



A new species of *Typhlocharis* Dieck, 1869 (Coleoptera: Carabidae: Anillini) from South Spain, with notes on the phylogenetic value of sexually related characters and the presence of stridulatory organ (*pars stridens*) in the genus

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Abstract

A new species of the genus *Typhlocharis* Dieck, 1869 (Coleoptera: Carabidae: Anillini) is described (*T. deferreri* **nov. sp.**) from the province of Cadiz in the south of the Iberian Peninsula. Its affinities with other species are discussed, mainly those with males having a median tubercle in sternum II: *T. bivari* Serrano and Aguiar, 2006, *T. passosi* Serrano and Aguiar, 2005, *T. navarica* Zaballos and Wrase, 1998 (*outereloi* group), *T. monastica* Zaballos and Wrase, 1998 and *T. peregrina* Zaballos and Wrase, 1998 (*monastica* group). The value of sexual dimorphism as a phylogenetic and taxonomic tool is revised; seemingly there is no relationship between this kind of sexual dimorphism and the traits that differentiate the established species groups (umbilicate series, type of gonocoxite, dimorphism in tibiae I and II, etc.). The presence and significance of stridulatory organ (*pars stridens*) is also commented upon, updating and increasing the scarce data available about this structure, poorly considered in the literature, with notes about distribution and relationships of the species which have it.

Key words: Carabidae, Anillini, Typhlocharina, *Typhlocharis*, South Spain, Cadiz, sexual dimorphism, *pars stridens*

Resumen

Se describe una nueva especie del género *Typhlocharis* Dieck, 1869 (Coleoptera: Carabidae: Anillini) (*T. deferreri* **nov. sp.**) de la provincia de Cádiz en el sur de la península Ibérica. Se establecen sus afinidades con otras especies, principalmente aquellas en las que los machos presentan un tubérculo medial en el esterno II: *T. bivari* Serrano y Aguiar, 2006, *T. passosi* Serrano y Aguiar, 2005, *T. navarica* Zaballos & Wrase, 1998 (grupo *outereloi*), *T. monastica* Zaballos y Wrase, 1998 y *T. peregrina* Zaballos y Wrase, 1998 (grupo *monastica*). Se revisa el valor de este tipo de dimorfismo sexual como herramienta filogenética y taxonómica; no pareciendo existir relación entre este tipo de dimorfismo y los caracteres que diferencian los grupos de especies establecidos (serie umbilicada, tipo de gonocoxitos, dimorfismo en tibiae I y II, etc.). También se comenta la presencia e importancia de *pars stridens*, actualizando y ampliando los escasos datos disponibles sobre esta estructura poco considerada en la literatura, con notas sobre la distribución y relaciones de las especies que la presentan.

Palabras clave: Carabidae, Anillini, Typhlocharina, *Typhlocharis*, sur de España, Cádiz, dimorfismo sexual, *pars stridens*

Introduction

The genus *Typhlocharis* currently includes 50 species (Andújar *et al.* 2010) of very small endogean carabid beetles (from the 0.9 mm of *Typhlocharis quadridentata* Coiffait, 1969 to the 2.9 mm of *Typhlocharis carinata* Serrano and Aguiar, 2006). Most of these species have been described during the last 20 years (Zaballos and Pérez-González 2010). The special traits of this genus (Jeannel 1937) gave Dieck (1869) the impression that they should be included in Cucujidae, probably related with *Laemophloeus* Dejean, 1835 (today a member of its own family,