

**NEW RESEARCHES REGARDING THE DRAGON-FLIES
(INSECTA, ODONATA) FROM THE TINCA AREA
(BIHOR COUNTY, ROMANIA)**

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Abstract

*In this work are presented data about the fauna of dragon-flies from Tinca area (Bihor county) identified during 2009-2018. There were identified 49 species belonging to 2 suborders, 8 families and 22 genera. Some species are characterized from the ecological point of view. Other species presents chromatic varieties: *Lestes sponsa* Hans, *Pyrrhosoma nymphula* Suly., *Nehalonia speciosa* Charp. There were recorded one very endangered species in Europe: *Nehalonia speciosa* Charp. Four species are very rare in Romania: *Aeshna grandis* L, *Aeshna juncea* L., *Leucorrhinia pectoralis* Charp. (rare even in Balkans), *Cordulegaster boltonii* Don. *Sympetrum flaveolum* L. have an irregular presence in Romania, appears, then disappears some years. The majority of the species are common in area and in Romania.*

Key words: dragon-flies, Tinca area, Bihor, Romania

INTRODUCTION

The Tinca area is located at the confluence of the Miersigului plain and the Holodului depression, in the south-western part of the Bihor county, the Crişana region, in the north-western part of Romania. The average altitude is 110 m, the climate is temperate continental moderate.

The drainage is represented by Crişul Negru river and his affluents: Valea Pustei, Valea Nouă and Rătăşel, the lake Rogoaze. The vegetation belongs to the oak s vegetative stage (Berindei & Pop, 1972). Tinca village includes five villages: Tinca, Râpa, Gurbediu, Belfir and Girişu-Negru. Data about the fauna of dragon-flies from Tinca area were published by Ilie (2012, 2014, 2015, 2017).

MATERIAL AND METHOD

The researches about the dragon-flies from Tinca area were performed during the years 2009-2018, in the period April – November. The collecting was performed with the entomological net. For the identification

of the dragon-flies we used the Dijkstra (2006) guide and for ecological characteristics of Romanian species we used the Cârdei & Bulimar (1965) guide. The observations were completed measuring diurnal temperatures.

RESULTS AND DISCUSSION

During 2009-2018, there were identified the following species in Tinca area (Odonata Order, Zygoptera suborder):

- Calopterygidae family: *Calopteryx virgo* Linnaeus, 1758; *Calopteryx splendens* Harris, 1782.
- Lestidae family: *Sympecma fusca* Van der Linden, 1823; *Lestes sponsa* Hansemann, 1823; *Lestes barbarus* Fabricius, 1798; *Lestes dryas* Kirley, 1890; *Lestes virens* Charpentier, 1825; *Lestes viridis* Van der Linden, 1825.
- Platycnemididae family: *Platycnemis pennipes* Pallas, 1771.
- Agrionidae family: *Pyrrhosoma nymphula* Sulzer, 1776; *Ischnura elegans* Van der Linden, 1820; *Ischnura pumilio* Charpentier, 1825; *Coenagrion pulchellum* Van der Linden, 1820; *Coenagrion puella* Linnaeus, 1758; *Enallagma cyathigerum* Charpentier, 1840; *Erythomma najas* Hansemann, 1823; *Erythomma viridulum* Charpentier, 1825; *Nehalennia speciosa* Charpentier, 1825.
- Anisoptera suborder, Aeschnidae family: *Brachytron pratense* Muller, 1764; *Aeschna mixta* Latreille, 1805; *Aeschna grandis* Linnaeus, 1758; *Aeschna cyanea* Muller, 1764; *Aeschna juncea* Linnaeus, 1758; *Aeschna affinis* Van der Linden, 1820; *Anax imperator* Leach, 1815; *Anax parthenope* Selys, 1839; *Anax ephippiger* Burmeister, 1839.
- Gomphidae family: *Gomphus vulgatissimus* Linnaeus, 1758; *Gomphus flavipes* Charpentier, 1825; *Onychogomphus forcipatus* Linnaeus, 1758; *Ophiogomphus cecilia* Fourcroy, 1785.
- Cordulegasteridae family: *Cordulegaster boltonii* Donovan, 1807.
- Libellulidae family: *Libellula depressa* Linnaeus, 1758; *Libellula fulva* Muller, 1764; *Libellula quadrimaculata* Linnaeus, 1758; *Orthetrum albistylum* Selys, 1848; *Orthetrum coerulescens* Fabricius, 1798; *Orthetrum brunneum* Fonscolombe, 1837; *Orthetrum cancellatum* Linnaeus, 1758; *Crocothemis erythraea* Brulle, 1832; *Leucorrhinia pectoralis* Charpentier, 1825; *Sympetrum meridionale* Selys, 1841; *Sympetrum danae* Sulzer, 1776; *Sympetrum sanguineum* Muller, 1764; *Sympetrum flaveolum* Linnaeus, 1758; *Sympetrum fonscolombii* Selys, 1840; *Sympetrum striolatum* Charpentier, 1840; *Sympetrum vulgatum* Linnaeus, 1758.

