

Lewis Betman

New and little-known species of Ephemerida from Argentine. (Neuropt.)

By Esben Petersen, Silkeborg (Denmark).

(With 35 figures in the Text.)

As a continuation of „New Ephemeridae from Denmark, Arctic Norway and the Argentine Republic“ (Deutsch. Ent. Zeitschr. 1909) descriptions here follow of some new species from Argentine. My countryman and good friend, Mr. P. Jørgensen, Coleccionista viajante de la Seccion de Botanica y Biologia vegetal del Ministerio de Agricultura, has made the collection, partly during his stay at Bompland in Misiones and partly by electric light on board a steamer on Alto Parana, between Posadas and Corrientes.

Corrientes  
Gran Provina  
Misiones?

1. Spaniophlebia Trailiae Etn.

Mr. P. Jørgensen has captured a very fine male of this Brazilian species at Bompland. The specimen agrees very well with the description given by Eaton. The only thing I have to add, is, that the first joint of the setae is very dark, and that my specimen is larger than those Eaton has mentioned. My specimen which is preserved in alcohol, measures: Length 11 mm; wing 11 mm; setae 10 mm.

2. Campsurus Jørgenseni n. sp.

Imago, ♂ (in alcohol). Head dark in front, behind yellowish white and with two violet greyish spots. Thorax above greyish yellow. Prothorax with two, more or less, distinct violet greyish markings; mesothorax with five violet greyish longitudinal lines, of which the two side lines are touching each other in front, and the three middle ones are running together behind. Abdomen dorsally violet greyish with a fine light middle line on 2<sup>nd</sup> to 7<sup>th</sup> segment. Each of these segments with two light spots on each side of the longitudinal line and with light border behind. The 8<sup>th</sup> segment darker, without the middle line and the light border and with only one light spot on each side. The 9<sup>th</sup> segment with a fine dark longitudinal line and two small dark spots. Abdomen ventrally pale violet greyish with a fine light middle line and with one or two dark, curved longitudinal stripes on each side of segments 2 to 8. Spiracles on segments 2—7 with a dark lunate spot. Fore legs white with a violet greyish tinge; hinder legs and cerci light. Wings vitreous. Costa, subcosta and radius violet greyish to a little beyond the middle. The other nervures

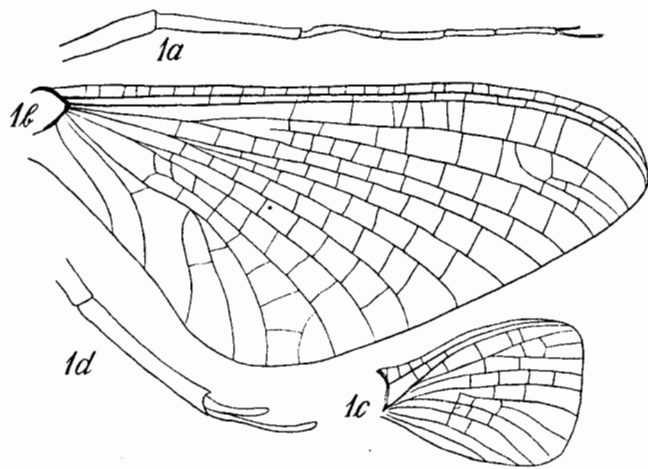


Fig. 1. *Campsurus Jörgenseni* ♂.  
a Fore leg, b fore wing, c hind wing, d apical joint with claws of fore leg (hind wing more enlarged than fore wing).

only visible when the wing is held up to the light. Forceps and penis pale yellowish. Imago ♀ is paler on the venter of abdomen, and the most of nervures in the wings have a fine violet greyish tinge. Length ♂ 9 mm, ♀ 9,5 mm; wing ♂ 10 mm, ♀ 11 mm.

Collected by my friend Mr. P. Jörgensen on board a steamer on Alto Parana, after whom I name the species. The specimens were captured in great numbers by night at the electric light. The most interesting feature of the species is the forceps, which is bifid at the base.

