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A NEW *CALATHUS* BONELLI FROM THE AZORES (*COLEOPTERA*, *CARABIDAE*)

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ABSTRACT. The authors present the description of a new species of the genus *Calathus* Bonelli, *Calathus carvalhoi* n. sp., captured on Terceira (Azores).

RESUMO. DESCRIÇÃO DUMA ESPÉCIE NOVA, *CALATHUS CARVALHOI* N. SP., DO ARQUIPÉLAGO DOS AÇORES (*COLEOPTERA*, *CARABIDAE*). Neste trabalho os autores descrevem uma nova espécie para a ciência, do género *Calathus* Bonelli, *Calathus carvalhoi* n. sp., capturada no Arquipélago dos Açores (Ilha Terceira).

1 - INTRODUCTION

In this work the authors describe a new species belonging to the genus *Calathus* Bonelli, *Calathus carvalhoi* n. sp.. This species was captured on Terceira (Azores) and, as the other three already reported to this archipelago, belongs to the *melanocephalus-mollis* group. All the Azorean species are endemic: *Calathus extensicollis* Putz. from Pico, *Calathus lundbladi* Colas from S. Miguel and *Calathus vicenteorum* Schatz. from Santa Maria. Therefore this genus is the most interesting among Azorean *Carabidae*.

In this study five specimens of *Calathus carvalhoi* n. sp. were compared with twenty nine specimens of *Calathus mollis* Marsh. from the south of Portugal (Dunes of Vila Real de Stº António, Algarve).

We compared the values of the index, length: width of the pronotum (LINDROTH, 1960) for the Azorean *Calathus* with our results. Taking into account these indexes and the genitalia drawings (LINDROTH, 1960), we worked out a key for the Azorean *Calathus*.

According to the morphology of penis, *Calathus mollis* Marsh. is the closest species to *Calathus carvalhoi* n. sp., but according to the index, length: width of the pronotum, the new species is more similar to *Calathus lundbladi* Colas.

2 - DESCRIPTION OF THE SPECIES

Calathus carvalhoi n. sp.

Male - Length: 7.3-7.4 mm (\bar{L} =7.35 mm); width: 2.7 mm (\bar{W} = 2.7 mm). General colour similar to *C.mollis* Marsh.. Head with the eyes smaller than *C. mollis* Marsh. (similar to the Azorean *Calathus*). Microsculpture of prothorax isodiametric and a little stronger on the elytra.

Prothorax transverse (length: 1.7 mm, \bar{L}_p = 1.7 mm; Width: 2.0-2.1 mm, \bar{W}_p = 2.05mm; index, length: width 0.80-0.85, $\bar{L}_p:\bar{W}_p$ = 0.82) as in *C. mollis* Marsch. (index, length: width 0.76-0.80) and *C. lundbladi* Colas (index, length: width 0.82-0.87). The sides present a small inflexion in the basal half, while in *C. mollis* Marsh. those are almost parallel (Fig. 1, a and b). *C. vicenteorum* Schatz. has the prothorax less transverse (index, length: width 0.91) and the sides are more

rounded than in all the other species but *C. extensicollis* Putz.. For *C. extensicollis* Putz. the prothorax is the most transverse (index, length: width 0.72-0.73) and the sides are the most rounded of all species (Fig. 1 e).

Penis similar to *C. mollis* Marsh. in side view but in dorsal view it is dilated at the tip as in *C. extensicollis* Putz.. The right paramere is widened and hooked at the apex (Fig. 2 a).

Female - Length: 7.6-8.5 mm (\bar{L} = 7.9 mm); width: 2.8-3.3 mm (\bar{W} = 3.0 mm). More robust than male. Microsculpture similar to male, but a little stronger.

Prothorax transverse (length: 1.7-1.9 mm, \bar{L}_p = 1.8 mm; width: 2.2-2.4 mm, \bar{W}_p = 2.3 mm; index, length: width 0.77-0.79, $\bar{L}_p:\bar{W}_p$ = 0.78).

Dynamics: the hind wings are quite reduced (brachypterous).

Ecology: the specimens were collected under stones.

HOLOTYPE ♂ : Terra-Chã (Ilha Terceira), 15.X.1983-4.XI.1983, Coll. P. CARVALHO. In the collection of A. SERRANO.

ALLOTYPE ♀ : Terra-Chã (Ilha Terceira), 9.X.1983, Coll. P. BORGES. In the collection of P. BORGES.

PARATYPES: Terra-Chã (Ilha Terceira), 1 ♂ , 1.X.1984; 2 ♀ , 9.X.1983, Coll. P. BORGES. 1 ♂ and 1 ♀ in the collection of P. BORGES and 1 ♀ in the collection of A. SERRANO.

The new species is dedicated to Eng^o José PASSOS DE CARVALHO, a friend who gave a kind assistance in our past work.

