

FIVE NEW RECORDS OF DRAGONFLIES (ODONATA: ANISOPTERA) FROM PUTUMAYO DEPARTMENT (COLOMBIA)

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SUMMARY

Five new records of dragonflies for Putumayo department are reported, and information about of the number of Odonata species by department is provided.

Key words: Neotropic, insects.

RESUMEN

Cinco nuevos registros de libélulas para el departamento de Putumayo son reportados, e información acerca del número de especies de Odonata por departamento es proporcionada.

Palabras clave: Neotrópico, insectos.

INTRODUCTION

One might think that to discuss the extension of the geographic range for a species inside a country is a useless and even unnecessary activity. However, in Colombia, it is an important task for some groups of organisms, whose study has been limited or almost non-existent for decades. The odonatologic fauna for example, scarcely begins to be studied with the report of a bit more than 350 species, found in the list of Pérez-Gutiérrez & Palacino-Rodríguez (2011) and a series of documents published (Bota *et al.* 2010, Bota 2012, Pérez-Gutiérrez & Montes 2011, Machado 2012, Pérez-Gutiérrez, 2012, Rache *et al.* 2013) or in process of publication and that include new reports and new

species in the country. This situation reflects that the study in the taxonomy of the odonates in Colombia is still emerging, since it is a low number when compared with other countries of the region such as Peru (481 spp.), Venezuela (487 spp.) and Brazil (660 spp.) (Hoffmann 2009, Pérez-Gutiérrez & Palacino-Rodríguez 2011). The situation is furthermore discouraging when the number of species is analyzed by department, where it is possible to recognize the high degree of lack of information we have on the fauna of at least 50 % of them (Fig. 1, Table 1), including some where reports do not even represent 10 % of the fauna recognized in the country and extremely critical cases such as Arauca, Guajira and Vichada in which the lack of knowledge is absolute. In this paper,

five new records of dragonflies for Putumayo department are reported and current information about the number of Odonata species by department is provided.

