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New Records of Tabanidae (Diptera) in the Antilles.

Supplemental Report

BY CORNELIUS B. PHILIP¹

The two new species of *Stenotabanus* described below from South Caicos Island on the eastern extreme of the Bahamas, were received after the main report (Philip, 1957) from this area was in press. These two make an interesting addition to the Caribbean fauna in the subgenus *Aegialomyia*. Characteristically, species of this group are pale, beach- or island-inhabiting forms, and males are often taken as frequently as females. The latter have attacked bathers or even persons in boats on occasion, but Blickel (in press) reports flies that alighted on him on Florida beaches did not attempt to bite. Breeding activities doubtless occur in the vicinity of beaches or brackish marshes and should prove interesting when discovered. The subgenotypic species, *S. psammophilus* (Osten Sacken), has frequently been noticed around drying and rotting windrows of seaweed on Florida beaches near which Blickle (in press) found a larva and pupal case. Bequaert (1940) cites a report of G. N. Walcott in Puerto Rico that the larvae of *S. nervosus* live on sand fleas in drying seaweed.

Because several related species have been described since Bequaert's (1940) review of the Antillean fauna, a key to the subgenus in North America and the Caribbean area is given below. Fairchild (1942, 1951,

¹Research Associate, Department of Insects and Spiders, the American Museum of Natural History. From the United States Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, National Institute of Allergy and Infectious Diseases, Rocky Mountain Laboratory, Hamilton, Montana.

1953) discussed the group and added five new species from Panama, and one from Surinam; he writes that the subgenus is also represented in Trinidad.

Though *S. stigma* (Fabricius) from Puerto Rico, Antigua, and St. Thomas Islands, and *S. parallelus* (Walker) from Jamaica, have narrower fronts in the females and browner bodies (with peculiar patterns) than do most *Aegialomyia* species, they have been included in the key because of other more related characters and their insular habitats. Bequaert had correctly assigned both to *Stenotabanus* (at that time considered a subgenus of *Tabanus*). *Stenotabanus farri*, new species, described below, bridges the gap between these and more typical *Aegialomyia* and obviously is derived from the same recent ancestral stock. These species emphasize the difficulty of separating *Aegialomyia* from *Stenotabanus*, *sensu stricto*. The transfer of Fabricius' species from the genus *Tabanus* causes preoccupation of *S. stigma* (Krober) from Brazil, but a new name for the latter may not be necessary because of the considerable likelihood that *S. obscuremarginatus* Krober, also from Brazil, is a variant of the same species. Each was based on a single female in a different museum.

The color pattern of species in this group is often darkened by "greasing" when pinned, but usually can be revived by immersion in ethyl acetate. Dr. G. B. Fairchild made valuable suggestions in the construction of the key and supplied other information.

KEY TO SPECIES OF THE SUBGENUS *Aegialomyia*

1. Abdomen either uniformly gray or pale brown; if with pattern of indefinite paired dark spots, pale mid-stripes, or incisural bands, there are no isolated, sublateral, pale-haired spots..... 2
Abdomen with pattern which includes pale-haired, rounded, sublateral spots 9
2. Wings entirely hyaline, without clouds on cross veins or at most faint shadows on base of vein R_4 ("fork") 3
Wings with isolated clouds on cross veins and "fork" 5
3. Abdomen unicolorous grayish, sometimes mesially with a row of vague, paired, brown dashes; front of female very wide, less than one-half taller than basal width; antennal plate one-third longer than tall (Gulf coast of Texas and Mexico) *magnicallus* Stone
Abdomen pale brown, often with a paler mid-stripe and paler incisures; front more than twice taller than basal width; plate rounded, nearly as tall as long 4
4. Front subparallel sided, about two and one-half times taller than wide (Panama) *changuinolae* Fairchild

