

KEROPLATINAE AND SCIOPHILINAE FROM LOUISIANA
AND MISSISSIPPI (DIPTERA: MYCETOPHILIDAE)

KAMEL T. KHALAF

Loyola University, New Orleans, La. 70118

ABSTRACT

Twenty one species of Mycetophilidae were sorted from light trap collections. These represent new records for the general area. Four species, *Keroplatus (Keroplatus) samiri*, *Orfelia ramizi*, *Neoempheria gainesvillensis*, *Sciophila mississippiensis*, and the subspecies, *Monoclona floridensis suhadae*, are described as new.

This study is based on light trap collections received from the Gulf Coast Mosquito Control Commission, Gulfport, Mississippi, and the Mississippi Test Support Facility, NASA. The light traps were operated mainly in southern Mississippi during the spring and summer of 1966. The species reported herein represent new records to the general area. All types are deposited in the U. S. National Museum.

SUBFAMILY KEROPLATINAE

Keroplatus (Heteropterna) cressoni Fisher

Four males were collected in May, July, and September.

MISSISSIPPI: Gainesville, Pearlinton.

Remarks: The specimens differ from Fisher's (1941) description in the color of the thorax and abdomen: margin of scutellum dark and postnotum infuscated. Dark sternopleurite yellow dorsally. No central yellow spot on fourth tergite. Fifth and sixth tergites yellow basally. Apical yellow spot on fourth sternite small or absent.

Keroplatus (Keroplatus) carbonarius Bosc

Five specimens were collected between 18 Aug. 1966 and 19 Sept. 1966.

LOUISIANA: Avery Marsh. MISSISSIPPI: Gainesville, NASA Information Center

Keroplatus (Keroplatus) clausus Coquillett

One specimen was collected in Pearlinton, Miss., 10 May 1966.

Keroplatus (Keroplatus) militaris Johannsen

One specimen was collected at Ansley, Miss., 7 Sept. 1966.

Keroplatus (Keroplatus) samiri new species

Male: Total length 4.5 mm, wing 3.7 mm. Head yellowish, occiput darker, face yellow. Eyes black, hairy, slightly indented at base of antennae. Three ocelli, middle one somewhat smaller. Ocellar tubercle black.

Antennae brown in coloration. Single visible segment of palpi long, yellow, hairy, somewhat shorter than face.

Mesonotum yellowish, with faint, narrow, V-shaped brown mark extending to the scutellum, with wider sublateral stripe; lateral margin yellow. Anterior pronotum dark, posterior pronotum yellow. Pleural region yellow. Anepisternite, major (ventral) part of sternopleurite, and pleurotergite dark. Borders of anterior spiracle with minute hairs. Upper part of anepisternite with about 12 minute setae. Pleurotergite hairy, except anteroventrally. Metanotum bare, infuscated. Halteres with stems yellow, knobs brown.

Abdominal tergites brown, posterior margin yellow, becoming wider laterally. Seventh segment nearly all dark brown. In female, brown coloration of abdomen more extensive. First sternite with narrow, brown posterior margin. Second and third sternites each with faint, brownish, posterior spot near middle.

Front coxa with faint, dark spot near middle. Middle coxa with small, circular, dark spot near middle, and narrow apical band. Lateral aspect of distal half of hind coxa dark. Middle femur with narrow, basal, dark band. Hind femur with narrow, basal, dark band, and much wider band near middle. Tibial spurs formula 1-2-2. Tibial setulae in distinct, regular rows.

