

## THE DIPTEROUS GENUS ZYGOTHRICA OF WIEDEMANN.

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In the year 1830 Wiedemann<sup>1</sup> described a Brazilian fly under the name of *Achias dispar*, the genus *Achias* being placed in the family Diopsidae. This species was so placed on account of its broad head with conically produced eyes. Wiedemann stated that this character is much more marked in the male than in the female. In the same year he published a revision of the species of the genus *Achias*, in which he made *A. dispar* the only species of a new genus, called *Zygothrica*.<sup>2</sup>

Two years later Gray<sup>3</sup> published a figure of the species. It was again figured by Macquart.<sup>4</sup> Macquart<sup>5</sup> discussed the species, and placed it doubtfully in his family Lauxaniidae. It does not seem certain from his account that he had seen a specimen. The figure is perhaps a copy of that of Gray, and the description may have been taken from that of Wiedemann.

The next reference to *Zygothrica* was by Loew.<sup>6</sup> He had seen a specimen that was perhaps *Z. dispar*, and on the basis of that specimen referred the genus doubtfully to the Drosophilidae. Bigot<sup>7</sup> tabled the genus among the Diopsidae, apparently without having seen it. Osten Sacken<sup>8</sup> stated that he had seen a specimen that made on him the impression of a Drosophilid.

Hen del<sup>9</sup> mentioned the genus in connection with *Plagiocephalus* Wiedemann. The latter is an Ortalid genus that was also based on a Brazilian species first described by Wiedemann as an *Achias*. Hen del had apparently not seen *Zygothrica*, but suspected that it might possibly be an Ortalid. Two years later, however,<sup>10</sup> he had seen

<sup>1</sup> Aussereurop. Zweifl., vol. 2, p. 556.

<sup>2</sup> *Achias* Dipt., Genus 16, p. 3.

<sup>3</sup> Animal Kingdom, vol. 2, p. 774, 1832.

<sup>4</sup> Dipt. Exot., vol. 2, pt. 3, pl. 34, fig. 2, 1843.

<sup>5</sup> Idem., p. 409.

<sup>6</sup> Mon. N. Amer. Dipt., vol. 3, p. 23, 1873.

<sup>7</sup> Annales, p. 91, 1880.

<sup>8</sup> Dipt. Malay Arch., p. 90, 1881.

<sup>9</sup> Gen. Insect., p. 113, fasc. 52, 1911.

<sup>10</sup> Deutsch. Ent. Zeit., p. 633, 1913.

specimens from Peru that he identified as *Z. dispar*. He referred the genus to the Drosophilidae, and redescribed and figured it. Later<sup>1</sup> he added a few notes, attributed Wiedemann's figure to Meigen.

De Meijere<sup>2</sup> compared the genus with his new genus *Sphyrnoceps*, which he concluded is distinct because neither sex has as broad a head as that of the male of *Zygothrica dispar*. Both *Zygothrica* and *Sphyrnoceps* are referred to later by de Meijere<sup>3</sup>, and Hendel's figure is reproduced.<sup>4</sup>

I have recently examined a large series of specimens in the United States National Museum that are evidently *Zygothrica dispar* Wiedemann, to which species they were tentatively referred by the late Mr. F. Knab. These leave no doubt that the reference to the Drosophilinae is correct. Since they come from Panama, they add another genus to the "North American" list. Both sexes agree in having a very long proboscis, that has not been described by earlier authors. It is sometimes retracted and not easily observed, which probably accounts for this oversight. The females agree well with the description of *Drosophilura caudata* Hendel.<sup>5</sup> This genus (and species) was based on female specimens from Bolivia, while Hendel had seen only males from Peru that he referred to *Zygothrica dispar*. The most striking character described for *Drosophilura* is the long proboscis, which Hendel had overlooked in his males. Another difference is that *Zygothrica* is stated to have two orbital bristles, *Drosophilura* three. Just this sexual difference occurs in the series of specimens that I have examined.

There is another species in the same lot that I have here described as a new species of *Zygothrica*. In this form both sexes have the head shaped as it is in the female of *Z. dispar*. I can find no other significant difference between the two forms, and therefore have put them in the same genus. This makes it probable that *Sphyrnoceps* de Meijere is a synonym of *Zygothrica*; but a more detailed description, especially of the structure of the proboscis, will be necessary before this conclusion can be adopted as certain.

We may tabulate and define the genus as follows:

#### Genus ZYGOTHRICA Wiedemann.

*Zygothrica* WIEDEMANN, 1830, *Achias* Dipt., Genus 16, p. 3.

*Drosophilura* HENDEL, 1913, *Ent. Mitth.*, vol. 2, p. 387.

?*Sphyrnoceps* de MEIJERE, 1915, *Tijds. v. Ent.*, vol. 58, suppl., p. 58.

Arista plumose; two or three orbitals; vibrissae present; postverticals large; face prominent; carina large; head broader than thorax;

<sup>1</sup> *Abhandl. k. k. zool.-bot. Ges.*, vol. 8, p. 219, 1914.

