

# New record of *Pantophthalmus pictus* (Wiedemann, 1821) (Diptera, Pantophthalmidae) in the Cerrado vegetation of central Brazil

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**Abstract.** *Pantophthalmus pictus* (Wiedemann, 1821) (Diptera, Pantophthalmidae) has been reported to occur in south and southeastern Brazil, Paraguay and Argentina. Here we report the first occurrence of these rare flies in the Cerrado vegetation of central Brazil. We also provide an updated list of the geographical distribution of the 20 species of the genus *Opetiops* Enderlein, 1921 (1 species) and *Pantophthalmus* Thunberg, 1919 (19 species) in the Neotropical region.

**Key-Words.** Biogeography; Brazilian central plateau; Neotropical region; Taxonomy; Timber flies.

## INTRODUCTION

The Pantophthalmidae is a small family of 'orthorrhaphous' Brachycera flies found exclusively in the Neotropical region. They are rare flies and little represented in the entomological collections. Currently are recognized 20 valid species in two genera: *Opetiops* Enderlei, 1921 and *Pantophthalmus* Thunberg, 1919 (Val, 1976, 1992; Papavero, 2009a). They are very large flies (18-45 mm), mostly dark brownish or reddish with longitudinal stripes on the scutum; some males silver pubescent. The wings are hyaline to infuscated with yellowish or brownish spots, and varying patterns. The eyes are very large, occupying most of the head. The females are dichoptic, and the males holoptic. The face has a usually conical protuberance of varying size and shape.

Papavero (2009b) provided an annotated list of pantophthalmids species (larvae and imagoes) and its host trees. The larvae of Timber flies live in dead or alive trees (Carrera & d'Andretta, 1957), forming galleries where they feed on accumulated organic matter and/or its fermentation (Andrade, 1930; Greene & Ulrich, 1931; Thorpe, 1934). The larvae of *Pantophthalmus pictus* (Wiedemann, 1821) uses a large number of native (Araucariaceae, Bombacaceae, Fabaceae, Lauraceae, Moraceae, Rhamnaceae, Rutaceae, Sapotaceae) and introduced trees (Aceraceae, Arecaceae, Casuarinaceae, Fabaceae, Fagaceae, Juglandaceae, Magnoliaceae, Moraceae, Myrtaceae, Platanaceae, Rosaceae, Salicaceae) (Papavero, 2009b).

The most accurate geographical distribution of pantophthalmids was produced by Val (1976).

Later, other records were obtained for Colombia (Amat, 2005; Wolff *et al.*, 2016), Brazil (Papavero, 2009a; Fachin *et al.*, 2017), and Argentina (Pujol-Luz & Pujol-Luz, 2014) (Table 1). *Pantophthalmus pictus* (Figs. 1-2) has been reported to southern and southeastern Brazil, Paraguay and Argentina.

The Cerrado is the second major Brazilian Biome and it is considered one of the biodiversity hotspots of the planet (Myers *et al.*, 2000). It occupies approximately 21% of the national territory, extending through the central Brazilian Plateau, where the Distrito Federal is located (Fig. 3). In this region there are few studies on Diptera (*e.g.* Biavati *et al.*, 2010; Harterreiten-Souza *et al.*, 2014).

Here we report the first occurrence of *P. pictus* in the core area of the Cerrado vegetation in central Brazil.

