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Notes on the Agromyzidae (Diptera) of the Canary Islands

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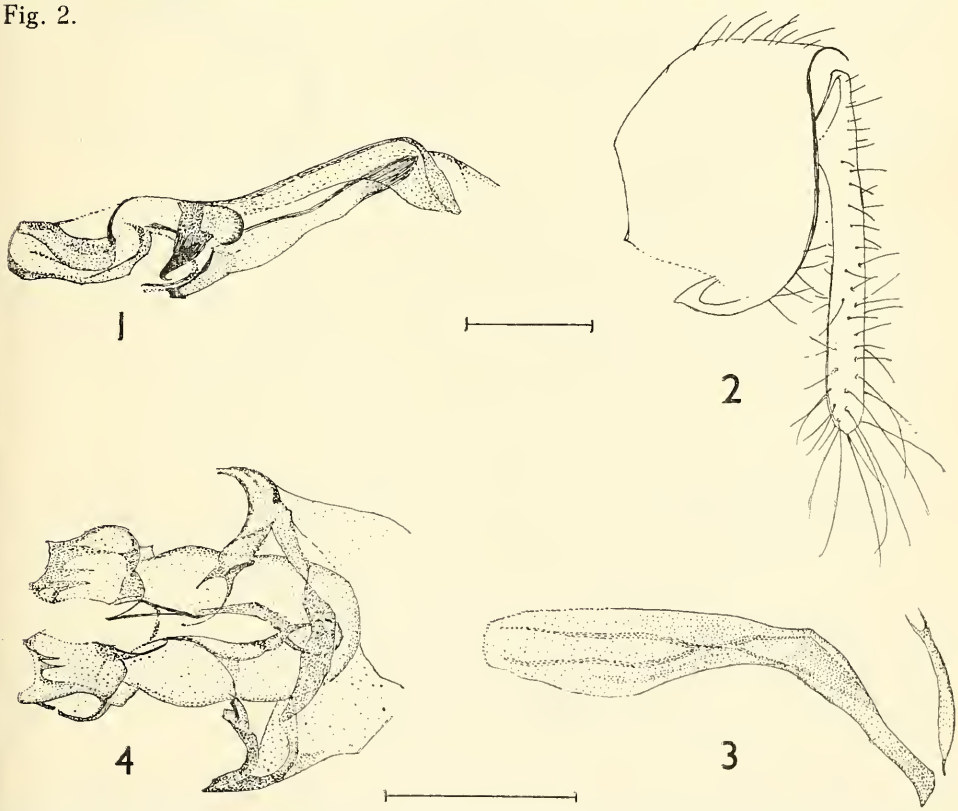
With 14 Figures

The Agromyzidae in the Canary Islands are known to consist of 40 species (Spencer, 1957 a).

During a brief visit to Gran Canaria and Tenerife in February, 1963, I was able to discover the hitherto unknown host-plant of *Agromyza brunnicosa* Becker and *A. hiemalis* Becker and also found one species new to the Canary Islands – *Phytomyza scabiosarum* Hering. The male genitalia of Becker's two species and also of *Agromyza albipila* Becker, *A. hierroensis* Spencer and *Phytomyza lindbergi* Spencer are illustrated below. Brief notes are also given on some other species of interest.

Agromyza albipila Becker, 1908

Becker described this species from Tenerife. I caught one male at Orotava, 14. II. 1963. The aedeagus is shown in Fig. 1 and the unusually long and narrow cerci in Fig. 2.



Figs. 1—4. *Agromyza albipila* Becker: 1, aedeagus; 2, cercus. *Agromyza brunnicosa* Becker: 3, aedeagus, side view; 4, same, ventral view. (Scale line = 0.1 mm.)

I have recently studied two specimens from the Cape area of South Africa which are referable to this species. This is the first record of this species outside the Canary Islands, where it has hitherto been accepted as endemic.

