NEW TIPULIDAE FROM THE SOCIETY ISLANDS *

By

CHARLES P. ALEXANDER

MASSACHUSETTS STATE COLLEGE

INTRODUCTION

The material on which this paper is based was collected by A. M. Adamson, of the Pacific Entomological Survey, and Dr. André L. Tonnoir. I wish to extend my deepest thanks to them, as well as to E. P. Mumford, Director of the Pacific Entomological Survey, for the opportunity to study this material. The Tonnoir material is preserved in my collection through the kindness of the collector.

TRIBE ERIOPTERINI

Five species of *Gonomyia,* subgenus *Lipophleps,* are now known from Tahiti, all endemic. These species may be separated by means of the following key:

1. Wings whitish, with a restricted brown pattern, including spots at arculus, origin of *Rs,* end of anterior branch of *Rs* and the cord; no macrotrichia on vein *1st A* ..... **punctigera**
   Wings either unicolorous, except for the stigmal darkening, or dark-colored with a restricted whitish and yellow pattern; a series of from thirty to fifty macrotrichia on vein *1st A* 2
2. Wings dark, with whitish discal spots and a lunate yellow apex; legs yellow and black, the tibiae black with a broad yellow subbasal ring; size very large (wing, female, over 7 mm.) ..... **flavidapex** Edwards
   Wings subhyaline or with a brownish tinge, unvariegated except for the stigma when this is present; legs yellowish brown to brown, the tibiae uniform in color; size small (wing not exceeding 4 mm.) 3
3. General coloration of mesonotum light brown, the pleura only indistinctly striped with pale; cell *1st* M_2 of wings small, the lower face not exceeding one-half of veins M_4 beyond it ..... **tahitiensis**
   General coloration of mesonotum dark brown, the pleura distinctly striped longitudinally with yellow; cell *1st* M_2 of wings relatively large, its lower face subequal to vein M_4 beyond it 4
4. Scutellum conspicuously light yellow ..... **tonnoirella**
   Scutellum dark, concolorous with remainder of notum ..... **fuscoscutellata**

Gonomyia (Lipophleps) punctigera, new species (fig. 1).

General coloration of mesonotum brownish gray; pseudosutural foveae black, scutellum brown; knobs of halteres dark brown; wings whitish with a very restricted dark-brown pattern, including clouds at arculus, origin of *Rs,* cord, outer end of cell *1st* M_2 and end of anterior branch of *Rs;* vein *1st A* without macrotrichia; abdomen

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dark brown, the caudal margins of the segments conspicuously yellow, broadest on the tergites.

Female

Length, excluding head, about 4.5 mm.; wing, 4.2 mm. Head broken. Mesonotum brownish gray, the anterior lateral sclerites more silvery; pseudosutural foveae large, blackened; scutal lobes slightly pruinose, especially medially; scutellum brown; postnotal mediotergite blue-gray pruinose. Pleura very dark colored, pruinose, with a restricted paler longitudinal streak, crossing the dorsal sternopleurite. Halteres yellow, the knobs infuscated. Legs with the coxae reddish brown, pruinose; trochanters brownish yellow; remainder of legs broken. Wings (fig. 1) whitish, including the broad wing tip, the cells before the cord somewhat more grayish; stigma pale brown; a restricted dark-brown pattern, distributed as follows: arculus; end of *Sc* and origin of *Rs;* cord; outer end of cell *1st* M_2; tip of anterior branch of *Rs;* veins pale, much darker in the infuscated areas. No macrotrichia on vein *1st A.* Venation: *Sc* short, Sc_1 ending opposite the origin of *Rs,* Sc_2 at its tip; veins beyond cell *1st* M_2 long, the distal section of M_{1+2} longer than *Rs; m-cu* about two-thirds its length before the fork of *M.*

Abdominal tergites brown, the caudal margins of the segments broadly yellow; sternites similarly colored, but the pale margins narrower and less conspicuous.

Tahiti: Fautaua Valley, altitude 50 feet, 1 mile from sea, November 8, 1928, holotype female, Adamson.

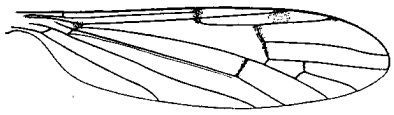

FIGURE 1. Wing of *Gonomyia* (*Lipophleps*) *punctigera,* new species.

The closest ally of the present species is *Gonomyia* (*Lipophleps*) *digitifera* Alexander (Fiji) which differs in the body-coloration, as the color of the scutellum and postnotal mediotergite, and in slight details of venation, as the shorter veins issuing from cell *1st* M_2, which are here subequal in length to, or shorter than *Rs,* whereas in *punctigera* the outer section of M_{1+2} is longer than *Rs.* The present group of flies, with a restricted darkened wing-pattern, may be called the *cairnensis* group, from the earliest described species, *G.* (*L.*) *cairnensis* Alexander (North Queensland). One of the most evident characters for the separation of this group from related regional aggregations of the subgenus lies in the entire lack of macrotrichia on vein *1st A.*

Gonomyia (Lipophleps) tahitiensis, new species.

General coloration of mesonotum light brown, the scutellum only vaguely brightened; pleura very indistinctly striped with pale; knobs of halteres light yellow; wings nearly hyaline, the veins darker.

Male

Length, about 2.6 mm.; wing, 3.5 mm. Rostrum and palpi dark brown. Antennae entirely dark brown. Head obscure orange, the center of the vertex slightly darkened.

