

SYSTEMATICS, MORPHOLOGY AND PHYSIOLOGY

Three New Species of *Peristicta* Hagen in Selys (Odonata: Zygoptera: Protoneuridae) from BrazilPABLO PESSACQ¹ AND JANIRA M. COSTA²¹Lab. Investigación en Sistemática y Ecología animal (LIESA). Sarmiento 849, 9200, Esquel, Chubut, Argentina, pablopessacq@yahoo.com.ar²Museu Nacional, Quinta da Boa Vista, 20940-040, São Cristóvão, RJ, Brazil, jcosta@globo.com*Neotropical Entomology* 36(1):046-052 (2007)Três Novas Espécies de *Peristicta* Hagen in Selys (Odonata: Zygoptera: Protoneuridae) do Brasil

RESUMO - São descritas e ilustradas três novas espécies de *Peristicta* Hagen in Selys do Brasil: *P. janiceae* de Minas Gerais (Diamantina, Gouvêa, Lagoa Santa, Serra do Caraça, Serra do Cipó, Urobotanga), *P. jalmosi* de Goiás (Chapada dos Veadeiros, Reserva da Universidade de Brasília) e Minas Gerais (Urobotanga, Lagoa Santa, Ponte Nova, São João del Rey) e *P. muzoni* de Mato Grosso (Serra da Bodoquena). Apresenta-se uma chave de identificação para machos das espécies de *Peristicta*.

PALAVRAS-CHAVE: Taxonomia, Neotropical, chave para espécies

ABSTRACT - Three new species of *Peristicta* Hagen in Selys from Brazil are described and illustrated: *P. janiceae* from Minas Gerais State (Diamantina, Gouvêa, Lagoa Santa, Serra do Caraça, Serra do Cipó, Urobotanga), *P. jalmosi* from Goiás State (Chapada dos Veadeiros, Reserva da Universidade de Brasília) and Minas Gerais State (Urobotanga, Lagoa Santa, Ponte Nova, São João del Rey,) and *P. muzoni* from Mato Grosso State (Serra da Bodoquena). An identification key for males of *Peristicta* is presented.

KEY WORDS: Taxonomy, Neotropical, key to species

The genus *Peristicta* Hagen in Selys, 1860 may be characterized as follows: head and thorax dark metallic green; vein CuPAA' present, one cell long; MP extending at least 1 cell from vein descending from subnodus, usually longer; IR2 arising from subnodus; IR2 and RP'' separated by a small crossvein; pterostigma less than one cell long; cerci with a dorsal and a ventral branch, about equal in length; dorsal branch thicker, forcipate and with inner or ventral tubercle; ventral branch thinner, arising from base of dorsal branch base and curving inwards following tenth abdominal segment margin; paraprocts reduced.

Five species have been recognized in the genus: *P. aeneoviridis* Calvert, 1909 from Argentina (Ris 1913, Fraser 1947), Brazil (Santos 1968) and Paraguay, *P. forceps* Hagen in Selys, 1860 and *P. gauchae* Santos, 1968 from Brazil, *P. lizeria* Navás, 1920 and *P. misionera* Jurzitza, 1981 from Argentina.

Material and Methods

Specimens were preserved dry, in paper envelopes. Genital ligulae were protruded with 10% KOH solution. Material are deposited at Museu Nacional, Rio de Janeiro (MNRJ) and some paratypes at Museo de Ciencias Naturales

de La Plata, La Plata, Argentina. For wing vein terminology, Riek & Kukalova Peck (1984) as amended by Bechly (1996), was followed.

***Peristicta janiceae* Pessacq & Costa sp. nov.**
(Figs. 1-6)

Peristicta aeneoviridis Calvert. Santos 1968: 223, 225, 226 (Genital ligula illustrations taken from Serra do Cipó - MG material, in this paper, wing character variation taken of specimens from different localities); *Peristicta forceps* Hagen. Lencioni 2005: 216 (penis drawings taken from Santos 1968b).

Type material. Holotype male, **Brazil, Minas Gerais**, Serra do Cipó, XII.1947, N.D. Santos leg. Paratypes: 64: 11 males, same date; one male, same place but 17.I.1951, N.D. Santos & J.P. Machado leg.; four males, same place but 1.XII.1963; 25 males, Estrada Belo Horizonte-Serra do Cipó, XI-XII.1963, N.D. Santos, J.P. Machado & C. Borges leg.; four males, Serra do Caraça (Riacho dos Cascudos), 14-15.XII.1979, N.D. Santos & L.F. Netto leg.; five males, Rio Caraças (Cascatinha), 15.XII.1979, N.D. Santos & L.F. Netto leg.; five males, Diamantina, III.1962, N.D. Santos leg.;

yellowish spot, remainder of leg yellowish. **Abdomen:** abdominal segments I-VI dark brown, V-X black, IV-VII with proximal yellowish lateral spot. Cerci black.

