A checklist of the dragonflies from the North-Western of Isiboro-Sécure Indian Country and National Park, Bolivia

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The Isiboro-Secure Indian Country and National Park is located in central-western Bolivia, in the departments of Beni and Cochabamba (Figure 1). The Park includes about 12,363 km² of Yunga rainforest in the Bolivian Amazon, and apart from the presence of the Yuracare and Chimane tribes, most of its area is free from human activities. With the exception of the extreme southern part of the park, which is accessible by land, most of its area is almost inaccessible. The main rivers are the Isiboro and Secure, that drain to the Mamoré river, part of the Amazon basin.

The senior author stayed in an extreme tourist operation in the north-west of the park from July to October 2011, conducting extensive sampling in at a limited number of sites. The odonate fauna in this region is unknown, and few entomological studies have been conducted; it can only be mentioned the ecological index of Nabor *et al*. (2007), carried out in the south of the park, in which a list of aquatic insects is presented, but it included Odonata only at family level. Additionally, and due to its importance as vectors of the tropical disease Leishmaniasis, a few studies on sand flies have been conducted, but the sampling was focused on the peridomestic fauna of villages in the south of the park (*e.g.* Bustamante *et al.,* 2012 & Garcia *et al.*, 2007).

Apart from the contributions listed above, this is the first entomological field work and insect checklist for the park.

The sampling was conducted in small permanent streams that drain into the Pluma River (the main tributary of the upper Secure River), small ponds, and open areas of the forest. From July to August dragonflies were scarce, and only *Hetarina sanguinea* Selys and a very few specimens of *Argia* Rambur, pseudostigmatids and libellulids were observed. In September, many dragonflies appeared, but were restricted to one stream (unnamed stream 2) and one ephemeral pond.

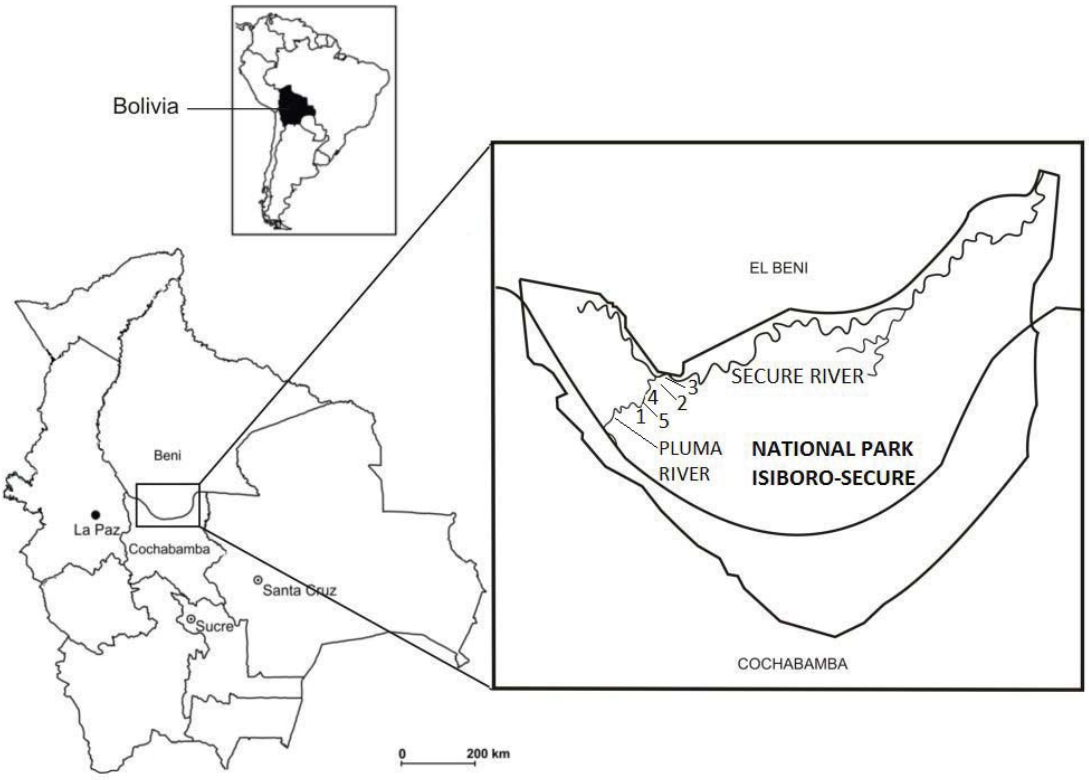

Figure 1. Map showing location of Isiboro-Secure Indian Country and National Park.

