

BENEFICIAL ENTOMOFAUNA FROM THE CABBAGE CROP FROM THE BANU MĂRĂCINE, CRAIOVA AREA

ENTOMOFAUNA UTILA DIN CULTURA DE VARZĂ DIN ZONA BANU MĂRĂCINE, CRAIOVA

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Abstract. Knowledge of beneficial species, their density and behavior is essential to the integrate pest control. Following our research, conducted at SD Banu Maracine, Craiova cabbage crop, we identified 37 species of beneficial insects which has intervening in the cabbage pest density. Beneficial fauna identified in SD Banu Maracine consists of predators, parasites and few pantofagi. Parasites and predators feed on eggs, larvae and adult insects present in cabbage crops. The beneficial fauna comprised species framed in two classes: Insecta, Arachnida; six orders: Neuroptera, Heteroptera, Coleoptera, Hymenoptera, Diptera, Araneae.

Key words: beneficial entomofauna, cabbage, Banu maracine

Rezumat. Cunoașterea speciilor utile, a densității și comportării lor este o condiție esențială în integrarea pe baze științifice a mijloacelor de combatere. În urma cercetărilor noastre, efectuate la SD Banu Maracine în cultura de varză Craiova, am identificat 35 specii de insecte utile care au intervenit în reglarea densității dăunătorilor verzei. Fauna utilă identificată la SD Banu Maracine este formată din prădători, paraziți și foarte puțini pantofagi. Paraziții și prădătorii se hrănesc cu ouă, larve de insecte și adulți ai insectelor dăunătoare prezente în culturile de varză. Entomofauna utila a cuprins specii încadrate în doua clase: Insecta, Arachnida; șase ordine: Neuroptera, Heteroptera, Coleoptera, Hymenoptera, Diptera, Araneae.

Cuvinte cheie: entomofauna utila, varza, Banu Maracine

INTRODUCTION

In our country cabbage has a high prevalence area and found favorable growing conditions in all counties, especially on meadows, excepting mountains and arid area (Mitrea, 2005). The largest area cultivated in irrigated system are found in the Danube Plain, West Plain, Southeast and the Transylvanian Plateau.

Lately there has been a strong multiplication of the pest species and there has increased the damage produced by the cabbage moth (*Mamestra brassicae* L.), turnip flea beetle (*Phyllotreta undulata* Kutsch.), cabbage aphid (*Brevicoryne brassicae* L.) and cabbage fly (*Delia brassicae* L.) (Andow et al., 1986).

In order to reduce the damage caused by these pests were undertaken studies and research regarding the integrated control of them. For this an

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important link is the knowledge of the useful fauna that can help restore the biocenotic balance (Root, 1973).

MATERIAL AND METHOD

The research has been made at the S.D. Banu Maracine, on an area of 2000 m², cultivated with autumn cabbage, Buzau variety. The crop has been set up in the first decade of July, preceded by a crop of peas.

Regarding the collection and identification of beneficial entomofauna from the cabbage crop.

Determinations consists in:

- ground surveys, using the metrical frame 25/25 cm;
- collecting with entomological net;
- collecting with traps installed from the beginning to harvesting crops.

Collecting of biological material was made weekly. Biological material collected was analyzed and determined using the binocular magnifier glass using the Panin Identification Manual (Panin, 1951).

RESULTS AND DISCUSSIONS

Following our research, conducted in the cabbage crops of the Banu Maracine Craiova, we identified 35 species of beneficial species, which were intervening in the regulation of the cabbage pest density (table 1).

Useful fauna identified in S.D. Banu Maracine consists of predators, parasites and few pantophagi.

Parasites and predators feed on eggs, insects larvae and adults of the harmful species present in cabbage crops (Thompson, 1984) .

Species of Coleoptera order are most numerous (61%), followed by representatives of the orders Hymenoptera (21%) and Neuroptera (9 %).

