

**PERISTICTA AENEOVIRIDIS CALVERT, 1909
AND *P. FORCEPS* HAGEN IN SELYS, 1860:
REDESCRIPTIONS AND A NEW SYNONYMY
(ZYGOPTERA: PROTONEURIDAE)**

P. PESSACQ

Laboratorio de Investigación en Sistemática y Ecología animal (LIESA),
Sarmiento 849, AR-9200 Esquel, Chubut, Argentina
pablopessacq@yahoo.com.ar

Received September 6, 2006 / Revised and Accepted November 22, 2006

Peristicta misionera Jurzitza, 1981 is considered a junior synonym of *P. aeneoviridis* Calvert, 1909. The holotype of *P. aeneoviridis* and ♂ *P. forceps* are redescribed, and *P. forceps* ♀ and larva are described for the first time.

INTRODUCTION

Hagen *in* SELYS (1860) established his new monotypic genus *Peristicta* for *P. forceps* Hagen *in* Selys from Brazil. At present, 7 more species have been described under this genus: *P. aeneoviridis* Calvert, 1909 from Argentina, Brazil and Paraguay; *P. lizeria* Navás, 1920 from Argentina; *P. gauchae* Santos, 1968b from Brazil; *P. misionera* Jurzitza, 1981 from Argentina, and three new species from Brazil (PESSACQ & COSTA, in press).

Material deposited at MLP belongs to two different species, one of them labeled as *P. misionera* and the other one either as *P. aeneoviridis* or *P. lizeria*. Original descriptions, beyond that of *P. misionera*, did not provide enough information to clearly identify these last specimens.

In order to solve the problem, I borrowed the holotype of *P. aeneoviridis* from the NMNH. The holotype of *P. forceps* (MCZ) was not available for loan as it is in bad condition, and that of *P. lizeria* could not be found and is presumed lost.

MATERIAL AND METHODS

Wing venation terminology follows RIEK & KUKALOVÁ-PECK (1984); of genital ligula KENNEDY (1916); of larval mandibles WATSON (1956). Illustrations were made with the aid of camera lucida and a Nikon ZSM-10 stereomicroscope; electronic photographs were done with a JEOL JSM-T100 microscope in the "Servicio de Microscopía Electrónica de barrido del Museo de La Plata".

Acronyms are as follows:

MCZ: Comparative Zoology Museum, Harvard University, U.S.A.; – MNRJ: Coleção do Museu Nacional do Rio de Janeiro, Brazil; – MLP: Departamento Científico de Entomología, Museo de La Plata, Buenos Aires, Argentina; – NMNH: National Museum of Natural History, Smithsonian Institution, Washington D.C., U.S.A.; – RG: Dr Rosser Garrison collection, Sacramento, California, U.S.A.

PERISTICTA AENEOVIRIDIS CALVERT, 1909

Figure 1

Peristicta aeneoviridis CALVERT (1909): male description; – FRASER (1947): record for Misiones province, Argentina; – SANTOS (1968a): in part, wing characters variation; – SANTOS (1972): larval description.

Peristicta misionera JURZITZA (1981): sp. nov. male description. **NEW SYNONYMY.**

M a t e r i a l. – ARGENTINA: Misiones province, Puerto Iguazú, stream at "El Pindó" camping; Muzón leg. 19-IX-1988; 5♂ (MLP). Misiones Yaza stream; Muzón leg. 11-IV-1991; 3♂ (MLP). Misiones province, Puerto Piray; Muzón leg. 10-IV-1991; 2♂ (MLP). Entre Ríos, province El Palmar stream, La Glorieta; Muzón leg. IX-1987; 4♂ (MLP). – PARAGUAY: **Holotype** ♂ – Sapucay, Foster leg. XI-1899; (NMNH). Santa Isabel, Leprosario stream. Bulla leg. 7-III-1979; 1♂, 1♀ (MLP). – URUGUAY: Del Cordobés stream; Achaval leg. 22-I-1967; 1♂ (MLP). Quebrada de los cuervos; Carbonel leg. 15-XII-1952; 2♂ (MLP). Aguas Blancas, Achaval leg. 24-XI-1963; 1♂ (MLP).

SANTOS (1968a) provided additional drawings and information on wing character variation of specimens he determined as *P. aeneoviridis*. His drawings of the genital ligula clearly do not agree with those of the holotype of *P. forceps* (KENNEDY, 1919) nor with the examined genital ligula of *P. aeneoviridis*. The specimens studied by SANTOS (1968a) were examined at MNRJ and based on them two new species were described (PESSACQ & COSTA, in press).

JURZITZA (1981) described *P. misionera* based on 10 males from Iguazú, Misiones province, Argentina. After comparison with the holotype of *P. aeneoviridis*, *P. misionera* is here considered to be a junior subjective synonym of the former. In establishing his new species Jurzitza relied in part on characters of *P. aeneoviridis* misidentified by SANTOS (1968a).

