

**A new species of *Djalmabatista* Fittkau  
(Chironomidae, Tanypodinae) from Mato Grosso, Brazil**

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HAGENLUND, L.K., ANDERSEN, T. & MENDES, H.F. **A new species of *Djalmabatista* Fittkau (Chironomidae, Tanypodinae) from Mato Grosso, Brazil.** Biota Neotrop. 10(3): <http://www.biotaneotropica.org.br/v10n3/en/abstract?article+bn04210032010>.

**Abstract:** *Djalmabatista scopulata* sp. n. is described and figured as male imago, based on material collected in a light trap in Mato Grosso, Brazil. The new species groups with *Djalmabatista ivanyae* Fittkau, 1968 by having a projection with apical brush on the inner margin of the gonocoxite; it can be separated from *D. ivanyae* on the banded abdomen.

**Keywords:** Chironomidae, Tanypodinae, Procladiini, *Djalmabatista*, new species, Neotropical region.

HAGENLUND, L.K., ANDERSEN, T. & MENDES, H.F. **Uma nova espécie de *Djalmabatista* Fittkau (Chironomidae, Tanypodinae) do Estado do Mato Grosso, Brasil.** Biota Neotrop. 10(3): <http://www.biotaneotropica.org.br/v10n3/pt/abstract?article+bn04210032010>.

**Resumo:** *Djalmabatista scopulata* sp. n. é descrita e ilustrada com base no macho adulto de material coletado em armadilha luminosa no Estado do Mato Grosso, Brasil. Esta nova espécie se aproxima de *Djalmabatista ivanyae* Fittkau, 1968 pela projeção de pelos na margem interna do gonocoxito, da qual pode ser separada com base no padrão de coloração do abdomen.

**Palavras-chave:** Chironomidae, Tanypodinae, Procladiini, *Djalmabatista*, espécie nova, região Neotropical.

## Introduction

The genus *Djalmabatista* was described by Fittkau (1968) for five species from the Amazon area in Brazil. Later, three additional species have been described from the Neotropical region (Paggi 1985, Carraro et al. 1992, Oliveira & Carraro 1997). *Prothentes pulcher* Johannsen, 1908 from North and South America; *Procladius (Calotanypus) bifida* Chaudhuri et Debnath, 1983 from India and *Procladius (Psilotanypus) reidi* Freeman, 1955 from the Palearctic, Afrotropical and Oriental regions have been transferred to the genus (see Ashe & O'Connor 2009). The genus has also been recorded from Australia (Cranston & Martin 1989). Recently, *D. maillardi* Doitseau et Nel, 2007 was described from early Eocene amber in France.

The genus belongs to the tribe Procladiini and is related to the genus *Procladius* Skuse. However, *Djalmabatista* is generally easily recognized on the striking color patterns on the thorax, abdomen and legs and the iridescent eyes. The larvae are known to inhabit lakes, ponds and slow flowing rivers. In the Neotropical Region larvae appear to live predominantly in rivers.

Below we describe a new species of *Djalmabatista* from Mato Grosso in Brazil resembling *D. ivanyae* Fittkau, 1968 by having a projection with apical brush on the inner margin of the gonocoxite. It can readily be separated from *D. ivanyae* on the color pattern of the abdomen; while *D. ivanyae* has a pale abdomen, the abdomen of the new species has a distinct dark brown pattern.

## Material and Methods

The specimens were mounted on slides in Canada balsam following the procedure outlined by Sæther (1969). The general terminology follows Sæther (1980). The measurements are given as ranges. The color is described based on cleared, slide-mounted specimens.

The holotype is deposited in the Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo, Brazil; the paratype in the Department of Natural History, Bergen Museum (ZMBN), University of Bergen, Bergen, Norway.

### *Djalmabatista* Fittkau

*Djalmabatista* Fittkau, 1968: 328.

*Djalmabatista* Fittkau; Roback & Coffman (1977: 49), Roback & Tennessen (1978: 11), Roback (1989: 73).

*Djalmabastica*: incorrect subsequent spelling. (See Ashe & O'Connor 2009: 154 for details).