In wings, subcosta ending in costa at point somewhat beyond middle of fused part of vein M. Base of Rs at level with that of Cu pseudofork. R_4 joining R_1 at distance from margin about equal to its length. Beyond R_5 , costa extending only one-fifth to one-sixth distance to vein M_1 . Fused segment of M subequal or somewhat longer than petiole. Cu_1 faint near base, appearing detached. Anal vein incomplete. Veins dark. Wings fasciate. Maculation composed of 3 dark, costal bands in addition to spot at base of Rs. Proximal dark band beginning beyond end of subcosta, extending to petiole of vein M. This band absent (thus interrupted) from cells M and Cu, almost filling, although faintly, distal half of anal cell. Second dark band in region of vein R_4 , becoming suddenly paler before reaching vein M. Apical dark band paler than the other two bands, including distal part of R_5 . Two distal bands fusing at vein M and extending to posterior wing margin. Vein Cu with narrow, dark posterior border, more distinct towards base of wing. In hypopygium (Fig. 1,2), basistyles fused, 2 arms of dististyle on each side nearly equal in length. Thick, black spurs not restricted to dististyles.

Holotype: ♂, Gainesville, Mississippi, 11 Sept. 1966, mounted in polyvinyl alcohol after clearing. Allotype: ♀, Gainesville, Mississippi, 21 Aug. 1966, mounted in polyvinyl alcohol after clearing.

This species, in Fisher's (1941) key, would run to *K. clausus* Coquillett. However, it differs from the latter and other Nearctic species in having 3 dark, costal bands in addition to the spot at base of Rs. Wing maculation is more restricted in other species. The hypopygium of *K. samiri* differs in having 2 nearly equal arms of dististyle on each side, and the spurs are not restricted to them.

Macrocera formosa Loew

One female was collected in Pearlinton, Miss., 15 Aug. 1966.