### 3. *Campsurus argentinus* n. sp.

Head above and behind dark. Prothorax above violet greyish; mesothorax paler with three dark longitudinal lines. Abdomen dorsally violet greyish with a white median line and with an indistinct pale spot on each side of segments 2—8. Segments 8

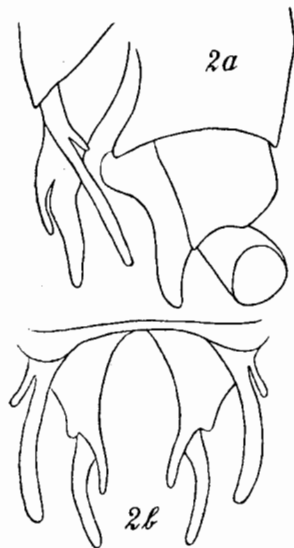


Fig. 2. *Campsurus Jörgenseni*.  
a Forceps and penis, seen from side, b seen from below.

and 9 with a dark border behind. Venter pale yellowish with an indistinct, darker oblique stripe on each side of segments 2—8. Setae white. Forceps and penis yellowish. Fore legs dark violet greyish; tarsi distinctly 5 jointed, and the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> joint dilated in the middle. Wings vitreous with faint violet tinge. Subcosta and radius in the fore wings dark violet grey to a little beyond the middle. The other longitudinal nervures and the greater part of the transverse veins greyish yellow.

Length 13 mm; wing 13 mm; setae 30 mm.

One male, preserved in alcohol, was collected together with *Campsurus Jörgenseni*. In the nervature of wings the species agrees with *Campsurus albiflum* Walk., but it differs in the shape of forceps and penis.

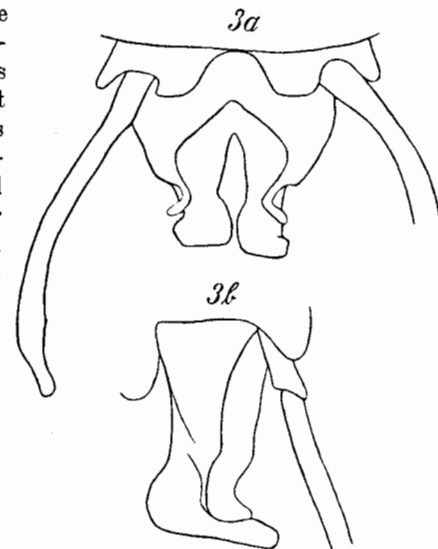


Fig. 3. *Campsurus argentinus*.  
a Forceps and penis, seen from the underside, b seen from the side.

### 4. *Thraulius Valdemari* n. sp.

Upper part of eyes dark brown, lower black. Thorax dark brown with a median yellow-brown band. Abdomen dorsally dark greyish brown with the tip of each segment yellowish brown. Setae greyish brown without distinct annulations. Fore femora and tibia brown, tarsus paler. Forceps (shrivelled up by the spirit) dark brown at the base, yellow-brown towards the apex. Wings with an intense brown tinge. The costal and subcostal areas and the nervures blackish brown as in *Choroterpes Picteti*.

Length 6 mm; wing 7,5 mm; setae 10—13 mm, the middle one is the longest.

The description is made from a single specimen, a male, preserved in alcohol and collected at Bompland in Misiones.

The species is easily recognized by the intense brown tinge on the wings. I have placed it in *Thraulius*, though there is some difference in the nervature in the hind wings and in the

proportion between the length of tarsus and tibia of the fore leg. The tibia is  $1\frac{1}{4}$  time as long as the tarsus, and the tarsus is a little longer than the femora.

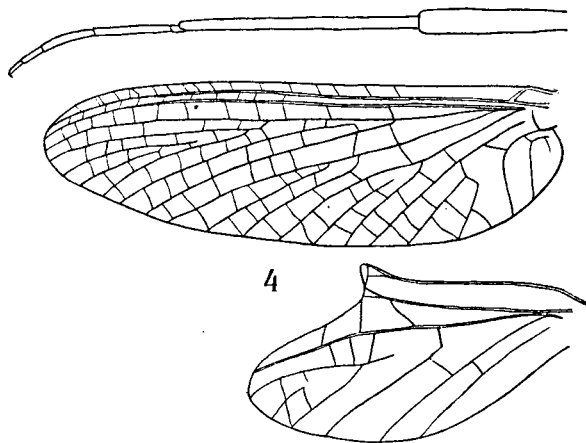


Fig. 4. *Thraulius Valdemari*.  
Fore leg, fore wing and hind wing (the latter more magnified than fore wing).

5. *Thraulius bomplandi* n. sp.

