

additional species have been examined from Fort Collins, Colorado, October 11, 1910; Forbestown, California, November 27, 1880 (Maggie Dowell); Livingstone, Vancouver, October 1, 1896; California (Behrens); Boulder, Colorado, February 24, 1910 (S. A. Rohwer).

*Type:* No. 13230, U. S. National Museum.

This species has frequently been determined as *Leptoglossus corculus* Say on account of its most striking resemblance, but by close observation the differently shaped expansion of the hind tibiæ will distinguish it at once. In Say's species the expansion reaches with its outer side almost to the apex of the tibiæ, while in this new species the expansion on either side extends but two-thirds of the length of the tibiæ.

The species belongs evidently to the Western fauna, and is widely distributed from Colorado to California and north to Vancouver.

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#### COQUILLET'S "THE TYPE-SPECIES OF THE NORTH AMERICAN GENERA OF DIPTERA."\*

BY FREDERICK KNAB.

This work purports to be simply an indication of the type species of the genera that have been used in connection with North American Diptera. It will, however, be most valuable for reference, supplementing the Aldrich Catalogue, from which all generic references and synonymy have been omitted. With the unusual, and perhaps unexcelled, library facilities at Washington, and Mr. Coquillett's industry, it may be expected that the list of genera is fairly complete. That absolute perfection in this respect cannot be reached is shown by the series of corrections which have already been indicated.†

Reliability as to the types indicated implies that every work dealing with the genera in question has been gone over. In the determination of the type species two processes are involved: First, to determine if, in those genera which were founded with several species originally included, a type species was not indicated by the author of the genus or by some subsequent author; second, when no type species has been found indicated, to designate the type. In the latter case there is always a

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†Coquillett, D. W. Corrections to my paper on the type-species of the North American genera of Diptera. Canad. Ent., vol. 42, pp. 375-378 (November, 1910).

chance that some previous work will turn up later in which the type species is already indicated.

A work of this character is satisfactory in proportion to its thoroughness and the impartiality with which it has been carried out. It can readily be seen that, in the case of the same species being included in two different genera, one of these genera can be invalidated by simply indicating such species as the type of both genera. In such case the result, instead of being that most to be desired, to save the largest number of generic names for possible later subdivision, is to invalidate as many of them as possible. This has actually been done. Thus the genus *Lepisclaga* Macquart was founded on a single species (*Tabanus lepidotus* Wiedemann); the genus *Hadrus* Perty had five species originally included, among them the same *Tabanus lepidotus*, and Mr. Coquillett fixes upon this as the type species. It is true that the recent modifications of the international code of zoological nomenclature countenance this procedure, but most systematists will consider it very objectionable. In the case of the Schizophora, which are systematically in a very unsettled state, such a course is nothing less than mischievous. It is therefore unfortunate that types once validly fixed must hold.

A matter on which very few workers will agree with Mr. Coquillett is the recognition of the old generic names of Meigen, published in 1800 without any species associated. Mr. Coquillett has indicated types for these genera, whereas the code prescribes that the type must be one of the originally included species. This, too, is upheld by the International Commission's recent rulings, to which Mr. Coquillett is a strong adherent. In the opinion of the reviewer the recognition of such genera contradicts the generally accepted position that a genus must be founded upon an actual object; in other words, on a species.

In addition to its confessed aim the work has another purpose. It is no less than an attempt to decide the validity of all the genera. It is clearly beyond the powers of anyone to determine the status of all the genera in the Diptera. To place genera in the synonymy without discussion of the points at issue is not only unscientific but unfair. These decisions of Mr. Coquillett, however, have no binding effect.