HOLOTYPE REDESCRIPTION. – CALVERT's (1909) description of the holotype is accurate in color pattern and wing characters; his only illustration is that of the cerci in dorsal view. The presence of a ventral branch in the cercus is not mentioned, but it is present in the holotype. He did not describe or figure the

genital ligula.

W i n g s (Fig.1a). — Forewing: Mp reaching wing margin 1.5 cells beyond crossvein descending from subnodus; RP2 arising at fourth postnodal, IR1 between sixth and seventh; antenodal spaces ratios 1:0.5:1; arculus originating at second antenodal; IR2 arising at vein descending from subnodus; 12 postnodals; pterostigma small encompassing less than $\frac{3}{4}$ cell, proximal and distal sides almost parallel. — Hindwing: Mp reaching wing margin 2.5 cells beyond crossvein descending from subnodus; RP2 arising at third postnodal, IR1 at sixth; antenodal spaces 1:0.5:0.9; arculus arising at second antenodal; IR2 arising at vein descending from subnodus; postnodals 10; pterostigma small encompassing about $\frac{3}{4}$ cell, proximal and distal sides parallel.

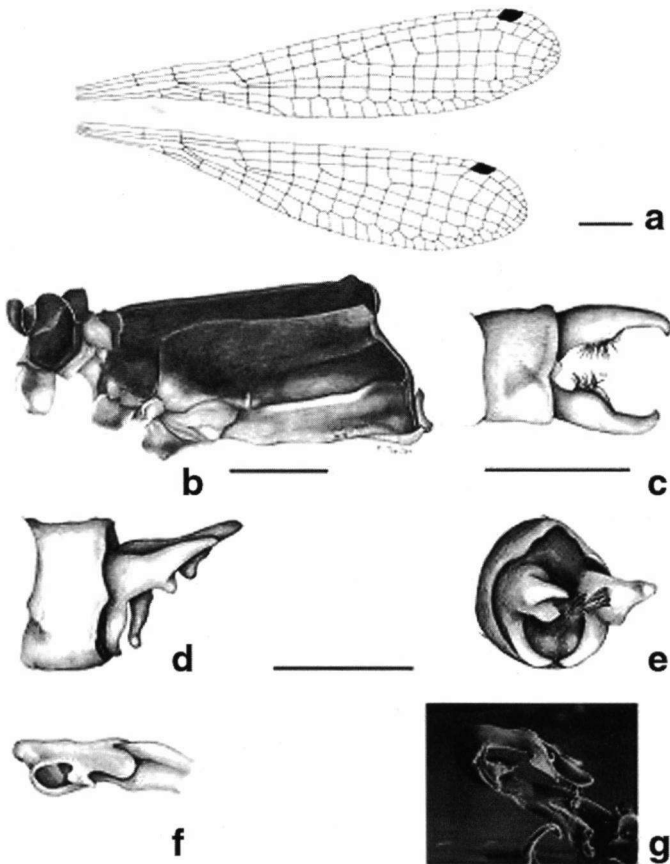


Fig. 1. *Peristicta aeneoviridis*, holotype: (a) wings, — (b) thorax, lateral view, — (c) eleventh abdominal segment and cerci, dorsal view, — (d) ditto lateral view, — (e) ditto posterolateral view, — (f) genital ligula, lateral view, — (g) genital ligula, lateral view. — [Scales: 1 mm]

Genital ligula (Fig. 1f): well developed internal fold, segment III with two short lateral processes, apex bilobed. Shaft spines present.

Cerci (Figs 1c-1e) with dorsal and ventral branches, dorsal ones forcipate, longer than tenth abdominal segment, with a well-developed inner ventral tooth at half of its length. Ventral branch almost as long as dorsal branch but thinner, arising at base of dorsal branch and curving ventromedially following tenth abdominal segment margin.

Paraprocts vestigial.

HOLOTYPE LABELS:

- (1) "Type ♂", handwritten, "PERISTICTA AENEOVIRIDIS CALV." Handwritten, "PP Calvert det. 1909 An Car Mus. VI p." printed, "211" handwritten, "ORIG. Plate. VI f. 124" handwritten; black ink, white label.
- (2) "SAPUCAY, PARAGUAY. NOV., 1899. W.T. FOSTER COLLECTOR'S No. 18" handwritten; black ink, white label.
- (3) "TYPE No" printed, "66421" handwritten, "USNM" printed; black ink, red label.

