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## Notes on the African Agromyzidae (Diptera) - 1

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Following publication of a synopsis of the African Agromyzidae (SPENCER, 1959), with a supplement (SPENCER, 1960), I have been receiving small collections of Agromyzidae from various parts of Africa and have decided to publish the results of the study of this additional material in form of a continuing series of shorter papers.

Prof. Dr. E. LINDNER of the Museum für Naturkunde in Stuttgart has kindly allowed me to examine a small but interesting collection of specimens he obtained on his visit to Tanganyika in 1959 and the results are recorded below in this first paper in my new series.

The drawings have been prepared by my wife; the scale line represents 0.5 mm in figs. 1 a, 2 a, b, c and 0.1 mm in fig. 1 b and c.

### *Japanagromyza parvula* n. sp.

Head: frons equal to width of eye, not projecting above eye in profile; two ors, two ori (all broken, relative lengths and direction of inclination not detectable); orbital setulae fine, sparse, reclinate, from lower ori to upper ors; ocellar triangle inconspicuous, scarcely differentiated; lunule with upper margin forming semicircle; jowls rounded, relatively broad, one-seventh vertical height of eye, cheeks linear; third antennal segment rounded, with short, sparse pubescence, arista long, fine, bare.

Mesonotum: two dorso-centrals, second in ratio 12:15 with first, at level of supra-alar; strong intra-alar present, only slightly shorter than second dc; well-developed pair of pre-scutellars; acrostichals regular in 8 rows, a few hairs extending to second dc.

Wing: length in female 1.9 mm. Costa extending to m 1 + 2, rm at mid-point of discal cell, last segment of m4 in ratio 13:20 with penultimate.

Legs: mid-tibiae with two strong postero-dorsal bristles, fore-tibiae with one slightly weaker bristle.

Colour: frons sooty black, orbits distinctly shining; lunule contrasting, silvery-grey; jowls, antennae matt black; mesonotum and abdomen conspicuously shining black; legs entirely black; wings hyaline, veins pale brown; squamae pale grey, fringe black; halteres white.

Holotype, female, Tanganyika, Makoa, 9. II. 1959, at light (LINDNER), Staatliches Museum für Naturkunde in Stuttgart.

This species is entirely typical of the genus *Japanagromyza* erected by SASAKAWA (1958), in having two pairs of dc, well-developed prsc and a bristle on the fore-tibia. 11 species have now been placed in this genus; five occur only in Japan, four in the Oriental region and Micronesia (one also in Japan) and two other species in Africa, *J. nigrihalterata* (Spencer), 1959 and a new species to be described shortly. A peculiar characteristic of these species is the variability in colour of the halteres; they may be uniformly pale as in *parvula* and *insularum* Spencer (in litt.), or uniformly dark as in

*angustifrons* Spencer, (1961), or they may be variegated as in *variihalterata* (Malloch) 1914, and *nigrihalterata* Spencer, where they are dark-brown or black below and yellow or white above.

*J. parvula* is the smallest species so far recorded and may immediately be distinguished from the two other African species by its small size and uniformly white halteres.

*Melanagromyza lindneri* n. sp.

Head (fig. 1 a): frons not projecting above eye in profile; orbits well differentiated; two strong, equal ors, the upper directed upwards and outwards, the lower upwards and very slightly inwards; two equal, weaker ori, directed conspicuously inwards; orbital setulae numerous, reclinate; apex of ocellar triangle scarcely reaching lower ors; lunule slightly higher than semicircle, upper margin at level of upper ori; jowls prominent, one-fifth vertical height of eye; cheeks forming distinct ring below eye; eye in male with conspicuous patch of hairs at level of ors; third antennal segment rather enlarged, densely covered with conspicuous whitish pubescence, arista appearing bare, relatively short, three-quarters vertical height of eye.