Agromyza brunnicosa Becker, 1908

This species was described from specimens caught on Tenerife in January.

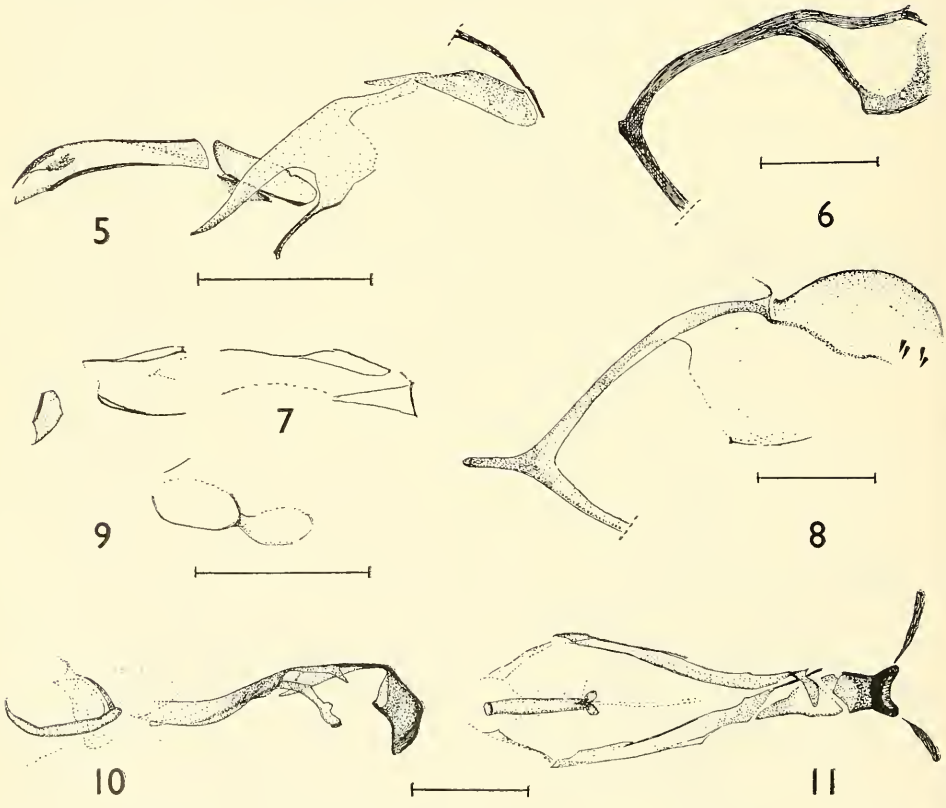
In April, 1926 Hering (1927: 452 and Fig. 20) found leaf-mines on *Malva neglecta* L. near Orotava, Tenerife but failed to breed the adults. I found the same mines along the roadside Orotava—Tacaronte on 15. II. 1963 and two flies emerged on 20. III. 1963. The species proved to be *brunnicosa* Beck.

The complex aedeagus of the male is shown in Figs. 3 and 4.

Agromyza hiemalis Becker, 1908

This species was described from specimens caught on Tenerife in December and January.

Leaf-mines on *Urtica urens* L. which I found at Aguete, Gran Canaria on 13. II. 1963 and at Mercedes and Tacaronte on Tenerife on 14./15. II. 1963 produced numerous flies four weeks later clearly referable to this species and identical with the holotype in the Zoologisches Museum, Berlin, which I have examined.



Figs. 5—11. *Agromyza hiemalis* Becker: 5, aedeagus; 6, ninth sternite. *Agromyza hierroensis* Spencer: 7, aedeagus; 8, ninth sternite; 9, spermal sac. *Phytomyza lindbergi* Spencer: 10, aedeagus, side view; 11, same, ventral view. (Scale line = 0.1 mm.)