FEMALE DESCRIPTION

Measurements (mm, n = 1): hindwing: 16.4, abdomen: 26.2

Colour pattern. – Head: dorsally black, with postocular spots, occipital bar and frons light brown. Postclypeus light brown, anteclypeus light brown with proximal and lateral margins black. Labium light brown, with proximal brown area. Prothorax: black, with a light brown stripe mid-laterally on hind and middle lobe extending dorsally onto anterior lobe. Synthorax (Fig. 1b): superior half of mesepisternum and mesepimeron black, inferior half light brown; metepisternum pale yellow with an anterior light brown area, interpleural suture with a black stripe on anterior 2/3; metepimeron light brown. Legs: light brown, with distal black areas on femur and proximal black spots on pretarsus. Abdomen: segments 1-2 light brown, dorsally brown, segments 3-6 dorsally and ventrally light brown becoming paler laterally, with dorsal and distal areas with a darker spot and proximal lateral lighter spot. Segments 8-10 dorsal half light brown, paler ventrally.

Wings. – Forewing: Mp reaching wing margin 1.2 cells beyond crossvein descending from subnodus; RP2 arising at fourth postnodal; IR1 at sixth; antenodal spaces about 1.8:1.4:2.3; arculus originating slightly distal to second antenodal; IR2 arising at vein descending from subnodus; 9 postnodals; pterostigma small, fore side about ¾ cell. – Hindwing: Mp reaching wing margin 2.2 cells beyond crossvein descending from subnodus; RP2 arising at third postnodal; IR1 at sixth; antenodal spaces 1.9:1.4:2.1; arculus arising at second antenodal; IR2 arising at vein descending from subnodus; 8 postnodals; pterostigma small encompassing about ¾ cells.

REMARKS. – RIS (1913) provided a description for the female of *P. aenoviridis*. Based on examination of *bona fide* material of *P. aenoviridis* I believe the female he described probably belonged to some other species (see remarks under *P. forceps*).

INTRASPECIFIC VARIATION

Measurements (mm, n = 10): forewing: 16.61 ± 0.4 , abdomen: 25.09 ± 1.02 .

Genital ligula as in Figure 1g.

Colour pattern. — Male pterothorax: dorsal dark metallic green almost reaches interpleural suture in some specimens, while in others it extends ventrally to metepimeron. Usually, the dark metallic green color becomes black along ventral margin and a black stripe occupies anterior half of metapleural suture.

Wings. — Forewing: Mp reaching wing margin 1.2 (10%) to 1.5 (90%) cells from crossvein descending from subnodus; RP2 arising at third (10%), fourth (80%) or fifth (10%) postnodal; IR1 at fifth (10%), sixth (40%), seventh (40%) or eighth (10%); antenodal spaces from 2.1:1.2:1.9 to 1.9:1.4:2.3; arcus originating at (10%) to slightly or distal from second antenodal (90%); IR2 arising at vein descending from subnodus; 9-11 postnodals; pterostigma small, encompassing $\frac{1}{2}$ to $\frac{3}{4}$ cells. — Hindwing: Mp reaching wing margin 1.5 (10%), 2 (20%) or 2.5 (70%) cells from crossvein descending from subnodus; RP2 arising at third (80%) or fourth (20%) postnodal; IR1 at fifth (10%), sixth (70%) or seventh (20%); antenodal spaces from 2:1.2:2.1 to 1.8:1.3:2.1; arcus originating slightly or distally from second antenodal; IR2 arising at vein descending from subnodus; 8-9 postnodals; pterostigma small encompassing $\frac{1}{2}$ to $\frac{3}{4}$ cells.

PERISTICTA FORCEPS HAGEN *in* SELYS, 1860

Figures 2-5

Peristicta forceps Hagen *in* SELYS (1860): male description; — KENNEDY (1919): holotype genital ligula drawings; — MUNZ (1919): wing drawing, genus included in Zygoptera key; — LENCIONI (2005): reproduction of Kennedy's holotype genital ligula drawings.

Peristicta aeneoviridis RIS (1913) [nec Calvert, 1909]: female description? record for Misiones province, Argentina.

Material. — ARGENTINA: Corrientes province, Payubre stream and provincial route 29, about 25 km from Mercedes, 29°1'41S" 58°10'28"N. Pessacq & Muzón leg. 21-II-2003; 3♂, 1♀ (MLP). Idem previous except Pessacq leg. 9/11-X-2004; 24♂, 3♀ (one tandem); 2♂, 2♀, laboratory emerged; 4♂, 1♀ last instar larvae (MLP). — Entre Ríos province, Colman stream and national route 14, 32°23'36"S 58°16'42"N. Pessacq leg. 19-II-2003; 3♂ (MLP). — Entre Ríos province, Perucho Verne stream and national route 14 km 355. Flint leg. 16-XI-1973; 1♂ (RG). — Paraná river delta, Heppers leg. XI-1967; 2♂, 1♀ (MLP).

