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A new spittlebug species of *Deois* (*Pandysia*) (Hemiptera, Cercopidae, Ischnorhinae) with a key to species of the subgenus



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ABSTRACT

Deois (*Pandysia*) *paschoali* **sp. nov.** from southern Brazil is described and illustrated. This species can be distinguished from other congeners by the following characters: aedeagus with dorsal margin serrate and paramere with a truncate and serrate spine. A key to species of *Pandysia* is provided.

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Introduction

Deois Fennah, 1949 includes 24 valid species (see Carvalho and Webb, 2005) which are markedly heterogeneous in size and coloration. Fennah (1953) divided the genus in three subgenera: *D.* (*Deois*), *D.* (*Orodamniss*) and *D.* (*Pandysia*). Sakakibara (1979) reviewed the genus creating two more subgenera: *D.* (*Acanthodeois*) and *D.* (*Fennahia*) and described four new species. Posteriorly, Costa and Sakakibara (2002) proposed a new taxonomic status for *Orodamniss* as a genus.

According to Fennah (1949), species of the genus are characterized by having the following features: (1) head width two-thirds of pronotum width; (2) ocelli closer to one another than to eyes; (3) clypeus moderately inflated, not laterally compressed, in profile smoothly rounded; (4) rostrum very short; (5) pronotum relatively large, hexagonal, disk moderately convex; (6) tegmina of variable proportion; (7) subgenital plates diverging distally, apical margin usually excavated, if not then terminating in a pointed process; (8) aedeagus narrowly tubular, slightly curved; (9) ovipositor with first valvulae separating a little before base, each valvula produced basally with a stout tubercle directed ventrally.

This contribution includes the description of one new species of *Deois* from an area of high altitude in Southern Brazil. The new species is placed in *Deois* (*Pandysia*) because of the following characteristics: (1) rostrum with subapical segment not shorter than anteclypeus; (2) apical segment surpassing mesotrochanters; (3) sides of pronotum not concave below lateral margin; and (4) coloring usually dark fuscous or piceous, and red.

Material and methods

The studied specimens are deposited in the following institutions: The Natural History Museum, London, U.K. (BMNH); Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Brazil (DZUP); and Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil (MCTP). Morphological terminology follows Fennah (1968). Techniques for preparation of genital structures follow those of Oman (1949). Measurements were taken with an optical micrometer. Photographs were obtained with a Leica EC3 digital camera attached to a Leica MZ125 stereoscopic microscope. Individual digital images were captured with software LAS (Leica Application Suite; Leica Microsystems Imaging Solutions Ltd, Cambridge, U.K.) and electronically assembled into a single panoramic image with the software CombineZ. Genitalia structures were drawn with a camera lucida and the final illustrations were digitally vectorized in CorelDraw version X5.

