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Stictonectes rebeccae sp. n. from the Iberian Peninsula, with notes on its phylogenetic position (Coleoptera, Dytiscidae)

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Abstract

Stictonetes rebeccae **sp. n.** (Coleoptera, Dytiscidae) is described from central and northwestern Iberia. The new species is close morphologically to *Stictonectes epipleuricus* (Seidlitz, 1887), widespread in Iberia and adjacent areas of southern France, and *Stictonectes occidentalis* Fresneda & Fery, 1990, endemic to the extreme southwest of Portugal and Spain. Characters on which the three species can be distinguished are presented and discussed; the apex of the male parameres being particularly diagnostic. A molecular phylogeny based on fragments of two mitochondrial genes places *S. rebeccae* sp.n. sister to *S. occidentalis*. These two taxa are entirely allopatric, and according to molecular clock estimations diverged during the late Pleistocene. *S. rebeccae* **sp. n.** is broadly sympatric with *S. epipleuricus*, although to date the two taxa have not been collected in the same localities. A lectotype of *S. epipleuricus* is designated from the collection in the Zoologische Staatssammlung, Munich.

Key words: Coleoptera, Dytiscidae, Hydroporinae, *Stictonectes*, new species, lectotype, Iberian Peninsula, molecular phylogeny

Introduction

The west Palaearctic genus *Stictonectes* Brinck, 1943 currently includes 10 species of small diving beetle, whose close similarity in external appearance often renders precise identification difficult (Zimmermann 1932; Guignot 1932; Franciscolo 1979). Species of the genus are largely distributed in the western Mediterranean region, most being restricted to the Iberian Peninsula and North Africa, where there are a number of narrow-range endemics (Nilsson 2003). As in many other west Palaearctic clades (e.g. Thompson 2005; Calosi *et al*. 2010), relatively few species of *Stictonectes* have dispersed outside the Mediterranean area, and only one, *Stictonectes lepidus* (Olivier, 1795), has expanded its range into northern Europe in the Holocene. Here I describe a new species of *Stictonectes* from northwestern and central Iberia, based on both morphological and molecular data, which has previously been confounded with *Stictonectes epipleuricus* (Seidlitz, 1887), a relatively widespread taxon of Portugal, Spain and adjacent areas of southern France. The new species is closely related to *S. epipleuricus* and to *Stictonectes occidentalis* Fresneda & Fery, 1990, which is endemic to the extreme southwest of the Iberian Peninsula. *S. rebeccae* **sp. n.** is described below, and compared with *S. epipleuricus* and *S. occidentalis*. In addition a molecular phylogeny inferring the inter-relationships between these three species and other members of the genus is included, and the opportunity taken to designate a lectotype for *Stictonectes epipleuricus*. Finally a revised checklist of *Stictonectes* species is presented, together with the geographical distribution of species by country.

Materials and methods

Morphological observations. Specimens were studied using a Leica MZ8 stereomicroscope, with a Fluopac FP1 fluorescent illuminator. Genitalia were mounted in lactic acid on cavity slides and drawn using a camera lucida attachment on a Brunel SP100 microscope at x 100–400 magnification. Habitus photographs were taken with a

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