; squamae whitish-grey, fringe dark.

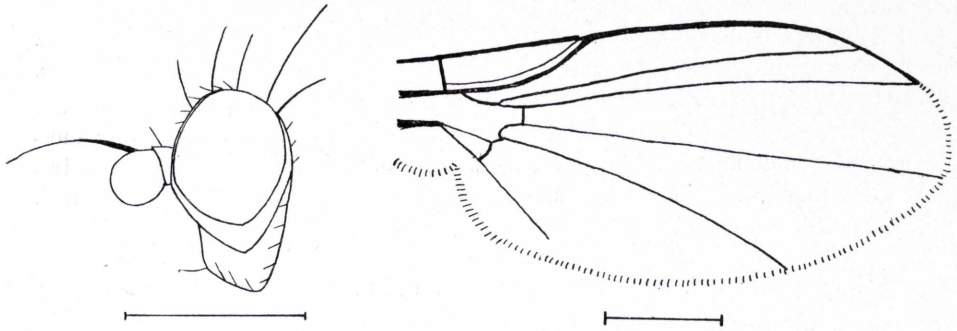


Fig. 5.—*Phytomyza antennata* sp. nov., head and wing (the scale line represent 0,5 mm.).

The species runs to couplet 120 in Hendel's (1936) key, which should be extended as follows:

- | | | |
|--------|---|---------------------------|
| 120. | Die acr reichen hinten bis oder fast zur 1. dc | 120aa. |
| — | Die acr reichen in 4-5 Reihen bis zur 2. dc. 2 ori. Grösse 2 mm | 121. |
| 120aa. | 2. Costalabschnitt 4mal so lang wie der 3. Schwarz des Hinterkopfes reicht an vti heran. Taster gelbbraun | continua Hend. |
| — | 2. Costalabschnitt 3mal so lang wie der 3. vti ganz auf gelbem Grunde. Taster schwarz | 120a. |
| 120a. | 3. Fühlerglied auffallend vergrößert, Wimperung normal. Flügelader dunkel | antennata sp. nov. |
| — | 3. Fühlerglied von normaler Grösse, etwas länger als breit, Wimperung auffallend lang. Ader gelblich | cardui Hering. |

Holotype ♀, Spain, Tibidabo, 20. iv. 58; one paratype, same data, both in author's collection.

***Phytomyza catalaunica* sp. nov. (fig. 6).**

Head: frons twice width of eye, not narrowing anteriorly. Two equal ors directed upwards; two ori directed predominantly inwards, the upper equal to ors, the lower significantly smaller. Orbital se-

tulae conspicuously long, uniformly proclinate. Ocellar triangle not projecting below lower ocellus, apex not reaching level of upper ors. Orbits well-differentiated, raised above frons and distinctly projecting above eye in profile. Jowls angular, deepest at rear, one-third vertical height of eye; cheeks very prominent below eye, half depth of jowls. Third antennal segment small, round; arista very short, in ratio 8:10 with width of eye. Lunule broad but slightly lower than semicircle.

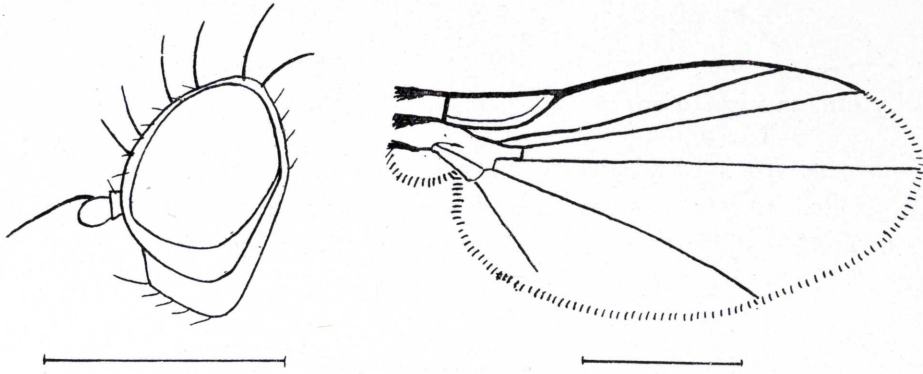


Fig. 6.—*Phytomyza catalaunica* sp. nov., head and wing (the scale line represent 0,5 mm).

