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DESCRIPTION OF A NEW SPECIES OF *ATHOUS* AND RECORD OF THE FEMALE OF *A. AZORICUS* PLATIA & GUDENZI FROM THE AZORES (COLEOPTERA: ELATERIDAE)¹

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ABSTRACT

Description of a new species of *Athous* and record of the female of *A. azoricus* Platia & Gudenzi from the Azores (Coleoptera: Elateridae)

Athous (*Orthothous*) *ponhoi* n. sp. is described from the Santa Maria Island. It is the second species of this genus known from the Azorean Archipelago. The distinctive characters of the female of *A. azoricus* are given.

Key words: Coleoptera, Elateridae, *Athous*, new species, Azores.

INTRODUCTION

The Azores, an archipelago of nine islands located in the North Atlantic, is not particularly rich in endemic beetles and other arthropods when compared with the other Macaronesian archipelagos of Madeira and Canaries (BORGES, 1992). However, after a recent intensive survey of 15 Natural Forest Reserves and other Azorean reserves (BALA – «Biodiversity of Arthropods of the Laurisilva of the Azores» 1998-2002, see BORGES *et al.* 2000) several new arthropod taxa was discovered including some beetles (see BLAS & BORGES, 1999; BORGES *et al.*,

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Figs 1-4: *Athous pomboi* n. sp.: Aedeagus in dorsal view (0.95 mm) (1). Enlarged view of the front of male (2). Partial habitus of male (3). Partial habitus of female (4).

in the press), one bug (RIBEIS & BORGES, 2001) and about 14 spider species (WUNDERLICH & BORGES, in preparation).

In this contribution we describe a new elaterid (Coleoptera, Elateridae) species from the Azores, *Athous (Orthathous) pomboi* n. sp., discovered in samples collected on the occasion of an arthropod biodiversity survey of the native and exotic forests in the geologically oldest Azorean island of S. Maria (VITORINO, 2000).

With *Athous (Orthathous) pomboi* n. sp. a total of five endemic species of Elateridae are known from the Azores (see BORGES, 1992; PLATIA & GUDENZI, 2002; BORGES, unpublished data): *Heteroderes azoricus* Tarnier (all islands); *Aeolus melliculus moreletii* Tarnier (Faial, Graciosa, S. Jorge, Terceira, S. Maria); *Alestrus dolosus* (Crotch) (Terceira, Pico, S. Miguel, Flores); *Athous azoricus* Platia & Gudenzi (S. Miguel, Terceira); *Athous pomboi* n. sp. (S. Maria).

SYSTEMATIC PAIR

Athous (Orthathous) pomboi n. sp. (Figures 1-4)

Material examined

Holotype ♂, Azores, Santa Maria, Pico Alto, 20-27.VIII.1997 (Vitorino & Borges coll.). Paratype 1 ♀, same locality as holotype, 20-27.VIII.1997 (Vitorino & Borges coll.). Both deposited in the University of Azores in Terceira (UAT) at the «Arruda Furtado collection».

Description

Male. Size. Length: 8.7 mm; width: 2.3 mm. Head, pronotum except the ferruginous apices of angles, and scutellum blackish; antennae and elytra lighter, brown-ferruginous; legs ferruginous; covered with, a dense, tawny yellow pubescence. Head with eyes narrower than the anterior margin of pronotum; frons flat on vertex, feebly impressed in the anterior half, anterior margin thickened, shiny and smooth forming a very open v with the apex just protruding above the clypeus; punctures broad, umbilicate with very reduced intervals. Antennae reaching the tips of posterior angles of pronotum; second antennomere subcylindrical, just longer than wide; third conical nearly twice longer than wide and slightly longer than second; second and third together longer than fourth; fourth-sixth subtriangular twice longer than wide; seventh-tenth less serrate with subparallel sides twice longer than wide; eleventh subellipsoidal narrowed in the apical third.

Pronotum just longer than wide, strongly and regularly convex, without any vestige of median longitudinal depression, abruptly declivous at base; sides subparallel, feebly sinuate and enlarged before the posterior angles, the latter just divergent, not carinate; punctures on the disk deep, simple, with shortest and shiny intervals, more dense toward the sides where they are superficial and umbilicate.

Scutellum narrower than interelytral space, suboval, convex and densely punctured. Elytra 2.5 times longer than pronotum and 2.4 longer than wide; sides gradually narrowing from base to apex; striae well marked and punctured; interstriae flat, densely and roughly punctured.

Legs, with tarsal fourth article, in dorsal view, shorter and narrower than third. Aedeagus with median lobe shorter than paramera, the latter acutely pointed at apex. (Fig. 1).

Female

Same colour as the male, body larger (length: 12.5 mm; width: 3.68 mm); antennae shorter not reaching for about two articles the apices of posterior angles of pronotum, the latter quadrangular.

Ecological notes

The specimens were collected by mean of pitfall traps as part of a large-scale programme of sampling epigeal soil arthropods in exotic plantations of *Cryptomeria japonica* at Pico Alto (approx. 560 m) boarding native forest (see VITORINO, 2000).

Comparative remarks

This new species, the second of the genus described from the Azores, is distinguished from *A. azoricus* Platia & Gudenzi, 2002 essentially by the darker colour, in the male by the greater convexity of pronotum, the shape of anterior frontal margin, and shorter antennae.

Dedicatio nominis

Dedicated to Mr. Dalberto Teixeira Pombo, a naturalist from Santa Maria.

