ON A COLLECTION OF CULICINAE (DIPTERA: CULICIDAE) FROM BRAZIL

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ABSTRACT. A man-biting collection of culicine mosquitoes was studied, and it is thought useful to report on the species involved and their relative abundance. New distribution records are for Aedes (Ochlerotatus) nubilus (Theobald), Psorophora (Janthinosoma) champerico (Dyar and Knab), Culex (Melanoconion) pedroi Sirivanakarn and Belkin (for State), Cx. (Mel.) portesi Senevet and Abonnenc (for State), Cx. (Mel.) vomerijer Komp. Taxonomic problems are discussed.

INTRODUCTION

A colleague at the London School of Hygiene and Tropical Medicine, Clive R. Davies, visited Amazonas, Brazil early 1990, investigating the distribution of monkey malaria and its vectors (see Davies et al. 1991). During the course of that work, biting collections on man were made at five locations near Tefe, at hourly intervals between 1800 and 2200 h from January 27 to March 2. The Anopheles were separated from the collections and the Culicinae given to me to work through.

More than 3,600 adults were examined, and with large numbers of what appeared to be the same species, some were discarded after examination. Over 2,000 were mounted and retained. The total list is presented followed with discussion and notes on identification.

SPECIES LIST

Tribe Aedini

*Aedes* (Ochlerotatus) *fulvus* (Wiedemann), 110
*Ae. (Och.)* sp. near *fulvus*, probably *Ae. stigmaticus* Edwards, 4
*Ae. (Och.) nubilus* (Theobald), 57
*Haemagogus (Haemagogus) capricornii* Lutz or *Hg. janthinomys* Dyar, 1
*Psorophora (Janthinosoma) albipes* (Theobald), 437

Ps. (Jan.) ? *champerico* (Dyar and Knab), 2

and others with pale scutellar and prescutellar scales among the *Ps. albipes*

Ps. (Jan.) *ferox* (von Humboldt), 12
Ps. (Psorophora) *cilipes* (Fabricius), 8

Tribe Culicini

*Culex (Culex)* spp., 68
*Cx. (Melanoconion) pedroi* Sirivanakarn and Belkin, 4
*Cx. (Mel.)* sp. near *pedroi*, 10
*Cx. (Mel.) portesi* Senevet and Abonnenc, 24
*Cx. (Mel.) spissipes* (Theobald), 17
*Cx. (Mel.)* vomerijer Komp, 13
*Cx. (Mel.)* sp., 2

Tribe Mansoniini

*Coquillettidia (Rhynchotaenia) chrysonotum* (Peryassu), 2 (or *Cq. (Rhy.) albifera* (Prado), ?? not separable)
*Cq. (Rhy.) hermanoi* (Lane and Coutinho), 6
*Cq. (Rhy.) venezuelensis* (Theobald), 218
*Mansonina (Mansonina) amazonensis* (Theobald), 1045
*Ma. (Man.) humeralis* Dyar and Knab, 633
*Ma. (Man.) indubitans* Dyar and Shannon, 37, this and the next species not all identified with certainty
*Ma. (Man.) titillans* (Walker), 50
*Ma. (Man.)* indubitans and/or *Ma. titillans*, 788, usually inseparable without slide preparation of terminalia
Tribe Sabethini

Sabethes (Sabethoides) sp., 1
Trichoprosopon (Trichoprosopon) digitatum
(Rondani), 1

NOTES ON IDENTIFICATION

Being a biting collection, determinations are of course on female characters, though three male Ma. amazonensis were present. Some new distribution records occur as far as I found in literature. My primary help was Lane (1953), with further works that are given below.

_Aedes nubilus_ merits detailed explanation which is presented here. Belkin et al. (1970) restored _Ae. pertinax_ Grabham and _Ae. nubilus_ to species status from synonymy with _Ae. serratus_ (Theobald). They give reasons including: “The past confusion of _serratus, nubilus_ and _pertinax_ is primarily due to the belief that the differences in mesonotal ornamentation are individual variations.” Belkin et al. did not know of or did not comment on the thorough study of mesonotal color variations of 105 _Aedes serratus/nubilus_ from Sao Paulo State reported by Antunes and Lane (1934). These authors discuss the presence or absence of a pale longitudinal line of mesonotal scales of females in detail in their section II on _Ae. serratus_ and _Ae. nubilus_, and they had specimens there with the mesonotum all dark.