The aedeagus of a male from Tacaronte is shown in Fig. 5 and the ninth sternite in Fig. 6; the distiphallus appears to be a single broad tubule and is of an entirely different form from that found in the two other *Urtica* feeders, *A. reptans* Fall. (Nowakowski, 1962: Fig. 8) and *A. urticae* Nowakowski (1964).

Agromyza hierroensis Spencer, 1957 b

This species was described from two males caught at Guarosoca, Hierro. The genitalia of the holotype have now been examined and aedeagus, spermal sac and ninth sternite are illustrated in Figs. 7–9. These show the species to occupy an isolated position, differing substantially from other known species in the genus.

Agromyza myosotidis Kaltenbach

Agromyza myosotidis Kaltenbach (cf. Spencer, 1963 a)
Agromyza hirtella Becker, 1908

I have recently examined the male holotype of *A. hirtella* Becker from Tenerife and was able to establish the synonymy given above.

A. myosotidis is an oligophagous leaf-miner on Boraginaceae and known host plants include *Borago officinalis* L., *Cynoglossum hochstetteri* Vatke and *Symphytum officinale* L., as well as *Myosotis* spp.

Ophiomyia curvipalpis (Zetterstedt)

Agromyza curvipalpis Zetterstedt, 1848

This species was described from the Canary Islands as *prominens* Becker (1908) and subsequently identified as *proboscidea* Strobl (cf. Hendel, 1931—1936: 188—189). The full synonymy is given in my recent Revision of the genus *Ophiomyia* (Spencer, 1964).

I caught one female at Orotava, Tenerife on 15. II. 1963.

Phytoliriomyza arctica (Lundbeck)

This species was described from Greenland and has since been found to occur widely throughout the world. The detailed distribution and full synonymy are given by Spencer (1963 b: 377). This is the species described from Tenerife by Becker as *Agromyza halterata* and I am satisfied that the specimen referred to by Becker as *Agromyza tarsella* Zett. (Becker, 1908: 169) also represents the same species.

I have examined the holotype of *A. tarsella* Zetterstedt in the University Collection, Lund and find that it is synonymous with *Cerodontha denticornis* (Pz.).

Phytomyza burckhardi Hering

This species was described by Hering (1927: 480) from *Senecio papyraceus* D. C. on La Palma. I noticed numerous empty leaf-mines at Mercedes and Tacaronte, Tenerife on *Cineraria* sp., 14. II. 1963.

Phytomyza lindbergi Spencer, 1957

This species was described from a single caught male from El Paso, La Palma. The aedeagus of the holotype is shown in Figs. 10, 11. This closely resembles that of *Ph. atricornis* Mg. but there are small, distinctive differences.

Phytomyza scabiosarum Hering, 1935

Leaf-mines abundant on *Scabiosa columbaria* L. at S. Andres, Tenerife, 14. II. 1963; one female emerged 22. II. 1963. This is a new record for the Canary Islands. The species has previously been known from the Barcelona and Malaga areas and from Southern Germany; I have recently also found it near Catania, Sicily.

Phytomyza cortusifolii **n. sp.**

Head: one strong, upcurved upper orbital bristle, one similar, incurved lower orbital; two or three minute proclinate orbital setulae between the two bristles, one or two reclinate setulae between lower orbital and base of antennae; a single minute setula above upper orbital, probably representing the second upper orbital; jowls broad, cheeks forming distinct ring below eye; third antennal segment large, rounded at end, slightly longer than broad.

Mesonotum: 3 + 1 strong dorso-centrals, fourth only slightly shorter than first; acrostichals sparse, in two rows between fourth and third dc.

Wing: length 2.7 mm in male, 3 mm in female; second, third and fourth costal segments in ratio 50 : 10 : 15.

