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A KEY TO THE IBERIAN *ORTHETRUM* LARVAE (ANISOPTERA: LIBELLULIDAE)

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Abstract — 6 spp. are keyed and figured, and fresh details on the morphology of *O. chrysostigma* and *O. nitidinerve* are provided.

Introduction

The genus *Orthetrum* is one of the most complex in the palaearctic Libellulidae. While in some species the larval morphology has been described either incompletely (*O. chrysostigma*), or not at all (*O. nitidinerve;* cf. CONCI & NIELSEN, 1956), the increasing number of ecological and limnological surveys require a higher degree of precision in taxonomic identification than was so far possible in the case of *Orthetrum* larvae.

Although so far no larvae of *O. trinacria* have been found with certainty in the Iberian Peninsula (BELLE, 1984; CONESA, 1985), I include this species, since teneral specimens have been seen in Huelva and Almeria, both Spain.

Methods and localities

The labium termonology used is that of CARCHINI (1983). For relevant morphology details cf. Figure 1.

All localities visited for this study are located in eastern Andalusia, Spain, viz.

— *O. brunneum* (Fonsc.): Rio Seco Coin (UTM 30S UF 3762), 4 larvae, 2 exuviae
— *O. cancellatum* (L.): Marismas del Guadalhorce (UTM 30S UF 7465), 6 larvae
— *O. chrysostigma* (Burm.): Rio Chillar, Nerja (UTM 30S VF 2772), 5 larvae, 4 exuviae; — Rio la Miel, Maro (UTM 30S VF 2671), 4 larvae. 3 exuviae
— *O. coerulescens* (Fabr.): Arroyo la Cana (UTM 30S UF 6353), 4 larvae, 6 exuviae

— *O. nitidinerve* (Sel.): Arroyo Toquero (UTM 30S UF 7666), 5 larvae, 2 exuviae; — Charca de las Mozas (UTM 30S UF 1844), 3 larvae, 2 exuviae.

In all cases where the identification was uncertain, larvae were kept in the laboratory until emergence.

Descriptive key

1 Paraproct approximately equal in length to epiproct 2
— Paraproct clearly longer than epiproct .. 5
2 Ratio b:a > 2 3
— Ratio b:a < 2 4
3 Mid-dorsal spines on 4th, 5th and 6th segments. Small lateral spine on the 8th and 9th segments. Length 25.0-25.1 mm. (Fig. 1). — [Brackish pools and marshes] .... ***cancellatum***
— Mid-dorsal spines on 4th and 5th, lateral spines on 8th and 9th segment. Ratio b:a > 2.5. Length 25.0-30.0 mm — [Brackish pools and marshes] ..... ***trinacria***
4 First palpal segment with a row of 3 or rarely 4 long setae. Prementum with 4 (2+2) setae, clearly separated from 2 oblique rows of small setae that converge on the middle area. Paraproct wide at the base. Length 18.0-20.5

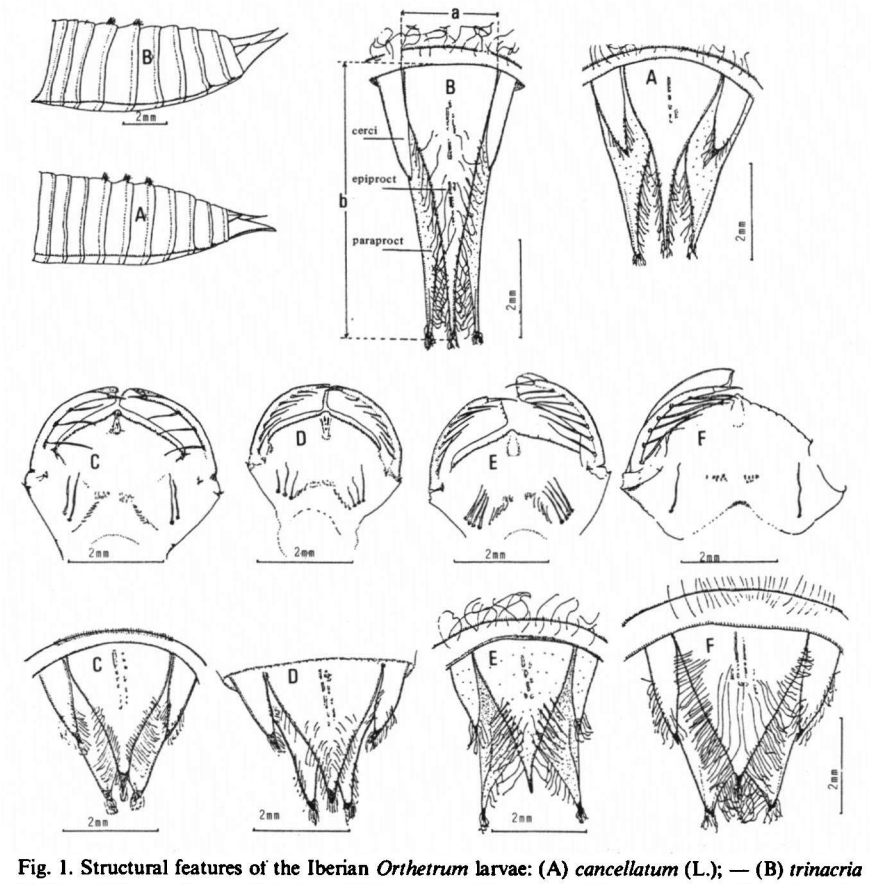

Fig. 1. Structural features of the Iberian *Orthetrum* larvae: (A) *cancellatum* (L.); — (B) *trinacria* (Sel.); — (C) *coerulescens* (Fabr.); — (D) *brunneum* (Fonsc.); — (E) *chrysostigma* (Burm.); — (F) *nitidinerve* (Sel.).

mm. — [Rivers with scanty vegetation]... ..... *coerulescens*

— First palpal segment with a row of 7 setae. Prementum with 2 continuous rows of setae, the first 3 longer than the others. Paraproct narrow at the base. Length 20.0-22.0 mm. — [Ubiquitous] ..... *brunneum*

5 Cerci divergent in their tips (not pointing to epiproct). First palpal segment with 7 setae. Prementum with 2 rows of setae, both of them oblique and ending in a middle set of minute spines. 7 lobes in the distal margin of the first palpal segment, separated from each other by 2 or 3 very small spines. Second palpal segment the same length as the first 3 lobes of the 1st segment. Length 18.0-19.0 mm. — [Rivers with scarce vegetation] ..... *chrysostigma*

— Cerci convergent in their tips, pointing to epiproct. First palpal segment with 6 setae. Prementum with 2 (1+1) setae (Fig. 1), clearly separated by several rows of small middle setae. No lateral spines on segments 9 and 10. Second palpal segment as long as the first 2 lobes of the 1st segment. Length 20.0-21.0 mm. — [Rivers with abundant vegetation] ..... *nitidinerve*

References — BELLE, J., 1984, *Ent. Ber. Amst.* 44: 79-80; CARCHINI, G., 1983. A key to the Italian Odonata larvae. S.I.O. Rap. Comm. (Supp.) 1, 110 pp. — CONCI, C. & C. NIELSEN, 1956, *Fauna d'Italia: Odonata,* Calderini, Bologna; — CONESA, M.A., 1985, *Notul. odonatol.* 2: 83-84.

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