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Article *in* Boletin - Asociacion Espanola de Entomologia · August 2017

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Presencia de *Leptocerus interruptus* (Fabricius, 1775) (Trichoptera, Leptoceridae) en la península ibérica: nuevos datos de Andalucía

Three species of the genus *Leptocerus* Leach, 1815 (Leptoceridae, Trichoptera) are reported in Europe (MALICKY, 2013): *Leptocerus tineiformis* Curtis, 1834, *Leptocerus lusitanicus* (McLachlan, 1884) and *Leptocerus interruptus* (Fabricius, 1775). *Leptocerus tineiformes* and *L. interruptus* are basically distributed in Central and Eastern Europe, while in the Iberian Peninsula is confirmed the presence of *L. lusitanicus* and the recent detection of *L. tineiformes* (Northern Spain, MARTÍNEZ *et al*., 2017). However, less is known about the presence of *L. interruptus* in Western Europe, especially in the Iberian Peninsula, where its occurrence has been considered doubtful and needing further and specific research (GONZÁLEZ & MARTÍNEZ, 2011).

The checklist of the caddisflies of the Iberian Peninsula contains more than 340 species (GONZÁLEZ & MARTÍNEZ, 2011) while the number of Trichoptera species detected in Andalusia Region amount to 136 species (RUIZ-GARCÍA *et al.*, 2016). In both cases, the Leptoceridae is among the most species-rich families (e.g., RUIZ-GARCÍA *et al.*, 2016).

During a biomonitoring sampling campaign through the Guadalquivir river basin (South Spain), 2 larvae of the genus *Leptocerus* were detected and identified as *L. interruptus*. The larvae (Instars IV-V, approx. 5mm, Fig. 1) were found on June 16th 2016 in the Retortillo stream (Andalusia Region, UTM coordinates: 287672E / 4197270N 30S, 296 m. a.s.l., Fig. 2) and preserved in 96% ethanol.

During this sampling campaign, the stream reach presented a reduced discharge and the following physicochemical conditions: conductivity= 461 µS/cm; pH= 8.2; water temperature= 15.7 ºC. The sampled stream reach represents a natural Mediterranean stream with dense riparian vegetation (mainly *Alnus glutinosa* (L.) Gaertn, *Salix* spp. and *Fraxinus angustifolia* Vahl) and a forested/natural basin. Following the IBMWP index and

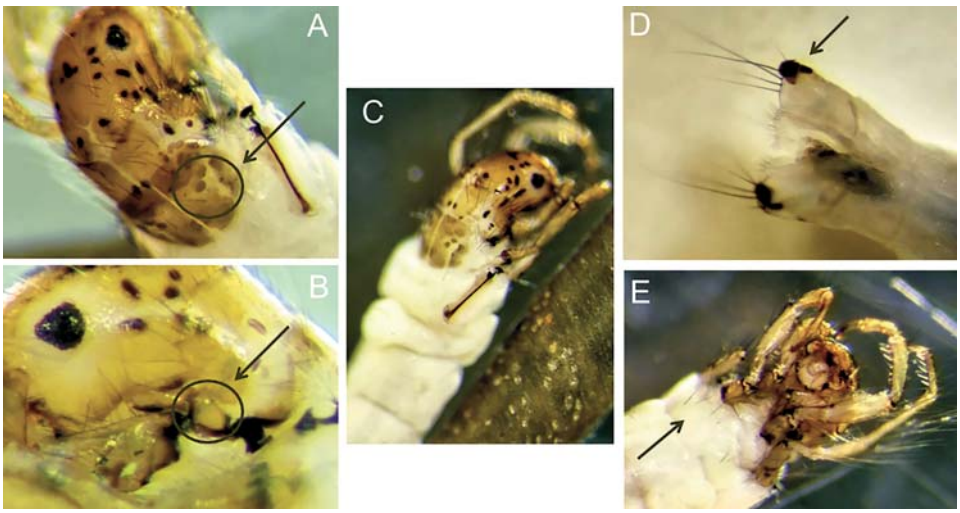

Fig. 1. Details of the larva of *Leptocerus interruptus:* A) Mesonotum with 2-3 setae in the central region; B) Protrochantin, pale coloration in central region; C) Individual with case made from secreted materials and sand grains; D) Anal proleg with 5 long setae only (ventral view); E) Metaventer with more than 1 setae on each side.
Fig. 1. Detalles de la larva de *Leptocerus interruptus*: A) Mesonoto con 2-3 setas en la región central; B) Protrocantín, coloración clara en la región central; C) Individuo con estuche fabricado con material de secreción y granos de arena; D) Patas anales con sólo 5 largas sedas (vista ventral); E) Parte ventral del metatórax con más de 1 sola seda a cada lado.

the WFD ecological status classification system in Spain (Real Decreto 817/2015, BOE 219), the site is classified in "Very Good" status and the same condition was obtained applying the QBR index related to the riparian vegetation-hydromorphological status.