Mesonotum: 3 + 1 dc, second and third decreasing uniformly in size, each two-thirds length of preceding one; third and fourth equal. Supra-alar distinctly behind level of second dc. acr irregularly in 3 or 4 rows, only single hairs behind second dc. Weak i. pa present.

Wing: length 2 mm. Second costal segment short, in ratio 2.7:1.5 with fourth.

Colour: frons predominantly dark blackish-brown, blacker above lunule, more brown below ocellar triangle. Upper orbits mainly black, lighter below. Jowls somewhat lighter brown. Antennae black. Mesonotum, scutellum and abdomen blackish-grey, predominantly matt, with only slightest subshine. Pleura slightly more shining black, hind-margins of mesopleura brownish. Legs uniformly blackish; knees on fore-legs faintly lighter. Wings dull, veins r 2 + 3 and r 4 + 5 black, m 1 + 2 and m 3 + 4 much paler. Squamae grey, fringe black.

The species runs to couplet 187 in Hendel's (1936) key, which should be extended as follows:

187. Wangen gleich unter den Fühlerwurzeln sehr schmal 188.
 — Wangen unter dem Auge etwa die halbe Breite der Backen 187a.

- 187a. 2. Costalabschnitt $2\frac{1}{2}$ mal so lang wie der 4. Grössere Art, Flügellänge 2.3-2.8 mm *opaca* Hend.
 — 2. Costalabschnitt weniger als 2mal so lang wie der 4. Kleinere Art, Flügellänge 2 mm *catalaunica* sp. nov.

Holotype ♀, Spain, Montserrat, 19. iv. 58; allotype ♂, Spain, Tibidabo, 20. iv. 58, both in author's collection.

This is the species previously found at Tibidabo and referred to as probably new (Spencer, 1957b, p. 121).

***Phytomyza nigrita* sp. nov. (fig. 7).**

Head: frons broad, twice width of eye, not projecting above eye in profile. Orbits scarcely differentiated, not raised above frons. One ors, directed upwards; three ori, normally all directed inwards. Up-

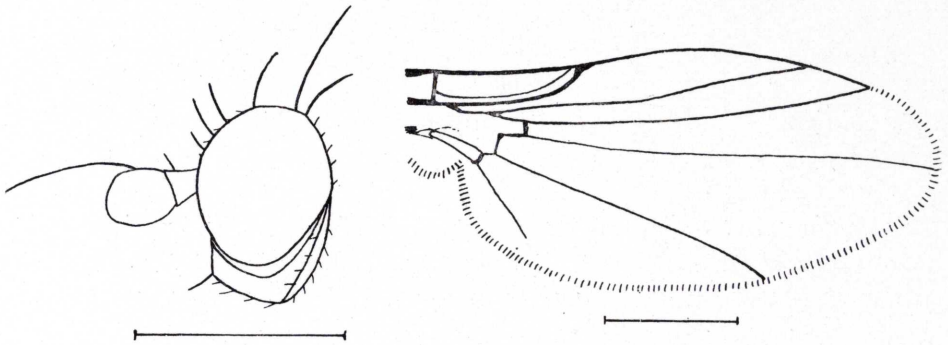


Fig. 7.—*Phytomyza nigrita* sp. nov., head and wing (the scale line represent 0,5 mm.).

per two ori equal to ors, lower shorter; ori close together, equidistant; distance between upper ori and ors greater. Orbital setulae sparse, from ors to mid-ori, proclinate; one or two hairs below reclinate. Ocellar triangle rounded, reaching to level of ors. Lunule broad, semi-circular. Jowls relatively broad, deepest at rear, almost one-quarter vertical height of eye; cheeks linear beside antennae but broad below eye, almost half width of jowls. Antennae slightly separated at base by sharp facial keel, third segment large, rounded; arista long, equal to vertical height of eye. Eye predominantly rounded, height: width ratio 15:13.