Remarks: The wing possesses a transversely oriented light cloud in cell

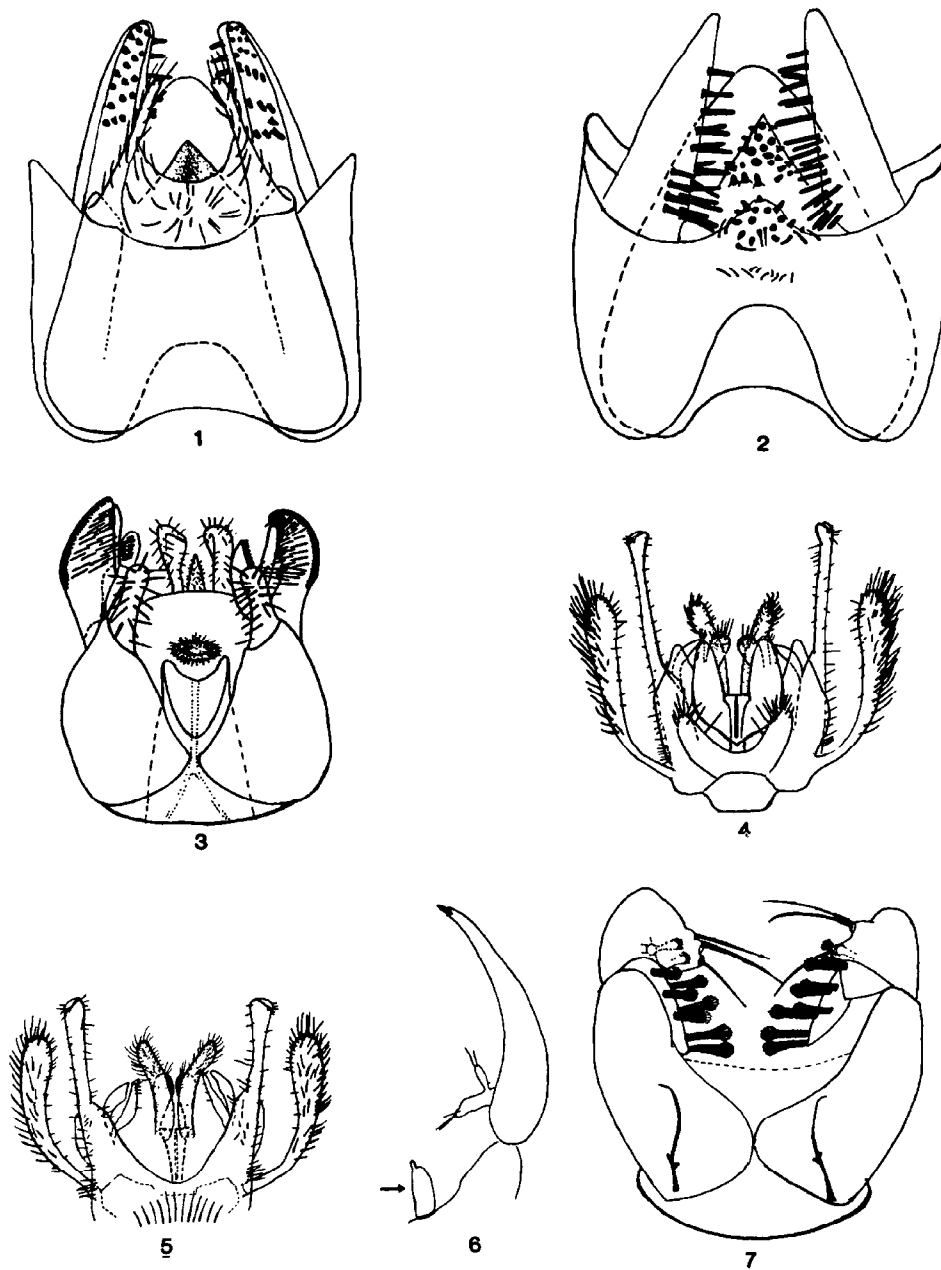


Fig. 1-7: Male hypopygia of Mycetophilidae. 1, *Keroplatus samiri* new species (ventral view); 2, *Keroplatus samiri* new species (dorsal view); 3, *Orfelia ramizi* new species (ventral view); 4, *Neoempheria gainesvillensis* new species (ventral view); 5, *Neoempheria gainesvillensis* new species (dorsal view); 6, *Monoclona floridensis suhadae* new subspecies (lateral aspect, dorsum to the right); 7, *Sciophila mississippiensis* new species (ventral view).

Cu₁ and another in the anal cell. Base of Rs, base of Cu fork, and vein R₄ are heavily infuscated.

Orfelia elegans (Coquillett)

Seventy-two specimens were collected mostly between 9 Aug. 1966 and 16 Oct. 1966. Single specimens were also collected in April, May, and June.

LOUISIANA: Avery Marsh, Indian Camp (W. Pearl River), and St. Tammany Parish. MISSISSIPPI: Edwards Bayou, Gainesville, Gulfport, NASA Information Center, Nicholson, Pass Christian, Pearlinton, Vancleave, Waveland, W. Cowan Bayou.

Remarks: Wing maculation including brown cloud at base of Rs, and small, discontinuous streak at level of humeral cross vein. In hypopygium, dististyle bifurcate, these 2 processes being highly sclerotized.

Orfelia genualis (Johannsen)

Ten specimens were collected between 12 May 1966 and 16 Oct. 1966.

LOUISIANA: Avery Marsh. MISSISSIPPI: Ansley, Edwards Bayou, Gainesville Pearlinton, W. Cowan Bayou.

Orfelia inops (Coquillett)

One male was collected from Vancleave, Miss., 4 May 1966.

Orfelia stonei (Lane)

(=*Platyura* (*Proceroplatus*) *stonei* Lane)

One hundred twenty-four specimens, including females, were collected between 4 May 1966 and 16 Oct. 1966.

LOUISIANA: Indian Camp (W. Pearl River) and St. Tammany Parish.

MISSISSIPPI: Ansley, De Lisle, Edwards Bayou, Gainesville, McNeil, NASA Information Center, Nicholson, Pearlinton, Three Rivers, Waveland.

Remarks: This species was previously known only from a male holotype collected in Jamaica (Lane, 1950). Since I did not have the opportunity to examine this male, I hesitate to designate a female type from among the present series, although the male genitalia of these specimens agree completely with Lane's figure. He referred this species to the subgenus *Proceroplatus* Edwards, which is now included in the genus *Orfelia* Costa (Laffoon 1965).

