

NEW OBSERVATIONS ABOUT THE FAUNA OF SOME INSECT'S GROUPS FROM TINCA AREA (BIHOR COUNTY, ROMANIA)

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ABSTRACT. This paper presents the observations registered by author in Tinca area, during March 1, 2017 – September 1, 2018. There were recorded 63 species, belonging to four orders. Many species are common, but there were identified some ecological aspects unmentioned in literature.

Keywords: insects, Tinca area, ecological aspects.

REZUMAT. Noi observații despre fauna unor grupe de insecte din zona Tinca (județul Bihor, România). Această lucrare prezintă observațiile înregistrate de autor în zona Tinca, în perioada 1 martie 2017 – 1 septembrie 2018. Au fost consemnate 63 de specii care aparțin la patru ordine. Multe specii sunt comune, dar au fost identificate unele aspecte ecologice nemenționate în literatură.

Cuvinte cheie: insecte, zona Tinca, aspecte ecologice.

INTRODUCTION

Tinca area is situated in the south-western part of Bihor County, belonging to the historical province Crișana, at the Confluence of the Miersig Plain and the Holod Depression. The average altitude is 115 m, the Climate is temperate continental, moderate, having one particular nuance, the Pannonic. From the hydrographical point of view, the analysed territory belongs to the inferior limit of the Crișul Negru River, middle Course. The vegetation of the area belongs to the oak stage, having a predominant Central-European origin. The forests are formed of the species belonging to the genus *Quercus* L. isolated troops of beech tree, false acacia, hornbeam, maple tree, ash tree. In the lawns of Tinca area were identified different leguminous plants, graminaceae, some Compositae, etc.

Tinca village includes: Tinca, Gurbediu, Râpa, Belfir and Girișu Negru villages. Data about the fauna of insects from Tinca area were published by author in a book and some scientific papers (Ilie, 2003, 2006, 2009, 2012, 2013, 2014, 2015, 2016, 2017). The context in which those observations were realized is represented by the general decline of the biodiversity under the influence of

anthropogenic pressure and the climatic changes. Although many species are common, there were recorded a few specimens of these, comparatively to the same period of the last years. Abundant precipitations (approximately in every day), extreme thermic variations and probably chemical substances used in agriculture determined this situation.

MATERIAL AND METHODS

The observations were performed between March 1, 2017 and September 1, 2018. Many species were collected with entomological net. For the determination of species, different guides were used (Rákósy, 2013; Székely, 2010; Dijkstra, 2006; Panin & Săvulescu, 1961; Warchalowsky, 2003).

RESULTS AND DISCUSSIONS

In the analysed period were identified the following species:

Order ODONATA

Suborder Zygoptera

Family Platynemididae:

- *Platynemis pennipes* (PALLAS, 1771):

- one male specimen, Tinca, June 6, 2018.

Family Coenagrionidae:

- *Ischnura pumilio* (CHARPENTIER, 1825):

- two immature female specimens, Tinca, August 8, 2018.

Species mentioned for the first time in area.

Suborder Anisoptera

Family Aeshnidae:

- *Anax imperator* LEACH, 1815:

- one male specimen, Râpa, May 20, 2018.

Family Libellulidae:

- *Libellula depressa* LINNAEUS, 1758:

- one female specimen, Tinca, May 21, 2018;

- one immature male specimen, the edge of Tinca forest, July 26, 2018.

- *Orthetrum brunneum* (FONSCOLOMBE, 1837):

- one male specimen, Gurbediu forest, June 1, 2018.

- *Sympetrum sanguineum* (MÜLLER, 1764):

- one male specimen, Gurbediu forest, June 1, 2018.

Order MANTODEA

Family Mantidae:

- *Mantis religiosa* (LINNAEUS, 1758):

- one female specimen, green coloured, Tinca, August 17, 2018;

- one female specimen, green coloured, Tinca, August 31, 2018.

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Common species.

Order COLEOPTERA

Family Lucanidae:

- *Lucanus cervus* (LINNAEUS, 1758):

- one pair, Tinca, April 4, 2018 (first observation of the year in area);
- one male specimen flying, Gurbediu forest, June 1, 2018;
- one female specimen, Tinca, July 2, 2018.

Common and protected species (<https://eunis.eea.europa.eu/species/221>).

Family Scarabaeidae:

- *Amphimallon solstitialis* (LINNAEUS, 1758):

- many specimens during May 24 - June 27, 2018, Tinca.

Common species.