Venation. Forewing (Fig. 7) cu-c between first and second antenodal. CuPAA' one cell long; Mp ending 1.5 cells beyond crossvein descending from subnodus; RP2 arising proximal to fourth postnodal; IR1 at sixth; first and third antenodal spaces of subequal length, second the shortest; arculus distal to second antenodal; IR2 arising at vein descending from subnodus; postnodals ten (left) and eleven (right); pterostigma slightly smaller than surmounted cell. **Hindwing** (Fig. 8) cu-c between first and second antenodal. CuPAA' one cell long; Mp ending 1.5 and 2 cells beyond crossvein descending from subnodus; RP2 arising at third postnodal; IR1 at sixth or seventh; first and third antenodal spaces subequal, second the shortest; arculus distal to second antenodal; IR2 arising at vein descending from subnodus; postnodals 8; pterostigma smaller than surmounted cell.

Genital ligula (Fig. 9) segment III lacking lateral lobes, with dorsal groove and bilobed apex. Shaft spines absent.

Cerci (Figs. 10-12) with dorsal and ventral branch. Dorsal branch forcipate, directed upwards, longer than tenth abdominal segment, with a well developed ventral or inner-ventral tooth at half of its length, visible in lateral view. Ventral branch thin, arising from dorsal branch base and curving inwards following tenth abdominal segment. Paraprocts reduced.

Intraspecific variation (n = 27). Pterothorax: in some specimens from Lagoa Santa with metepimeron varying from yellowish to brown and with a yellowish stripe on mesopleural suture.

Male. Total length: 35 ± 0.7 mm; forewing: 16.4 ± 1.1 mm; hindwing: 13.3 ± 0.73 mm; abdomen: 28.5 ± 0.5 mm.

Venation. Forewing. Mp ending 1.0 (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; arculus arising at (10%) to slightly distal (10%) or distal (80%) from second antenodal; IR2 arising at vein descending from subnodus; postnodals 9-11; pterostigma slightly smaller than surmounted cell. **Hindwing** Mp ending 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 2.1:2.2:1.8 to 1.3: 1.1: 2.1; arculus arising slightly distal to distal from second antenodal; IR2 arising at vein descending from subnodus; postnodals 8-9; pterostigma slightly smaller than surmounted cell.

Cerci. Tooth of dorsal branch, visible in lateral view.

***Peristicta muzoni* Pessacq & Costa sp. nov.**
(Figs. 13-19)

Type material. Holotype male, **Brazil, Mato Grosso**, Serra da Bodoquena, XII.1941, N.D.Santos leg. (C.I.O.Cruz). Paratypes: 22 males, same date.

Diagnosis. Head dorsally dark metallic green. Apex of genital ligula segment III bilobate, two lateral elongated lobes extending forward, not surpassing penis apex, shaft spines present.

Etymology. This species is dedicated to our friend and fellow odonatologist Javier Muzón of the Instituto de Limnología Dr. Raúl A. Ringuelet, La Plata, Argentina.

Male. Total length 31.5 mm, head 1mm, pterothorax 4 mm, forewing 16.7 mm, hindwing 15.6 mm, abdomen 26.5 mm.

Head. dorsally dark metallic green, labium with an anterior yellowish stripe, gena inferiorly yellowish, this color extending ventrally as a stripe bordering the eyes. **Prothorax:** dark metallic green, anterior lobe with yellowish anterior stripe. **Pterothorax:** mesothorax dark metallic green. Metathorax brownish, ventral synthorax yellowish. Tibia brownish, with distal areas black and posterior side pale yellow, remainder of leg yellowish. **Abdomen:** abdominal segments I-VI reddish, IV-VII with proximal yellowish lateral spot, VIII-X and cerci black.

Venation. Forewing (Fig. 13) cu-c between first and second antenodal; CuPAA' one cell long; Mp ending 1.5 cells beyond crossvein descending from subnodus; RP2 arising at fifth postnodal. IR1 at seventh and eighth postnodal; first and third antenodal spaces subequal, second the shortest; arculus distal to second antenodal; IR2 arising at vein descending from subnodus; postnodals 13; pterostigma equal to surmounted cell. **Hindwing** (Fig. 14) cu-c between first and second antenodal; CuPAA' one cell long; Mp ending 2.5 cells beyond crossvein descending from subnodus; RP2 arising proximal to fifth postnodal. IR1 at eighth postnodal, first and third antenodal spaces subequal, second the shortest; arculus distal to second antenodal; IR2 arising at vein descending from subnodus; postnodals 12; pterostigma smaller than surmounted cell.

Genital ligula (Figs. 15-16), with well developed internal fold, apex of segment III bilobed, two lateral elongate lobes extending forward, not surpassing apex of genital ligula segment III. Shaft spines present.