Orfelia ramizi new species

Length about 3 mm, wing 2.6 mm. Thorax brownish yellow, head and abdomen more dusky. First abdominal segment yellow, rest of abdomen with faint indication of fascia of slightly darker color. Palpi and antennae dark brown. Legs yellow. Halteres dusky. Hairs covering the body black. Metanotum not setose. Proportion of front metatarsus to tibia 3:5. Tibial spurs formula 1-2-2. Each tergite of abdominal segments 3, 4, 5 with pair of distinct lateral sensoria in form of round area thickly

crowded with short setae. Such sensoria not encountered in other species of genera studied.

Wings unmaculate. Brownish cloud sometimes distinguishable in cell R_5 at tip of vein R_5 . Subcosta ending in costa at level of base of Cu fork, quite proximal to base of Rs. R_4 oblique, ending in costa beyond apex of R_1 . Beyond R_5 , costa prolonged for more than half way to vein M_1 . Coalesced part of media shorter than half length of petiole. Anal vein incomplete, not prolonged to wing margin. In hypopygium (Fig. 3), dististyle with a dense marginal row of short setae giving border, at certain angles, dark appearance. Medial surface with transverse rows of fine, long setae. Two brush-shaped inner processes facing the dististyle, each expanded distally, and bearing thick, black spurs.

Holotype: ♂, NASA Information Center, Mississippi, 16 Oct. 1966, mounted in polyvinyl alcohol after clearing. Paratypes: NASA Information Center, Mississippi, 23 May 1966, 1 ♂; Gainesville, Mississippi, 15 Aug. 1966, 1 ♂ (on slide) 11 Sept. 1966, 1 ♂; Waveland, Mississippi, 24 Aug. 1966, 1 ♂.

This species is allied to *Orfelia mendosa* (Loew) but can be distinguished from it by the sensoria on abdominal tergites 3, 4, 5, and the anal vein, which does not reach the wing margin; and the structure of hypopygium. In *Orfelia mendosa* the dististyles are long, extending far beyond the remaining parts of the hypopygium.

SUBFAMILY SCIOPHILINAE

Mycomya dichchaeta Fisher

Thirty-six specimens were collected between 18 March 1966 and 4 May 1966.

MISSISSIPPI: Bay St. Louis, Biloxi, De Lisle, Gainesville, Gautier, Kiln, Lakeshore, Logtown, Lorraine, McNeil, Ocean Springs, Pass Christian, Saucier, Waveland.

Mycomya obliqua (Say)

A single specimen was collected from Gainesville, Miss., 15 April 1966. This species is allied to the Neotropical *M. austrobligua* Coher.

Neoempheria illustris Johannsen

Thirty specimens were collected between 26 July 1966 and 18 Oct. 1966.

LOUISIANA: Avery Marsh and St. Tammany Parish. MISSISSIPPI: Ansley, Edwards Bayou, Gainesville, NASA Information Center, Nicholson, Pearlinton, Poplarville, Waveland.

Neoempheria impatiens Johannsen

Twenty-two specimens were collected between 9 June 1966 and 30 Sept. 1966. The Bay St. Louis specimen was taken on 18 April 1966.

MISSISSIPPI: Bay St. Louis, Gainesville, NASA Information Center, Pearlinton, Poplarville, Waveland.

Remarks: These specimens are referred to *N. impatiens*, and not to *N. nepticula* (Loew), chiefly on the similarity of the inner style and the apex

of the tergal style of the male hypopygia as illustrated by Coher (1959). Unlike *N. impatiens*, vein M_2 is not setose, and the size is more like that of *N. nepticula*, the wing length being 2 to 2.2 mm.

Neoempheria macularis Johannsen

Twenty-one specimens were collected between 13 May 1966 and 5 Oct. 1966. Most of the specimens were taken after July.

MISSISSIPPI: Ansley, Edwards Bayou, Gainesville, Pearlinton, Waveland, W. Cowan Bayou.