- *Melolontha melolontha* (LINNAEUS, 1758):

- two specimens, Tinca, April 16, 2018, t = 23 °C;
- two specimens, May 2, 2018, t = 22 °C. There are the single observations for this species this year, during 2013-2016 were observed hundreds of specimens and in 2017 only six specimens.

Relatively common species.

- *Oryctes nasicornis* (LINNAEUS, 1758):

- one male specimen, Tinca, May 7, 2018 (first observation of the year);
- one female specimen, Tinca, May 31, 2018;
- one male specimen, Tinca, June 7, 2018;
- one male specimen, Tinca, July 15, 2018.

Common species.

Family Coccinellidae:

- *Coccinella septempunctata* (LINNAEUS, 1758):

- many specimens during the analysed period.

Very common species.

Family Cerambycidae:

- *Dorcadion aethiops* (SCOPOLI, 1763):

- many specimens during April 25 - June 5, 2018. The raised temperatures determined premature appearance of this species, the period of flight is June-July (Panin & Săvulescu, 1961);

- one pair in copula, Gurbediu forest, June 1, 2018. This species and *Dorcadion murrayi* KUST. were intense hunted by *Passer montanus* LINNAEUS, 1758 and *Passer domesticus* LINNAEUS, 1758 (Aves Class).

Common species.

- *Dorcadion murrayi* KUSTER, 1847:

- many specimens in Tinca village during April-May, 2018.

Common species.

Family Chrysomelidae:

- *Altica oleracea* (LINNAEUS, 1758):

- four specimens (two specimens-typical form, two specimens belonging to chromatic variety *lugubris* WEISE), Tinca, April 13, 2018, t = 23 °C.
Common species.
- *Cassida viridis* LINNAEUS, 1758:
- two specimens, Tinca spa, April 15, 2018.
Common species.
- *Chaetocnema concinna* (MARSHAM, 1802):
- three specimens, Tinca, May 15, 2018.
Common species.
- *Chrysolina aurichalcea* ssp. *bohemica* (MÜLLER, 1948) - ab. *gibbipennis* FALDERMANN, 1835:
- one female specimen, feeding the pollen of *Digitaria sanguinalis* (L.) SCOP., at the edge of Tinca forest, July 26, 2018. This subspecies is mentioned for the first time in Romania. It is interesting that although is a mountainous species, this is the second time when this species is recorded at a low altitude, other mention being forest Leamna, Dolj County (80-100 m altitude; Ilie, 1999).
Relatively rare species at national level.
- *Chrysolina fastuosa* SCOPOLI, 1763:
- two specimens, Tinca, April 14, 2018, t = 23 °C (first observation of the year in area);
- one pair in copula, Tinca, August 1, 2018.
Common species.
- *Chrysolina limbata* (FABRICIUS, 1775):
- one female specimen, Tinca, June 8, 2018.
Common species.
- *Chrysolina sturmi* WESTHOFF, 1882:
- one male specimen, Tinca, June 23, 2018;
- one pair, Tinca, June 29, 2018;
- one female specimen feeding the pollen of *Digitaria sanguinalis* (L.) SCOP., at the edge of Tinca forest, July 22, 2018;
- one pair, Tinca, August 2, 2018.
Common species.
- *Chrysomela vigintipunctata* SCOPOLI, 1763:
- one specimen, Tinca, April 13, 2018, in my personal court, although in this place there isn't a willow or a poplar tree like food. This phenomenon was observed by author too in the last years, probably this coleopteran feed other plants besides Salicaceae family.
Common species.
- *Clytra laeviuscula* RATZEBURG, 1837:
- one specimen, Tinca, June 6, 2018;
- one specimen, Tinca, July 3, 2018.
Common species.
- *Cryptocephalus flavipes* FABRICIUS, 1781:
- one female specimen, Tinca, June 9, 2018.

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Common species.

- *Cryptocephalus octacosmus* BEDEL, 1891:

- one male specimen, Tinca, June 13, 2018.

Common species.

- *Cryptocephalus sericeus* (LINNAEUS, 1758):

- one female specimen, Tinca, June 11, 2018.

Common species.

- *Galeruca rufa* GERMAR, 1824:

- one male specimen, Tinca, June 20, 2018. This species presents a pronounced thanatosis (feigning death, approximately two minutes!).

Common species.