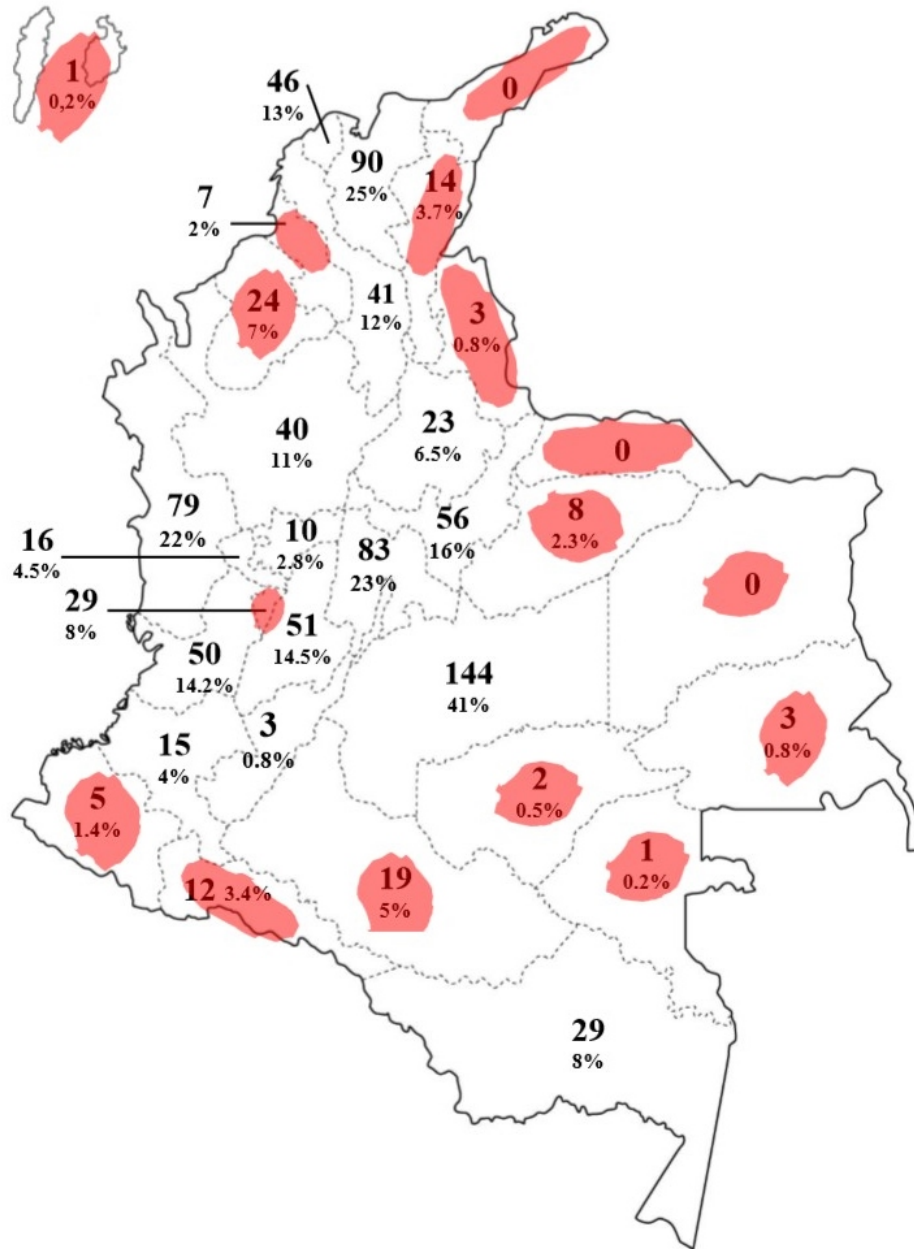


Figure 1. Map indicating the number of species by department. The percentage is representing this number respect to the total number of species for Colombia. The red shaded regions correspond to those departments where fauna is unknown or knowledge is almost non-existent.

Table 1. Number of species by department. The departments are listed from those with higher number of odonate species to those with lower number of species. DEP: Department, R: number of species recorded, %: percentage representing the number of species recorded, respect to the total number of species for Colombia (~ 350 spp.).

	DEP	R	%		DEP	R	%
1	Meta	144	41	17	Cauca	15	4
2	Cundinamarca	83	23	18	Cesar	14	3.7
3	Chocó	79	22	19	Putumayo	12	3.4
4	Boyacá	56	16	20	Caldas	10	2.8
5	Tolima	51	15	21	Casanare	8	2.3
6	Valle del Cauca	50	14.2	22	Sucre	7	2
7	Atlántico	46	13	23	Nariño	5	1.4
8	Bolívar	41	12	24	Guainía	3	0.8
9	Magdalena	41	12	25	Huila	3	0.8
10	Antioquia	40	11	26	Norte de Santander	3	0.8
11	Amazonas	29	8	27	Guaviare	2	0.5
12	Quindío	29	8	28	San Andrés y Provi- dencia	1	0.2
13	Córdoba	24	7	29	Vaupés	1	0.2
14	Santander	23	6.5	30	Arauca	-	-
15	Caquetá	19	5	31	Guajira	-	-
16	Risaralda	16	4.5	32	Vichada	-	-

MATERIALS AND METHODS

Study site and collect

A small collection was carried out by a student of biology from the Universidad El Bosque, in wells associated with mining activities in the department of Putumayo. The area is located in the 0°31' N and 76°30'W, to 250m. asl., with annual average temperature of 25°C and annual average rainfall of 3,600mm. The sampling was direct and it was done with an air net from April 13th to 21st 2013, during the rainy season, between 10:00 a.m. and 4:00 p.m.

RESULTS

A total of 13 individuals (10♂♂3♀♀) from six species were collected, five of them had not been reported before in that department, which increases to 17 the number of species for this part of the country. The next reported species

are eurytypic and they can be associated with habitats with strong degrees of disturbance, for that reason it is not surprising that they were found in wells with this type of intervention. With the exception of *Erythrodiplax basalis* (Kirby, 1897), the other ones constitute new records for Putumayo:

Erythrodiplax basalis (Kirby, 1897): species distributed from Colombia up to Argentina and Uruguay. In Colombia it has been reported in Amazonas, Antioquia, Córdoba, Chocó, Magdalena, Putumayo, and Valle (Ris 1918, Pérez-Gutiérrez & Palacino-Rodríguez 2011). In Putumayo, 2♂♂ were collected on 15.iv.2013.

