

RESEARCHES REGARDING THE ENTOMOFAUNA OF COCCINELLIDAE (COLEOPTERA-COCCINELLIDAE) FROM THE WHEAT CROP FROM THE NORTH-EAST PART OF MOLDAVIA

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ABSTRACT

The purpose of this research is that to identify the useful entomofauna of Coccinellidae (Coleoptera-Coccinellidae) within the maize crop that has been taken into this study. The researches were carried out within Ezareni station which belongs to University of Applied Sciences of Iasi, Romania. The biological material was sampled by the mean of entomological net from May 12th to June 19^h of 2018. In total, 7 samples were made. In order to collect insects, 10 plants were hiten for one minute each one. After finishing the experiments within the field, the insects were brought into the Laboratory of Entomology, in order to be counted and identified. From the Coccinellidae family, the most dominant species were: *Coccinella septempunctata* (32 samples) and *Adalia bipunctata* (27 samples) and *Harmonia axyridis* (16 samples).

INTRODUCTION

Coccinellidae family has species of round or oval species, almost hemispherical, with spots on the wings with color spots and contrasting patterns. The most species of Coccinellidae are beneficial predators which prefer the aphids as main feed.

According to the author (Foltz, 2002), there are more than 5000 species all around the world. The most representative species of the Coccinellidae family are: *Coccinella 7-punctata*, *Adonia variegata*, *Chilocorus bipustulatus*, *Adalia bipunctata*.

The insects of Chrysomelidae family are commonly known as leaf beetles and include more than 50000 species, making up one of the most common encountered of all beetle families. Many species represent serious pests of cultivated plants (e.g. *Leptinotarsa decemlineata*-Colorado potato beetle).

MATERIAL AND METHOD

In order to carry out the researches, the insects were sampled from one station (Ezareni) from Iasi county, which belongs to University of Applied Sciences of Iasi, Romania, by using the entomological net method. The experiments took place from May to June

of 2018. There were 7 samples carried out in total, the first one being at 12th of May and the last one being at June 19^h of 2018. 10 plants were hiten for one minute each one.

RESULTS AND DISCUSSIONS

The samples of the biological material were carried out at the following dates: 12.05, 16.05, 22.05, 29.05, 05.06, 12.06, 19.06 of 2018.

The situation looks as follows (**table 1**):

12.05: there were 2 samples identified belonging to *Coleoptera* order, families: *Cerambycidae* (1) and *Chrysomelidae* (1). There was no sample belonging to *Coccinellidae* family.

16.05: there were 5 samples identified from *Coleoptera* order, families: *Coccinellidae* (3), *Cantharidae* (1) and *Chrysomelidae* (1);

22.05: there were 10 samples identified from *Coleoptera* order, belonging to the following families: *Chrysomelidae* (1) and *Coccinellidae* (9);

29.05: there were 37 samples identified from *Coleoptera* order, families: *Chrysomelidae* (7), *Cerambycidae* (2) and *Coccinellidae* (28);

05.06: there were 29 samples identified from *Coleoptera* order, belonging to the following families: *Chrysomelidae* (2), *Cerambycidae* and *Curculionidae* (each 1 sample) and *Coccinellidae* (25);

12.06: there were 19 samples identified from *Coleoptera* order, that belong to *Chrysomelidae* family.

19.06: there were 77 samples identified from *Coleoptera* order, belonging to the following families:

Coccinellidae (63) and *Chrysomelidae* (14).

Situation on families to which belong the sampled *Coleoptera* species looks as follows: (**table 2**)

Results regarding structure of coccinelids (*Coleoptera-Coccinellidae*) sampled from the wheat crop looks as follows (**table 3**):

The species of *Coccinellidae* represent a percent of 71.51% of total number of *Coleoptera* (179) (**table 4**).

CONCLUSIONS

- The coccinelids species have been sampled at 5 of a total of 7 samples, with a total of 128 samples and representing 71.51% from the total number of *Coleoptera* (179);

- It was identified a number of 8 species, the most abundant species being *Coccinella septempunctata* (32 samples), followed by *Adalia bipunctata* (27 samples) and *Harmonia axyridis* (16 samples).

