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## A new species of *Athripsodes* from the southwest of the Iberian Peninsula (Trichoptera, Leptoceridae)

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**Abstract:** A new species of the genus *Athripsodes* from the Iberian Peninsula is described and illustrated: *Athripsodes alentexanus* sp. nov. Adults of the new species are close to those of *A. taounate* Dakki & Malicky, 1980 and *A. ygramul* Malicky & Lounaci, 1987, but the shape of their inferior appendages provides the most striking distinction between males of these three species.

**Key words:** Trichoptera, Leptoceridae, new species, *Athripsodes*, Iberian Peninsula

### 1. Introduction

The genus *Athripsodes* is represented in the Iberian Peninsula by 11 species, many of them endemic to this region (González et al., 1992): *A. albifrons* (Linnaeus, 1758); *A. aterrimus* Stephens, 1836; *A. bessae* Malicky & Terra, 1984; *A. bilineatus* (Linnaeus, 1758); *A. braueri* (E. Pictet, 1865); *A. cuneorum* (McLachlan, 1884); *A. inaequalis* (McLachlan, 1884), *A. leucophaeus* (Rambur, 1842); *A. taounate* Dakki & Malicky, 1980; *A. tavaresi* (Navás, 1916); and *A. verai* González & García de Jalón, 1987.

We recently studied a small collection of specimens of *Athripsodes* spp. from different regions of the southwest of the Iberian Peninsula, most of them collected 25 years ago by L Terra in the south of Portugal (Algarve and Baixo Alentejo provinces). These Portuguese specimens were provisionally identified as *A. taounate* and included by Terra (1994) in the atlas of the Portuguese Trichoptera. Nevertheless, a careful reexamination of these specimens and the comparative study of the variability of *A. taounate* revealed that these specimens belong to a previously unknown species. In this article we describe the male of this new species, which brings to 12 the total number of Iberian species of this genus.

### 2. Materials and methods

Genitalia of some specimens were cleared in 10% KOH at room temperature for 4–8 h. The photographs were taken

using an Olympus CX40 microscope and a Canon 650D camera and processed with the software Helicon Focus V. Illustrations were made from the scanned photographs using Adobe Illustrator.

All specimens, including the holotype and paratypes, were preserved in 70% ethyl alcohol and deposited in the collection of Dr Marcos A González in the University of Santiago de Compostela. Terminology used in describing male genitalia follows that of González and García de Jalón (1987).

### 3. Results

#### *Athripsodes alentexanus* sp. nov.

**Holotype** ♂: Portugal, Montenegro (Alentejo), Río Sado, 75 m, 37°42'N, 8°20'W, 4-IV-1989 (leg. L. Terra).

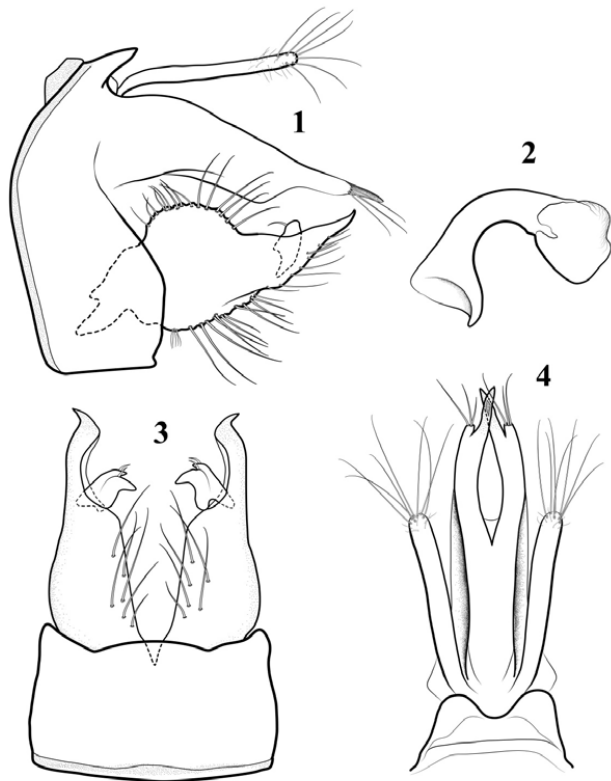
**Paratypes:** Portugal: Montenegro (Alentejo), Río Sado, 75 m, 37°42'N, 8°20'W, 4-IV-1989, 8 ♂♂; 5-IV-1989, 4 ♂♂; 3-V-1989, 1 ♂. Gomes Aires (Alentejo), Río Mira, 190 m, 37°31'N, 8°11'W, 13-IV-1989, 1 ♂. Foz do Ribeiro (Algarve), Río Arade, 125 m, 37°18'N, 8°14'W, 14-IV-1988, 1 ♂. Alqueidao do Rei (Región Centro), Ribeira de Alcobertas, 70 m, 39°24'N, 8°51'W, 2-V-1989, 1 ♂ (all leg. L. Terra). Spain: Benamahoma (Cádiz), Arroyo del Descansadero, 400 m, 36°45'01.8"N, 5°27'11.3"W, 7-VIII-1986, 1 ♂ (leg. M. González). Obejo (Córdoba), Valle del Lóbrego, Sierra Morena, 275 m, 38°8'6.77"N, 4°43'58.22"W, 15-VI-2011, 2 ♂♂ (leg. J. Martínez). Umbría del Cuzna (Córdoba), Río Cuzna, Sierra Morena,