*Calotanypus* Roback, 1971: 152, as subgenus of *Procladius* Skuse, 1889; type species: *Prothentes pulcher* Johannsen, 1908, by original designation. Synonymized with *Djalmabatista* Fittkau, 1968, by Roback & Tennessen (1978: 17).

### 1. Type species

*Djalmabatista director* Fittkau, 1968: 332, by original designation.

### 2. Other included species

*Djalmabatista amancii* Fittkau, 1968: 344; Amazonas, Brazil.

*Djalmabatista antonii* Fittkau, 1968: 335; Amazonas, Brazil.

*Djalmabatista bifida* (Chaudhuri et Debnath, 1983: 115), as *Procladius (Calotanypus)*. India.

*Djalmabatista dellomei* Fittkau, 1968: 342; Pará, Brazil.

*Djalmabatista ivanyae* Fittkau, 1968: 340; Amazonas, Brazil.

*Djalmabatista lacustris* Paggi, 1985: 75; Argentina.

*Djalmabatista maillardi* Doitseau et Nel, 2007: 12; France: early Eocene amber.

*Djalmabatista orlandoi* Oliveira et Carraro, 1997: 3; São Paulo, Brazil.

*Djalmabatista pulchra* (Johannsen, 1908: 273), as *Prothentes*. Brazil, ?Costa Rica, ?Guatemala, ?Mexico, ?Nicaragua; Canada, U.S.A.

*Djalmabatista reidi* (Freeman, 1955: 61), as *Procladius (Psilotanypus)*. Saudi Arabia, United Arab Emirates; Cameroon, Chad, Ghana, Guinea, Sudan, Togo; India.

*Djalmabatista scopulata* sp. n.; Mato Grosso, Brazil.

*Djalmabatista travassoi* Carraro, Oliveira et Rego, 1992: 57; Rio de Janeiro, Brazil.

Generic diagnoses for males, females and pupae are given by Fittkau (1968), Fittkau & Murray (1986), Murray & Fittkau (1989) and Sæther & Andersen (2000); for larvae by Roback & Tennessen (1978) and Fittkau & Roback (1983).

*Djalmabatista scopulata* sp. n. (Figures 1-9)

Type material: Holotype male, BRAZIL: Mato Grosso State: Nova Xavantina, Fazenda Sr. Queté, Córrego Cachoeira, 14°32.817'S, 52°31.395'W, 16.X.2007, light trap, Luiz C. Pinho et al. leg (MZUSP). Paratype: 1 male, same data as holotype (ZMBN).

Diagnostic characters: The species can be distinguished from all other *Djalmabatista* species except *D. ivanyae* by the presence of a projection with apical brush on the inner margin of the gonocoxite. The banded abdomen separates it from *D. ivanyae*, which has a pale abdomen.

Etymology: From Latin *scopa*, broom and the suffix *-atus*, equipped with, referring to the brush on the inner margin of the gonocoxite.

Male (n = 1-2). Total length 3.09-3.27 mm. Wing length 1.33-1.39 mm. Total length / wing length 2.23-2.46. Wing length / length of profemur 2.28-2.37.

Coloration: Head and palps pale brown. Thorax pale with dark brown, confluent vittae, median anepisternum, preepisternum and postnotum. Legs with femur and tibia brown, all tarsi pale brown. Wing with blackish brown spot over RM and slightly paler spot over MCu. Abdomen yellowish with distinct dark brown pattern on tergites I-VII, hypopygium dark brown, gonostylus blackish brown (Figure 3).