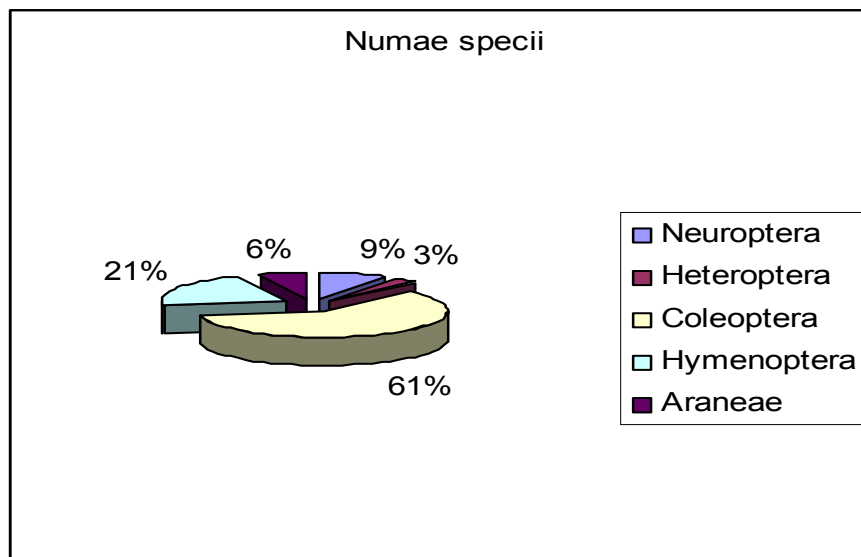


Fig. 1 – Beneficial entomofauna, order classification

Table 1

Beneficial species identified in the cabbage crop from SD Banu Maracine, 2011

Class	Orderl	Family	Species	Trophic relations
Insecta	Neuroptera	Chrysomidae	<i>Chrysopa carnea</i> Steph.	predator
			<i>Chrysopa perla</i> L.	predator
			<i>Chrysopa septempunctata</i> Wes.	predator
	Heteroptera	Nabidae	<i>Nabis rugosus</i> L.	predator
	Coleoptera	Carabidae	<i>Bembidion lampros</i> Hrbst.	predator
			<i>Bembidion quadrimaculatum</i> L.	predator
			<i>Brachynus elegans</i> Chand.	predator
			<i>Anisodactylus signatus</i> Panz.	predator
			<i>Abax ater</i> Vill.	predator
			<i>Agonum dorsale</i> Pont.	predator
			<i>Poecilus cupreus</i> L.	predator
			<i>Poecilus sericeus</i> Fw.	predator
			<i>Pseudophonus rufipes</i> Deg.	predator
			<i>Pterostichus melanarius</i> Ill.	predator
			<i>Pterostichus vernalis</i> Panz.	predator
			<i>Calathus halensis</i> Sch.	predator
			<i>Clivina fossor</i> L.	predator
			<i>Carabus cancellatus</i> Ill.	predator
		Cicindelidae	<i>Cicindela germanica</i> L.	predator
		Staphylinidae	<i>Lethrobium fulvipene</i> Grav.	predator
			<i>Aleochara bilineata</i> Gvll.	predator
		Coccinellidae	<i>Oxytelus rugosus</i> F.	predator
			<i>Coccinella septempunctata</i> L.	predator
			<i>Adalia bipunctata</i> L.	predator
	Hymenoptera	Ichneumonidae	<i>Diadegma armilata</i> Grav.	parasite
			<i>Thyraella colaris</i> Grav.	parasite
		Braconidae	<i>Apanteles glomeratus</i> L.	parasite
		Aphidiidae	<i>Praon volucre</i> Hal.	parasite
		Trichogrammatidae	<i>Trichogramma evanescens</i> W.	parasite
		Pteromalidae	<i>Hyposoter ebeninus</i> Grav.	parasite
		Formicidae	<i>Formica rufa</i> L.	pantophagous
	Diptera	Larvivoridae	<i>Tachina larvarum</i> L.	parasite
		Syrphidae	<i>Spaerophoa scripta</i> L.	predator
Arachnida	Araneae	Lycosidae	<i>Pardosa agrestis</i> W.	predator
			<i>Pardosa agricola</i> Th.	predator

CONCLUSIONS

According to the obtained results, we can say that at S.D. Banu Maracine, within the vegetable area, cabbage crop, were identified 35 beneficial species.

Among them the weight has been represented by the insect species, namely the ones belonging to Coleoptera order 20 species, grouped into 4 families.

At the opposite pole has been placed the order Heteroptera with one species *Nabis rugosus* L.

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