Komp (1949) declared _Ae. nubilus_ a synonym of _Ae. serratus_. Lane (1953) followed Komp’s decision, and in his key to species he keys out _Ae. serratus_ twice, on the presence or absence of the median pale line on the mesonotum. The male genitalia of the three species are distinct.

Belkin et al. say of females: “In all true _serratus_ we have seen there is a broad whitish longitudinal line in both sexes . . . In _nubilus, . . . the female mesonotum may be completely dark . . .” _Aedes pertinax_ may be similar to _Ae. nubilus_ but apparently is geographically restricted.

The specimens I have from Amazonas have a dark mesonotum. I think it valid to record the distribution of _Ae. nubilus_ to include Brazil, near Tefe, Amazonas, January and February 1990, C. Davies collection.

My query with _Ps. champerico_ is because I have not seen a specimen to compare with the two here which fit the description of that species and because it is far from the known distribution of _Ps. champerico_.

The _Culex_ (_Culex_) females I have been unable to identify with Lane (1953). All but three have pale tarsal bands and basal abdominal bands. One of the others is a remarkably dark purplish specimen which “should be” identifiable, and I am sure this is not in Lane. The _Culex_ (_Melanoconion_) specimens were determined using more recent revisions of species groups. Following Sirivanakarn and Belkin (1980), I believe four specimens to be their new species, _Cx. pedroi_. The 10 specimens I call sp. near _Cx. pedroi_ have those author’s characteristics for that species but in addition have an apical white spot on the forefemora and dull pale bands at the joints of the fore- and midtarsomerses. Aitken and Galindo’s 1966 paper made the identification of _Cx. portesi_ and _Cx. vomerijkr_ possible (Fig. 1). Takahashi (1968) helped in determining _Cx. spissipes_. Many specimens of _An. amazonensis_ are regarded as a variety of this species because the foretarsus has white on only the first three tarsomeres rather than on four, which is the usual case. A male of this form was present, and a slide mount of the genitalia looks good for _Ma. amazonensis_ as well as a slide mount of the female terminalia. Slide preparations of the female terminalia are helpful for the identification of _Mansonia_ (Mansonina) species and essential for accurate identification of _Ma. indubitans_ and _Ma. titillans_. The 1953 paper by Harry Pratt describes and depicts tergum VIII and the postgenital plate of six described species plus a Bolivian species (Fig. 2). After examining nearly 800 females of these species I cannot accept the character of the maxillary palpus and palpomere size differences used by Lane and other authors. Pratt says of _Ma. titillans_, the apical margin of tergum VII has a row of short stout spines, not found in other species. On some specimens these spines can be seen _in situ_ on that tergite, but usually a slide
Fig. 1. Culex (*Melanoconion*), Brazil 1990, near Tefé, Amazonas, *Cx. portesi* above, *Cx. vomerifer* below. Note pleura: pale with *Cx. portesi* and dark with *Cx. vomerifer* on forecoxa, prealar area, upper and lower mesepimeron and much of anterior area.
preparation must be made. If that character is positive only for *Ma. titillans*, the preparations I have made show the postgenital plate tending toward that of the Bolivian species. Only one of my preparations tends toward Pratt’s illustration of the postgenital plate of *Ma. titillans*, all others are globular as with *Ma. amazonensis*, most with the apex truncate and slightly concave as shown for the Bolivian species. All have the median crown on tergum VIII with six stout spines (Fig. 3). If the form of the postgenital plate of *Ma. titillans* is certainly as shown and described by Pratt, these Amazonas specimens might be the Bolivian species about which nothing is known apart from Pratt’s brief note. I have corresponded with Dr. Pratt asking about this, who very kindly replied, with no further information on the Bolivian species. He suggests that I describe these as a new species but that is beyond the scope of my expertise. I have since had two specimens of *Ma. titillans* from Mexico to identify. The postgenital plate of one is globular and slightly concave apically and the other is “typically *Ma. titillans*.” Both have eight stout spines to the median crown (Fig. 4). I am sure that a complete revision of *Mansonia (Mansonia)* is needed, and one new species at least will be described. Much material is here, but none reared from the larval stage. Belkin et al. (1970) do not mention the postgenital plate.
Fig. 4. *Mansonia (Mansonia) titillans*, Guerrero, Mexico, A–D, October 1990, postgenital plate showing globular truncate shape (A), Te-VIII (B), Te-VII (C), Te-VIII arrangement of spines (D). E–H, August 1991, postgenital plate (E), Te-VIII (F), Te-VII (G), postgenital plate of "typical shape" for this species (H).
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REFERENCES CITED