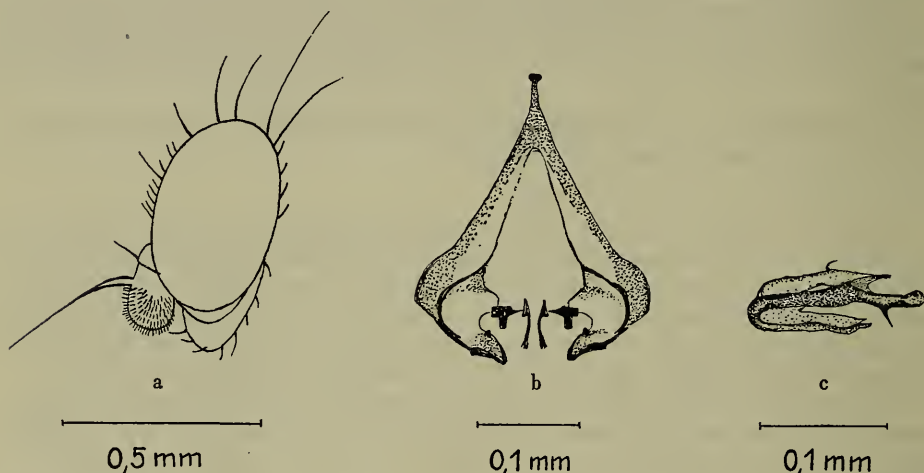


Fig. 1. *Melanagromyza lindneri*, (a) head in profile (b) ninth sternite (c) distal section of aedeagus, lateral view.

Wing: length in male 2.6 mm.

Colour: head black, orbits and ocellar triangle weakly shining; mesonotum shining blackish-green, abdomen more conspicuously greenish; squamae and fringe pale, whitish.

Other external characters as in *gerberae* Spencer.

Male genitalia: Ninth sternite with pale but conspicuously broad side arms (fig. 1 b); aedeagus (fig. 1 c) distinctive.

Holotype ♂, Tanganyika, Marangu, 1.-20. III. 1959 (LINDNER), Staatliches Museum für Naturkunde in Stuttgart; 3 paratypes ♂, Abyssinia, Addis Ababa, Little Akaki River, 2300 m, 20. X.-16. XI. 1959 (E. M. HERING), Zoologisches Museum der Humboldt-Universität, Berlin.

The species runs to couplet 26 in the author's (1959) Key, as amended (1960: 17), which should now be extended as follows: second alternative, for *gerberae* Spencer, read 26 a and add new couplet:

26 a Third antennal segment densely covered with long whitish pubescence

*lindneri* n. sp.

— Third antennal segment with normal pubescence . . . . *gerberae* Spencer

The species is less robust than *gerberae*, the arista is shorter and the jowls deeper in front.

*Melanagromyza beckeri* Hendel

One female, Tanganyika, Marangu, 1.–20. III. 1959.

This species is a leaf-miner on *Sonchus* and has been previously recorded from South Africa and Southern Rhodesia (SPENCER, 1959: 262).

*Melanagromyza centrosematis* de Meijere, 1940

One male, Tanganyika, Marangu, 1.–20. III. 1959. This is the first record from Africa of this economically important species.

It was described from Java and has been previously recorded in Malaya and Formosa (SPENCER, 1961). The larva feeds in the roots of young plants of *Centrosema pubescens* Benth. and *Glycine soja* Sieb. et Zucc. and a high proportion of infested plants die.

The species has very distinctive male genitalia: the ninth sternite (fig. 2a) is entirely black, strongly chitinized, with broad side arms which join apically to form a characteristically rounded hypanthial apodeme; in the aedeagus (fig. 2c) the distiphallus ends in two distinct tubules, the median section is peculiarly asymmetrical, the basiphallus is a distinctive, dark-brown to black, cylindrical structure. The ninth sternite of the very similar *M. spungaberensis* Spencer, 1959 can be readily distinguished by the elongated hypanthial apodeme (fig. 2b).

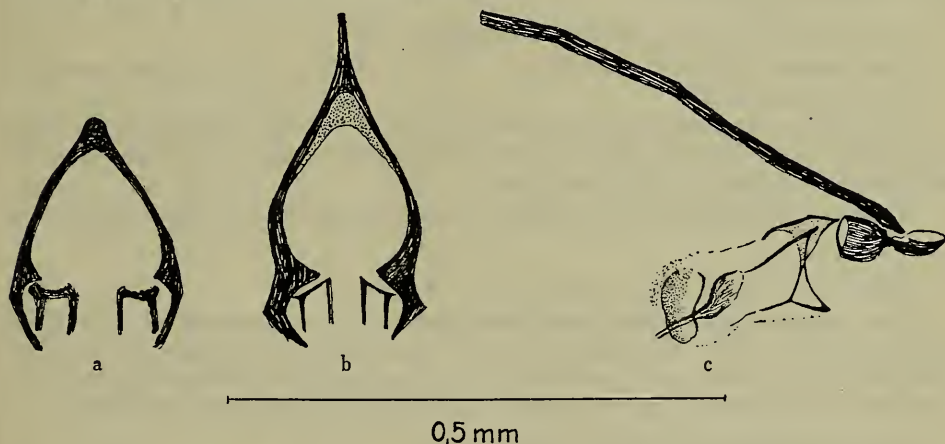


Fig. 2. Ninth sternite of (a) *Melanagromyza centrosematis* (b) *M. spungaberensis* (c) *M. centrosematis*, aedeagus.