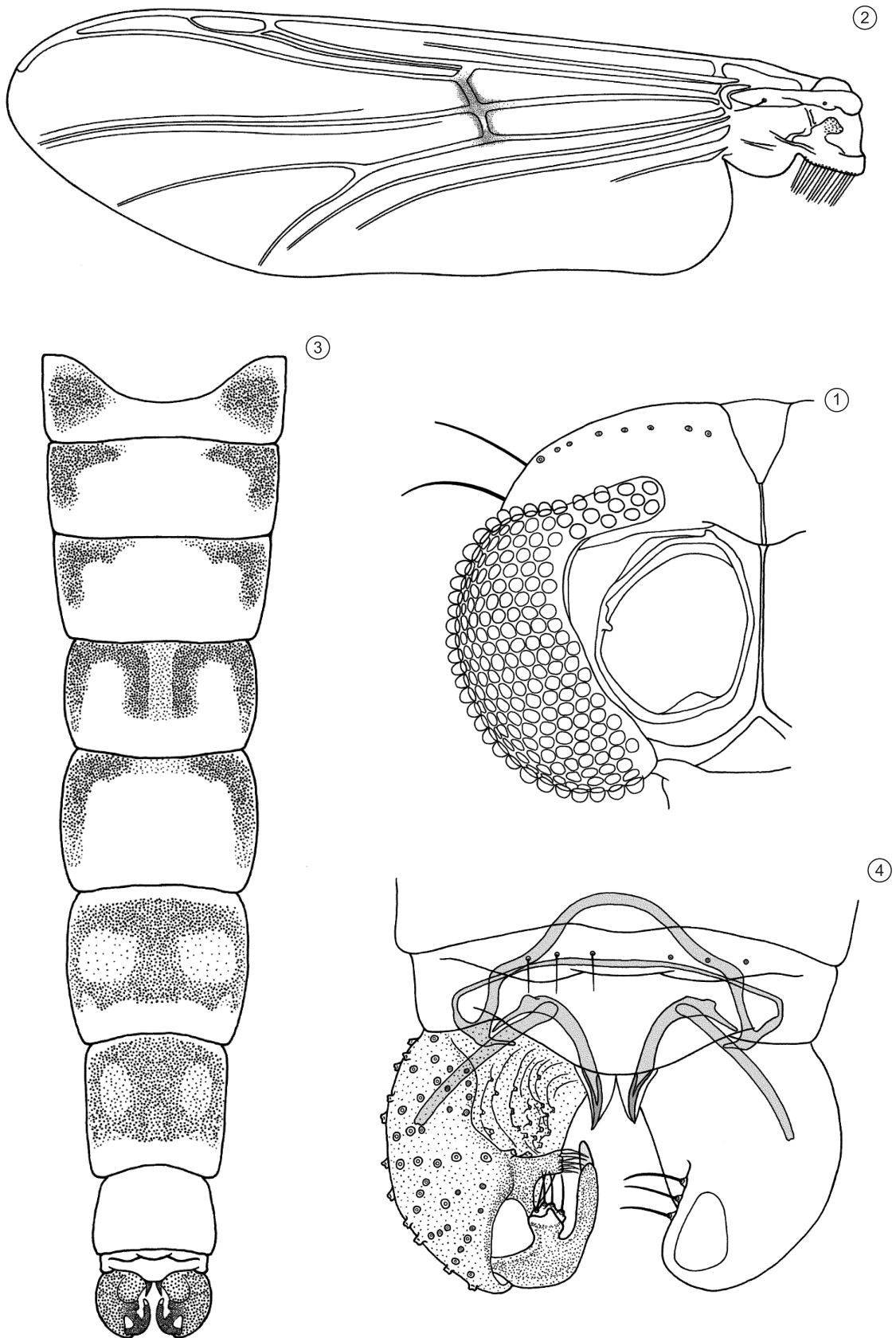
Head: AR 1.49-1.55. With 14 flagellomeres, ultimate flagellomere 161-162 µm long. Temporal setae 11-13, uniserial to irregularly biserial posteriorly. Clypeus with 8-13 setae. Tentorium 150-159 µm long, 25-27 µm wide. Stipes not measurable. Palpomere lengths / widths (in µm): 39-45 / 30-33, 54-61 / 18-32, 84-86 / 27, 114-116 / 23-25, 168 / 18. No sensillae on third palpomere. Eye-elongation long, narrow, with rows of 2-3 ocelli (Figure 1).

Thorax: Anteprepronotum with 3-6 setae. Acrostichals 12, dorsocentrals 8-9, prealars 4-5, supraalar 0-1. Scutellum with 9 setae.

