

**ON THE SPECIFIC COMPOSITION AND DISTRIBUTION OF THE GENERA
ORTHETRUM NEWMAN, 1833 AND LIBELLULA LINNAEUS, 1758
(ODONATA, ANISOPTERA) IN DOLJ COUNTY, ROMANIA**

Babalean Anda Felicia*

University of Craiova, Faculty of Horticulture, Craiova

* Correspondence author. E-mail: anda.babalean@ucv.ro

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ABSTRACT

This paper presents recent faunistic data on two dragonfly genera – Orthetrum and Libellula in Dolj county. The genus Orthetrum was found to be represented by 4 species: O. cancellatum (Linnaeus, 1758), O. albistylum (Selys, 1848), O. coerulescens (Fabricius, 1798) and O. brunneum (Fonscolombe, 1837). The genus Libellula was found to be represented by 2 species: L. fulva Müller, 1764 and L. depressa Linnaeus, 1758.

INTRODUCTION

Orthetrum Newman, 1833 and Libellula Linné, 1758 are two dragonfly genera belonging to the anisopteran Family Libellulidae. They are represented in the Romanian fauna by 4 Orthetrum species – *O. albistylum* (Selys, 1848), *O. cancellatum* (Linnaeus, 1758), *O. brunneum* (Fonscolombe, 1837) and *O. coerulescens* (Fabricius, 1798) and 3 Libellula species – *L. depressa* Linnaeus, 1758, *L. fulva* Müller, 1764 and *L. quadrimaculata* Linnaeus, 1758 (Babalean 2023, Cârdei & Bulimar 1965, Mancu 2012, Wildermuth & Martens 2019).

Dolj county is an important part of the Oltenia Plain, located in SW Romania. The dragonfly fauna of this region is understudied, with rather few and old data (Babalean 2023, Cârdei & Bulimar 1965, Mancu in 2012). The natural geographical landscape of this region was deeply modified in the last 50 years by human activity.

The aim of this paper is to supplement and update the data on Orthetrum and Libellula species and their distribution in Dolj county as a first step for a deeper perspective of their role in a local complex of ecological systems. The faunistic account can also serve as a reference point for species monitoring (distribution and distribution dynamics) during periods with anthropogenic and climatic stress.

MATERIAL AND METHODS

Faunal data for the years 2022 and 2023 were obtained from recent literature, by visual inspection and by sampling a minimum number of specimens from lentic and lotic aquatic habitats in various region of Dolj county – Fig. 1. The collected specimens are preserved in 75-degree ethanol.

The identification of the Orthetrum species was done using the diagnostic characters provided by the literature (Askew 2004, Boudot et al 2019, Cârdei &

Bulimar 1965, Dijkstra et al 2020, Smallshire & Swash 2020, Wildermuth & Martens 2019), as follows:

Orthetrum cancellatum

- pterostigma black
- abdominal cerci black in male and female
- abdominal segment 10 – black and yellow on dorsal in female

Orthetrum albistylum

- pterostigma black
- abdominal cerci white in male and female
- abdominal segment 10 – white on dorsal in female

Orthetrum coerulescens

- pterostigma yellow
- one or two rows of cells between IR3 and Rspl (Boudot et al. 2019 terminology) on both wings, the second row when present, with no more than four cells
- the male accessory genitalia

Orthetrum brunneum

- pterostigma yellow
- two rows of cells between IR3 and Rspl, the second row, generally with more than 5 cells
- the male accessory genitalia