Cerci (Figs. 17-19) with a dorsal and a ventral branch. Dorsal branch forcipate, longer than tenth abdominal segment, directed upwards, with a well developed ventral tooth at half its length, easily visible in lateral view. Ventral branch narrow, arising from dorsal branch base and curving inwards following tenth abdominal segment.

Intraspecific variation. (n = 23). Coloration: in some specimens metepisternum and metepimeron are yellowish, and abdominal segments VII-X black.

are present.

In *P. muzoni* sp. n., the dorsal branch of the cercus in dorsal view is gently divaricate and the internal apical border strongly concave. Body size is smaller than remaining species. The genital ligula has elongate and straight lateral lobes, not surpassing penis apex.

The identities of *P. misionera* Jurzitza and *P. lizeria* Navás are doubtful; they are not included in the following key and will be discussed in a future paper (Pessacq, in prep.).

Key to the Known Species of *Peristicta* (males)

- 1- Cerci shorter or slightly longer than tenth abdominal segment. Tooth of cerci almost apical (Figs. 1, 2 and 4 in Santos 1968).....*Peristicta gauchae* Santos
 1'- Cerci distinctly longer than tenth abdominal segment. Tooth of cerci never apical.....2
- 2- Tooth of cerci ventral, easily visible in lateral view (Fig. 11); genital ligula variable, segment III with or without dorsolateral sutures.....3
 2'- Tooth of cerci medial, not easily visible in lateral view (Fig. 5); internal fold of genital ligula well developed; apex of segment III with two long lateral lobes (Fig. 3).....*P. janiceae* sp. n.
- 3- Segment III of genital ligula with dorsolateral sutures, lacking lateral lobes (Fig. 9).....*P. jalmosi* sp. n.
 3'- Segment III of genital ligula without dorsolateral sutures, with lateral lobes.....4
- 4- Lateral lobes of genital ligula surpassing level of apical lobes (Fig. 20).....*P. forceps* Hagen in Selys
 4'- Lateral lobes of genital ligula not surpassing level of apical lobes.....5
- 5- Lateral lobes of genital ligula wider than long, not directed forward (Fig. 21).....*P. aeneoviridis* Calvert
 5'- Lateral lobes of genital ligula longer than wide, directed forward (Figs. 15-16).....*P. muzoni* sp. n.

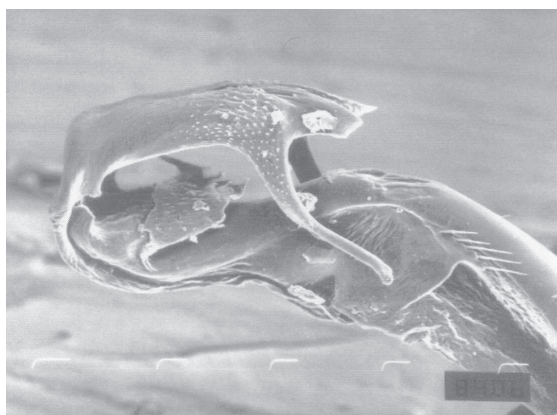


Fig. 20. *Peristicta forceps* - genital ligula, lateral view.

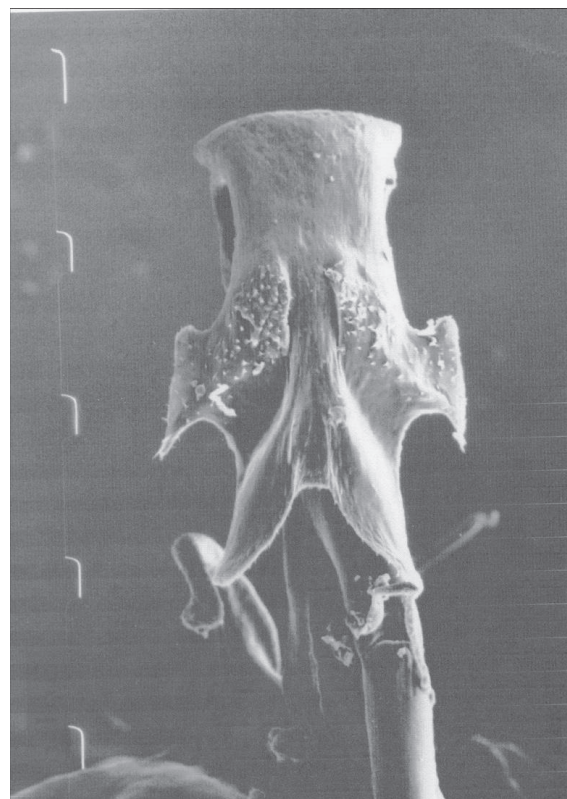


Fig. 21. *Peristicta aeneoviridis* - genital ligula, ventral view.

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