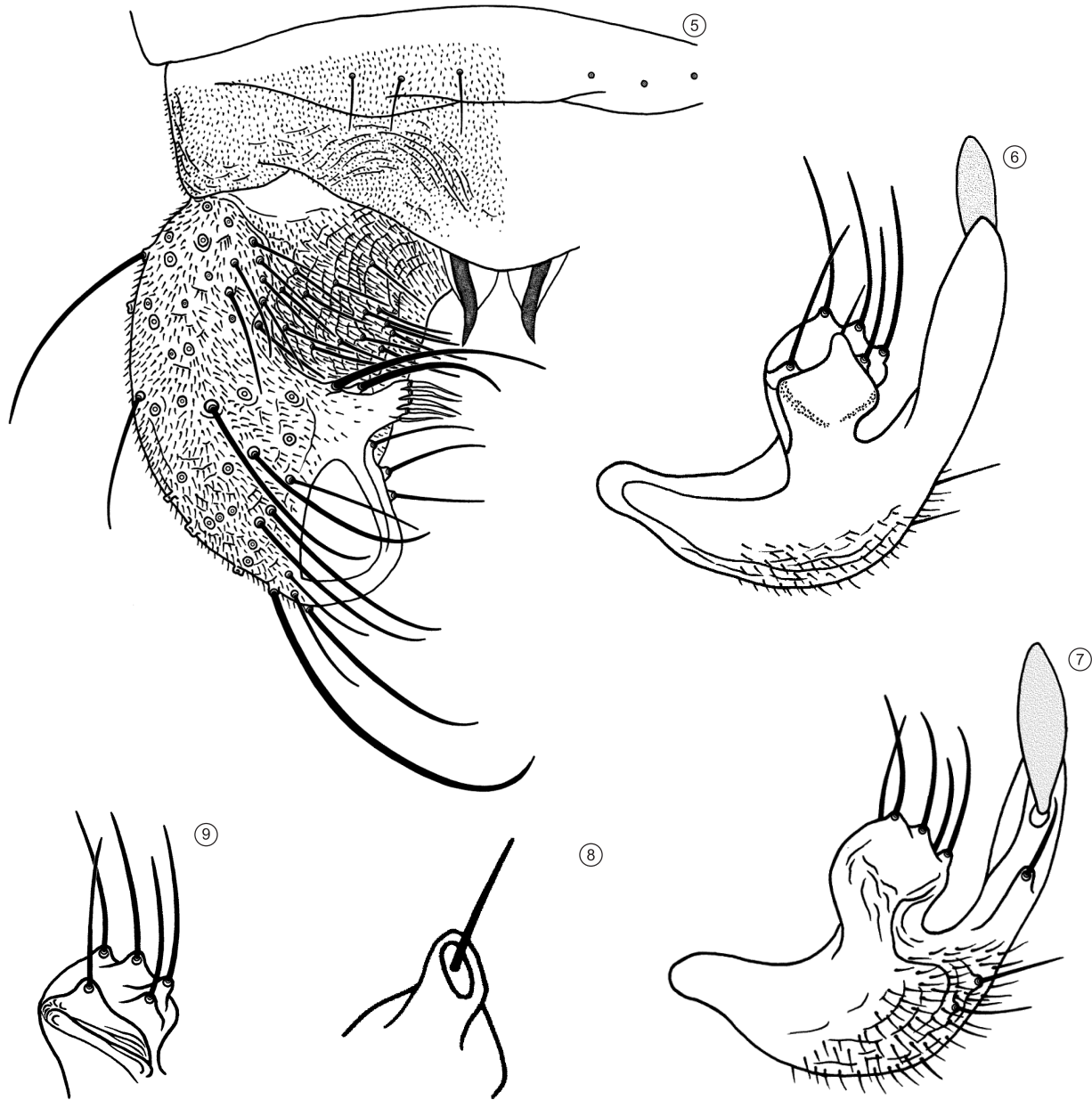
Wing (Figure 2): VR 1.30-1.39. Costal extension 121 µm long. Brachiolium with 1 seta, costal extension with 8-14 non-marginal setae, R with 17-18 setae, R<sub>1</sub> with 13, R<sub>4+5</sub> with 17-18, M<sub>1+2</sub> with 3-9, M<sub>3+4</sub> with 11-14, Cu with 1-2, Cu<sub>1</sub> with 5-6, remaining veins bare. Squama with 15-16 setae. Cell r<sub>4+5</sub> with 51-62 setae, m<sub>1+2</sub> with 10-15 setae, remaining cells bare.