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281 m, 38°8'8.04"N, 4°44'24.79"W, 15-VI-2011, 2 ♂♂ (leg. J. Martínez). Villaharta (Córdoba), Majada del Perro, Río Guadalbarbo, Sierra Morena, 390 m, 38°8'9.82"N, 4°51'17.06"W, 15-VI-2011, 1 ♂ (leg. J. Martínez).

**Male:** Forewing length 10–12 mm. Antennae, head, and thorax dark brown; abdomen light brown, maxillary palp dark brown; femur and tibia of forelegs dark brown with dark brown hairs; forewings and hindwing uniformly light brown (all the material preserved in ethyl alcohol). Tibial spur formula 2,2,2.

**Genitalia** (Figures 1–4): 9th segment with dorsal apical margin produced in a median process, clearly bilobed in dorsal view; in lateral view the 9th segment is curved and wider ventrally than dorsally. The superior appendages are digitiform and shorter than the 10th segment, about 2/3 as long as it. 10th segments long, divided at distal third into two pointed branches, equal in length and conspicuously sclerotized at the tips. In dorsal view both branches are lightly interlaced at the apex. The first segment of the inferior appendages, in lateral view, is very strongly elongated; ending in a sharp point directed upward and turned outward, which is clearly visible in dorsoventral view. The second segment is very short, robust, and



**Figures 1–4.** *Athripsodes alentexanus* sp. nov., male genitalia. 1- Lateral view; 2- phallus, lateral view; 3- ventral view; 4- dorsal view.

apically bidentate. Phallus strongly constricted and down-curved at its base.

**Female:** Unknown.

#### 4. Discussion

The new species belongs to a group of Mediterranean species distributed in the south of the Iberian Peninsula and North Africa. Within this group it seems related to *Athripsodes braueri*, *Athripsodes taounate*, and especially *Athripsodes ygramul* Malicky & Lounaci, 1987.

*A. braueri* is a common Iberian species, whose variability was already described and affects mainly the shape of its inferior appendages (see Schmid, 1949). Nevertheless, the strong elongation of the distal part of the first segment, ending in a sharp point turned outward, which is typical for the new species, has never been observed in *A. braueri*. Moreover, the clearest difference between these two species lies in the X segment, particularly in the shape of its distal part. In *A. braueri* it is typically very acute and recurved upward at the apex (Figure 5); in *A. alentexanus* sp. nov. it is straight and clearly individualized in a kind of sclerotized apical horn.

*A. taounate* was described from Morocco (Dakki and Malicky, 1980) and later recorded for the south of the Iberian Peninsula (González et al., 1992). More recently the subspecies *A. taounate siculus* was described from Italy (Sicily) by Cianficconi (2001). As in *A. braueri*, some variability in the male genitalia was already known for this species, but this affects only very slightly the shape of its inferior appendages (Botosaneanu, 1989; González et al. 1990; Cianficconi, 2001). The shape of the X segment in *A. taounate* is similar to that of the new species, but these two species are easily distinguished by the shape of the first segment of their inferior appendages (Figures 6 and 7). In ventral view the first segment is only slightly longer than the second segment in *A. taounate* and its apex is never turned outward.

Finally, *A. ygramul* seem to be the closest species. It was described from Algeria by Malicky and Lounaci (1987) and was later recorded from the same region by Botosaneanu (1989: described as a new subspecies, *A. taounate algiricus*). This species has, as does the new species, a similar morphology of the X segment and the first segment of its inferior appendages is also very strongly elongated, but never turned outward at the apex. Moreover, the second segment of the inferior appendages is comparatively quite different: in *A. ygramul* it is long and slender and gently curved (much shorter and robust in the new species).

**Etymology:** The specific name refers to one of the six historical provinces of Portugal, the Alentejo, where it was collected by L Terra for the first time. In Portuguese this name means “beyond (além) the Tajo (Tejo) river”.



**Figures 5–7.** *Athripsodes* spp., male genitalia, lateral view. 5- *A. braueri*, specimen from Lampaza (Orense, Spain); 6- *A. taounate*, specimen from Benamahoma (Cádiz, Spain); 7- *A. alentexanus* sp. nov., paratype from Montenegro (Alentejo, Portugal).

**Nomenclatural acts:** This work and the nomenclatural acts it contains have been registered in ZooBank. The ZooBank Life Science Identifier (LSID) for this publication is: <http://zoobank.org/urn:lsid:zoobank.org:pub:D925B8FA-EDB9-4539-8FDD-8CCFAACDD394>.

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