Upper portion of eyes greenish blue, lower black. Thorax light brown. The 2<sup>nd</sup> to 6<sup>th</sup> segment of abdomen transparent whitish with a U-shaped, reddish brown figure on the dorsum of the segments; the figure touches the hind border of the segment. On the sides of this figure there are found 3 small, round spots; the largest one is placed half way between the front and hind borders, and the other two, of which the apical one is the largest, are placed parallel with the side margin. Along the lateral margin of all the segments there is a dark reddish brown stripe, which does not reach the angles. Segments 7—10 are yellowish red; 7<sup>th</sup> and 8<sup>th</sup> paler, and 9<sup>th</sup> and 10<sup>th</sup> darker. On the dorsum of the 7<sup>th</sup> to 9<sup>th</sup> segment an oblong, pale spot with a very fine longitudinal line. The three above mentioned side spots are also present on segments 7—9. The spiracles black. The underside of the segments with 4 very small dark spots nearest to the front border, and with a larger one at the hind angles. Forceps yellowish white. Hind femora yellowish white with a reddish brown band before the middle and with a broader one at the tip. Hind tibia yellowish white. Fore wings hyaline with yellowish white longitudinal nervures and with a yellowish tinge in the costal and subcostal areas. The cross veins only visible when the wings

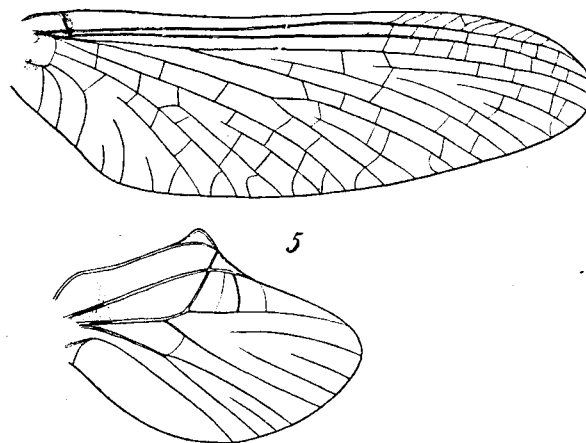


Fig. 5. *Thraulius bomplandi*.  
Fore and hind wing (the latter more magnified than the former).

are held up to the light. Subcosta, radius and subradius with a small thickened part half way up the wing, more noticeable in the subcosta and subradius. Fore and hind wings dark reddish brown clouded at the base.

Length 8,5 mm; wing 8 mm.

The description is made from a single male, preserved in alcohol and collected at Bompland. The exemplar has lost its setae, the greater part of the forceps limbs and all its legs with the exception of one hind femora and tibia. It is a fine looking and an easily recognized species. The species seems to have a great likeness to *Thraulius laetus* Eat., but it differs especially in the shape of penis, in the colouring of the wingroots and in the thickening of the subcosta, radius and subradius, so I have no hesitation in describing it.

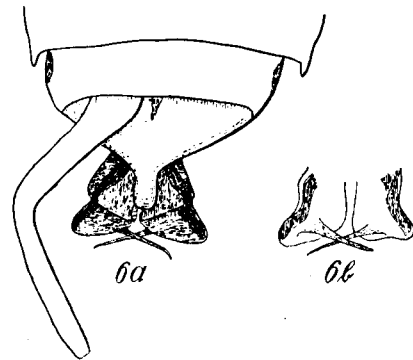


Fig. 6. *Thraulius bomplandi*.  
The one forceps limb and the penis, seen from the underside. Penis, seen from above.

6. *Thraulius Haarupi* n. sp.

Female, in alcohol. Head brown; eyes black. Thorax yellowish brown, paler on the dorsum and with a fine longitudinal

dark brown line. Abdomen light reddish brown; the hind and lateral borders of the segments darker. Femora brownish yellow with blackish brown middle band and apex. Tibia and tarsus yellowish; the apical joint of tarsus dark brown. Claws of each tarsus dissimilar. The ventral lobe of 9<sup>th</sup> segment formed as shown in the figure. Fore wings with a strong reddish brown tinge, especially in the costal and subcostal areas; the apical part of wings less coloured than the basal part. The costa, subcosta and radius dark reddish brown, and the cross veins in the

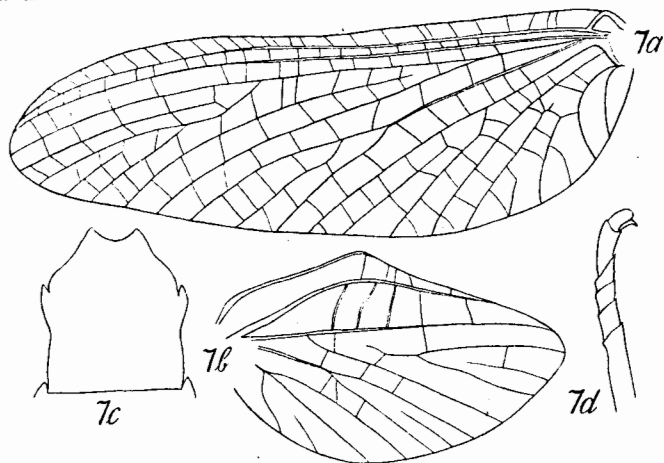


Fig. 7. *Thraulius Haarupi*.

a Fore wing, b hind wing (more enlarged than the fore wing), c the venter of 9<sup>th</sup> segment with lobe, d tarsus of intermediate leg.

areas between the named longitudinal nervures and the subradius yet darker. The other longitudinal nervures and cross veins darker than the membrane and very conspicuous.

