

The Types of *Chrysops laeta* Fabricius and a New Species of Neotropical Deerfly in the Copenhagen Zoological Museum.¹⁾

By
Cornelius B. Philip.

In July 1953, the author studied types of Tabanidae in the collections of the University of Copenhagen Museum through courtesy of Dr. S. L. Tuxen in charge of entomological material. The visit was supported by a grant from the American Philosophical Society.

Fabricius' syntypes of *Chrysops laeta* are present but represent two species of deerflies, and since the name is commonly discussed in Neotropical tabanid literature, clarification and lectotype establishment are needed for future reference. In some cases the species has obviously been misidentified, but variation in this complex also has led to assignment of three varieties to *C. laeta* making detailed redescription of the typical form advisable.

Of the two syntypes present, the one most nearly fitting present conception of the species is hereby selected as lectotype, and has been so labelled; the other syntype does not belong in the *laeta* complex as discussed below. In the Kiel Collection of Fabricius, there is a pest-destroyed specimen of which only the wings remain; this may be from the original series, but Fabricius states the type to be in "Mus. Dom. Lund" which is now in the Copenhagen Museum.

The lectotype is intact including antennae. It has yellow frontal callosity, face and cheeks, notum with

¹⁾ From the U. S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, National Microbiological Institute, Rocky Mountain Laboratory, Hamilton, Montana.

two submedian gray lines on a median plumbeous stripe, and two lateral yellow lines above the wing bases. Wing pattern is like that figured by Kröber for "var. *tenuistrius*" (misspelled "*tenuifascius*" on tables III and V, 1925). The apical spot is narrower than he figures for his typical *laeta* and is separated from the crossband at the end of the stigma; the crossband is relatively narrow with a hyaline indentation in cell R_5 so that the outer margin continues along outer end of discal cell straight to the hind margin filling cell M_3 but leaving cell M_1 completely hyaline; the anterior margin of cell Cu_1 is hyaline nearly to the base where a prong connects with a narrow fork along vein Cu_2 to the apex of the anal cell. The abdominal pattern is intermediate between Kröber's figures of *laeta* and var. *tenuistrius*. There are two, small yellow spots on the sides of tergite 1; the median, yellow triangle crossing tergite 2 is not widened above. Incisures of the remaining tergites have decreasingly narrow yellow bands, widening to low triangles on 3 to 5, that on 3 only half crossing the tergite. Venter dusky with narrow yellow incisures and sublateral yellow spots on sternites 2 to 4.

"Amer. merid." probably refers to northern South America rather than Central America as the published type locality.

The yellow head calli and reduced wing pattern obviously relate the lectotype more closely to Kröber's variety "*tenuistrius*" (the type of which was unfortunately lost in the bombing of Hamburg) than to his typical form. The wing pattern of the lectotype also resembles that of *C. nigroviolacea* Krb. Pechuman (1937) correctly reduced the latter to a variety in which the heavier abdominal pattern restricts the median yellow spot on tergite 2 to a triangle not reaching the anterior tergal margin. He also comments on intergrades and variation.

The author also studied pertinent specimens in the

Wiedemann Collection in the Vienna Museum of Natural History through courtesy of Dr. Helmut Mayer. There were three specimens of Kröber's typical form of *laeta* labelled "type" No. 3201 from "Amerika Mer.", as well as two cotype females of *C. varians* Wied., No. 3202, which Kröber, correctly, also reduced to a variety of *laeta* having a lighter abdominal pattern. It is uncertain if the former are actually part of the original series acquired by Wiedemann when he studied the Fabrician Collection. Since these differ from both the Copenhagen types, the need for lectotype establishment of the one syntype above is thus further emphasized.

In the material seen by the writer, Kröber's typical form with heavier wing pattern, and blackish callosity and cheeks is most common, and a name appears desirable in spite of variation since the typical form now replaces Kröber's variety *tenuistria*.

***Chrysops laeta* subsp. *sublaeta* nov.**

Differs from the lectotype above in having black frontal callosities, facial pits and cheeks, the outer margin of the crossband straight and wider than the discal cell, the apical spot usually wider and not separated from the crossband, and the median yellow spot on tergite 2 expanded above like an hour glass, that on 3 often just crossing the tergite (in 3 paratypes it is expanded anteriorly and shaped very like that on tergite 2).

Holotype female and two paratypes from Andrelandia, Minas Geraes, Brazil, Jan. 1938, B. F. Gomes. In the collection of the author through courtesy of Dr. Amilcar Martins of the Instituto Ezekial Dias. Paratype female, Victoria, Brazil "X 15". Paratype female, "Brazile". The eye pattern of one relaxed paratype is heavy, the occipital margin adjoins the eyes and connects with the shaft of the arrowhead above but not below; arrowhead

and median spot connected, and upper and lower frontal spots touching the ocular margins. Kröber (1925) has figured the wing and abdominal patterns of this form as "*laetus* ♀". In the Pechuman Collection are 14 paratype ♀'s: 6, "Angra Japuhya, Oliviera & Venfel, XII-940"; 4, various Sao Paulo data; ♀, Wismar, Brit. Guiana, 9 Oct. 1933; ♀, Villarica, Paraguay XII, 1938, F. Schade Coll.; and ♀ [illegible locality] 30-IV-32. One paratype each in the Zoological Museum, Munich ("Brasil-Mendes, 92 kil. de Rio de Janeiro", coll. le Moul, loaned by Dr. Fr. Köhlhorn) and the American Museum of Natural History ("Limon, 900 m. E. Ecuador, II 1948, z Muller").