*M. centrosematis* closely resembles the two African species, *spungaberensis* Spencer and *blepharidis* Spencer, 1960. It can be distinguished from the former by its slightly wider jowls and from the latter by its less shining ocellar triangle. Couplet 59a of the author's Key (1959), as extended (1960), should now be further extended as follows to include this additional species:

- 59 a Ocellar triangle conspicuously long and narrow, extending to upper ori  
*phaseoli* (Tryon)
- Ocellar triangle shorter, extending at most to lower ors . . . . . 59b
- 59 b Ocellar triangle brilliantly shining . . . . . *blepharidis* Spencer
- Ocellar triangle at most weakly shining . . . . . *centrosematidis* de Meijere



*Melanagromyza compositana* Spencer, 1959

One female, Tanganyika, Marangu, 1.-20. III. 1959.

This species feeds in the flower-heads of *Senecio* spp. and possibly other Compositae. It is unusual in the eyes of both male and female having a conspicuous patch of whitish hairs. The puparium has distinctive posterior spiracles which were figured by SPENCER (1960: 20).

Distribution: Kenya, Nyasaland, Congo, South Africa, Mauritius.

*Melanagromyza metallica* (Thomson)

One male, Tanganyika, Marangu, 1.-20. III. 1959.

This is the most widespread of the shining green species, with a confirmed distribution extending throughout the Tropics from the Cape Verde Islands to Micronesia. The species has been discussed by SPENCER (1959, 1960, 1961).

*Melanagromyza nigrimaculata* Spencer, 1959

One female, Tanganyika, Marangu, 1.-20. III. 1959.

This is a unique species with the sub-costal area of the wing black. Previously recorded from Uganda, Congo, Nigeria.

*Melanagromyza vignalis* Spencer, 1959

One female, Tanganyika, Marangu, 1.-20. III. 1959.

The larva feeds in the seeds of *Vigna* spp. and the species has been previously recorded from French Sudan, Sierra Leone (SPENCER, 1959: 292), South Africa and Kenya (SPENCER, 1960: 26).

*Phytobia (Phytobia) nigrita* (Malloch), 1914

One female, Tanganyika, Marangu, 1.-20. III. 1959. This is the first record of this species from Africa.

The species was described from Formosa in the genus *Agromyza* but has recently been transferred to *Phytobia* (SPENCER, 1961). The species is synonymous with *Agromyza albohalterata* de Meijere, 1922 from Java.

This is an interesting further example of a species with an Afro-Asian distribution.

*Liriomyza* sp.

One female, Tanganyika, Marangu, 1.-20. III. 1959.

This specimen agrees closely with those I referred to as *Liriomyza* sp. from Natal (SPENCER, 1959: 312). This species is very close to *Liriomyza compositella* Spencer, 1961 which is a widespread leaf-miner on Compositae in the Oriental region but I consider it preferable to wait for bred material before confirming this identification.

*Pseudonapomyza spicata* (Malloch)

One female, Tanganyika, Makao, 9. II. 1959, at light. — African specimens of this complex were referred to *spicata* (SPENCER, 1959: 318). Further studies on material from the Oriental region (SPENCER, 1961) suggest that the African species may be distinct but this problem cannot be fully clarified until bred material is available.

*Phytagromyza diminua* Spencer (in litt.)

One female, Tanganyika, Marangu, 1.-20. III. 1959 is tentatively referred to this species, although confirmation from male genitalia is desirable.

The unique, female holotype from Madagascar is slightly smaller, with wing length 1.9 mm against 2.2 mm in the Tanganyika specimen; in other respects the two specimens agree closely.

The essential features of this species are small size, black squamal fringe, clear wings, cross-vein mm present, vein m 1+2 ending only slightly beyond apex of wing, third

and fourth costal segments almost equal, second  $2\frac{1}{2}$  times length of fourth (ratios in holotype 28 : 12 : 11, in Tanganyika specimen 32 : 14 : 13). In the larger, though otherwise similar species, *P. media* Spencer from Madagascar and *P. urundensis* Spencer from Africa, the third costal segment is at least one and a half times length of fourth and the second  $3\frac{1}{2}$  times length of fourth.

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