- *Gonioctena fornicata* (BRÜGGEMANN, 1873):

- one specimen feeding a leaf of genus *Rumex* L. (Polygonaceae family), Tinca, April 25, 2018. This is a new host plant, unmentioned in literature. The host plants of this species belong to Fabaceae family (Warchalowsky, 1994).

Common species.

- *Labidostomis longimana* (LINNAEUS, 1761):

- five specimens, during June 9 - July 4, 2018, Tinca.

Common species.

- *Leptinotarsa decemlineata* SAY, 1824:

- one female specimen belonging to chromatic variety *basijuncta* PIC., 1870, Tinca, August 11, 2018. This variety is mentioned for the first time in Romania;

- one specimen, Tinca, August 31, 2018.

Common species.

- *Luperus xanthopoda* SCHANK, 1781:

- one female specimen feeding a withered ear of *Hordeum murinum* L. (Poaceae family), Tinca, May 20, 2018. It is surprisingly, because his host plants are the elm, Salicaceae family and some Rosaceae (Warchalowsky, 1994).

Common species.

- *Phaedon laevigatus* (DUFTSCHMID, 1825):

- one male specimen, Tinca, March 13, 2018, t = 7 °C.

Common species.

- *Phyllotreta ochripes* (CURTIS, 1837):

- one male specimen belonging to chromatic variety *cruciata* WEISE, Tinca, June 21, 2017.

Species recently mentioned in Tinca area (Ilie, 2017).

- *Podagrica malvae* (ILLIGER, 1807):

- some specimens feeding with the leaves of *Lamium purpureum* L., but the attacks were very feeble and the plants served too like refuge during the winter 2017-2018. This phenomenon was observed too at *Altica oleracea* (LINNAEUS, 1758).

Common species.

Family Curculionidae:

- *Coniocleonus nigrosuturatus* (GOEZE, 1777):

- one male specimen, Tinca, April 2, 2018, t = 7 °C;

- one female specimen, Tinca, June 5, 2018;
 - one male specimen, Tinca, July 4, 2018.
- Common species.

Order LEPIDOPTERA

Family Hesperidae:

- *Thymelicus sylvestris* (PODA, 1761):
 - two male specimens, Tinca, August 2, 2018.
- Relatively common species in area.

Family Papilionidae:

- *Iphiclides podalirius* (LINNAEUS, 1758):
- one specimen (Fig. 1), Tinca, April 18, 2018, $t = 23^{\circ}\text{C}$;
- six specimens, Tinca, June 10-30, 2018, $t = 22-31^{\circ}\text{C}$;
- two specimens, the edge of Tinca forest, July 26, 2018, $t = 28^{\circ}\text{C}$;
- two specimens, Tinca, August 1, 2018; after these data, when the precipitations were stopped, many specimens were observed.

Generally, common species, but in this year he was relatively rare during the abundant precipitations (April-July).



Figure 1 - *Iphiclides podalirius* (LINNAEUS, 1758) (foto A. L. Ilie).

- *Papilio machaon* LINNAEUS, 1758:
- one specimen, Tinca, April 22, 2018, $t = 24^{\circ}\text{C}$;
- one specimen, Tinca, July 29, 2018;
- one specimen, Tinca, August 21, 2018;

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- one specimen, Tinca, August 30, 2018;

- one specimen, Tinca, August 31, 2018.

There are the single observations of the year, although the period of flight is middle of April-middle of June, July-August. Common species, but very rare in 2018.

Family Pieridae:

- *Anthocaris cardamines* (LINNAEUS, 1758):

- one specimen, Tinca, April 14, 2018, t = 23 °C;

- three specimens, Tinca spa, April 15, 2018, t = 29 °C.

Relatively common species.

- *Colias erate* (ESPER, 1805):

- one male specimen, Tinca, August 21, 2018, t = 34 °C;

- one specimen, Tinca, August 29, 2018;

- one specimen, Tinca, August 31, 2018.

Generally, common species but very rare in 2018, because the abundant precipitations (April-July).

- *Gonopteryx rhamni* (LINNAEUS, 1758):

- one specimen, Tinca, March 12, 2018, t = 16 °C;

- one specimen, Tinca, April 8, 2018, t = 24 °C.

Common species.

- *Leptidea sinapis* (LINNAEUS, 1758):

- one female specimen, Tinca, April 21, 2018, t = 24 °C.

Relatively common species.

- *Pieris brassicae* (LINNAEUS, 1758):

- many specimens during the analysed period.

Very common species.

- *Pieris rapae* (LINNAEUS, 1758):

- same situation like precedent species.

Common species.