RIS (1913) described the female of *Peristicta aeneoviridis* (based on one specimen from Misiones province, Argentina), and mentioned Mp as extending 4.5 cells beyond crossvein descending from subnodus in forewing and 5 cells in hindwing, more than two times longer than in the only female of *P. aeneoviridis* here described. RIS (1913) also mentioned that it was very unlikely that the female belonged to a different species since it was collected with a series of males of *P.*

aeneoviridis.

According to distributional data for *P. forceps* (Buenos Aires province in Argentina to Brazil) and wing characters, I believe the female described by RIS (1913) was likely *P. forceps*, and this would be the first instance where both species are known to be sympatric.

P. gauchae has wing characters resembling those of *P. forceps*, and even though it has not been recorded from Argentina, its type locality (Brazil, Rio Grande do Sul) is close to it, so Ris' female could also possibly be this species.

The holotype is deposited at MCZ, images can be seen on-line at: www.mcz.28168.oeb.harvard.edu.

The holotype is in bad condition, forewings are complete but damaged, hindwings are seriously damaged and bent, abdomen is broken, its last segments apparently lost and first few segments glued to thorax, genital ligula is covered with glue. The only well preserved diagnostic characters are those from the forewings. Fortunately, the genital ligula of the holotype was drawn by KENNEDY (1919), (reproduced here as Fig. 3e) allowing for positive identification of this species.

HOLOTYPE LABELS (taken from on-line images):

- (1) "Brazilia" handwritten, black ink, very old white paper.
- (2) "forceps" handwritten, black ink, very old white paper.
- (3) "Hagen" printed, black ink, very old white paper, label broken and separated by the middle.
- (4) "Mus. Berol." printed, black ink, very old white paper.
- (5) "Type" printed "12228" handwritten, black ink, red paper.
- (6) "penis drawn" handwritten by Kennedy, black ink, old white paper.
- (7) "*Peristicta forceps* HOLOTYPE ♂" printed, blue ink, white paper.

MALE REDESCRIPTION. — The following description is based on MLP specimens I determined as *P. forceps* based on the original description and comparison with illustrations of the genital ligula of the holotype (KENNEDY, 1919, figs 724-725) (Fig. 3e).

Measurements (mm, n = 15): Payubre stream: forewing: 15.88 ± 0.2 , abdomen: 25.17 ± 0.53 ; Colman stream: forewing: 13.95 ± 0.2 , abdomen: 21.3 ± 1.27 ; Perrucho Verne stream: fore-wing: 15.5, abdomen: 24.3; Paraná river delta: forewing: 16, abdomen: 25.7

Colour pattern. — Head: black, labium and anteclypeus with an anterior pale yellow stripe, gena inferiorly pale blue, this colour extending ventrally as a stripe bordering the eyes. Prothorax: black. Synthorax: black with dark metallic green reflections, dark pattern extends from middorsal carina down to mesepimeron, metapleural suture or beyond. Remaining pale yellow. Legs black, with tibial posterior side pale yellow. Abdomen: black, segments

I-II with dark green metallic reflections, segments V-X

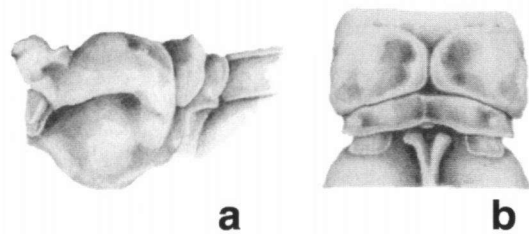


Fig. 2. *Peristicta forceps*, female: (a) mesostigmal laminae, lateral view, — (b) ditto, dorsal view.

ventrally lighter.

Wings. — Forewing: Mp reaching wing margin 3 (40%), 3.5 (40%) or 4 (20%) cells beyond crossvein descending from subnodus; RP2 arising at fourth (90%) or fifth (10%) postnodal; IR1 at sixth (55%) seventh (40%) or eighth (5%); antenodal spaces about 0.8:0.5:1 (95%) exceptionally first and third antenodal spaces equal (5%); arculus distal to second antenodal (10%) or very close to it (10%); IR2 arising at vein descending from subnodus; 10 (35%), 11 (45%) or 12 (20%) postnodals; pterostigma small, fore side about $\frac{3}{4}$ cell. — Hindwing: Mp reach-