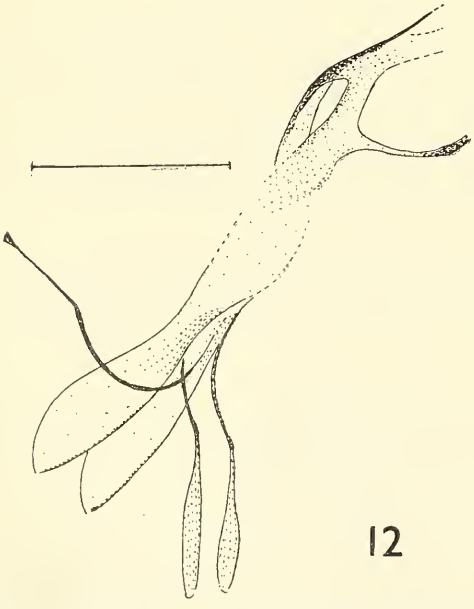
Colour: frons bright yellow, third antennal segment black, first and second yellow; mesonotum basically reddish-yellow but with three ash-grey bands, partially fused, but leaving central area adjoining scutellum yellow; pleura yellow, apart from greyish triangle on lower part of sternopleura; scutellum yellow; legs entirely yellow, tarsi slightly darker; abdomen yellowish-black.

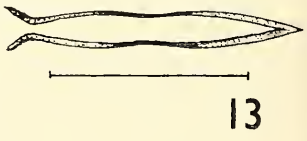
Male genitalia: aedeagus as in Fig. 12, distiphallus in form of two short, upcurved tubules (Fig. 13); spermal sac pale, yellowish; blade broad.

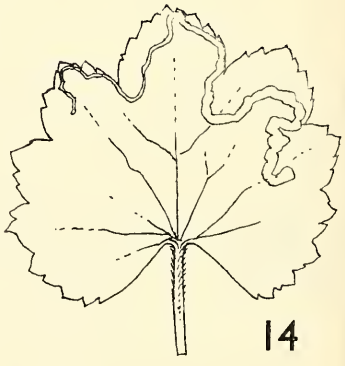
Leaf-mine (Fig. 14): upper surface, whitish channel, becoming conspicuously broad at end; frass deposited in irregular strips at alternate sides of the channel, sometimes forming an unbroken thread.

Holotype ♂, Tenerife, Mercedes, Agua Garcia, ex leaf-mine on *Ranunculus cortusaefolius* Webb & Berth., 2. V. 1926 (O. & M. Hering); 1 ♂, 1 ♀, same data. Holotype and one paratype in coll. Hering, Berlin, one paratype in Zoologisches Museum, Berlin.

This species is externally virtually indistinguishable from *Phytomyza ranunculi* var. *albipes* Meigen (cf. Hendel, 1931—1936: 464) for which it was mistaken by Hering (1927: 417). The aedeagus of *P. ranunculi* is entirely distinct, ending in a long, coiled







Figs. 12—14. *Phytomyza cortusifolii* n. sp.: 12, aedeagus; 13, distiphallus, dorsal view; 14, larval leaf-mine. (Scale line = 0.1 mm.)

tubule (cf. Nowakowski, 1962: Fig. 22). The leaf-mine of the new species is more irregular and distinctly wider than that of typical *ranunculi*. I found the leaf-mines to be extremely common in the Mercedes area on 14. II. 1963 but unfortunately all were empty.

Becker (1908) recorded *Phytomyza ranunculi* from Tenerife. It seems virtually certain that these specimens also represent *Phytomyza cortusifolii*. I have recently examined specimens from Madeira in the Zoologisches Museum, Berlin also identified by Becker as *P. ranunculi* and have found this identification to be correct.

Acknowledgements

I wish to thank Prof. Dr. E. M. Hering, Berlin for sending me the types of Becker's three species from the Zoologisches Museum der Humboldt-Universität, Berlin and Dr. Hackmann for sending me the types of *A. hierroensis* and *P. lindbergi* from the University Museum, Helsinki.

I would also like to thank Prof. Hering for allowing me to describe the new species *Phytomyza cortusifolii* and for suggesting its name.

Finally, I would like to thank my wife for the preparation of the illustrations.

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