There were identified 49 species belonging to 2 suborders, 8 families and 22 genera. In Romania, Odonata order comprises 71 species (Manci, 2012). From these, in Tinca area were identified 49 species (69,01%).

Some species presents chromatic varieties:

- *Lestes sponsa* Hans. , one female specimen, Râpa forest, the location „Chişloc”, June 14 2011. This specimen was young, because the pterostigma is yellowish – grey, unlike the adult, which is black. Also, the specimen presented on the thorax a bluish coloration, similar to those of the males. This type of specimens, in accordance to the guide of fauna is rare, sporadic.
- *Pyrrhosoma nymphula* Sulz., one female specimen, August 12, 2011, Tinca, the location „Dealul Viilor”. This specimen belongs to the homeochrome type (the colour of the body is pink-yellowish).
- *Nehalennia speciosa* Charp., one female specimen, August 12, 2011, Râpa forest, the location „Chişloc”. This specimen has the light brown thorax on the lateral parts, brown legs, the ventral part of the abdomen – segments 1 and 2 are brown while the same part of the segments 3-7 is yellow.
- *Sympetrum flaveolum* L. have an irregular presence. According to Dijkstra (2006), this species appears, then disappears some years.

There were collected one very endangered species in Europe: *Nehalennia speciosa* Charp. According to Dijkstra (2006), this species is extinct in most of its western range, becoming somewhat less rare towards the east.

Four species are very rare in Romania: *Aeschna grandis* L., *Aeschna juncea* L., *Leucorrhinia pectoralis* Charp. (rare even in Balkans, after Dijkstra, 2006), *Cordulegaster boltonii* Don. The majority of the species are common in area and in Romania.

The percentage ratio of species is as follows: *Zygoptera* suborder (17 species, 34,69%), *Anisoptera* suborder (32 species, 65,30%), *Sympetrum* genus (8 species, 16,32%), *Lestes* and *Aeshna* genera with 5 species (10,20%), *Orthetrum* (4 species, 8,16%), *Anax* and *Libellula* genera with 3 species (6,12%), *Calopteryx*, *Ischnura* and *Gomphus* genera with 2 species (4,08%), *Sympetrum*, *Pyrrhosoma*, *Enallagma*, *Platycnemis*, *Erythromma*, *Nehalennia*, *Brachytron*, *Onychogomphus*, *Ophiogomphus*, *Cordulegaster*, *Crocothemis* and *Leucorrhinia* genera with one species (2,04%).

Coenagrion pulchellum Vdl. presents probably the earliest mention at national level: April 7, 2018, Tinca, t=210C. Period of flight for this species: the end of April – September (Dijkstra, 2006).

Anax ephippiger Burm arrives in Romania only due to irregular migrations (Manci, 2012)

CONCLUSIONS

During 2009 – 2018, in Tinca area, were identified 49 species. There were recorded one very endangered species in Europe, four rare species in Romania. One species presents an irregular presence in Romania and

Europe and other four species presents chromatic varieties. Majority of species are common in area and in Romania.

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