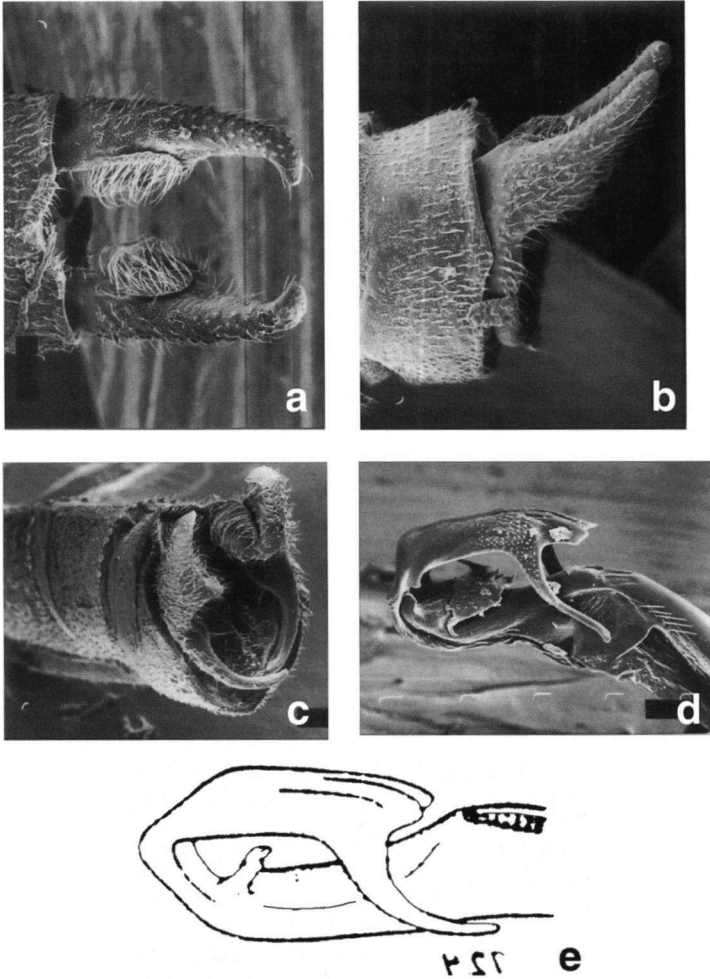


Fig. 3. *Peristicta forceps*: (a) cerci, dorsal view, — (b) cerci, lateral view, — (c) cerci, postero lateral view, — (d) genital ligula lateral view, — (e) reproduction of KENNEDY's (1919) drawings of holotype genital ligula, lateral view.

ing wing margin 3.5 (5%), 4 (30%), 4.5 (30%), 5 (30%) or 5.5 (5%) cells beyond crossvein descending from subnodus; RP2 arising at third (90%) or fourth (10%) postnodal; IR1 at sixth (70%) or fifth (30%), antenodal spaces about 0.8:0.5:1 (95%) exceptionally first and third antenodal spaces equal (5%); arcus distal to second antenodal (90%) or close to it (10%); IR2 arising at vein descending from subnodus; 8 (20%), 9 (60%) or 10 (20%) postnodals; pterostigma small, encompassing about $\frac{3}{4}$ cell.

Genital ligula (Figs 3d-e): well developed internal fold, segment III

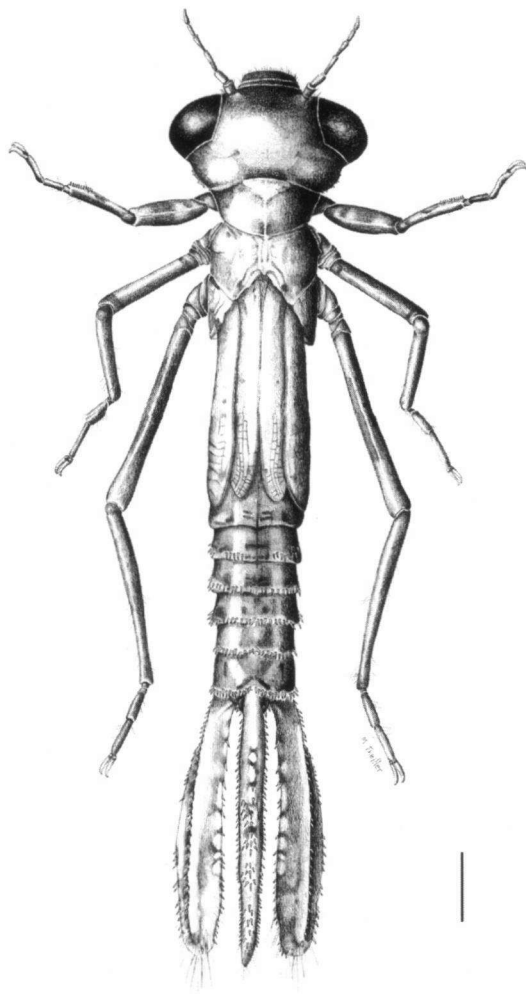


Fig. 4. *Peristicta forceps*, larva: habitus, dorsal view. — [Scale: 1 mm]

3 with two long lateral lobes curved and extending forward, apex bilobed. Shaft spines present.

Cerci (Figs 3a-c) with dorsal and ventral branches, dorsal ones forcipate, directed upwards, longer than tenth abdominal segment, with a well-developed internal tooth at half of its length. Ventral branch thin, arising from dorsal branch's base and curving inwardly following tenth abdominal segment margin.

Paraprocts vestigial.