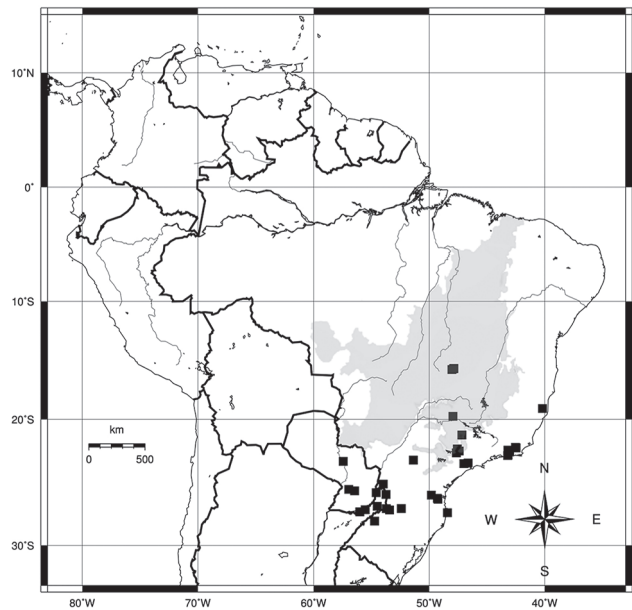
## MATERIAL AND METHODS

Specimens were collected in the neighborhood of urban parks in the cities of Brasília and Águas Claras, Distrito Federal. These sites contain both native Cerrado vegetation and introduced trees. *P. pictus* (1 male and 2 females) were housed in the Entomological Collection of the University of Brasília (DZUB) and labeled as: Brasília/DF, Lago Norte [-15.7381; -47.8583], 21/10/2000, R. Abad col., 1 female (UNB-016296); Brasília/DF, Asa Norte, Quadra 415N [-15.7662; -47.8829], 18/10/2004, Joselito col., 1 male (UNB-016273); Águas Claras/DF [-15.8372; -48.0258], 16/07/2015, K.P.O. Name col., 1 female (UNB-016331).



**Figures 1-2.** *Pantophthalmus pictus* (Wiedemann). (1) female Male (total length = 33 mm). (2) Female (total length = 35 mm).

The Generic Mapping Tools (Wessel & Smith, 1998) was utilized to produce a distribution map. Location records cited by Val (1976) were updated and the approximate coordinates converted for decimal degrees: **Argentina.** Misiones (1 female) [-27.4269; -55.9967]; Puerto Bemberg, Puerto Libertad (1 male, 1 female) [-25.9210; -54.5839]; San Antonio (1 female) [-26.0572; -53.7365]; San Ignacio (1 male) [-27.2575; -55.5354]. **Brazil.** Espírito Santo: Sooretama (1 female) [-19.0983; -40.1862]; Minas Gerais: Uberaba (1 male, 1 female) [-19.7473; -47.9391]. Paraná: Matelândia (1 female) [-25.2426; -53.9785], Rolândia (2 males) [-23.3160; -51.3768]. Rio de Janeiro: Rio de Janeiro (2 males, 2 females) [-22.9068; -43.1728], Magé [Barreiras] (1 female) [-22.6566; -43.0398], Nova Friburgo [Mury] (1 female) [-22.3334; -42.4871], Paineiras (2 females) [-22.9475; -43.2095], Petrópolis (1 female) [-22.5112; -43.1779], Rio Grande do Sul: Cerro Largo (1 female) [-28.1437; -54.7192], São Salvador (1 female) [-27.2774; -53.4296]. Santa Catarina: Corupá (2 females) [-26.4355; -49.2452], Itapiranga (4 females) [-27.1698; -53.7108], Mafra (1 female) [-26.1164; -49.8091], Nova Teutônia (1 female) [-27.1612; -52.4167], Rio Natal (1 female) [-26.3659; -49.2897], Rio Vermelho (1 female) [-27.4914; -48.4162]. São Paulo: Cássia dos Coqueiros (1 male) [-21.2818; -47.1687], Cotia [Morro Grande] (1 female) [-23.6026; -46.9914], Limeira (1 female) [-22.5838; -47.4097], Piracicaba (3 males, 2 females) [-22.7342; -47.6480], Rio Claro (4 males, 3 females) [-22.4149; -47.5651], São Paulo (1 male, 5 females) [-23.5505; -46.6333]. **Paraguay.** Concepción (1 female) [-23.4214; -57.4344], Sapucaí (1 female) [-25.6616; -56.9604], Guaira: Villarrica (1 female) [-25.7760; -56.4495]. We also used a Nikon D-700 camera for pictures.