- *Pontia edusa* FABRICIUS, 1777:

- one female specimen, Tinca, June 6, 2018, t = 26 °C.

Common species.

Family Riodinidae:

- *Hamearis lucina* (LINNAEUS, 1758):

- one male specimen, Tinca, May 12, 2018;

- two male specimens, Tinca, June 24, 2018;

- one male specimen, Tinca, August 2, 2018.

Common species.

Family Lycaenidae:

- *Satyrion ilicis* ESPER, 1779:

- one female specimen, Tinca, June 16, 2018, t = 26 °C, on cultivated roses. Rákósy (2013) mentioned like preference for nectar some plants: species of genus *Thymus* L. or *Sambucus ebulus* L.

Rare species.

Family Nymphalidae:

- *Aglais (Inachis) io* (LINNAEUS, 1758):

- four specimens, Tinca, April 8-14, 2018, t = 23-25 °C;
- three specimens, Tinca spa, April 15, 2018, t = 29 °C;
- one specimen, Tinca, June 5, 2018, t = 21 °C;
- two specimens, Tinca, June 9, 10, 18, 2018, t = 25-26 °C;
- one specimen, Tinca, August 31, 2018, t = 34 °C.

Common species.

- *Apatura iris* (LINNAEUS, 1758):

- one specimen, Tinca, May 26, 2018, t = 24 °C.

Relatively rare species.

- *Argynis paphia* (LINNAEUS, 1758):

- one male specimen, Tinca, August 4, 2018.

Relatively common species.

- *Brintesia circe* (FABRICIUS, 1775):

- one female specimen, Tinca, June 16, 2018, t = 26 °C;
- two species, Tinca forest, July 26, 2018, t = 28 °C;
- one female specimen, Tinca, August 19, 2018, t = 33 °C.

Relatively rare species.

- *Issoria lathonia* (LINNAEUS, 1758):

- one male specimen, Tinca, April 8, 2018, t = 24 °C;
- two male specimens, Tinca, August 3, 2018.

Common species.

- *Neptis hylas* (LINNAEUS, 1758):

- many specimens, Tinca and Râpa forests, during the analysed period.

Common species.

- *Nymphalis antiopa* (LINNAEUS, 1758):

- one specimen, Tinca spa, April 15, 2018, t = 29 °C. The specimen presented the edge of wings coloured white and not yellow, specific to the specimens who hibernated (Rákossy, 2013).

Relatively common species.

- *Pararge aegeria tircis* (GODART, 1821):

- one specimen, Tinca, April 16, 2018, t = 23 °C;
- many specimens during August 2018.

Common species.

- *Polygonia c-album* (LINNAEUS, 1758):

- one specimen, Tinca, June 7, 2018, t = 27 °C.

Common species.

- *Vanessa atalanta* (LINNAEUS, 1758):

- three specimens, Tinca, April 15 - July 17, 2018, t = 21-30 °C.

Very common species.

- *Vanessa cardui* (LINNAEUS, 1758):

- three specimens, Tinca, April 8, 2018, t = 24 °C;
- one specimen, Tinca, July 6, 2018, t = 22 °C.

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Common species.

Family Saturniidae:

- *Saturnia pyri* DENIS & SCHIFFERMULLER, 1775:

- one female specimen, Tinca, May 3, 2018.

Common species in area.

Family Sphingidae:

- *Acherontia atropos* (LINNAEUS, 1758):

- one specimen, Tinca, June 12, 2018.

Rare species.

- *Agrius convolvuli* (LINNAEUS, 1758):

- one-two specimens every day, during August 18-31, 2018.

Migratory species.

- *Hyles euphorbiae* (LINNAEUS, 1758):

- one specimen, Tinca, April 9, 2018, t = 25 °C. Although the period of flight for this species is till September, this species was not observed till September 1, 2018.

Common species.

Family Erebididae:

- *Amata phegea* (LINNAEUS, 1758):

- one specimen, Tinca spa, June 11, 2018, t = 26 °C.

Relatively common species.

CONCLUSIONS

In Tinca area, during the analysed period, were recorded 63 species of insects belonging to four orders. Many species are common, but the number of specimens is very little because the anthropogenic pressure and the climatic changes. One subspecies is mentioned for the first time in Romania: *Chrysolina aurichalcea* ssp. *bohémica* (MULLER, 1948) and one species is recently mentioned in area: *Phyllotreta ochripes* (CURTIS, 1837). There were observed some ecological aspects unmentioned in literature.

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