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THE SPECIES OF PSOROPHORA OF THE CILIATA GROUP

(Diptera, Culicidae)

BY HARRISON G. DYAR

Psorophora ciliata Fab. is a well-known species in North America. Its large size and remarkable shaggy legs at once arrest attention. The species is wholly predaceous in the larval state, subsisting upon the larvae of other mosquitoes, such as occur in transient rain-pools in warmer, open country, which while not arid, is dry enough so that the puddles are more commonly dried up than water-filled. The species occurs throughout eastern North America east of the plains, the northernmost record being Plattsburgh, New York, the southernmost, Tampico, Mexico, although Theobald records it from British Honduras. For a long time it was not considered that more than one species existed in this group, although it was known that a similar form occurred in the Argentine Republic. This has been called also *ciliata*, irrespective of the wide tropical gap between the two.

Recent investigation has convinced me that the group is better represented in the Argentine country than with us. We have only *ciliata* and the doubtful species *ctites*, which though differing at first sight strikingly by the absence of the ciliations, appears to differ in no other character. However, thanks to Mons. E. Séguy of the Paris Museum of Natural History, who has sent me material for naming, and to Dr. Juana Petrocchi of Buenos Aires, who has also sent specimens, it becomes evident that there are four distinct species in the

Argentine region. The development is in the direction of occupying drier and drier country, until a form is reached (*stigmatophora*) with the characteristic piebald desert vestiture. With us, no such development has taken place. The arid plains of Montana, though teeming with mosquitoes after specially heavy rains, every four years or so, possess no predaceous species of mosquito.

Psorophora ciliata Fabricius.

Culex ciliata Fabricius, Ent. Syst., iv, 401, 1794.

Culex molestus Wiedemann, Dipt. Exot., 7, 1821.

Culex rubidus Robineau-Desvoidy, Mem. Soc. Hist. Nat. Paris, iii, 404, 1827.

Psorophora bosci Robineau-Desvoidy, Mem. Soc. Hist. Nat. Paris, iii, 413, 1827.

Culex conterrens Walker, Ins. Saund., Dipt., 427, 1856.

A diagram of the mesonotum is given in Plate IV, figure 1. There are broad bare spaces corresponding to the usual paired lines and posterior half-lines seen in *Aedes*, subgenus *Ochle-rotatus*. There is a narrow central line of golden scales, separating the two long bare spaces. Near the middle on each side is a narrow black spot, which is continued by a line of black scales to the posterior border. All the sides and antescutellar space are covered with light gray scales.

Psorophora ctites Dyar.

Psorophora ctites Dyar, Ins. Ins. Mens., vi, 126, 1918.

The mesonotal pattern seems to be identical with that of *ciliata*. I therefore entertain some doubt as to the distinctness of the species. No male has been examined as yet, although the form turned up recently in a new locality, mixed with normal *ciliata*. The new record is Augusta, Georgia, July 23, 1921 (S. F. Hildebrand).

Psorophora tibialis Robineau-Desvoidy.

Culex tibialis Robineau-Desvoidy, Mem. Soc. Hist. Nat. Paris, iii, 404, 1827.

Culex perterrens Walker, Ins. Saund., Dipt., 431, 1856.

Psorophora lynchi Brèthes, An. Mus. Nac. Hist. Nat. B. A., xxviii, 204, 1916.

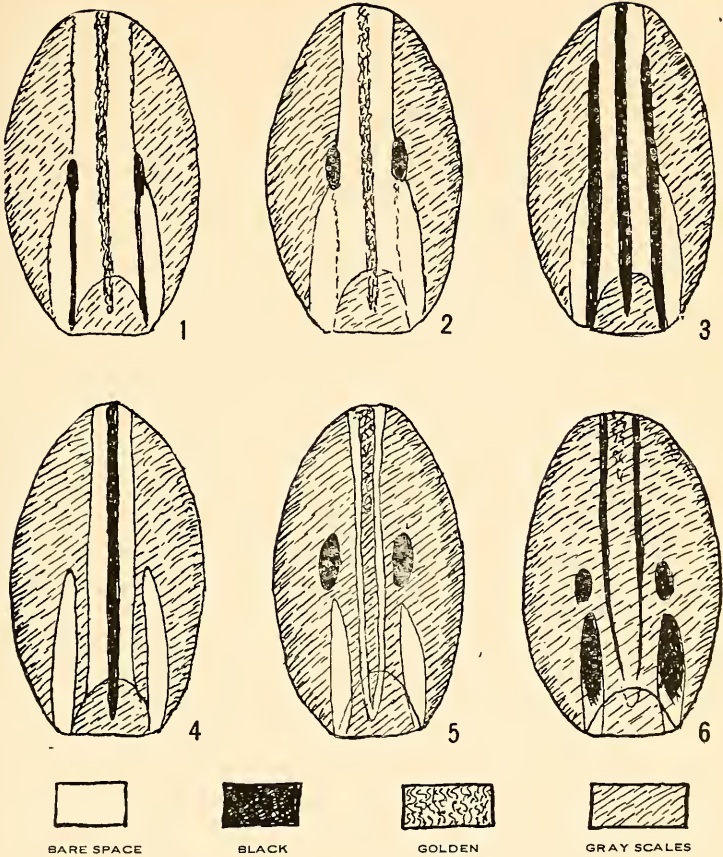


PLATE IV

Fig. 1. Diagram of mesonotum of *Psorophora ciliata* Fabricius.

Fig. 2. Diagram of mesonotum of *Psorophora tibialis* Robineau-Desvoidy.

Fig. 3. Diagram of mesonotum of *Psorophora holmbergii* Lynch Arribálzaga.