The activity of the reviewer in the field of systematic dipterology has been too limited to enter into detailed discussion of the work. However, a few obvious omissions and errors can be pointed out by way of indicating the danger of relying

upon the work as final. We note the absence of the genus *Dermatobia*, of the occurrence of which in the region under consideration there is abundant and overwhelming proof. Two other generic names omitted are *Parmula* von Heyden and *Scutelligera* Spix, both synonyms of *Microdon*. In the Culicidæ the genera *Gualteria* Lutz and *Toxorhynchites* Theobald are omitted. The genus *Gualteria* was founded on the species *G. oswaldi* Lutz, and of this *Verrallina insolita* Coq. and *V. lateruaria* Coq. are synonyms. The genus *Toxorhynchites* was published for the first time with a species included by Howard in his "Mosquitoes" (page 154). The fact that the generic concept was based on the short palpi of the female, and that an American species was assigned to it because the palpi of the female examined by Mr. Coquillett happened to be broken, does not alter the status of the genus. *Megarhinus rutila* Coq. must be considered the type-species of *Toxorhynchites* and the genus must be credited to Howard and placed as a synonym of *Megarhinus*. The name *Conchyliastes* is credited to Theobald; it was, however, published by Howard (l. c., p. 155), and must be credited to him, regardless of the fact that the name was communicated to him by Professor Theobald in a letter.

Mr. Coquillett's method of indicating the type species, where synonymy is involved, is unsatisfactory. Instead of indicating as the type the species actually included by the author of the genus, the species of which this is supposed to be a synonym is designated. Should the two names prove later to belong to distinct species, confusion may easily arise. It is true the name used by the author of the genus is added in parenthesis, but the tendency is to obscure the issue. This is well illustrated in the case of the genus *Tæniorhynchus* Arribalzaga. Coquillett states that *Culex titillans* Walker is the type—"the first species by tautonymy." It is probably true that the first species included by Arribalzaga in his genus *Tæniorhynchus* is Walker's *Culex titillans*, but this cannot be proved until the mosquito fauna of the La Plata region has been newly studied, and it is immaterial in this case. Arribalzaga thought he had before him Wiedemann's *Culex tæniorhynchus* and he so called the insect. By tautonymy, if we understand the meaning of the word, *Culex tæniorhynchus* alone can be the type species. Therefore the generic name *Tæniorhynchus*, in place of preoccupying *Mansonia*, becomes a synonym of *Aedes* as defined by Dyar and Knab. Other examples which show how misleading is Mr. Coquillett's method of indicating the type species are *Chaobornis* Lichtenstein and *Heteronycha*

Arribalzaga. *Chaoborus* was founded upon a larva which Lichtenstein gave the specific name *antisepticus* without having the least suspicion of its position in systematic zoölogy. The larvæ of the species of *Chaoborus* resemble each other very closely and can only be differentiated on minute structural details. It is very doubtful that Lichtenstein's description and figure will make possible the specific identification of his larva. Moreover, the European species of *Chaoborus* have never been carefully studied from a systematic standpoint and no proof exists that the *Tipula crystalina* of De Geer, which Coquillett indicates as the type, is specifically identical with *Chaoborus antisepticus* Lichtenstein. In the case of *Heteronychia* Coquillett indicates *Culex aestuans* Wiedemann as the type. Arribalzaga founded his genus upon a species which he supposed to be new and which he called *H. dolosa*. This species is most probably identical with *Culex quinquefasciatus* Say. Wiedemann's *Culex aestuans*, as far as the reviewer is aware, has never been identified with certainty. The short description will apply to almost any plainly colored mosquito, and it might easily belong to a genus other than *Culex*. Until the types of *Culex aestuans* are studied in the light of modern knowledge, its identity cannot be asserted. Wiedemann's species came from Brazil, that of Arribalzaga from the Argentine.

In conclusion, it should be stated that the value of Mr. Coquillett's work, for determining the status of genera, is greatly weakened by the fact that he limited himself to the North American region. Manifestly anyone entering seriously into the question of genera in a given group will have to investigate all the genera and their types, regardless of the part of the earth they were described from. One of the excellent features of the work is the accompanying index to the genera and species, such as one misses very keenly in the Aldrich Catalogue.

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#### DESCRIPTION OF A NEW CAPSID.

BY OTTO HEIDEMANN.

*Capsus solani*, new species (fig. 3).

Body elongate-oval, shining black, beset with pale, short hairs. Head very fine, sparingly, punctate; a transverse, short depression basally near inner side of each eye; the eyes large, about half as long as the head, viewed from side. Antennæ moderately long, the first joint as long as the distance between the eyes in the male; second joint gradually thickening a little towards the apical part, nearly as