3 - KEY TO THE AZOREAN SPECIES OF THE GENUS *CALATHUS* BONELLI

- 1 - Prothorax transverse (index, length: width 0.72-0.87)..... 2
- Prothorax slightly less transverse (index, length: width 0.91), front angles of pronotum less protruding, sides narrowly depressed in basal half only (Fig. 1 d), eyes much flatter than in all other species; penis with the apex (dorsal view) very large (Fig. 2 d). Size: 8.1-10.0 mm (Santa Maria).....
..... *C. vicenteorum* Schatz.
- 2 - Prothorax index, length: width 0.77-0.87 3
- Prothorax index, length: width 0.72-0.73; sides of pronotum mo-

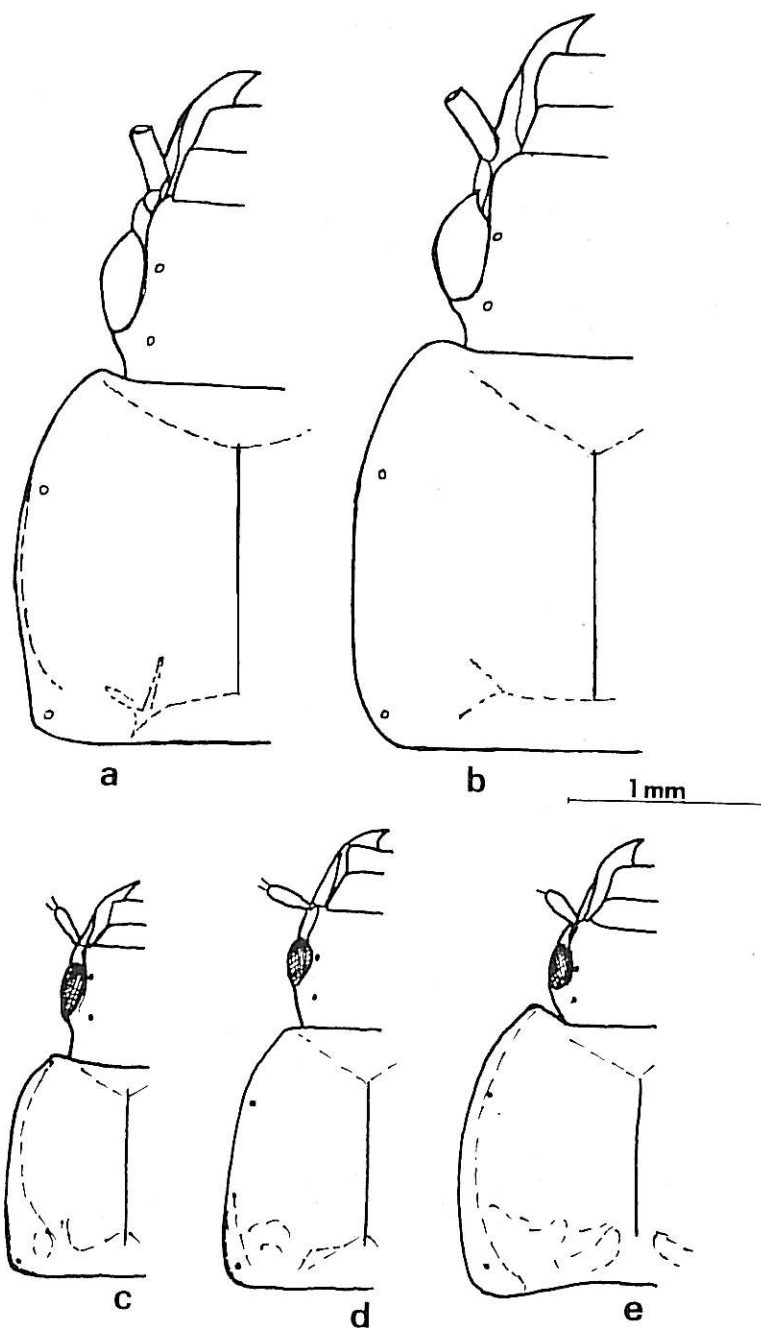


Fig. 1 - Head and prothorax of *Calathus*. a) *C. carvalhoi* n. sp. (♂ holotype); b) *C. mollis* Marsh. (♂ Vila Real de Stº António); c) *C. lundbladi* Colas (♂ holotype); d) *C. vicenteorum* Schatz. (♀ holotype); e) *C. extensicollis* Putz. (♀ Pico, Brit. Mus.). Figs c, d and e from LINDROTH (1960).