Individuals of *Leptocerus* genus are easily identifiable by the hook-shaped tarsal claw of the 2nd leg, while specific keys proposed by WALLACE *et al.* (2003) and WARINGER & GRAF (2011) are necessary to identify the last instar larvae at species level. Characteristics related to the number of setae in the central region of the mesonotum (2-3 setae, Fig. 1A), the protrochantin central region (pale coloration, see Fig. 1B), case composed of secreted material with embedded sand grains (Fig. 1C), the number of setae in anal prolegs (5 long setae without a group of short setae, Fig. 1D), the number of setae in the metaventer (more than 1 on each side, Fig. 1E) are important to correctly identify the collected larvae as *L. interruptus*.

This record confirms the presence of this species in the Iberian Peninsula and should be added to caddisflies checklists. The presence of this species was considered doubtful because it was recorded only once in 1986 (Jarama

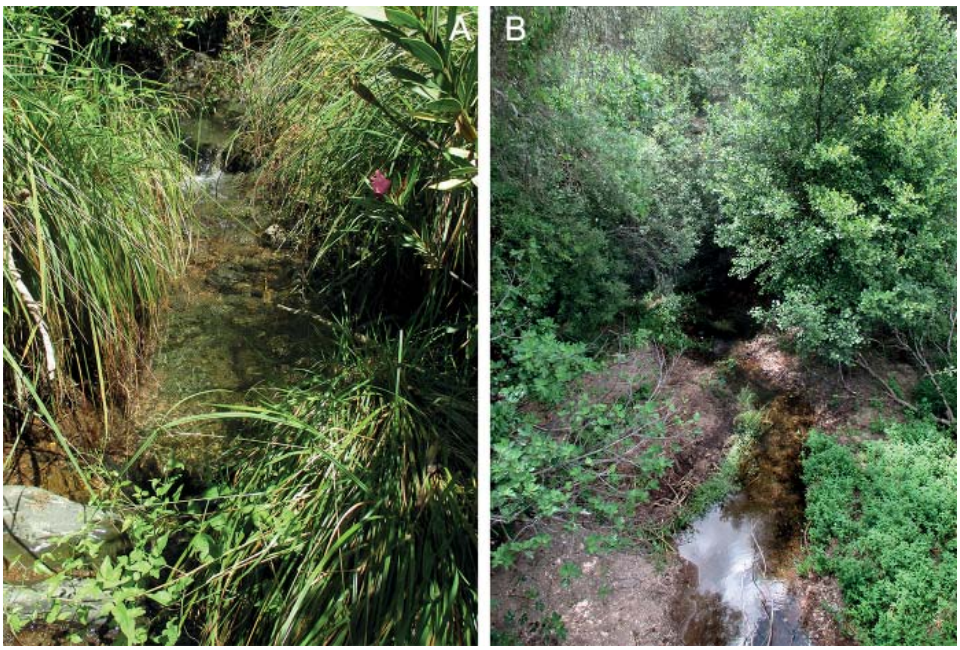

Fig. 2. Detail (A) and panoramic (B) of Retortillo stream.
Fig. 2. Detalle (A) y panorámica (B) del Río Retortillo.

river, Madrid, by PRIETO & GARCÍA DE JALÓN, 1988; GONZÁLEZ *et al.*, 1992). The importance to improve our knowledge on invertebrate fauna for zoological research and conservation management purposes must be emphasized in Mediterranean streams. This seems particularly necessary for freshwater ecosystems along the Sierra Morena system (South of Spain), where the presence of a singular and endemic faunal component with a high conservation value has been already stressed (e.g., ANTORÁN-PILAR *et al*., 2017; RUIZ-GARCÍA *et al*., 2016; SÁNCHEZ-FERNÁNDEZ *et al.*, 2008).

Future research to determine the persistence of this species and to assess its populations will be necessary with specific sampling activities in the area. Sampling should focus on the detection of *Leptocerus* in order to improve our limited knowledge on its distribution. In this sense, the detection of other aquatic stages (mature pupae or pharate males) and adults, together with specific genetic analysis, would be of scientific interest.

ACKNOWLEDGEMENTS

Sampling was developed within the Project "Explotación de los programas de control y seguimiento de los elementos de calidad biológicos e hidromorfológicos en las aguas continentales superficiales en la Cuenca Hidrográfica del Guadalquivir" carried out by DBO5 S.L. (Environmental firm, Sevilla). Thanks to "Confederación Hidrografica del Guadalquivir" (Área de Calidad de Aguas) for its support and help.

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Recibido: 23-03-2017. Aceptado: 13-06-2017. Publicado online: 27-03-2017.
ISSN: 0210-8984

Simone Guareschi[1,2], Andrés Mellado-Díaz[2], María Carmen Ruiz-Delgado[2] and Carmen Zamora-Muñoz[3]

1. University of Murcia, Department of Ecology and Hydrology, Espinardo Campus, 30100, Murcia (Spain), simone.guareschi@um.es
2. DBO5, S.L. 41927, Mairena del Aljarafe, Sevilla (Spain).
3. Department of Zoology, Faculty of Sciences, University of Granada, 18071, Granada (Spain), czamora@ugr.es