

**FOUR NEW ODONATA RECORDS FOR THE STATE OF ESPIRITO SANTO, BRAZIL: *HETERAGRION PETIENSE* MACHADO, *LESTES FORFICULA* RAMBUR, *ORTHEMIS AMBINIGRA* CALVERT AND *ERYTHRODIPLAX CLITELLA* BORROR (ZYGOPTERA: MEGAPODAGRIONIDAE, LESTIDAE; ANISOPTERA: LIBELLULIDAE)**

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**Abstract** – The 4 spp. were discovered during a 3-month field trip in 2006. *L. forficula* and *E. clitella* are represented by a single ♂ adult each, *H. petiense* and *O. ambinigra* were found several times. The measurements of the specimens and brief descriptions of the habitats are provided.

**Introduction and methods**

During a field trip to the state of Espírito Santo, Brazil in the spring of 2006 four for this state previously unreported species were discovered (cf. COSTA & OLDRINI, 2005). They were found at three study sites in the area of Santa Teresa, a town located 50 km NW of Vitória in the Atlantic Forest.

The species were examined, measured, and identified using keys in BORROR (1942, 1945),

LENCIONI (2005), MACHADO (1988) and RAMBUR (1842). An additional confirmation was provided by F.A.A. Lencioni in the case of *Lestes forficula* and *Heteragrion petiense*. The specimens are deposited in the collection of the Museu de Biologia Professor Mello Leitão (MBML), Santa Teresa.

***Heteragrion petiense* Machado**

MBML collection record: VA06301; VA06302; VA06430; VA06431; VA06432; VA06433; VA06434; VA06435; VA06436 ♀; VA06437; VA06455; VA06456; VA06456; VA06457; VA06458; VA06459; VA06460; VA06461; VA06462; VA06463 ♀; VA06464 ♀; VA06480.

Measurements males (mean values and SD, in mm): Total length: 47.06 ± 1.9; abdomen:

38.92  $\pm$  1.5; thorax: 6.32  $\pm$  0.2; forewing: 27.47  $\pm$  0.7; hindwing: 26.78  $\pm$  0.8; width of forewing: 2.32  $\pm$  0.1; width of hindwing: 2.48  $\pm$  0.2.

Measurements females (mean values and SD, in mm): Total length: 42.22  $\pm$  1.4; abdomen 34.15  $\pm$  0.3; thorax: 6.01  $\pm$  0.4; forewing 28.29  $\pm$  0.7; hindwing: 27.54  $\pm$  0.8; width of forewing: 2.44  $\pm$  0.2; width of hindwing 2.44  $\pm$  0.1.

Location: Vargem Alta area, located near the Parque Municipal Natural de São Lourenço (19°55.40'S, 40°38.83'W, alt. 862 m). See location description of *Lestes forficula* for further details of the area. All specimens were caught at the small stream providing the inflow at the northern end of the pond. The very dense vegetation in this part of the area was composed of typical secondary forest elements (Araceae, Arecaceae, many Bromeliaceae and Rubiaceae, Melostomataceae, Orchidiaceae, Poaceae and Urticaceae). The small stream was almost completely covered by bushes, becoming more open-ranged at its inflow to the pond.

**C o m m e n t s** — *H. petiense* was so far known only from the state of Minas Gerais, Brazil (LENCIONI, 2005). The species was first described in 1988 by MACHADO. Its geographical range is still unknown. The species occurs probably in the states adjacent to Minas Gerais. At Vargem Alta it was restricted to one part of the pond system. *H. petiense* is clearly distinguishable from the congeners. The appendages have a unique structure which makes the identification in the field easy (LENCIONI, 2005).

#### ***Lestes forficula* Rambur**

MBML collection record: VA06531.

Measurements (in mm): Total length: 38.63; abdomen: 30.87; thorax: 5.55; forewing 19.96; hindwing: 19.62; width of forewing: 3.27; width of hindwing: 2.53.

Location: Vargem Alta area, located near the São Lourenço reserve (19°55.40'S, 40°38.83'W, alt. 862 m). The site is represented by two ponds in a secondary forest. The general vegetation is composed of typical secondary forest elements: Araceae, Arecaceae, many Bromeliaceae and Rubiaceae, Melostomataceae, Orchidiaceae, Poaceae and Urticaceae.

The large T-shaped pond (93×26 m and 41×22

m; 3320 m<sup>2</sup>) is connected with the other pond at the western side and gets additional water supply from a small stream at the northern side. Secondary forest starts at the eastern side, including also the small stream. In western and southern direction, a very young forest is composed of several Rubiaceae, Arecaceae and Urticaceae (*Cecropia* sp.). Cattail (*Typha latifolia*) covers the entire shore of the pond. Shrubby vegetation of Cyperaceae, many Poaceae and in the water Salviniaceae (*Salvinia* sp.) are dominating plant families at the collection site of this species.

**C o m m e n t s** — *L. forficula* could only be collected once during the field trip. The species is known from all the states adjacent to Espírito Santo (LENCIONI, 2005), therefore its discovery in the state was expected and its occurrence is certainly not restricted to the area of Vargem Alta, Santa Teresa. The species is easily recognised in the field by its characteristic appendages, even without a field magnifier. See LENCIONI (2005) for detailed drawings.

#### ***Erythrodiplax clitella* Borror**

MBML collection record: MBML PP06610

Measurements (in mm): Total length: 28.77; abdomen: 18.08; thorax 7.34; forewing: 23.39; hindwing: 22.11; width of forewing: 5.22; width of hindwing: 6.81.

Location: Pousada Paradiso area, approximately 1 km from the city (19°55.55'S, 40°35.41'W, alt. 684 m). The vegetation is roughly divided into one third secondary forest, eucalyptus plantation, orchard and vegetable garden. In the garden there are five ponds and a system of small streams, which connect the ponds and provide the in- and outflow to the system. A single adult *E. clitella* was found at one of the ponds in May.

**C o m m e n t s** — *E. clitella* was known so far only from Venezuela (GARRISON, 2007). As far as I know, this is the first record ever published for Brazil, although I have seen this species in the Odonata collection of the Federal University of Viçosa (UFV). The specimens in the collection were not identified, and I was able to examine only a part of the collection. A systematic study of the Viçosa collection is highly recommended.

***Orthemis ambinigra* Calvert**

MBML collection record: EBSL06590; EBSL06591; EBSL06592

Measurements (mean values and SD; in mm): Total length:  $44.25 \pm 3.2$ ; abdomen:  $29.95 \pm 2.4$ ; thorax:  $10.66 \pm 0.5$ ; forewing:  $35.37 \pm 1.8$ ; hindwing:  $34.49 \pm 2.0$ ; width of forewing:  $7.84 \pm 0.1$ ; width of hindwing:  $9.77 \pm 0.5$ .

Location: Estação Biológica de Santa Lúcia (EBSL), a reserve 8 km from Santa Teresa, covering 400 hectares of preserved Atlantic Forest. A marsh area nearby the main stream system of the reserve was the collection point for this species.

**Comments** — So far six *Orthemis* species were recorded for Espírito Santo (COSTA & OLDRINI, 2005). *O. ambinigra* can be distinguished from *O. levis* Calvert by its prominent pattern of red and black colour on the abdomen and the more or less brown thorax (instead of violet in the case of *O. levis*). Also *O. ambinigra* is smaller (ca 0.5-0.8 cm) than *O. levis*. The genus is in need of a revision (GARRISON et al., 2006).

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