Sampling sites: -
1. Bolivia, El Beni state, National Park and Indian land Isiboro-Sécure, unnamed stream, by the side of Pluma Lodge camp, tributary of Pluma river, 16°05'04.6" S 66°16'26.95", 8-10/2011, P. Pessacq leg.
2. Same as above but, unnamed stream, tributary of Pluma river, in the road from Coruya settlement to Pluma Lodge camp, 16°02'49.74" S 66°15'10.84", 8-10/2011, P. Pessacq leg.
3. Same as above but, unnamed stream, tributary of Pluma river, in the road from Coruya settlement to Pluma Lodge camp, 16°02'37.37" S 66°14'35.10", 8-10/2011, P. Pessacq leg.
4. Same as above but, temporary pond in the road from Coruya settlement to Pluma Lodge camp, 16°02'56.50" S 66°15'13.16", 8-10/2011, P. Pessacq leg.
5. Same as above but, Pluma Lodge camp, 16°04'59.71" S 66°16'31.48", 8-10/2011, P. Pessacq leg.
6. Same as above but, Asunta village, 15°49'58,88" S 66°25'38.37", 10/2011, F. Morales leg.

SPECIES LIST

Numbers in brackets indicate sampling sites.

CALOPTERYGIDAE
Hetarina sanguinea Selys (1, 3)
Mnesarete devillei (Selys) (2)

MEGAPODAGRIONIDAE
Heteragrion sp. (2)
Note: the studied specimens are probably co-specific with those identified as *Heteragrion inca* by N. von Ellenrieder and R.W. Garrison (pers.com.).

COENAGRIONIDAE
Acanthagrion aepiolum Tennessen (1)
Acanthagrion apicale Selys (4)
Acanthagrion vidua (Selys) (1, 4)
Argia yungensis Garrison & von Ellenrieder (2)
Argia sp. 1 (2)
Argia sp. 2 (2)
Argia sp. 3 (2)
Argia sp. 4 (2)
Argia sp. 5 (2)

PROTONEURIDAE
Protoneura woytkowskii Cowley (2)
Note: This species is currently known from Bolivia, Brazil, Ecuador and Perú (Cowley, 1940; Pessacq et al., 2012). The specimens studied possess a long apical lobe on the third segment of the genital ligula, while in the original description (Gloyd, 1939) a short lobe is illustrated. In material from Ecuador provided by N. von Ellenrieder, both forms, with a short and a long apical lobe are present. Dr. N. von Ellenrieder is currently revising the genus *Protoneura*, and based on material on her collection, a new species could be proposed in the future (von Ellenrieder pers. com.). But for now we consider the specimens to belong to *P. woytkowskii*.

Epipleoneura venezuelensis Rácenis (2)
Note: As stated in Pessacq (2014), this is the first record for the species in Bolivia; it was previously recorded from Northern Venezuela, central Brazil and northern Argentina (Pessacq, 2014).

Drepanoneura loutoni von Ellenrieder & Garrison (2)
Note: This is the first record for the species in Bolivia; the species was previously recorded from Ecuador to Peru (von Ellenrieder & Garrison, 2008). Two of the males possess a mainly black mesothorax, without the yellow color along ventral margin of humeral suture and metepisternum as originally described (von Ellenrieder & Garrison, 2008). These specimens also have a longer lateral lobe of genital ligula.

AESHNIDAE
Gynacantha membranalis Karsch (4, 6)
Gynacantha sp. (4)
Note: male probably belonging to a new species. Following the key by Williamson (1923) the male falls into couplet 12, showing intermediate characters between *Gynacantha convergens* Förster and *G. laticeps* Williamson. However, the cerci are different from both species.

Triacanthagyna septima (Selys *in* Sagra) (5)
Triacanthagyna caribbea Williamson (5)

GOMPHIDAE
Archaeogomphus nanus Needham (1)
Note: This is the first record for the species in Bolivia; the species was previously recorded in Brasil, Guayana Francesa, Suriname and Venezuela (Heckman, 2008).

LIBELLULIDAE
Anatya guttata (Erichson) (2, 5)
Erythrodiplax fusca (Rambur) (5)
Erythrodiplax unimaculata (De Geer) (5)
Macrothemis flavescens (Kirby) (5, 2)
Orthemis cultriformis Calvert (4, 5)
Orthemis discolor (Burmeister) (4, 5)
Orthemis paulsoni von Ellenrieder (4)
Note: This is the first record for the species in Bolivia; the species was previously recorded in SE Perú and Ecuador (von Ellenrieder, 2012).
Perithemis icteroptera (Selys in Sagra) (4)
Note: This is the first record for the species in Bolivia; the species was previously recorded in Brazil, Uruguay and Argentina (von Ellenrieder & Muzón, 1999; von Ellenrieder et al. 2009).
Perithemis mooma Kirby (4)
Perithemis thais Kirby (4)
Perithemis sp. 1 (4)
Perithemis sp. 2 (4)
Uracis fastigata (Burmeister) (4)

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