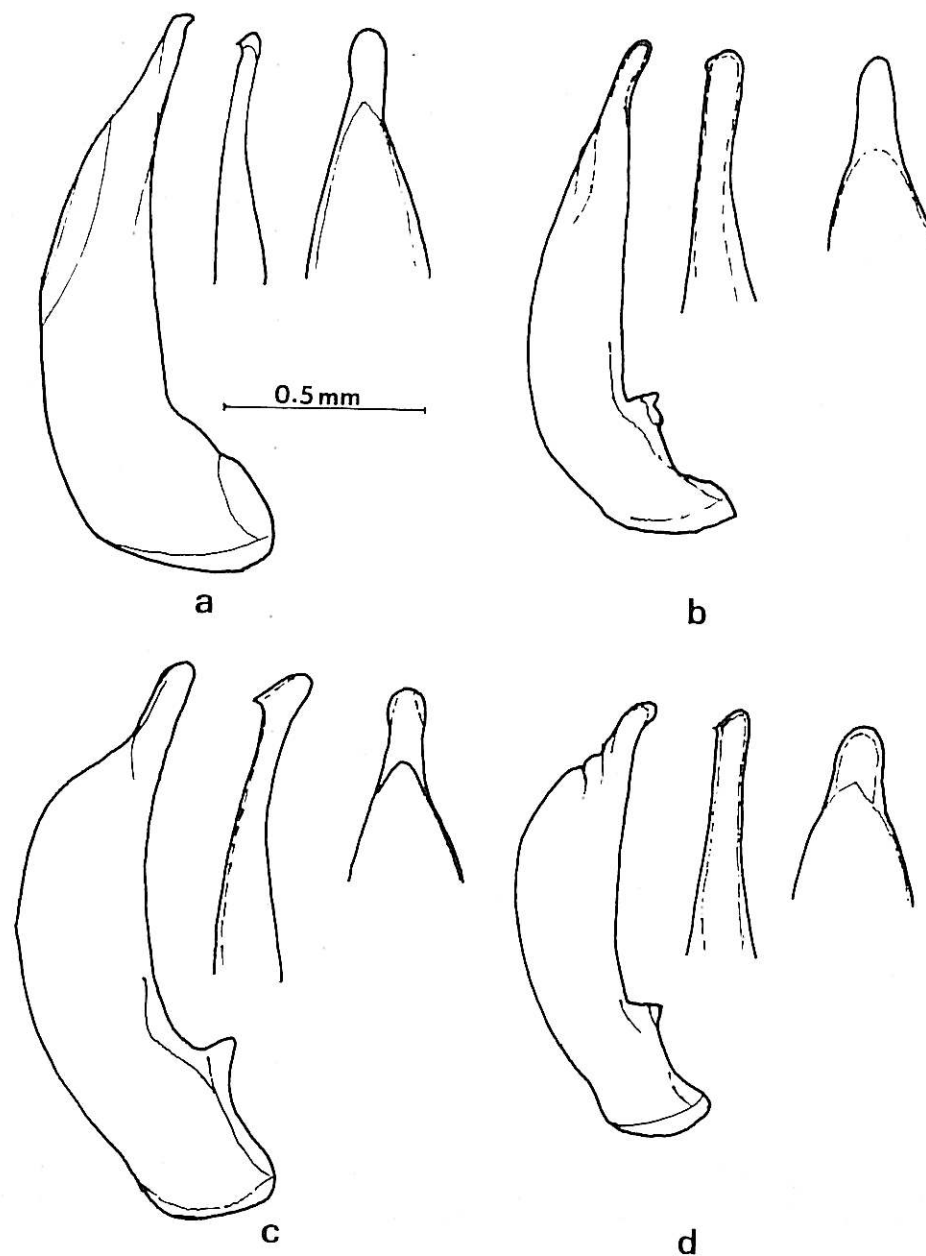


Fig. 2 - Penis and apex of right paramere in side view and penis apex in dorsal view. a) *C. carvalhoi* n. sp. (♂ holotype); b) *C. lundbladi* Colas (S. Miguel, Brit. Mus.); *C. extensicollis* Putz. (Pico, Brit. Mus.); d) *C. vicenteorum* Schatz. (Santa Maria, Mus. Lund). Figs b, c and d from LINDROTH (1960).

- re rounded and more broadly depressed than in the other species (Fig. 1 e); apex of penis is almost straight (side view), dilated at the tip (dorsal view) and the right paramere is widened and strongly hooked at the apex (Fig. 2 c). Size: 10.8-11.1 mm (Pico)..... *C. extensicollis* Putz.
- 3 - Prothorax index, length: width 0.82-0.87; sides of pronotum almost parallel in basal half (Fig. 1 c); penis in lateral view slenderer with almost straight ventral side, apex curved ventrally and long in dorsal view, parallel-sided (Fig. 2 b). Size: 9.5-9.8 mm (S. Miguel) *C. lundbladi* Colas
- Prothorax index, length: width 0.77-0.85; sides of pronotum with a small inflexion in basal half (Fig 1 a); penis similar to *C. mollis* Marsh. (side view), but the apex (dorsal view) more as in *C. extensicollis* Putz.; right paramere hooked at the apex only (Fig. 2 a). Size: 7.3-8.5 mm (Terceira).. *C. carvalhoi* n. sp.

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