Neoempheria gainesvillensis new species

Male: body length 4.5-5 mm, wing length 3.5 mm. Head yellowish, setose. Two ocelli on black tubercle. Anteclypeus setose. Antennae dark brown except basal two and one half segments yellow. Apical dorsal seta of pedicel as long as, or slightly longer than, first flagellar segment. Palpi brown, lighter in color distally, proportion of last to penultimate segments 3:2. Mesonotum and metanotum (as viewed from the side on the slide) apparently dark. Metanotum bare. Pleural region yellow. Pleurotergite brown, bare. Halteres yellow. Legs yellowish, without spots or bands, tibiae and tarsi dusky. Tibial spurs formula 1-2-2. Fore tibiae and metatarsi subequal in length.

Abdomen yellow ventrally. Dark band present on posterior margin of first and second abdominal tergites. Band terminating short of lateral margin of tergite. Third tergite almost totally black, except for narrow anterior and lateral margins. Fourth tergite yellow, infuscated feebly and narrowly along posterior margin for short distance. Fifth tergite black, except for very narrow anterior margin. Sixth and seventh tergites yellow, latter with infuscated posterior border. In hypopygium (Fig. 4,5), apical process of ninth tergite stout, expanded distally, somewhat longer than basal portion, and extending beyond outer style. Outer style narrow and bare at base, gradually enlarging toward apex.

In wing, Sc_1 ending in costa at about level of vein R_4 . Sc_2 ending in cell R_1 near middle of cell. Distal half of vein Sc setose. Cell R_1 irregularly squarish, Rs oblique. Medial fork distinctly distal to vein R_4 . M_2 setose. $R_4 +_5$ of cell R_1 about one third as long as $M_1 +_2$. Cu forks at about level of origin of Rs , or slightly proximal to that. Anal vein incomplete. Extremity of wing not hyaline, apex infuscated. No infuscation along $M_1 +_2$ except near base. In front of vein M and proximal to cell R_1 , wing infuscated except for large part of distal half of first basal cell. Additionally, 2 distinct costal dark bands traversing wing more distally. First band on cell R_1 interrupted at vein M and reappearing at vein Cu . Apical band appearing before end of vein R_1 and occupying nearly distal third of wing.

Holotype: ♂, Gainesville, Mississippi, 28 Aug. 1966, mounted in polyvinyl alcohol after clearing.

This species would run in Johannsen's (1910) and Coher's (1959) keys to *N. macularis* but differs from the latter species in the color of the antennae, the maculation of the wings, and the details of the coloration of

the abdominal tergites. In the hypopygium, both the apical process and the outer style differ from *N. macularis* in being expanded distally.

Leptomorphus ypsilon Johannsen

MISSISSIPPI: Gainesville, 20 July 1966 (1 ♂); Waveland, 21 Aug. 1966 (1 ♀).
Remarks: These specimens differ from the original description by the knob of each haltere being partly black instead of yellow, and the wing has a dark cloud at the level of Rs, r-m, and the base of the petiole of vein M.

Monoclona floridensis suhadae new subspecies

This subspecies is closely allied to *M. floridensis* Fisher (1946) which was described from Orlando, Fla. The new subspecies differs as follows: head brownish yellow; tergites of abdominal segments 2, 3, and 4, each contain a large black blotch on each side, leaving narrow mid-dorsal line yellow; remaining abdominal segments yellow; setae of head and thorax yellow; some abdominal setae dark, especially those covering black blotches of abdomen; borders of joints between trochanter and femur black.

The hypopygium is most similar to the figure given by Fisher for *M. floridensis*. The main difference is found in the shape of the apical process attached on the ventral border of the basistyle (Fig. 6, arrow). Instead of being spade shaped, it is semicylindrical and narrows suddenly into a short, digitiform apex.

