

The Genus *Schistopterum* Becker (Schistopterinae: Tephritidae: Diptera)

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ABSTRACT

The genus *Schistopterum* is discussed and the known species keyed. *S. ismayi* n. sp. is described and figured. This is the first record of the genus outside Africa and southern Europe.

The genus *Schistopterum* Becker has previously been known from only 2 species: *longulum* Munro from Kenya, and *moebiusi* Becker from over Africa and Israel. The recent discovery of a third species of this genus in Papua New Guinea is indeed a remarkable find. Except for species of the tropicopolitan (with exception of Neotropics) genus *Rhabdochaeta* de Meijere, this is the only member of the subfamily Schistopterinae known outside of Africa and southern Europe. All of the species of this subfamily are apparently flower head breeders. The biology of the new species on hand is unknown, the series was collected in mangrove and mixed vegetation.

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Genus *Schistopterum* Becker

Schistopterum Becker, 1903, Mitt. Zool. Mus. Berlin 2:137. Type species: *moebiusi* Becker.

Differentiated from *Rhabdochaeta* de Meijere by having veins R_{4+5} and M_{1+2} widely diverging at apices, rather than parallel or nearly so; vein R_{2+3} ends at middle of wing and 4th costal section about 1/4 as long as 5th, rather than R_{2+3} extending to apical 1/4 or 1/5 of wing and 4th costal section longer than 5th; only 4 brown rays in wing, none in apex, rather than with numerous dark rays around entire margin of wing; vein R_1 ends just beyond Sc , the 2 are scarcely separated at apices (fig. 1a), rather than R_1 ending distinctly beyond Sc ; head with only ocellar, postvertical and outer vertical bristles flat, pale in color and with no intrafrontal bristles, rather than head bristles mostly or entirely flattened and pale in color and with a pair of prominent intrafrontal hairs or strong, flat setae.

Head shaped as in figure 2a. Front gently sloping and face sharply concave in middle and strongly produced above oral margin. Face raised in middle into a prominent carina on upper 1/2 which extends between bases of antennae. Bases of antennae separated by a space nearly equal to distance between upper ocelli.

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Two pairs inferior fronto-orbitals and 1 superior fronto-orbital. Postvertical bristles converging. Four scutellar bristles, apical pair small, convergent. Dorsocentral bristles in line with suture and mesonotum with white scale-like, recumbent setae. Intrapostalar bristles lacking. One strong spur at apex of middle tibia. All tibiae lacking bristles in middle of segment. Wing vein R_1 very short, ending just beyond Sc. R_{2+3} sharply upcurved ending in costa in line with m crossvein, making 4th costal section short, about 1/3-1/4 as long as 5th. Cell Cu acute at lower apex but not lobate. Apex of wing hyaline except for a small black mark at apex of vein R_{4+5} and with a preapical brown furcation, lower arm extending along vein M_{1+2} and upper extending through middle of cell R_3 to wing margin. Three red bullae and 1 round, gray-brown mark in middle of wing (fig. 1a). Piercer of female ovipositor slender, sharp pointed (fig. 2c). Eighth segment with large acute scales over median portion (fig. 2e) and with 2 oblong or gourd-shaped spermathecae (fig. 2d).

Biology: Only *moebiusi* Becker has been reared. It breeds in the flower heads of *Conyza dioscorides* D.C. (Compositae).

Key to known species of *Schistopterus*

1. Clypeus yellow; ocellar bristles small, seta-like, black, about equal in size to the dark setae in occipital row; Y-shaped marking in apical portion of wing with narrow stem, equal to width of cell R_5 (fig. 1b); wing with ca. 9 hyaline spots in posterobasal portion
African continent, Israel 2
- Clypeus black; ocellar bristles white, flattened, nearly equal to outer verticals; Y-shaped mark with broad stem extending through upper portion of cell 1st M_2 (fig. 1a); with 5-6 spots in posterobasal portion
Papua New Guinea. *ismayi* n. sp.
2. Third antennal segment broadly yellow basally, about $2\frac{1}{2}$ times longer than wide; ocellar triangle about 1/2 as long as front; basal segment of female ovipositor about 1/2 as long as abdomen
Widespread over Africa, Israel *moebiusi* Becker
- Third segment elongate, about 4 times longer than wide; ocellar triangle about 2/3 length of front; basal segment of ovipositor about 5/6 as long as abdomen
Kenya *longulum* Munro

Schistopterus ismayi n. sp. (figs. 1a, 2a-e)

Differentiated from other known species of the genus by having the clypeus black; the Y-shaped mark in apical portion of wing with a broad stem, extending through upper portion of cell 1st M_2 ; by having only 5-6 small hyaline spots in posterobasal portion of wing (fig. 1a) and spur at apex of mid tibia dark brown to black, rather than pale brownish yellow.

Male. Small, predominantly dull black species with characteristic markings in the wings. *Head*: Shaped as typical for genus and as in figure 2a. Mostly yellow, upper 1/2 of occiput dark brown to black. Ocellar triangle shining black and extending approximately 2/5 length of front. Each eye orbit with a faint streak of brown mark on each side just above oral margin. Second antennal segment

dark brown to black ventrally, 3rd segment about $3\frac{1}{2}$ times longer than wide and entirely black except for a faint tinge of rufous in ground color of outside basal portion. Palpus black along upper border. *Thorax*: Entirely black in ground color, densely brown pollinose over scutellum and hind portion of mesonotum and gray-brown pollinose in presutural area. Mesonotum covered with white, recumbent, flat setae, more abundant on anterior portion. Knobs of halteres black. *Legs*: Femora brown to blackish and mid and hind tibiae brown to black on basal halves. *Wings*: As noted above and as in figure 1a. *Abdomen*: Mostly opaque brown, polished black on posterior and lateral margins of 5th tergum. With flat white setae along margins of terga 2-4 and scattered white setae over 5. Genitalia as in figure 2b.