- *Cantharidae* species have been sampled at one of all 7 samples, with a total of 1 sample;

- *Cerambycidae* species have been sampled at three of all 7 samples, with a total of 4 samples;

- *Chrysomelidae* species have been sampled at all 7 samples, with a total of 45 samples;

- *Curculionidae* species have been sampled at one of all 7 samples, with a total of 1 sample.

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Table 1

Structure, abundance, dynamic of Coleopteras species sampled within the wheat crop in 2018

No/sample date	Species/Family	No.of samples	Total
I 12.05	<i>Cerambycidae</i>	1	1
	<i>Chrysomelidae</i>	1	1
		TOTAL SAMPLES	2
II 16.05	<i>Coccinella septempunctata</i>	3	3
	<i>Cantharidae</i>	1	1
	<i>Chrysomelidae</i>	1	1
		TOTAL SAMPLES	5
III 22.05	<i>Coccinella septempunctata</i>	9	9
	<i>Chrysomelidae</i>	1	1
		TOTAL SAMPLES	10
IV 29.05	<i>Coccinella septempunctata</i>	11	11
	<i>Coccinella 10-punctata</i>	9	9
	<i>Propylaea quatordecimpunctata</i>	8	8
	<i>Cerambycidae</i>	2	2
	<i>Chrysomelidae</i>	7	7
		TOTAL SAMPLES	37
V 05.06	<i>Coccinella septempunctata</i>	9	9
	<i>Harmonia axyridis</i>	16	16
	<i>Cerambycidae</i>	1	1
	<i>Curculionidae</i>	1	1
	<i>Chrysomelidae</i>	2	2
	TOTAL SAMPLES	29	
VI 12.06	<i>Chrysomelidae</i>	19	19
		TOTAL SAMPLES	19
VII 19.06	<i>Adalia bipunctata</i>	27	63
	<i>Adonia variagata</i>	15	
	<i>Coccinella 10-punctata var.subpunctata</i>	15	
	<i>Exochomus quadripustulatus</i>	6	
	<i>Chrysomelidae</i>	14	14
	TOTAL SAMPLES	77	

Table 2

Entomofauna of Coleopteras sampled by the mean of entomological net-Ezăreni-Wheat crop

Family	No. of sample							Total
	I	II	III	IV	V	VI	VII	
<i>Cantharidae</i>	-	1	-	-	-	-	-	1
<i>Cerambycidae</i>	1	-	-	2	1	-	-	4
<i>Chrysomelidae</i>	1	1	1	7	2	19	14	45
<i>Coccinellidae</i>	-	3	9	28	25	-	63	128
<i>Curculionidae</i>	-	-	-	-	1	-	-	1
TOTAL	2	5	10	37	29	19	77	179

Table 3

Structure of coccinellids sampled within wheat crop

Current no.	Name of species	No.of samples
1.	<i>Coccinella septempunctata</i>	32
2.	<i>Adalia bipunctata</i>	27
3.	<i>Harmonia axyridis</i>	16
4.	<i>Adonia variegata</i>	15
5.	<i>Coccinella 10 punctata var.subpunctata</i>	15
6.	<i>Coccinella 10-punctata</i>	9
7.	<i>Propylaea quatordecimpunctata</i>	8
8.	<i>Exochomus quadripustulatus</i>	6
	TOTAL=8 species	128

Table 4

Fauna of coccinellide (*Coleoptera-Coccinellidae*) on total harvests depending on Coleopteras number-Wheat crop

Coccinellidae species	No. of samples	Total coccinellidae	Total Coleopteras	% of total Coleopteras	No of samples
<i>Coccinella septempunctata</i>	32	128	179	71.51 %	7
<i>Adalia bipunctata</i>	27				
<i>Harmonia axyridis</i>	16				
<i>Adonia variegata</i>	15				
<i>Coccinella 10-punctata var.subpunctata</i>	15				
<i>Coccinella 10-punctata</i>	9				