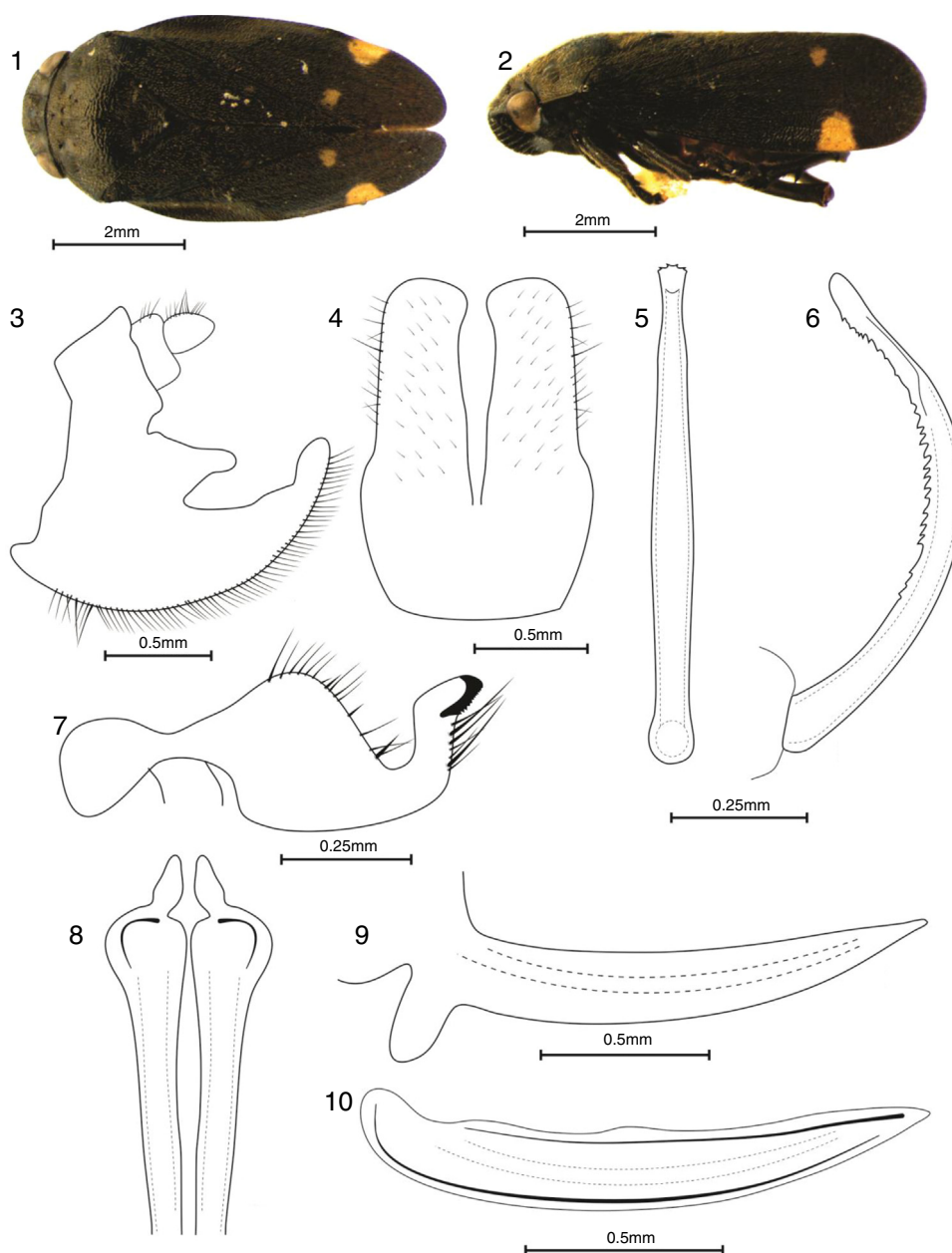
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Taxonomy

Identification key to species of the subgenus *Pandysia*

- 1 Insects black or brown, colored with inconspicuous or small markings, without distinct longitudinal bands . . . 2
- 1' Insects black with distinct longitudinal bands . . . 5
- 2 Insects brown; aedeagus with two dorsal, triangular processes at mid-length (see [Carvalho and Webb, 2005](#), Fig. 110) . . . *D. transiens*
- 2' Insects black; aedeagus without processes or with flap-like dorsal process at base of median third . . . 3
- 3 Tegmina with red spots; aedeagus covered with small spines . . . *D. bergi*
- 3' Tegmina with yellow or orangish-red marks; aedeagus not covered with small spines . . . 4
- 4 Tegmina with an orange band between the median and apical third; aedeagus with apex smooth, one pair of flap-like dorsal serrate processes at base of median third; paramere with an acute spine (see [Carvalho and Webb, 2005](#), Fig. 109) . . . *D. schach*
- 4' Tegmina with yellow rounded spots at base of apical third ([Figs. 1 and 2](#)); aedeagus without processes, dorsal margin serrate distally ([Fig. 6](#)); paramere with spine truncate and serrate ([Fig. 7](#)) . . . *D. paschoali* **sp. nov.**
- 5 Tegmina with a transverse yellow band located between median and apical third, two red longitudinal bands, one on anal margin and other parallel to claval suture and a small spot at apex of basal third; lateral margins of aedeagus covered with small spines, without dorsal processes . . . *D. crenulata*
- 5' Tegmina with two longitudinal yellow bands reaching median third; aedeagus with small spines only at apex and a pair of dorsal