Holotype: ♂, St. Tammany Parish, Louisiana, 24 Aug. 1966, mounted in polyvinyl alcohol after clearing. Allotype: ♀, Waveland, Mississippi, 15 Aug. 1966. Paratype: ♀, St. Tammany Parish, Louisiana, 22 Sept. 1966.

Sciophila incallida Johannsen

Six specimens were collected between 29 March 1966 and 16 Oct. 1966.

MISSISSIPPI: Ansley, Edwards Bayou, Pass Christian, Pearlinton.

Remarks: The length of the male is about 4.5 mm; anepisternal bristles are present. In the hypopygium, the dististyle possesses more than 24 palmate spines instead of 22 to 24 as originally described.

Sciophila mississippiensis new species

Male: body length about 2.5 mm, wing length 2mm. General coloration brownish yellow, head darker, black around ocelli. Mouth parts and palpi dark brown, except for pale terminal segment of latter. Antennae brown, base of segments yellow. Mesonotum without distinct pigmented pattern. Knobs of halteres lightly infuscated anteriorly. Pleurae and legs yellow. Borders of trochanter-femur joint of legs black. Abdominal segments, beyond fourth, somewhat darker in color. Hairs of antennae, thorax, and abdomen yellow. Row of black hairs behind eyes. In female, some black hairs on dorsal side of abdomen. Proportional length of terminal to penultimate segment of palp 47:18. Fore basitarsus slightly shorter than tibia. Anepisternite and metanotum setulose.

Wing macrotrichia decumbent. Sc₂ ending opposite Rs. Radial cell squarish. Cu pseudofork distinctly distal and M fork proximal to end of Sc₁. Anal vein incomplete.

In hypopygium (Fig. 7), tergite shorter than basistyle and truncate. Dististyle with 3 long pointed setae and about 10 palmate spines.

Holotype: ♂, Poplarville, Mississippi, 6 Oct. 1966, mounted in polyvinyl alcohol after clearing. Allotype: ♀, Indian Camp (W. Pearl River), Louisiana, 8 April 1966. Paratypes: Gainesville, Mississippi, 18 Oct. 1966, 1 ♀; Pearlinton, Mississippi, 15 Sept. 1966, 1 ♂; Poplarville, Mississippi, 16 Sept. 1966, 2 ♀, 21 Sept. 1966, 1 ♂, 25 Sept. 1966, 1 ♀, 3 Oct. 1966, 1 ♀.

This species is somewhat allied to *Sciophila nugax* Johannsen (1910) from which it differs in having dark palpi instead of yellow and in the indistinct mesonotal pattern and abdominal fascia. Moreover, the hypopygium of *S. nugax* has a triangular tergite and about 20 small palmate spines.

ACKNOWLEDGMENT

This investigation was supported by an Academic Grant from Loyola University. The identifications of *Keroplatus* were kindly confirmed by Raymond J. Gagné of the Systematic Entomology Laboratory, USDA.

LITERATURE CITED

- Cohler, E. I. 1959. A synopsis of American Mycomyiini with descriptions of new species (Diptera: Mycetophilidae). *Entomol. Amer.* 37: 1-155.
- Fisher, E. G. 1941. Distributional notes and keys to American Ditoymiinae, Diadocidiinae and Ceroplatinae with descriptions of new species (Diptera: Mycetophilidae). *Trans. Amer. Entomol. Soc.* 67:275-301.
- Fisher, E. G. 1946. The genus *Monoclona* Mik (Diptera: Mycetophilidae). *Notulae Natur.* 175:1-4.
- Johannsen, O. A. 1910. The fungus gnats of North America. The Mycetophilidae of North America. Part II. *Maine Agr. Expt. Sta. Bull.* 180:125-192.
- Laffoon, J. L. 1965. Mycetophilidae. In Stone *et al*, a catalog of the Diptera of America north of Mexico. U. S. Dep. Agr., Washington, D. C. 1696p.
- Lane, J. 1950. Neotropical Ceroplatinae (Diptera: Mycetophilidae). *Du-senia.* 1:32-69.