Mesonotum: 3 + 1 dc, decreasing uniformly in size; third and

fourth equidistant each side of suture, distance between second and third only slightly less than between first and second. Acrostichals in 4-5 irregular rows, only individual hairs extending beyond second dc. i. pa well-developed, equal to fourth dc.

Wing: length in female 2.3 mm, ratio of second to fourth costal segment 36: 16.

Colour: frons dark-brown, becoming more blackish towards lunule. Jowls dark-brown; face black, weakly shining. Antennae conspicuously black, third segment with contrasting, fine, whitish pubescence. Mesonotum predominantly shining black, scutellum paler, more brownish. Pleura shining black; mesopleura above with narrow yellowish upper and hind-margins. Wings hyaline, veins fairly dark. Wing base bright yellowish; squamae yellowish at base becoming dark grey towards margins which are black; fringe dark. Legs entirely black, knees on fore-legs scarcely perceptibly paler.

Holotype ♀, Spain, Tibidabo (Barcelona), swept on hillside 20. iv. 1958; one ♀ paratype, same data, both in author's collection.

Prof. E. M. Hering has kindly compared the species with the holotype of *Phytomyza ranunculicola* Hering, 1949 (also Hering, 1957) and confirms that the two are distinct. The new species should be incorporated in Hendel's (1936) key as follow:

- 222b. Wangen neben und unterhalb der Fühlerbasis linienartig schmal. Beine ganz schwarz oder die Vorderknie kontrastlos rötlich. Der 2. Vorder-
randabschnitt 1-2mal so lang wie der vierte 222bb.
- Wangen neben den Fühlerwurzeln so breit wie das 3. Fühlrglied.
Vorderknie gelb, die hinteren rötlich. Der 2. Vorderrandabschnitt des
Flügels 3mal so lang wie der 4 **novitzkyi** Hg.
- 222bb. Die 1. or ist nach oben gebogen, die 2.-4. or nach innen gebogen. Me-
sonotum vollglänzend schwarz **nigrita** sp. nov.
- Die 1. or nach aussen, die 2. or nach oben gebogen, 3 und 4. or nach
innen gebogen. Mesonotum mit schwacher schwarzgrauer Bestäubung,
nur noch deutlich fettglänzend **ranunculicola** Hg.

II. BIOLOGY OF "PHYTOBIA (AMAUROMYZA) MADRILENA" SPENCER.

This species was described from specimens obtained on an unknown species of *Labiatae* in the Casa de Campo, Madrid (Spencer, 1957b). On 21. iv. 1958 I found the fly to be extremely common in the same area and was able subsequently to have the host-plant identified as *Phlomis herba-venti* L.

III. ADDITIONAL RECORDS FOR SPAIN.

Agromyza rondensis Str.: The first male and the second specimen recorded. Tibidabo, 20. iv. 58.

A. ocellaris Hend.: Tibidabo, 20. iv. 58 and Apeadero, below Montserrat, 19. iv. 58.

Melanagromyza albocilia Hend., *Ophiomyia alliariae* Hg., *O. melandricaulis* Hg.: Tibidabo, 20. iv. 58.

Phytobia (*Poëmyza*) *deschampsiae* Spencer, Apeadero, 19. iv. 58.

Liriomyza infuscata Hg.: Tibidabo, 20. iv. 58.

Napomyza lonicerella Hend.: Leaf-mines on *Lonicera* sp., Montserrat, 19. iv. 58.

Phytomyza periclymeni Hend.: Leaf-mines on *Lonicera* sp., Tibidabo, 20. iv. 58.

Literature cited.

HENDEL, F.

1931-1936. *Agromyzidae* in: E. Lindner, Flieg. Palaearkt. Reg. 6 (59).

HERING, E. M.

1949. Neue palaearktische *Agromyziden*. Not. ent. xxix: 31.

1957. Blattminen von Europa. 'S-Gravenhage, III: p. 23.

SPENCER, K. A.

1957a. Notes on the British species of *Melanagromyza* Hendel. Proc. R. Ent. Soc. Lond. (B) 26: 179-188.

1957b. Records of *Agromyzidae* in Spain including 3 species new to science. *Eos* 33: 113-122.