**Figure 3.** *Pantophthalmus pictus* (Wiedemann). Records of geographical distribution (Argentina, Brazil and Paraguay). Cerrado Bioma (grey area).

## RESULTS

In spite of the wide distribution of *Pantophthalmus* in Brazil (Val, 1976; Papavero, 2009a), only two species have been recorded in the Cerrado vegetation: *P. planiventris* (Wiedemann, 1821) in the Goiás State (city of Anápolis) and *P. vittatus* (Wiedemann, 1828) in Mato Grosso State (city of Cuiabá). Except by a single

**Table 1.** Records of geographical distribution of the genus *Opetiops* Enderlein and *Pantophthalmus* Thunberg. (NR = new record).

Timber flies species	Geographic record	Brazil (States)
<i>Opetiops</i> Enderlein		
<i>O. alienus</i> (Hermann)	Panama, Colombia, Peru, Brazil, Paraguay	Santa Catarina
<i>Pantophthalmus</i> Thunberg		
<i>P. argyropastus</i> (Bigot)	Costa Rica	—
<i>P. batesi</i> Austen	Guyana, French Guiana, Peru, Brazil, Argentina	Acre, Amazonas
<i>P. bellardii</i> (Bigot)	Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru, Bolivia, Brazil	—
<i>P. chuni</i> (Enderlein)	French Guiana, Ecuador, Peru, Brazil, Bolivia, Argentina	Amazonas
<i>P. comptus</i> Enderlein	Belize, Guyana, Surinam, French Guiana, Peru, Brazil	Amazonas
<i>P. engeli</i> (Enderlein)	Panama	—
<i>P. facetus</i> (Enderlein)	Panama	—
<i>P. frauenfeldi</i> (Schiner)	Colombia, Venezuela, Ecuador, Peru, Bolivia	—
<i>P. kerteszi</i> (Enderlein)	Panama, Colombia, Peru, Bolivia, Brazil	Amazonas, Pará, Mato Grosso do Sul
<i>P. pictus</i> (Wiedemann)	Brazil, Argentina, Paraguay	Distrito Federal (NR), Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul
<i>P. planiventris</i> (Wiedemann)	Mexico, Guatemala, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Trinidad, Guyana, Surinam, French Guiana, Ecuador, Peru, Brazil, Bolivia	Acre, Rondônia, Amazonas, Pará, Goiás, Maranhão
<i>P. punctiger</i> (Enderlein)	Brazil	Espírito Santo, Rio de Janeiro, Paraná
<i>P. roseni</i> (Enderlein)	Mexico, Guatemala, Panama	—
<i>P. rothschildi</i> (Austen)	Colombia, Ecuador, Brazil, Bolivia	Amazonas
<i>P. splendidus</i> Austen	Panama	—
<i>P. subsignatus</i> (Enderlein)	Panama	—
<i>P. tabaninus</i> Thunberg	Lesser Antilles, Trinidad, Guatemala, Panama, Colombia, French Guiana, Peru, Brazil, Bolivia	Amazonas, Pará, Amapá, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Santa Catarina
<i>P. vittatus</i> (Wiedemann)	Trinidad, Colombia, Venezuela, Surinam, French Guiana, Peru, Brazil, Bolivia	Acre, Amazonas, Pará, Amapá, Mato Grosso, Bahia, Minas Gerais, Espírito Santo, São Paulo
<i>P. zoos</i> (Enderlein)	Mexico	—

location in the city of Uberaba, Minas Gerais State, previous geographical distribution of *P. pictus* is restricted to southern and southeastern Brazil, Paraguay and Argentina (Table 1; Fig. 3).

The new occurrence of *P. pictus* in the core area of the Cerrado Bioma reported here increases the geographical distribution of this fly to the central Brazilian Plateau (Fig. 3).

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