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TWO NEW SPECIES OF SIMULIUM FROM TROPICAL AMERICA.

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During 1913 a commission headed by Dr. Louis W. Sambon was sent from England to the West Indies and adjoining regions to investigate pellagra and its manner of transmission. Through invitation the writer was able to accompany this expedition with the special object of investigating the insects that might have a bearing on the transmission of the disease. Special attention was given to *Simulium* and among the material collected were the two new species described below. I am much indebted to Mr. Knab for assistance in this connection. Details of the biology of these species will be published in another place.

Simulium samboni new species.

Female. Occiput, frons and face black, densely light silvery gray pollinose. Antennæ rather stout, brownish yellow, darker distally, the first two joints honey yellow and smooth, the others clothed with short whitish pile. Palpi blackish. Mesonotum bright orange-ferruginous, with four narrow, pollinose, grayish-silvery stripes, the outer ones at the lateral margins, the inner pair sinuate, extending nearly to the scutellum and dividing the disk into three nearly equal parts; vestiture of fine, evenly distributed golden hair-scales not forming regular series. Scutellum paler than mesonotum, honey yellow; transverse hair-scales on the disk golden, the marginal bristles black. Postnotum ferruginous. Pleurae ochre-yellow, strongly infuscated on the mesosternum. Abdomen sub-cylindrical, black and gray; segments 2 to 5 black and with the margins and two longitudinal stripes gray, thus delimiting three series of large black spots; sixth segment shining, mostly gray. Anterior coxæ yellow, the others infuscated. Legs bright ochre-yellow, the hind pair with the apices of the femora infuscated and the distal halves of the tibiae blackish, their basal halves with whitish luster; front tarsi blackish, the first joint tinged basally with luteous; mid tarsi with the first joint pale, its distal fourth blackish, the second joint pale on basal half, the last three joints wholly blackish; hind tarsi with the first joint pale, infuscated along its lower margin and on apical third, the second joint pale on basal half, the last three joints wholly blackish; appressed hair-scales partly pale and partly black, in correspondence with the ground-color. Claws simple, thickened at base. Wings hyaline, the venation normal; thick veins pale yellow; anal field without iridescent spot. Halteres pale yellow. Length: Body about 1.5 mm., wing 2 mm.

Male. Holoptic. Antennæ much more slender than in the female, Mesonotum strongly convex, the silvery pollinose ornamentation reduced to two short wedge-shaped spots at anterior margin and visible only in certain lights.

Empire, Canal Zone, Panama, reared from pupæ taken from a small tributary of the Comacho River, October 4, 1913 (A. H. Jennings).

Type: Cat. No. 19996, U. S. Nat. Mus.

It gives me pleasure to dedicate this handsome species to Dr. Louis W. Sambon.

***Simulium antillarum* new species.**

Female. Occiput, frons and face black, densely light silvery gray pollinose; frons moderately broad, but very slightly narrowed anteriorly, nearly parallel-sided. Antennæ rather short, the first two joints ferruginous and nude, the following ones blackish brown and clothed with short whitish pile. Palpi black. Mesonotum bright orange-ferruginous, the region of the humeri and the lateral margins ochreous yellow, a narrow, wedge-shaped dark spot at the lateral suture in front of insertion of wings; on the anterior half two narrow silvery white pollinose stripes, nearly equidistant from each other and from the lateral margins; these stripes are nearly straight, tapered anteriorly and do not reach the anterior margin; vestiture of very fine, evenly distributed black hairs not forming regular series. Scutellum more yellowish than mesonotum, with transverse yellowish hairs on the disk and a series of marginal black bristles. Postnotum ferruginous. Pleuræ ochreous yellow, with some silvery pollinose streaks and with the mesosternum strongly infuscated. Abdomen shining, blackish, tinged more or less with yellow-brown basally and distally, the apical margins of the segments very narrowly pale. Anterior coxæ yellow, the others infuscated. All the femora yellow; tibiæ more or less infuscated, the middle pair lightest, the posterior pair nearly black; tarsi blackish; femora with yellowish hair-scales, tibiæ and tarsi mostly with black hairs. Claws simple, thickened at base. Wings hyaline, the venation normal, the costa infuscated and densely black spinulose, the other thick veins yellowish, a minute dark spot on the crossvein; a large but rather faint reddish iridescent area in the anal field. Halteres pale yellowish. Length: Body about 1.5 mm., wing 2 mm.

Male. Holoptic. Antennæ, much more slender than in the female. Mesonotum strongly convex, the two silvery pollinose marks shorter and broader. Abdomen slender, the first four segments ocher-yellow, the succeeding ones black.

St. Croix, Danish West Indies, November, 1913; Hope River near Kingston and Roaring River close to the falls, Jamaica, September, 1913 (A. H. Jennings).

Type: Cat. No. 19997, U. S. Nat. Mus.

The material was mostly reared from pupæ occurring in rapid streams in the above named localities. In St. Croix, on November 24 and close by their breeding-place, two specimens were captured while biting man.

Actual date of publication December 31, 1915.