Erythemis vesiculosa (Fabricius, 1775): species distributed from the United States up to Argentina. In Colombia it has been reported in Amazonas, Atlántico, Bolívar, Cesar, Córdoba, Caldas,

Casanare, Cundinamarca, Chocó, Huila, Magdalena, Meta, Quindío, San Andrés, Sucre, Tolima and Valle (Ris 1918, Pérez-Gutiérrez 2003, De Marmels 2006, Palacino-Rodríguez 2009). In Putumayo, 1♂ was collected on 18.iv.2013.

Erythrodiplax unimaculata (De Geer, 1773): distributed from Panamá up to Brazil and Paraguay. In Colombia, it has been reported for Caquetá and Meta (Ris 1918, Borrór 1942, Palacino-Rodríguez 2009). In Putumayo, 2♂♂ were collected on 15.iv.2013.

Erythrodiplax fusca (Rambur, 1842): species distributed from the United States up to Argentina and Uruguay. In Colombia it has been found in Amazonas, Antioquia, Bolívar, Boyacá, Cauca, Cundinamarca, Chocó, Magdalena, Meta, Quindío, Risaralda, Santander, Tolima, and Valle (Ris 1918, Borrór 1942, Pérez-Gutiérrez 2003, De Marmels 2006, Palacino-Rodríguez 2009). In Putumayo, 1♂ and 1♀ were collected on 21.iv.2013.

Erythrodiplax umbrata (Linnaeus, 1758): species distributed from the United States to Argentina and Uruguay. In Colombia it has been reported in Amazonas, Antioquia, Atlántico, Bolívar, Caquetá, Cauca, Cesar, Caldas, Casanare, Córdoba, Cundinamarca, Chocó, Magdalena, Meta, Nariño, Quindío, Santander, Sucre, Tolima, Valle, and Vichada (Ris 1918, De Marmels 2006, Palacino-Rodríguez 2009). In Putumayo, 3♂♂ and 2♀♀ were collected on 13.iv.2013.

Orthemis discolor (Burmeister, 1839): distributed from the United States to Argentina, Uruguay, and Chile. In Colombia it has been reported in Ama-

zonas, Atlántico, Boyacá, Cundinamarca, Chocó, Guainía, Magdalena, Meta, Quindío, Risaralda, Santander, and Tolima (Calvert 1909, Pérez-Gutiérrez 2003, De Marmels 2006, Palacino-Rodríguez 2009). In Putumayo, 1♂ was collected on 18.iv.2013.

DISCUSSION

The departments with higher number of odonates species recorded (Table 1), correspond to regions with high level of investigation in the Odonata. The low investigation in Colombian odonates arises as consequence of lack of sampling and lack of taxonomic studies, caused by several problems (Fernández 2011, Pérez-Gutiérrez & Palacino-Rodríguez 2011) that have been holding back the study of the biodiversity in the country and impeding the discovery of more information as follows: 1) reviewing the list of Paulson (2009), it is found that 49 out of 1636 species reported for the Neotropic (Kalkman *et al.* 2008) are endemic for Colombia: Polythoridae (6 spp.), Calopterygidae (1 sp.), Lestidae (2 spp.), Megapodagrionidae (14 spp.), Platystictidae (4 spp.), Protoneuridae (2 spp.), Coenagrionidae (16 spp.), Aeschnidae (1 sp.), Gomphidae (2 spp.) and Libellulidae (1 sp.); and 2) of the 12 species of Odonata reported in Putumayo nowadays (Palacino 2009, Pérez-Gutiérrez & Palacino-Rodríguez 2011), three: *Polythore concinna* (McLachlan, 1881), *Polythore mutata* (McLachlan, 1881), and *Macrothemis hahneli* Ris, 1913, show a restricted distribution to a few countries in South America and one: *Palaemnema croceicauda* Calvert, 1931, is endemic of Putumayo, and can only be found there in the world, this situation is repeated in other departments, supporting the idea

of how important it is to work on the odonates of the country, especially in those departments we know less about.

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