Length: body and wings 2.0 mm.

Female. Fitting description of male, with 6th tergum subequal in length to 5th and basal segment of ovipositor almost as long as terga 3-6. Eighth segment with large subacute scales over dorsal portion (fig. 2e) and piercer slender and needle-like with no preapical setae (fig. 2c). With two gourd-shaped spermathecae (fig. 2d).

This species is named after Dr. J.W. Ismay, Department of Primary Industries, Konedobu, Papua New Guinea.

Holotype male, allotype female and 6 male paratypes, Central Province, 27 km E.E. Port Moresby, Papua New Guinea, collected in mangrove and mixed vegetation, 16.V.1981 (J.W. Ismay).

Type, allotype and some paratypes in B.P. Bishop Museum. Other paratypes in collections of the Department of Primary Industries, Konedobu and the University of Hawaii.

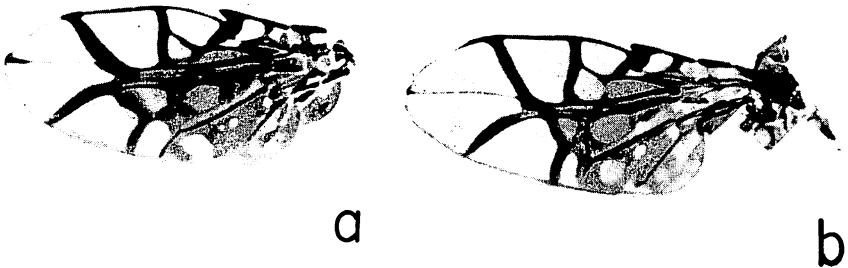


FIGURE 1. *Schistopterum ismayi* n. sp. a, wing. *S. moebiusi* Becker, b, wing.

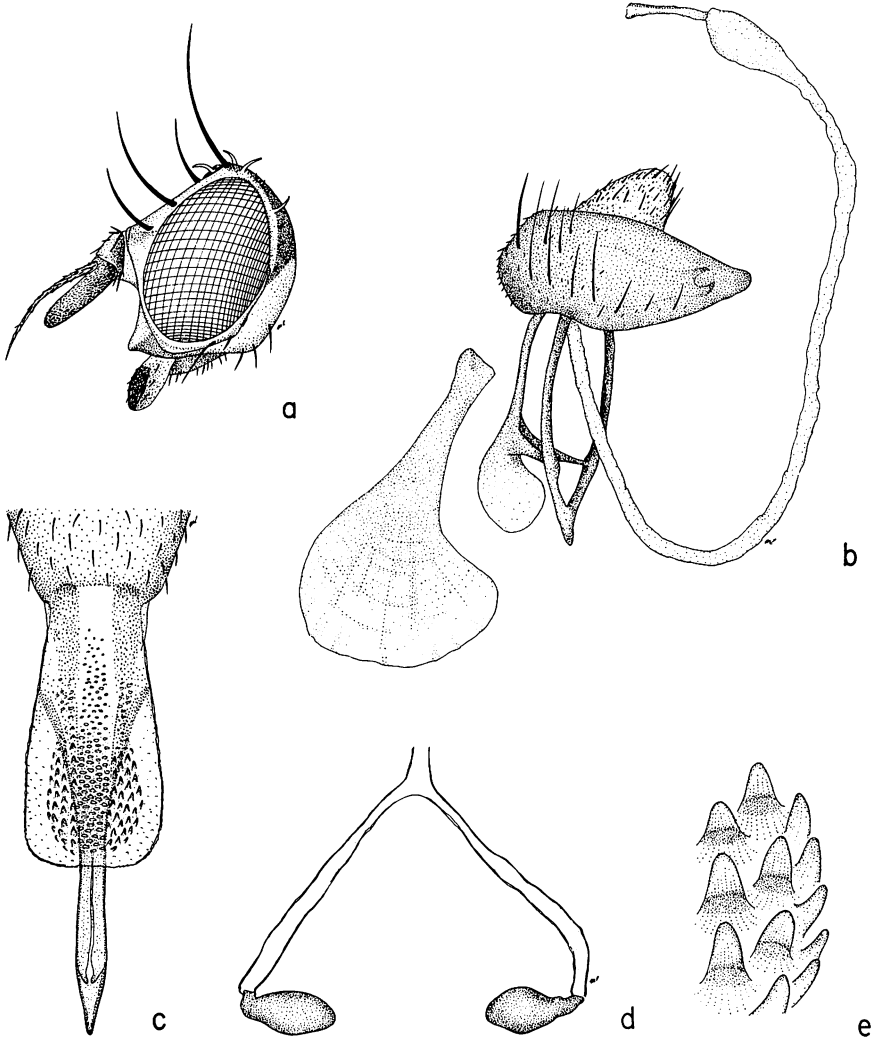


FIGURE 2. *Schistopterum ismayi* n. sp. a, head; b, male genitalia; c, female ovipositor; d, spermathecae.