Athous (Orthathous) azoricus Platia & Gudenzi, 2002 (Figures 5-6)

The species was described on a male from the island of São Miguel. We have examined a female specimen from: Azores, Terceira, Matela (Melo & Borges coll.). Length: 10 mm; width: 2.75 mm. Same coloration of the male; it differs from the



Figs 5-6: *Athous azoricus* Platia & Gudenzi: Partial habitus of male (5). Partial habitus of female (6).

latter by the more convex and quadrangular pronotum and shorter antennae not reaching for two articles the apices of the posterior angles of pronotum.

Ecological notes

The specimens were collected by mean of pitfall traps as part of a large-scale programme of sampling epigeal soil arthropods in *Erica azorica* and *Launus azorica* native forest (approx. 350 m) at Terceira (see MELO, 2001).

DISCUSSION

According to previous references to species from Azores, two species have been recorded: *Athous obsoletus* (Illiger) known from three islands (Terceira, S. Miguel and S. Maria) and *Athous haemorrhoidalis* (Fabricius) known from S. Miguel (BORGES, 1990). *A. haemorrhoidalis* was recorded from stored products by GUIMARÃES & BEIJA (1974). The specimens of *A. obsoletus* (Illiger) recorded from S. Miguel by MEQUIGNON (1942) were recently described as *Athous (Orthothous) azoricus* Platia & Gudenzi (Platia & Gudenzi, 2002). The records of *A. obsoletus* (Illiger) for S. Maria and Terceira should be now considered as misidentifications and we may assert that only *A. pomboi* occurs at S. Maria and, only *A. azoricus* occurs at S. Miguel and Terceira. There is also a record of *A. obsoletus* (Illiger) from Graciosa by BORGES & SERRANO (1989), but the specimen is of uncertain position.

Three of the five Azorean endemic elaterids occur at S. Maria and *A. pomboi* n.sp. is the only of the five species that is exclusive to only one island.

The discovery of, another new species of beetle in S. Maria is consistent with a pattern of higher diversity of exclusive endemic species in this geologically older island (BORGES, 1990, 1992; BORGES & BROWN, 1999). The fact that the native vegetation is reduced to a small area (4 ha) located in the top of Pico Alto, the highest point of the island (587 m), makes the protection of autochthonous fauna a complicated endeavour. Particularly interesting is the fact that around 50 % of the endemic beetle species exclusive from S. Maria, only occur in Pico Alto area. All

the site is surrounded by exotic trees that harbour an interesting number of endemic beetle species (VITORINO, 2000) including *Athous pomboi* n. sp.. Therefore, the management of Pico Alto site is of particular concern and should include all native vegetation and surrounding exotic old plantations.

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REFERENCES

- BLAS, M. & BORGES, P. A. V. 1999. A new species of *Canois* (Coleoptera: Leiodidae, Cholevininae) from the Azores with remarks on the Macaronesian fauna. *Elytron*, 13: 173-184.
- BORGES, P. A. V. 1990. A checklist of Coleoptera from the Azores with some systematic and biogeographic comments. *Bol. Mus. Min. Funchal*, 42: 87-136.
- BORGES, P. A. V. 1992. Biogeography of the Azorean Coleoptera. *Bol. Mus. Min. Funchal*, 44: 5-76.
- BORGES, P. A. V. & BROWN, V. K. 1999. The role of island geological age in the arthropod species richness of Azorean pastures. *Biol. J. Linn. Soc.*, 66: 373-410.
- BORGES, P. A. V. & SERRANO, A. R. M. 1989. New records of the coleopterous fauna (Insecta, Coleoptera) from the Azores. *Bol. Mus. Min. Funchal*, 41: 5-24.
- BORGES, P. A. V., SERRANO, A. R. M. & AMORIM, I. in the press. New species of cave-dwelling beetles (Coleoptera: Carabidae: Trechinae) from the Azores. *J. Nat. History*.
- BORGES, P. A. V., SERRANO, A. R. M. & QUARTAU, J. A. 2000. Ranking the Azorean Natural Forest Reserves for conservation using their endemic arthropods. *J. Insect Conserv.*, 4: 129-147.
- GUIMARÃES, J. A. M. & BEIJA, A. P. 1974. *Inquérito sobre as condições de armazenamento nas ilhas adjacentes*. Direcção Geral dos Serviços Agrícolas, Lisboa, 195 p.
- MELO, C. A. D. (2001). *Padrões de riqueza e diversidade de espécies de artrópodos em gradientes altitudinais nas ilhas Terceira e Pico (Açores)*. Msc. Thesis. Universidade dos Açores, Angra do Heroísmo, 171 p.
- MEQUIGNON A. 1942. Voyage de MM L. Chopard et A. Méquignon aux Açores (Août-Septembre 1930). XIV. Catalogue des Coléoptères Açoriens. *Ann. Soc. ent. Fr.*, 111: 1-66.
- PLATIA G. & GUDENZI I. 2002. Descrizione di venti nuove specie di Elateridi della regione palareica (Insecta: Coleoptera: Elateridae). *Quad. Studi Nat. Romagnola*, 16 (suppl.): 73-98.
- RIBES, J. & BORGES, P. A. V. 2001. A new subspecies of *Orthothylus junipericola* Linnaeus (1765) (Coleoptera, Mirtidae) from the Azores. *Argentine*, 18A: 1-4.
- VITORINO, A. N. C. M. 2000. *Estudo comparativo da biodiversidade de artrópodos em florestas naturais e de criptomeria nas ilhas de Santa Maria e Terceira (Açores)*. Graduation Thesis. Universidade dos Açores, Angra do Heroísmo, 102 p.

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