- Front somewhat convergent below, about three times taller than basal width (Panama) *ananasi* Fairchild
5. Front broad, about two and one-half times taller than basal width; pale frosty gray to whitish species (Florida). *psammophilus* (Osten Sacken)
Front narrower, about three or more times taller than broad; usually buff or hoary gray to pale brownish species. 6
6. Abdomen pale gray-brown, with pale incisures which widen into median triangles in well-preserved specimens; front with evanescent smoky patch in the middle and quadrate callosity (Bermuda).
..... *atlanticus* (Johnson)
Not with this combination of abdominal and frontal characters. 7
7. Abdomen pale brownish, black-haired, with some median patches and incisural margins of pale hairs; third antennal segment entirely black; vertex with paired, black, bare spots (Bahamas).
..... *sputnikulus*, new species
Abdomen hoary gray, predominantly to entirely pale-haired; plates mostly to entirely reddish, the annuli black; vertex entirely pollinose 8
8. Clouds prominent on all cross veins, and at ends of veins in wing margin; frontal callus of female small, ovoid, narrowly separated from ocular margins (Puerto Rico). *neruosus* (Curran)
Clouds fainter, and absent from vein endings; callus wider, touching eye margins (Jamaica, Cuba, Cayman and Bahama Islands).
..... *jamaicensis* (Newstead)
9. Front of female narrow, about four times taller than wide, sides virtually parallel; thorax prominently lined; wings with distinct clouds on cross veins 10
Front only about three times taller than wide, sides often divergent; thoracic lines faint; wings seldom with isolated clouds. 11
10. Abdomen with a continuous grayish white stripe; frontal callosity of female quadrangular (Puerto Rico) *stigma* (Fabricius)
Abdomen with median row of disconnected triangles or spots; callosity bluntly rounded above (Jamaica). *parallelus* (Walker)
11. Wings with distinct clouds on cross veins; abdomen grayish, with row of prominent, paired dark crescents or spots; front strongly convergent below, basal width half of that at vertex (Bahamas). *farri*, new species
Wings at most with indistinct shadow at fork; abdominal pattern otherwise; front gently or not at all convergent. 12
12. Front very wide, twice taller than basal width, sides parallel, entire vertex bare (Panama). *blantoni* Fairchild
Front at least two and one-half times taller than basal width, side gently convergent below, bare spot at vertex reduced and separated from eye margins 13
13. Frontal callosity black 14
Frontal callosity reddish brown 15
14. Trivittate pattern on abdomen obscure; front two and one-half times taller than broad; antennal plate as tall as long (Panama).
..... *paitilensis* Fairchild

- Trivittate pattern prominent and contrasting; front about three times taller than broad; plate half again as long as tall (Trinidad, Tobago)sp. A Fairchild¹
15. Front three times taller than broad, with indefinite bare spot at vertex; plate nearly half again as long as tall (Guatemala to Panama).....*littoreus* (Hine)
- Front only two and one-half times taller than broad, with prominent reddish boss at vertex; plate but little longer than tall (Surinam)....*geijskesi* Fairchild

Stenotabanus jamaicensis (Newstead)

Additional studies since my first report, plus difficulty in separation of *S. carribaeorum* (Bequaert) from the above in keys, have convinced me that complete intergradation occurs in both sexes and that, as is *S. laevicallus* (Szilady) which was synonymized in the previous report, this is but another variable element in the same species complex. Variation often appears accentuated by differences in preservation of specimens in this group. Though Bequaert (1940) keys *S. jamaicensis* with a "faint, narrow, bronzy-green band below the center" of the eyes, a female taken while attacking the writer on the beach at Montego Bay, Jamaica, had the same four rather narrow, purple stripes on green ground that occur in specimens from Cuba and the Bahamas previously assigned to the synonyms.

Stenotabanus (Aegialomyia) farri, new species

Figure 1

A medium-sized, steel-grayish species, with some pale brown shadings basally on the abdomen on each side of a row of prominent, paired, dark brown spots, reddish legs and antennae, broad front which converges below, and spotted wings.

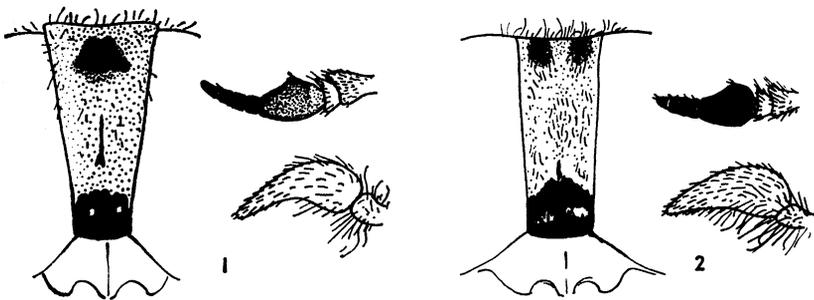
HOLOTYPE FEMALE: Length, 10 mm. Eyes bare, green, with three purple stripes, the median one attenuated before the outer margin (relaxed), and with distinct, though narrow, post-ocular rims. Front pale buff pollinose, vertex double the basal width and with sparse black hairs above a triangular bare brown spot, index 1/3.5; basal callosity piceous, quadrangular, with rounded upper corners, a little wider than tall, touching eye margins and not prolonged dorsally but with a detached indistinct median line above. Subcallus yellow pollinose. Face and cheeks whitish pollinose and pilose. Antennae red, with black hairs basally and with black annuli, the latter equal to the plate in

¹ To be described in a future report by Dr. G. B. Fairchild who kindly supplied a paratype for study.

length, the dorsobasal angle obtuse. Palpi swollen basally, attenuated apically, with sparse black and white hairs; basal segment entirely white-haired.