FEMALE DESCRIPTION

Measurements (mm, n = 7): Payubre stream: forewing: 16.68 ± 0.65 abdomen: 23.95 ± 0.72 .; Paraná river delta, forewing: 17.1, hindwing: 16.2, abdomen: 24.2.

Mesostigmal laminae as in Figures 2a-b.

Colour pattern. — Head: dorsally black, with brown postocular spots, occipital bar and frons light brown. Postclypeus and antclypeus light brown, latter with proximal and lateral margins black. Labium light brown, darker proximally. Prothorax: dark brown, with

a light brown stripe laterally on hind and middle lobe and extending dorsally onto anterior lobe. Pterothorax: dorsal carina light brown, mesothorax light brown or brown, a dorsal black stripe on mesepisternum, mesopleural suture with a light brown black stripe. Metathorax light brown, metapleural suture black posteriorly. Legs: light brown, femur with external-lateral and posterior dark brown areas, tibiae light brown to dark brown. Abdomen: segment 1-7 light brown, black dorsally, 2-5 each with a darker lateral distal spot and proximal lighter spot. Segments 7-10 brown dorsally becoming paler ventrally.

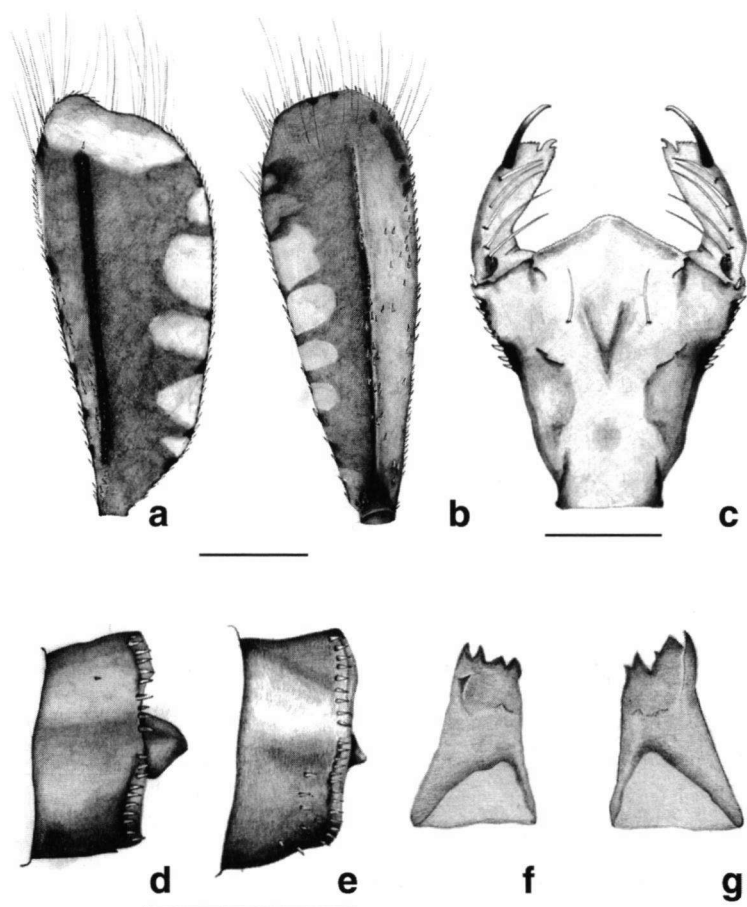


Fig. 5. *Peristicta forceps*, larva: (a) lateral caudal lamella, lateral view, – (b) central caudal lamella, lateral view, – (c) prementum, dorsal view, – (d) male cerci, lateral view, – (e) female cerci, lateral view, – (f) right mandible, inner view, – (g) left mandible, inner view. – [Scales: Figs a-e: 1 mm, Figs f, g: 0.5 mm]

W i n g s. — Forewing: Mp reaching wing margin 2.5 (40%) or 3.5 (60%) cells beyond crossvein descending from subnodus; RP2 arising at fourth postnodal; IR1 at sixth (80%) or seventh (20%); antenodal spaces from 1.8:1.4:2.6 to 2:1.1:2.3; arculus originating near to distal from second antenodal; IR2 arising at vein descending from subnodus; 9 (20%), 10 (20%) or 11 (60%) postnodals; pterostigma small encompassing about $\frac{3}{4}$ cells. —

Hindwing: Mp reaching wing margin 3 (20%), 3.5 (40%), 4 (20%) or 5 (20%) cells beyond crossvein descending from subnodus; RP2 arising at third postnodal; IR1 at fifth (40%) or sixth (60%); antenodal spaces from 1.9:1.2:2.5 to 2.1:1.2:2.5; arculus slightly or distally from second antenodal; IR2 arising at vein descending from subnodus; 8 (20%) or 9 (80%) postnodals; pterostigma small, fore side about $\frac{3}{4}$ cell.