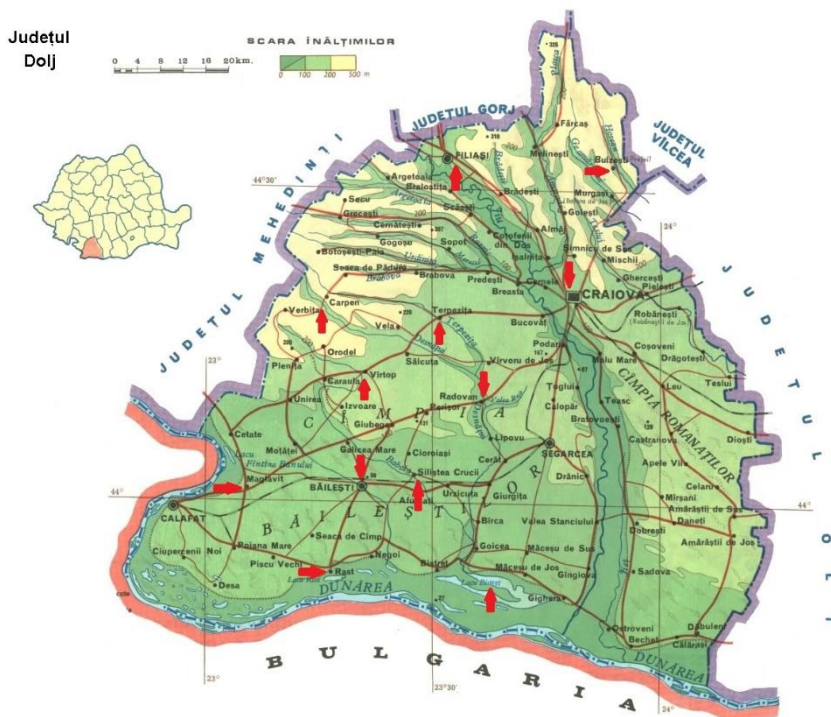


Figure 1 Map of Dolj county with investigated areas pointed by red arrows (map with Dolj.jpg (1215x1026) (pe-harta.ro)

RESULTS AND DISCUSSIONS

The species composition and distribution are given in Table 1 for the genus *Orthetrum* and in Table 2 for the genus *Libellula*.

Table 1
Species composition and distribution for the genus *Orthetrum*

<i>O. cancellatum</i>	<i>O. albistylum</i>	<i>O. coerulescens</i>	<i>O. brunneum</i>
Filiași, 22 June 2022 (lake)	Lacul Tanchistului-Craiova, 01 June 2022 (lake)	Botanical Garden-Craiova, 19 June 2022 (lake)	Maglavit, 16 June 2022 (lake)
Maglavit, 12 July 2022 (lake)	Filiași, 22 June 2022 (lake)	Lacul Tanchistului-Craiova, 25 June 2022 (lake)	Vârtop (bridge no.3), 16 June 2022 (stream)
Balta Cilieni (Băilești), 04 July 2023 (lake)	Balta Craioviței, 03 July 2022 (lake)	Leroy-Craiovița-Craiova, 08 July 2022 (stream-anthropic)	Terpezița (bridge no. 1), 12 July 2022 (stream)
	Balta Craioviței, 11 June 2023 (lake)	Maglavit, 12 July 2022 (lake)	
	Preajba-Geormane, 07 September 2023 (lake)	Verbicioara, 12 July 2022 (lake and stream)	
		Siliștea Crucii, 12 October 2023 (stream)	

Table 2
Species composition and distribution for the genus *Libellula*

<i>L. fulva</i>	<i>L. depressa</i>
Romanescu Park, Craiova (Babalean 2023)	Terpezița (bridge no. 1), 16 June 2022 (stream)
	Botanical Garden-Craiova, 19 June 2022 (lake)
	Radovan (agricultural ditch), 16 June 2022

Distribution of un-identified species:

Fântânele Lake (Radovan), July 2022 – *Orthetrum* sp.

Bulzești Lake, 24 June 2022 – *Orthetrum* sp.

Rast, 09 June 2022 - *Orthetrum* sp.

Hanul Doctorului Lake, 05 June 2022 - *Orthetrum* sp.

Discussions

In Dolj county, the genus *Orthetrum* is well represented, by all four species reported in the Romanian fauna. The most common species is *O. coerulescens* which shows a high adaptability, being associated with varied habitats (lakes of different sizes, natural and artificial streams). It persists in nature until the first half of October.

The genus *Libellula* is represented in Dolj county only by two species, in accordance with the habitats and ecological conditions in this area. *L. depressa*, by

its presence in a small agricultural ditch (gully), shows a high capacity to detect, colonize and exploit wetlands.

CONCLUSIONS

In the analysed interval, the genera *Orthetrum* and *Libellula* show a very good specific composition in Dolj county, indicating a good health of the aquatic habitats.

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