<sup>2</sup> *Tijds. v. Ent.*, vol. 58, suppl., p. 59, 1915.

<sup>3</sup> *Diptera*, in *Bronn's Klassen und Ordnungen* 5, vol. 3, p. 45, 1916.

<sup>4</sup> *Idem*, pl. 2, fig. 13.

<sup>5</sup> *Ent. Mitth.*, vol. 2, p. 387, 1913.

proboscis longer than head is high; no prescutellars; preapicals evident on second and third tibiae; discal and second basal cells confluent; costal vein reaches to apex of fourth vein.

Wings clear; eyes laterally produced to a sharp horizontal edge in the male; mesonotum brown.....*Z. dispar*.

Wings ornamented; eyes of male not produced; mesonotum shining black.....*Z. aldrichii*.

Wings clear; eyes not produced in the male; mesonotum brown *Z. (?) brunnea*.

**ZYGOTHRICA DISPAR** Wiedemann.

*Drosophilura caudata* HENDEL, Ent. Mitth., vol. 2, 1913, p. 387.

Both sexes have been fully described by Hendel. The preapicals are evident on the second and third tibiae; other than this his descriptions fit the material I have seen. The species is, however, variable in color. The descriptions of this character given by Wiedemann and by Hendel in his two papers can all be matched in the series, but the darker types are most frequent.

Specimens examined: Trinidad River (over 150 specimens, 11 of them bred from "white toadstool"), Alajuelo (4 specimens), Panama (A. Busck).

Recorded from Peru (Hendel), Bolivia (Hendel), and Brazil (Wiedemann).



FIG. 1.—ZYGOTHRICA DISPAR WIEDEMANN. UPPER, HEAD OF MALE FROM ABOVE; LOWER, HEAD OF MALE FROM IN FRONT AND A LITTLE BELOW.

**ZYGOTHRICA ALDRICHI**, new species.

*Male*.—Arista with about six branches above and two below.

Antennae yellowish brown. Front about half width of head above, narrower below. Three orbital bristles. Front shining yellow below; orbits and triangle reddish brown, frontal lines black. Postverticals large. Eyes nearly bare. Carina large. Face protuberant, yellow. One large oral bristle. Proboscis longer than height of head; it and palpi yellow. Cheeks yellow.

Acrostichal hairs in six rows. Mesonotum and scutellum shining black. Pleurae and legs pale yellow.

Abdomen shining black.

Wings with three black spots—a basal one extending on the costal margin to just beyond the apex of the first vein, and reaching to the fifth vein, thus including the anterior crossvein; one on the anterior margin extending from a point above the posterior crossvein to the apex of the fourth vein; one around the posterior crossvein. Costa with a break at the humeral crossvein and another one just before the

apex of the first vein. Costal index about 1.9; fourth vein index about 1.3; 5x index about 1; 4c index about 0.8. First posterior cell slightly narrowed at its apex.

*Length*, 2.5 mm.

*Type*.—Male, Cat. No. 22725, U.S.N.M., from Trinidad River, Panama (A. Busck).

*Female*.—Proboscis, lower part of pleurae, and second and third coxae shining blackish brown. Otherwise as above.

*Allotype*.—Same locality as type.

*Paratypes*.—Thirty-one specimens taken with the type and allotype. Three of these were bred from "white toadstool." This series was taken with the large series of *Z. dispar* referred to above. Some of the paratypes are distinctly paler in color than the type, apparently having been pinned when younger. In these specimens the wing spots are smaller or even absent, and the mesonotum, scutellum, and abdomen are brownish or yellowish.

The species is named for Prof. J. M. Aldrich, to whom I am indebted for several of the references to the genus and for other favors.

(SPHYRNOCEPS) ZYGOTHRICA (?) BRUNNEA deMeijere.

*Sphyrnoceps brunnea* DEMEIJERE, Tijds. v. Ent., vol. 58, 1915, suppl., p. 58.

Eyes rounded in both sexes. Thorax, dark brown above, pale yellow below. Wings clear.

Described from the island of Simalu, off Sumatra.

NOTE.

Since the foregoing was written I have examined a series of specimens taken on a decaying agaric on rotten log, at Emperor Valley, Port of Spain, Trinidad, West Indies; January, 1913, by Prof. Roland Thaxter. This series, which is preserved in alcohol, includes numerous specimens of *Zygothrica dispar* and of *Z. aldrichii*. An examination of the specimens of *Z. dispar* and reexamination of some of the United States National Museum material shows that the males of this species are quite variable in the structure of the head. A few of them have rounded eyes and three orbital bristles, exactly as in the females. There is a continuous series connecting these forms with those that have very long pointed eyes and no second orbital bristle. This observation serves to strengthen the view that *Z. aldrichii* and the genus *Sphyrnoceps* should be placed in the same genus as *Z. dispar*.