LARVA DESCRIPTION

M e a s u r e m e n t s (mm, n = 9). — Head maximum width: 2.8 ± 0.1 , head maximum length: 1.5 ± 0.1 ; prementum maximum length: 2.5 ± 0.6 , prementum maximum width 1.7 ± 0.1 ; femur I length: 1.5 ± 0.1 , femur II: 1.8 ± 0.1 , femur III: 2.6 ± 0.11 ; tibia I length: 1.8 ± 0.1 , tibia II: 2 ± 0.04 , tibia III: 2.6 ± 0.1 ; external wing pads length: 3.8 ± 0.20 , internal wing pads length: 4 ± 0.1 , cerci: 0.2. Caudal lamellae 5.8 ± 0.4 .

Larva dorsal view, labium, tenth abdominal segment, caudal lamellae and mandibles as in Figures 4 and 5.

H e a d. — Almost two times as wide as long, postero- lateral sides concave, posterior angle with several short spines. Posterior margin concave. Antennae 6 segmented. Labium (Fig. 5c) reaching second coxae, prementum with one seta on each side; lateral sides with a row of spiniform setae. Palpal setae five (80%) or four (20%); movable hook slender and acute; , about 0.7 times of palp distal margin length. Outer half of distal margin of palp with four or five small teeth, inner half with three teeth and the typical curved endhook. Mandibles (Figs 5f, 5g) as follows: L 1+2345 0 ab; R 1-2345 y a

T h o r a x. — Wing pads nearly parallel, reaching sixth abdominal segment.

A b d o m e n. — Brown, with lighter markings as in fig. 3, cylindrical. Male and female cerci as in figs. 5d and 5e. Spines on lateral sides and distal margin of abdominal segments 6-10. Central caudal lamellae (Fig. 5b) brown, with lighter spots on margin; oblong, almost three times as long as wide, with ill-defined nodus; apex from slightly to deeply concave; many long thin hairs on apical third margin. Dorsal carina with approximately 30-45 short setae, ventral carina with approximately 30-40, and central carina with approximately 25-30 setae.

Lateral caudal lamellae (Fig. 5a) brown, with lighter spots on margin; oblong, about three times as long as wide, with ill-defined nodus; apex from straight to concave; many long thin hairs on apical third margin. Ventral carina with approximately 15-26 short thick setae extending from apex to apical third and many shorter and thinner setae on remaining 2/3, dorsal carina with approximately 20-40, and central carina with 25-30 setae.

REMARKS. — I collected adult *P. forceps* mostly in shady areas at a densely

vegetated small stream (Payubre). Tandem pairs were collected in open sunny places; the larvae were found among littoral[?] vegetation.

Colour in fresh adult specimens is lighter than in preserved ones, head ventral colour is light blue, and thorax is metallic green and gray. Abdomen gray, with last three segments lighter.

DISCUSSION

Peristicta aeneoviridis and *P. forceps* can be easily separated by length of CuP and genital ligula shape. Cerci are similar but in *P. forceps* the tooth is located medially (not easily seen on lateral view), while in *P. aeneoviridis* it is located medioventrally (easily seen on lateral view).

Some *P. forceps* males from Brazil (Mato grosso, Cuiabá, Afluente Rio Claro; 09-21-1983; Santos and Ulises leg.) I examined at MNRJ have a shorter Mp (two cells beyond crossvein descending from subnodus in forewing), however my short visit did not allow for an examination of more material.

LENCIONI (2005) reproduced SANTOS (1968a) drawings of *P. aeneoviridis* genital ligula as belonging to *P. forceps* (fig. 143, D). However, specimens studied by Santos were reexamined at MNRJ, and they belong to two new species (PES-SACQ & COSTA, in press) and not to *P. forceps*.

NAVÁS (1920) briefly described *P. lizeria* from a single male (Buenos Aires province, Argentina). I have been unable to locate the holotype, which is probably lost. Even though the odonate fauna of Buenos Aires province is rather well known, *P. lizeria* has not been recorded since its original description.

The only *Peristicta* species known from Buenos Aires province is *P. forceps* (Paraná River delta). The stated wing characters of *P. lizeria* (Mp 2.5 cells beyond subnodus, 11-12 postnodals in forewing and Mp 3 cells beyond subnodus, 9-11 postnodals in hindwing) are intermedi-