Legs: Spur of fore tibia 34-40 µm long, with 3-5 inner denticles; spurs of mid tibia 41-45 and 25-29 µm long, with 5 and 3 inner denticles, respectively; spurs of hind tibia 48-49 and 25-27 µm long, with 4-5 and 3 inner denticles, respectively. Width at apex of fore tibia 36-45 µm, of mid tibia 42-43 µm, of hind tibia 44-45 µm.

*Djalmabatista scopulata* sp. n.



**Figures 1-4.** *Djalmabatista scopulata* sp. n., male. 1) Head; 2) Wing, setae on cells and membrane omitted (except for brachiolum and squama); 3) Abdomen; and 4) Hypopygium showing the apodemes, dorsal view.



**Figures 5-9.** *Djalmabatista scopulata* sp. n., male. 5) Hypopygium, dorsal view; 6) Gonostylus, dorsal view; 7) Gonostylus, ventral view; 8) Dorsal apex of median projection of gonostylus, ventral view; and 9) Ventral apex of median projection of gonostylus, dorsal view.

Comb with 10-11 setae, shortest seta 25-27  $\mu\text{m}$  long, longest 46-50  $\mu\text{m}$ . Lengths and proportions of legs as in Table 1.

Abdomen: As in Figure 3.

Hypopygium (Figures 4-5): Tergite IX with 6-7 setae in single posterior row. Phallapodeme 102-105  $\mu\text{m}$  long. Gonocoxite 145-148  $\mu\text{m}$  long; with 19-21  $\mu\text{m}$  long, 15-18  $\mu\text{m}$  wide, subrectangular projection on inner margin, with apical brush of flattened setae. Gonostylus (Figures 6-9) 82-93  $\mu\text{m}$  long; with rounded outer corner; with median inner projection, 32-36  $\mu\text{m}$  long, 14-15  $\mu\text{m}$  wide at base, 21-22  $\mu\text{m}$  wide at apex; apically split in dorsal, membranous bluntly triangular lobe, with single setae ventrally (Figure 8) and club-shaped, ventral lobe, with 5 strong setae on dorsal surface (Figure 9), megaseta lanceolate, 25-29  $\mu\text{m}$  long, 7-9  $\mu\text{m}$  wide at its widest part, crista dorsalis along inner margin and apex of the distalmost part of gonostyle, 8-9  $\mu\text{m}$  long

**Table 1.** Length (in  $\mu\text{m}$ ) and proportions of legs of *Djalmabatista scopulata* sp. n., male (n = 2).

	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>
fe	576-594	610-659	558-562
ti	796-846	711-734	835-883
ta <sub>1</sub>	565-567	466-475	522-544
ta <sub>2</sub>	245-247	194-205	272-274
ta <sub>3</sub>	166-167	130-139	178-198
ta <sub>4</sub>	104-112	85-92	108-126
ta <sub>5</sub>	90-92	81-90	92-99
LR	0.67-0.71	0.65-0.66	0.62-0.63
BV	3.20-3.26	3.46-3.75	2.85-2.94
SV	2.42-2.55	2.83-2.94	2.64-2.67
BR	2.2-2.5	2.4-3.1	2.4-3.1

apically, ventral subapical seta 14-16 µm long. HR 1.56-1.81. HV 3.51-3.77.

Female, pupa, larva, and egg mass: Unknown.

Distribution and biology: The species was taken in a light trap situated close to a small stream in Nova Xavantina in Central Brazil. The stream where the specimens were collected is a tributary to the Rio das Mortes, that forms the Araguaia-Tocantins basin.

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