Mesonotum almost uniformly light brown, the scutellum only vaguely brightened, the postnotum slightly pruinose. Pleura brownish testaceous, very indistinctly striped longitudinally with paler. Halteres with the knobs light yellow. Legs chiefly yellowish brown, the outer tarsal segments darkened. Wings nearly hyaline, the costal region not brightened; stigma lacking; veins a little darker than the ground-color. Venation: Sc_1 ending just before the origin of *Rs*, the latter relatively long and only gently arcuated; veins R_4 and R_5 strongly divergent; cell *1st* M_2 unusually small, the lower face less than one-half of vein M_4 beyond it; *m-cu* just before the fork of *M*.

Abdomen brown, the hypopygium somewhat brightened. Male hypopygium constructed much as in *G.* (*L.*) *tonnoirella,* new species, but the phallosomic rods differently formed, two of the elements being heavily chitinized and blackened at tips.

Tahiti: Mataiea, August, 1928, holotype male, Tonnoir.

Gonomyia (Lipophleps) tonnoirella, new species.

General coloration of mesonotum dark brown, the scutellum conspicuously light yellow, pleura yellow, striped longitudinally with dark brown; scapal segments orange; knobs of halteres light yellow; legs chiefly dark brown; wings broad, dusky, the base and costal margin more yellowish; male hypopygium with the outer dististyle a simple gently curved rod.

Male

Length, about 2.8 mm.; wing, 3.3 mm. Rostrum and palpi dark brown. Antennae with the scapal segments orange; flagellum dark brown, the segments with very elongate verticils. Head light yellow, the center of the vertex slightly darkened. Pronotum and anterior lateral pretergites light sulphur-yellow. Mesonotal praescutum and scutum dark brown, the lateral portions of the former and posterolateral angles of the scutal lobes light yellow, scutellum light yellow, infuscated medially at base, postnotal mediotergite dark brown, more or less pruinose. Pleura light yellow, striped longitudinally with brown, the dorsal stripe more interrupted on the pteropleurite; ventral stripe including the sternopleurite and meron. Halteres dusky, the knobs light sulphur yellow. Legs with the coxae yellow; trochanters brownish yellow; femora brown to light brown, the tips darkened; tibiae and tarsi dark brown. Wings relatively broad, tinged with dusky, the prearcular and costal regions more yellowish; stigma lacking; veins pale brown, those in the yellowish areas brighter. Venation: *Sc* relatively short, Sc_1 ending just before the origin of *Rs*, Sc_2 apparently lacking; *Rs* strongly arcuated at origin; cell *1st* M_2 strongly widened outwardly, longer than vein M_4 beyond it; *m-cu* at fork of *M*. Abdominal tergites dark brown, the posterior lateral angles of the segments light yellow; hypopygium chiefly yellow. Male hypopygium with the outer dististyle a simple, long, gently curved rod; inner dististyle entirely pale and fleshy, the base enlarged and conspicuously hairy, the outer end narrowed and terminating in a powerful fasciculate seta. Gonapophyses appearing as long, slender, chitinized rods that terminate in acute points.

Tahiti: Mataiea, August, 1928, holotype male, Tonnoir.

This interesting *Gonomyia* is named in honor of the collector, my friend and colleague, Dr. André L. Tonnoir.

Gonomyia (Lipophleps) fuscoscutellata, new species.

General coloration of mesonotum dark brown, including the scutellum, the surface pruinose; basal segment of antennal scape obscure orange; knobs of halteres light yellow; wings strongly suffused with brown, the small stigma a little darker; costal region narrowly light yellow; cell *1st* M_2 relatively large.

Female

Length, about 3.8 mm.; wing, 3.6 mm. Rostrum and palpi dark brown. Antennae with the first scapal segment obscure orange, the remainder of the organ black. Head orange, the center of the vertex restrictedly darkened. Pronotum, anterior lateral pretergites, lateral margins of praescutum and dorsopleural region light yellow; entire mesonotum dark brown, pruinose, including the scutellum; pseudosutural foveae black, conspicuous; lateral margins of postnotal mediotergite obscure yellow. Pleura dark brown, with a yellow longitudinal stripe across the ventral sclerites. Halteres with the knobs conspicuously light yellow. Legs chiefly dark brown. Wings with a strong brown tinge, the small oval stigma a little darker; base and costal region narrowly light yellow, a vague darkening in the axillary region; veins dark brown. Venation: *Sc* short, Sc_1 ending some distance before the origin of *Rs*, the distance being about equal to *m-cu*; Sc_2 faint, close to tip of Sc_1; *Rs* angulated at origin; veins R_4 and R_5 strongly divergent; cell *1st* M_2 relatively large, its lower face subequal to vein M_4 beyond it; *m-cu* just before the fork of *M*. Abdomen blackened, the genital segment and valves of the ovipositor yellowish horn-colored.

Tahiti: Mataiea, August, 1928, holotype female, Tonnoir.

Styringomyia didyma Grimshaw.

Styringomyia didyma Grimshaw: Fauna Hawaiiensis, Diptera, p. 10, 1901; Edwards: Ent. Soc. London, Trans., pp. 222-223, figs. 38, 39, 76, 1914.

Idiophlebia pallida Grünberg: Zool. Anzeig., 26, pp. 524-528, 5 figs., 1903.

Tahiti: Mataiea, August, 1928, Tonnoir; Fautaua Valley, altitude 50 feet, 1 mile from sea, September 6, 1928, 1 male, Adamson.

Widely distributed in the Pacific islands: Hawaii, Fanning, Marquesas, Tahiti, Samoa, Tonga, Fiji, New Hebrides, the Carolines and New Guinea.