The second syntype in the Fabrician Collection in Copenhagen represents an undescribed species related to *C. parvifascius* Lutz without apical spot in the wings, an unusual character among Neotropical species. The species is named for Dr. S. L. Tuxen whose generosity has provided the writer with much valuable assistance in times past.

***Chrysops tuxeni* n. sp.**

A small, blackish species with a row of yellow triangles on the abdomen, and no apical spot in the wing pattern.

Holotype female, 7 mm. Front a little taller than wide, buff pollinose with a large quadrangular, black occipital spot about the ocelli at the vertex and a tranverse very dark brown, almost black basal callosity; face bare, yellow with lateral brown shadows, cheeks brown; facial callosities not unusually swollen. Antennae slender, yellow with black hairs, the flagellums missing. Palpi yellow. Right eye destroyed by pests without damage to the head characters.

Thorax (right shoulder also eaten) and scutellum subshiny black, a broad median, plumbeous stripe, but no

bright yellow lateral stripes above or below the wing bases, the anterior calli brownish. Coxae deep brown; femora and mid-tibiae with reddish shades, fore and hind tibiae, and base of hind femora dark brownish. Wings with costal cell and crossband saturate, no apical spot, though there is a narrow indefinite shadow along the costal margin. Two basal and anal cells hyaline. Outer border of crossband straight from apex of the stigma to the end of vein M_3 ; a small subhyaline spot in the discal cell which is probably adventitious, and a larger one in the outer two-thirds of cell Cu_1 not as well defined as usual in many Neotropical species; cell M_3 completely infuscated.

Abdomen black, tergite 1 brownish with small yellow patches on the extreme edges, tergite 2 with a heavy, flat, black inverted "v", the arms extending to the outer posterior corners, the truncated apex resting broadly on the anterior border, and an enclosed equilateral yellow triangle with apex midway across the tergite; the following tergites with prominent yellow incisures expanding mesally on tergites 3 to 6 into low triangles. Venter blackish, sternite 2 extensively yellow, and all succeeding incisures yellowish.

Type is the second of two Fabricius' syntypes in the Copenhagen Collection under "*Chrysops laetus*" and bears no label other than type but is presumed as with the other to come from "America meridionalis", (probably northern South America).

Summary.

Described as new are: *Chrysops laeta* subsp. *sublaeta* nov., holotype female from Minas Geraes, Brazil, in the collection of the author, and *Chrysops tuxeni* n. sp., holotype female presumably from Amer. merid., one of two syntypes of *C. laeta* Fabricius in the Copenhagen Zoological Museum. The other syntype in the same collection is established as lectotype of typical *C. laeta* which proves to be the prior name for *C. laeta* var. *tenuistria* Krb.

References.

- Kröber, O. 1925. Die Chrysops-Arten Süd- u. Mittelamerikas nebst den Arten der Inselwelt und Mexikos. *Konowia*, 4: 210—256; 319—375.
- Pechuman, L. L. 1937. Notes on some Neotropical species of the genus *Chrysops* (Dipt. Taban.). *Rev. d. Ent.* 7: 134—141.

Anmeldelse.

Deutscher Entomologentag in Hamburg 30. Juli bis 3. August 1953. Hrsg. von Erich Titschack. Jena (Gustav Fischer) 1954 8°. 215 Sider, 2 Tavler. Pris: 21 DM.

Som vi har vore nordiske Entomologmøder (siden 1923) har Tyskerne siden 1926 haft deres Wanderversammlungen deutscher Entomologen, som fandt Sted sidste (6.) Gang 1936. Inspireret bl. a. af Zoologkongressen i København i 1953 indbød imidlertid Hamburg-Entomologerne til en "Entomologentag" umiddelbart inden denne Kongres, hvis Resultat blev Basis for en Genopliven af Wanderversammlungen, hvoraf den 7. nu i 1954 har fundet Sted i Berlin. Fra dette saaledes "indskudte" Entomologmøde er Foredragene udgivet som en selvstændig Bog, der naturligvis her ikke kan refereres i Enkeltheder.

Fr. Lenz skriver om "Insektproblemer i Ferskvand", en Diskussion om Tilpasning og Omverden. Georg Warnecke: Om postglaciale Areal-Disjunktioner hos europæiske Storsommerfugle, giver en Række Exempler paa "boreo-alpine" Arter, ogsaa Biller. F. Weyer og K. Enigk fortæller om hhv. Kroplusens og Ixodidernes Biologi, H. Francke-Grossmann om Bladrullernes. Meget spændende er Dietrich Magnus' experimentelle Undersøgelser over Kejserskaabens Synopfattelse især af Farve og Form, undersøgt med Attrapper af Hunner, en Afhandling der forbinder det bedste i v. Frisch's sansefysiologiske Metoder med Tinbergens Problematik. Han har ogsaa anstillet Mærkningsforsøg med Kejserskaaber. Et andet sansefysiologisk Arbejde er Karl Cleve's om Bølgelængdernes Betydning ved Lyslokning af Sommerfugle. G. Timmermann belyser Sammenhængen mellem Vært- og Parasitarter i Forbindelse med Fugle-Mallophager, W. Rühm Nematoderne som Insektparasiter, og W. H. Nolte skriver udførligt om Planternes Reaktion paa Galledannere, et plantefysiologisk Spørgsmaal, som herbjemme Boysen Jensen har vist Vej til Løsningen af. Og endelig giver Karl Ermisch, G. A. Lohse, Warnecke o. a. en Del Bidrag til tysk Sommerfugle- og Bille-Faunistik. Som man ser, et alsidigt og udbytterigt Udtryk for tysk Entomologi af i Dag.

S. L. Tuxen.