Fig. 4. Diagram of mesonotum of *Psorophora agoggylia* Dyar.

Fig. 5. Diagram of mesonotum of *Psorophora stigmatophora* Dyar.

Fig. 6. Diagram of mesonotum of *Psorophora stigmatophora* Dyar, drawn with the bare spaces black to resemble Arribálzaga's figure (Rev. Mus. de La Plata, ii, pl. iv, fig. 3).

A diagram of the mesonotum is shown in Plate IV, figure 2. The general similarity to *ciliata* is at once evident; but the black spots are larger, there are no continuing posteriorly black lines, but only a narrow track of golden scales. The genitalia, which are carefully figured by Brèthes, do not appear to differ perceptibly from the North American form. However, the different mesonotal pattern, coupled with the marked geographic discontinuity, clearly indicates a specific status. The species occurs in southern Brazil and the Argentine region.

Psorophora holmbergii Lynch Arribálzaga.

Psorophora holmbergii Lynch Arribálzaga, Rev. Mus de La Plata, ii, 140, 1891.

The diagram of the mesonotum shown in Plate IV, figure 3, is made up from the very lucid description of Brèthes, as no specimen of this species is before me. The golden scales of the forms previously considered are replaced by black ones in the central line, and the central black spots are apparently continued forward and backward to the posterior margin. The species is said to be darkly colored, with nearly black abdomen. It is obviously distinct, and should be easily recognizable.

Psorophora agoggylia, new species.

Head uniformly covered with gray scales, rather sparse, showing the dark integument in places. Mesonotum with the central bare spaces separated from the short posterior ones by a line of gray scales; dorsal line of small black scales, mixed with rufous setae (Pl. IV, fig. 4). Abdomen with yellowish gray scales dorsally, a small black point on each side of the middle near the center of each segment; black lateral patches at the bases of the segments; venter black, with scattered light gray scales. Legs (and palpi) without outstanding scales, or with but slight roughness in places, the scales in general smooth and recumbent; femora pale reddish, the apical third black; tibiae black, with small whitish area at base; tarsi black, with white rings at the bases of the joints, broad on the hind legs, the first hind tarsal being half white. Wing membrane iri-

descent, strongly infuscated on the costal half; scales narrow and all dark.

Types, three females, No. 25755, U. S. Nat. Mus.; Gran Chaco, margin of the River Tapenaga, Colonia Florencia, Argentina, 1903 (E.-R. Wagner). The specimens were received from the Paris Museum, through M. E. Séguy, and others have been returned to that institution.

Allied to *holmbergii*, but differing in the absence of the two sublateral mesonotal black stripes, which are replaced by gray scales. The abdomen also is conspicuously pale-scaled and appears very light gray, not nearly black, as *holmbergii* is described.

Psorophora stigmatophora, new species.

Head clothed with light gray scales. Mesonotum with dense light gray scales, slightly yellowish, the median bare stripes strongly narrowed, linear, joining posteriorly in the antescutellar space; posterior bare spaces separated, the integument here black and polished; a small oval patch of black scales on each side of the middle; central lines of scales gray, tinged with golden anteriorly (Pl. IV, fig. 5). Abdominal scales light gray, but partly denuded in the material, precluding notation of details; ventral scales entirely light gray, sparsely placed. Palpi and legs with many coarse outstanding scales, especially on tips of femora and tibiae, black, mixed with pale; tarsi black, with broad whitish rings at the bases of the joints. Wings with the costal half very lightly infuscated; scales narrow, black, intermixed with whitish ones, especially along costal region.

In the male hypopygium the filament on the claspette differs in shape from that of *ciliata* and *tibialis*, being smaller, narrower, the tip not hooked, but ending in a little sharp spiral point. The claspers also differ, being narrower, with recurved margins, the two points at the tip subequal, curved laterally and parallel.

Types, two females and one male, No. 25756, U. S. Nat. Mus.; the females, Asunción, Paraguay, 1919 (Dr. Migone),

the male, Gran Chaco, margin of the River Tapenaga, Colonia Florencia, Argentina, 1903 (E.-R. Wagner). The females were sent by Dr. Juana Petrocchi, the male is from the Paris Museum by the kindness of M. Séguy. Another male and two females have been returned to Paris. Of these, one female bears the same data as cited; another, Gran Chaco, Loma Negra, north of Florencia and of Rio Tapenaga, 1903 (E.-R. Wagner); the male is labeled, Province of Santiago del Estero, Troncal, 40 kil. from Salavina, 1909 (E.-R. Wagner).

This is apparently the species identified by Lynch Arribálzaga as *Psorophora ciliata* (Rev. Mus. de La Plata, ii, 140, plate iv, fig. 3, 1891). If the bare spaces of my figure (Pl. IV, fig. 5) are made black, as is their actual color, the appearance of Arribálzaga's figure is reproduced. (See Pl. IV, fig. 6.)

A REVISION OF THE CHILOSINI

(Diptera, Syrphidae)

BY RAYMOND C. SHANNON

In my recent paper, "A Reclassification of the Subfamilies and Genera of North American Syrphidae"¹ an attempt was made to reclassify the genera of the *Chilosinae*. Lately, while writing a synopsis of the *Chilosini*, supplementary characters have been found which may further aid to classify its subfamily. The facial tubercle is a striking characteristic of the *Chilosini*, but other genera of the *Chilosinae* have this structure and for this reason a key is given to all of the tuberculate face forms of this subfamily in order to prevent confusion.

It might be stated that the author has been more interested in discovering new group characters to use in classifying the *Syrphidae* than in discovering new species. A number of characters have been found in the *Chilosini* and because of their newness some word of explanation should be added.

¹ Bull. Brook. Ent. Soc., vol. xvi, 1921.