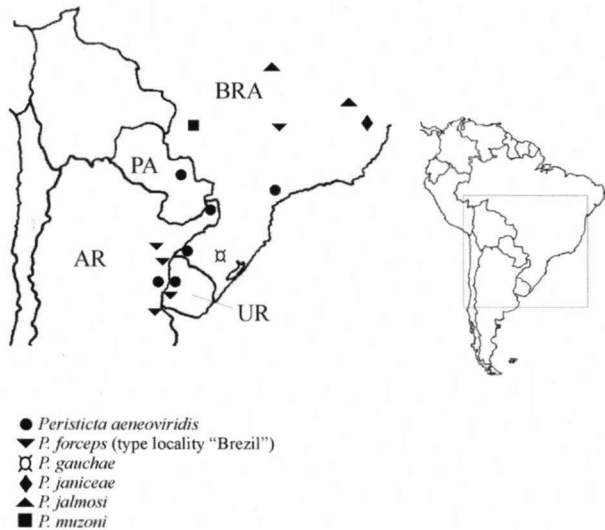


Fig. 6. Distribution of the *Peristicta* species. AR = Argentina, Bra = Brazil, Pa = Paraguay, UR = Uruguay.

ate between those of *P. aeneoviridis* and *P. forceps* males and agree with females of *P. forceps*. Additionally, some male specimens of *P. forceps* from Brazil possess a shorter CuP, agreeing with the description of *P. lizeria*. Only the discovery of *P. lizeria* holotype can clarify this species identity.

The distribution of the *Peristicta* species is given in Figure 6.

ACKNOWLEDGEMENTS

I express my gratitude to Dr OLIVER FLINT and the Smithsonian Institution for the loan of the holotype of *P. aeneoviridis*, to Dr ROSSER GARRISON for the information and drawings of the genital ligula of the holotype of *P. forceps* reproduced from KENNEDY (1919), to the curators of the MCZ for the internet up-loading of images of the holotype of *P. forceps* and to Drs NATALIA VON ELLENRIEDER, Rosser W. Garrison and JAVIER MUZÓN for the critical reviews of the manuscript. Special thanks to MARIELA THEILLER, for her drawings and friendship. The National Research Council of Argentina (CONICET) supported this study.

REFERENCES

- CALVERT, P.P., 1909. Contributions to knowledge of the Odonata of the neotropical region exclusive of Mexico and Central America. *Ann. Carneg. Mus.* 6(1): 73-280, pls 1-9 excl.
- FRASER, F.C., 1947. The Odonata of the Argentine Republic. 1. *Acta zool. lilloana* 4: 427-461.
- JURZITZA, G., 1981. *Peristicta misionera* spec. nov. aus Iguazú, Misiones, Argentinien (Zygoptera: Protoneuridae). *Odonatologica* 10(3): 227-230.
- KENNEDY, C.H., 1916. Notes on penes of Zygoptera. *Ent. News* 27: 325-333.
- KENNEDY, C.H., 1919. *The phylogeny of Zygoptera*. Ph.D. Thesis. Cornell Univ.
- LENCIONI, F.A.A., 2005. *Damselflies of Brazil, an illustrated identification guide*. 1. *Non-Coenagrionidae families*. All Print ed., Sao Paulo.
- MUNZ, P.A., 1919. A venational study of the suborder Zygoptera (Odonata) with keys for the identification of genera. *Mem. Am. ent. Soc.* 3: 1-78, 20 pls excl.
- NAVAS, L., 1920. Insectos Sudamericanos. *An. Soc. Cient. Arg.* XC: 44-51.
- PESSACQ, P. & J.M. COSTA, in press. Three new species of *Peristicta* Hagen in Selys (Odonata: Zygoptera: Protoneuridae) from Brazil. *Neotrop. Ent.*
- RIEK, E.F. & J. KUKALOVÁ-PECK, 1984. A new interpretation of dragonfly wing venation based upon early Carboniferous fossils from Argentina (Insecta: Odonatoidea) and basic characters states in pterygote wings. *Can. J. Zool.* 62: 1150-1166.
- RIS, F., 1913. Neuer Beitrag zur Kenntnis der Odonaten Fauna von Argentina. *Mem. Soc. ent. Belg.* 22: 55-102.
- SANTOS, N.D. dos, 1968a. Fauna do estado da Guanabara. 63. *Phasmonera ciganae* sp. n. e notas sobre outras espécies (Odonata: Protoneuridae). *Atas Soc. Biol. Rio de J.* 11(6): 221-226.
- SANTOS, N.D. dos, 1968b. *Peristicta gauchae* sp. n. (Odonata: Protoneuridae). *Atas Soc. Biol. Rio de J.* 12(2): 79-80.
- SANTOS, N.D. dos, 1972. Descrição da ninfa de *Peristicta aeneoviridis* Calvert, 1909 (Odonata: Protoneuridae). *Atas Soc. Biol. Rio de J.* 15(3): 143-144.
- SELYS LONGCHAMPS, M.E. de, 1860. Synopsis des agrionines, dernière légion: Protonevra. *Bull. Acad. r. Belg.* (11) 10: 431-462.
- WATSON, M.C., 1956. The utilization of mandibular armature in taxonomic studies of anisopterous nymphs. *Trans. Am. ent. Soc.* 81: 155-205.