Figs. 1-10. *Deois paschoali* **sp. nov.** Paratype. 1. Habitus, dorsal view. 2. Habitus, lateral view. 3. Pygofer, lateral view. 4. Subgenital plates, ventral view. 5. Aedeagus, dorsal view. 6. Aedeagus, lateral view. 7. Paramere, lateral view. 8. Ovipositor, first valvula, ventral view. 9. Ovipositor, first valvula, lateral view. 10. Ovipositor, second valvula, lateral view.

flap-like processes (see [Carvalho and Webb, 2005](#), Fig. 111) . . . *D. constricta*

Deois (Pandysia) paschoali sp. nov.

Figs. 1–10

Measurements (mm). (range in mm males/females): body length: 5.6–6.5/6.1–7.0. Length of tegmina: 4.5–5.3/4.8–5.7. (holotype): body length: 6.5 length of tegmina: 5.2

Diagnosis

General coloration black, tegmina with two yellow spots at base of posterior third; pygofer with a rounded process between anal tube and subgenital plates; spine of paramere with a truncate and serrate apex; aedeagus cylindrical, long and slender, C-shaped in lateral view with dorsal margin serrate distally.

Description

Head black; compound eyes brown, rounded, arranged transversely; vertex smooth and rectangular, lacking median carina; ocelli red, closer to each other than to compound eyes; tylus smooth and rectangular, lacking median carina; antennae yellow, pedicel sparsely setose, basal body of flagellum ovoid with one arista shorter than pedicel; postclypeus black, inflated, convex in profile, with one longitudinal carina slightly marked, lateral grooves slightly marked; rostrum extending to base of mesocoxae. Thorax black; pronotum hexagonal, not curved, anterior margin straight, anterolateral margins straight, posterolateral margin slightly sinuous, posterior margin slightly grooved; scutellum with slight central concavity, with horizontal grooves slightly marked; tegmina black with two yellowish spots at base of posterior third: first one on costal margin and second one near apex of clavus, former larger than latter, apical reticulation poorly developed; hindwing hyaline with brown venation, vein Cu1 thickened at base; legs black with two lateral spines (basal spine equal in size to spines in apical crown; apical spine larger than spines in apical crown); apical crown of spines on tibia consisting of two rows; basitarsus with one row of spines covered by long setae; subungueal process present and triangular. Abdomen: black.

Male. Pygofer black, with one rounded process between anal tube and subgenital plates (Fig. 3); subgenital plates free for almost all their extension, each with truncate apex slightly convergent (Fig. 4); paramere in lateral view with dorsal margin greatly humped, apex elongate with a truncate and serrate spine (Fig. 7);

aedeagus cylindrical, long and slender, curved dorsally C-shaped in lateral view, with apex and apical and median third of dorsal margin serrate (Figs. 5 and 6).

Female. Ovipositor with first valvula long and slender with acute apex, one basal ventral process well developed, elongate, spoon-like directed downwards (Figs. 8 and 9); second valvulae long, with dorsal margin smooth (Fig. 10); third valvulae short and wide, with long ventral setae.

Remarks. The new species differs externally from other congeners by its black coloration with two yellowish spots on the tegmina. The shape of the paramere (Fig. 7) is similar to *D. schach* and *D. transiens*, but its truncate and serrate apical spine is unique.

Etymology. The species name is in honor of Paschoal Coelho Grossi (Universidade Federal Rural de Pernambuco), beetle specialist and collector of Cercopidae.

Examined material. Holotype (male). Brazil, Paraná, Tijucas do Sul, Morro do Araçatuba 1200–1600 m 25–27.II.2011, P.C. Grossi leg. (DZUP). Paratypes: 3 males and 9 females with same data as holotype (1 male 3 females MCTP; 1 male, 5 females DZUP; 1 male 1 female BMNH).

Conflicts of interest

The authors declare no conflicts of interest.

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