Notum and scutellum steel-gray, with four indistinct but broad, dark brown lines, covered with short pale and black hairs. Pleura and chest gray, with whitish hairs. Fore coxae pink, with pale yellow hairs; femora with indefinite pink and ashy gray shadows, hairs pale yellow; tibiae reddish basally, black on distal third of fore pair, and distal fifth of two hind pairs, which are predominantly black-haired on outer surfaces. Wings, including costal cells, hyaline, veins brown, the cross veins and particularly the fork margined with brown, but not the vein tips; spur veins present. Subepaulets bare. Halteres pale yellow.

Abdomen predominantly gray, with pale yellow hairs; a wide, steel-gray, middorsal band which connects with yellow-gray rings on the in-



FIGS. 1, 2. Fronts, antennae, and palpi. 1. *Stenotabanus (Aegialomyia) farri*, new species. 2. *Stenotabanus (Aegialomyia) sputnikulus*, new species.

cisures; the sides of the first four tergites with obscure pinkish tints; dark brown, black-haired maculations as follows: tergites 1 and 2 with narrow, interrupted rings above the pale incisures and a similar one across the base of tergite 2, tergites 3 to 5 with inverted comma-like, paired spots; tergites 6 and 7 predominantly dark ashy gray. Venter ash gray, entirely pale yellow-haired, some pinkish tints in the middle of the first two sternites, and on all incisures.

TYPE MATERIAL: Holotype female, South Caicos Island, British West Indies, June, 1957, T. H. Farr; in the American Museum of Natural History.

The species is named for the collector.

This species obviously had a common origin with the much browner *S. stigma* (Fabricius) which occurs farther to the east and south in the Antilles. The new species is a more grayish insect, with wider, diver-

gent front above, blacker callosity and tibial tips, and black hairs on the hind tibiae. The fronts of *S. stigma* from Puerto Rico are parallel or nearly so, and the brown callosities have the upper corners dentate, while in the present species the latter are rounded. Similar differences from *S. parallelus* (Walker), except in the callosities, are also apparent. The body coloration, slender build, and wing characters remarkably resemble those of some western United States species of *Silvius*.

Stenotabanus (*Aegialomyia*) *sputnikulus*, new species

Figure 2

A rather small, dark gray species, with brown shadings but no distinct pattern on the abdomen, parallel-sided front, black third antennal segments, and spotted wings.

HOLOTYPE FEMALE: Length, 7.5 mm. Eyes bare, green, with four distinct, purple bands (relaxed), and with distinct, though narrow, post-ocular rims. Front gray pollinose, with paired, sooty spots at the vertex, and one in the middle, and sparse black hairs; index $1/3.4$; basal callosity piceous, a little broader than tall, touching the eye margins, and irregular across the top, but with no pronounced median extension. Subcallus gray, with a slight buff tint. Face and cheeks whitish pollinose and pilose. Two basal segments of antennae pale reddish, with sparse black hairs; flagellum black, the plate with low, obtuse angle, a little longer than tall, but not quite so long as the robust annuli. Palpi swollen basally, blunt apically, with sparse black hairs, basal segment entirely white-haired.

Notum and scutellum dark, ashy gray, unlined, with pale, appressed hairs and short, sparse, black hairs. Pleura and chest paler gray pollinose and whitish pilose. Fore coxae pale pink, white pilose; femora gray, with pinkish tints, pale pilose; tibiae pale reddish, darker apically, predominantly black-haired, with a few pale hairs. Wings, as in the preceding species, hyaline, with small spots on the fork and cross veins, and with spur veins; subepaulets bare. Halteres pale brown.

Abdomen dull, reddish brown above, predominantly black-haired, without evident pattern, incisures narrowly pale-haired, with expansions mesially into small patches not overlying integumental pale triangles. Venter pale reddish, entirely pale-haired.

TYPE MATERIAL: Holotype female, South Caicos, British West Indies, June 1957, T. H. Farr; in the American Museum of Natural History.

Paratype, one female, same data, but not so well preserved; in the collection of the author. It differs from the holotype in minor respects.

The abdomen has less pinkish shades basally, but more pale hairs on some of the tergites; there is a very fine, midfrontal ridge extending from the upper margin of the callosity to the upper third of the front; there are a few more pale hairs among the black ones on the tibiae.

This small species is darker than related species of *Aegialomyia*, lacks abdominal pattern as do several others, but is distinctive in having black flagellums, and black-haired tibiae. The bodies of both specimens are more compact and less slender than in the previous species.

The name, "a little sputnik," was derived in commemoration of the launching of the first man-made earth satellite while this species was being described. The fly also undoubtedly "buzzes about the earth" even though in a much more restricted way.

SUMMARY

Described as new and figured are *Stenotabanus farri* and *S. sputnikulus* females from South Caicos Island in the Bahamas. *Stenotabanus carribaeorum* (Bequaert) is considered to be a synonym of *S. jamaicensis* (Newstead). A key to the species of the subgenus *Aegialomyia* is provided.

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