Length 8 mm; wing 9 mm.

I have dedicated the species to my friend, Mr. A. C. Jensen-Haarup, Silkeborg, who has done so much in exploring the insect fauna of the western Argentine.

The species, found at Bompland, is, unfortunately, not in good condition; it has lost its fore legs and setae, but I have no hesitation in describing it. By the peculiar shape of the ventral lobe of 9<sup>th</sup> segment and by the great numbers of cross veins in the basal part of the costal and subcostal areas it differs from the typical species of the genus. Perhaps a new genus ought to be established for the species, but without knowledge of the male I find it best to postpone it.

7. *Thraulius misionensis* n. sp.

Thorax dark brown above, paler at the sides. Abdomen dorsally reddish brown with the front border of segments 2—8 translucent white. At the sides of dorsum of segments 3—7 a triangular whitish yellow spot extends backwards from the whitish border; the spot is enclosed by two fine dark brown longitudinal lines, which converge to a point in the hind border of the segment. The lateral margin of segments 2—8 with a fine dark brown longitudinal line. The venter yellowish brown. Penis yellowish white. Forceps dark brown. Setae yellow with fine black annulations. Femora

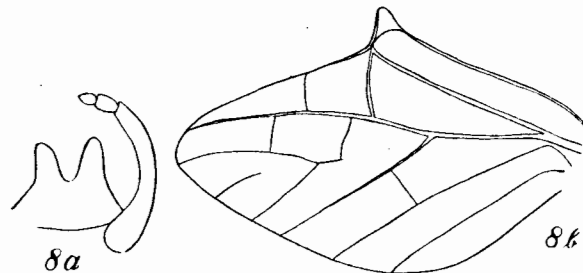


Fig. 8. *Thraulius misionensis*.

a One of the forceps limbs and the penis, b hind wing. hind legs light brown; knees blackish brown. Tarsi paler than femorae and tibiae. Fore wings hyaline with a yellowish tinge in the marginal area. The nervures and cross veins yellowish brown and darker than the membrane. The costal area without cross veins at the base and with 10 cross veins in the pterostigmatal region. The subcostal area with two cross veins in the inner half.

Length 5,5 mm; wing 7 mm; setae circa 10 mm.

The description is made from two males from Bompland, prepared in alcohol. The specimens have lost their fore legs.

8. *Callibaetis trifasciatus* n. sp.



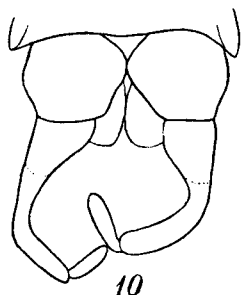
Fig. 9. Fore wing of *Callibaetis trifasciatus*.

Upper portion of eyes red brown, lower dark. Thorax light brown with a broad yellowish median stripe. Abdomen dorsally reddish with light or translucent spots, and with a short dark streak along the hind border of the first five segments and above the stigmata of the segments 1—8. Venter paler, especially towards the apex and with dark brownish oblong spots or stripes. Forceps and legs pale yellow; the claws dark. Hind wings colourless.

Length 7 mm; wing 7,5 mm.

The description is made from only one male, preserved in alcohol and collected in Misiones.

Fig. 10. Forceps and penis of *Callibaetis trifasciatus*.



#### 9. Larva of *Thraulus*.

One fullgrown larva was found amongst the material, and comparing the specimen with the figures on plate 35 in „A revisional monograph of recent Ephemeridae“ by A. E. Eaton, I have a clear conception that it belongs to the genus *Thraulus*, but on

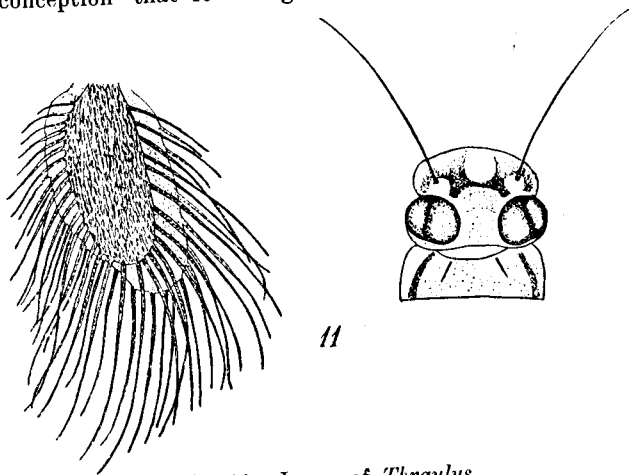


Fig. 11. Larva of *Thraulus*.  
Head and thorax; a double gill of 2<sup>nd</sup> pair.

the other hand I could see that it did not agree in every point with the typical larval form of that genus. I consider *Thr. bellus* from Portugal to be the type, which A. E. Eaton also has done. I have already mentioned, that some of the South American

species differ considerably from the type, and I think this larva belongs to that group. The forehead is very broad, and the body is broad and, in some degree, flattened as in *Ecdyurus*. The fore femora very broad. The apical joint of the labial palpi very short, and the mandible has only one blunt tooth. Thorax and abdomen light brown. Fore femora with a small dark brown band in the middle, fore tibia with two dark brown bands, a

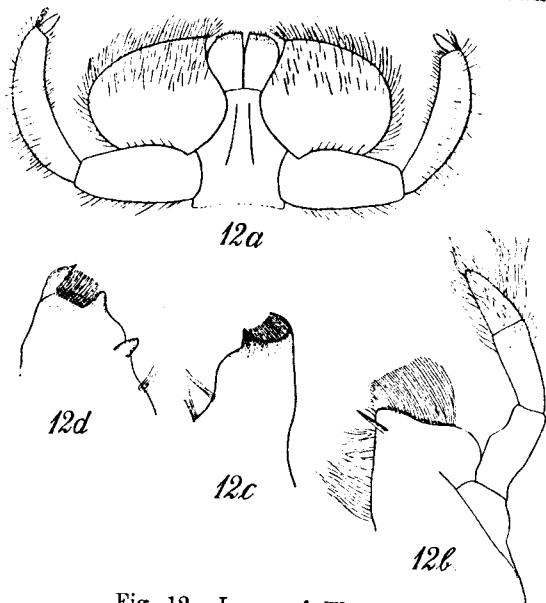


Fig. 12. Larva of *Thraulus*.  
a Labium, b left maxilla, c left mandible (all seen from underside),  
d left mandible, seen from above.

broad one near to the base and a smaller and darker one at the apex. Setae yellowish brown with small dark brown annulations at the base. 7 pairs of double gills; the 7<sup>th</sup> pair the smallest. The hind angles of 8<sup>th</sup> and 9<sup>th</sup> segments prolonged into sharp lateral spines.

Length 8 mm; setae 9 mm.

#### 10. Larva of *Baëtis*.

Some few larvae of the common *Baëtis*-type were found amongst the material, and 4 of them were fullgrown. As there are not yet described larvae of this genus from Argentine, I give some figures of the mouthparts and of a gill to show the likeness to our European forms. The only thing I know about South

American larvae of *Baëtis*, I have found in „Hamburger Magalhaensische Sammelseite. Ephemeriden. Hamburg 1904“ by G. Ulmer, where he described and figured a Chilean *Baëtis*-larva, which differs a good deal from the Argentinian, here mentioned.

The shape of head, thorax, abdomen and legs is quite the same as in European larvae: The median seta ciliated on both

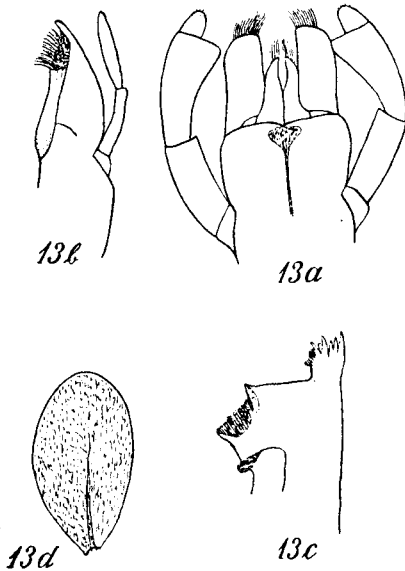


Fig. 13. Larva of *Baëtis*.  
a Labium, b left maxilla, c left mandible (all seen from below), d gill.

sides, and the outer setae on their inner side. Head light brown. Thorax light brown with a fine yellowish median line. Abdomen dorsally brown and with yellow side margins. Setae and legs yellowish. The knee and apical part of the tarsus dark brown.

Length 8 mm.

The larvae were found at Bompland, and Mr. P. Jörgensen writes, that they were common in rivulets with rapid current.