

**STUDIES CONCERNING THE USEFUL ENTOMOFAUNA IN SOME  
VEGETABLE CROPS IN SOUTHERN OLTENIA**

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**ABSTRACT**

*Vegetable crops are an important technology group that can be grown in our country. The multiple importance of vegetable crops leads to an increased focus on science and technology.*

*This paper aims to make a special contribution of scientific data on useful entomofauna.*

*The research was carried out in the Bratovoesti stationary where three methods of collecting useful insects were used, namely: the spawning method, the Barber soil trap, and the entomological net trapping method.*

*A total of 61 species belonging to 11 orders with 28 families were identified.*

**INTRODUCTION**

In terms of literature, many scientists have studied the useful insects found in vegetable crops.

Whether we are talking about open field or greenhouse vegetable crops, the useful insects inevitably also develop because they feed on the account of harmful entomofauna.

To have rich vegetable harvests, rigorous pest control of vegetable crops is necessary.

In our country, research on the entomofauna found in vegetable species was carried out by Matei Iulia and Bobîrnac in 1986, Tălmăciu Mihai and collaborators in 2017, Istrate and Roşca in 2011, etc.

About the useful entomofauna in Oltenia Mitrea and Bîrzanu carried out research in 2017 and 2020 where they presented the most important species of useful insects and their impact for vegetable crops.

The research was carried out in the private stationary in Bratovoeşti commune, a commune where vegetables are cultivated on large areas.

The high interest in useful insects led to a thorough research on keeping pests below an economic threshold so that useful species are not vulnerable to treatments.

**MATERIAL AND METHOD**

This paper aims to provide scientific data obtained from research on useful insects in vegetable crops in Bratovoesti stationary.

Three methods of collecting useful insects were used, namely: the spawning method, the Barber soil trap, and the entomological net trapping method.

Samples were collected periodically, and 9 traps were considered at 20 meters from the edge and 8 meters between traps at a time.

For the Barber method, plastic boxes were used which had a volume of 500 ml and a diameter of 10 cm with a height of 8 cm, and the solution used was a saline solution with a concentration of 25%.

After collecting the material, it was brought to the Entomology Laboratory of the Faculty of Horticulture where it was determined by means of specialized determinators (Chimişliu, 2002).

The useful entomofauna was subjected to detailed analyses and the identified useful species were treated individually. Identification was carried out by family and order down to species level.

## RESULTS AND DISCUSSION

The results from some vegetable crops concerning the useful entomofauna of the Bratovoesti stationary were obtained and 61 useful and harmful species belonging to the class Insecta were identified. These made a total of 642 identified specimens.

The collected entomofauna was identified and systematically classified in 11 orders as follows: Order Coleoptera - 6 families, Lepidoptera - 5 families, Orthoptera - 4 families, Homoptera, Neuroptera, Heteroptera, Hemiptera, Dermaptera, Hymenoptera, Diptera and Thysanoptera with 1- 2 families each.

The analysis of the useful entomofauna showed that the Order Coleoptera holds the largest percentage, followed by Order Lepidoptera and Orthoptera. (Fig.1).

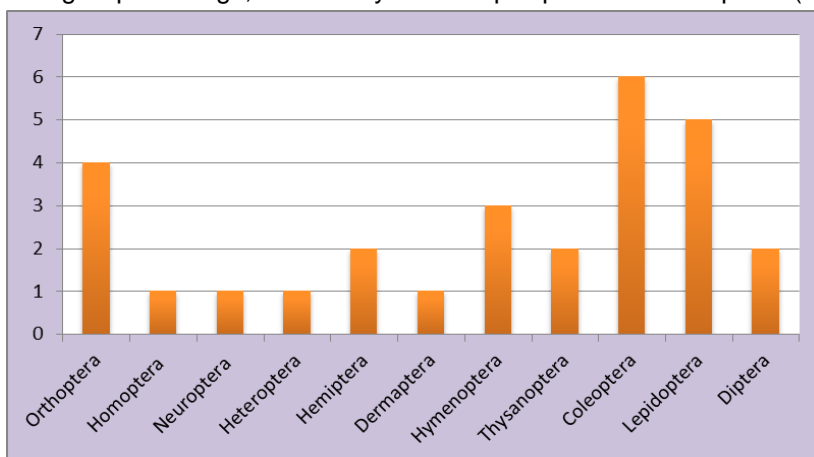


Figure 1. Structure of orders identified in Bratovoesti stationary in 2017

From the point of view of the structure of the species identified, we observe that the largest number of representatives belongs to the Family Chysomelidae (60), followed by the Family Noctuidae (58 specimens), followed closely by the Family Carabidae (51 specimens).

Many specimens were also found in the families: Gryllidae, Acrididae, Pyrrhocoridae, Vespidae, Apidae, Panorpidae, Coccinelidae, Elateridae, Scarabaeidae, Syrphidae and Antonomyidae. (Fig. 2)

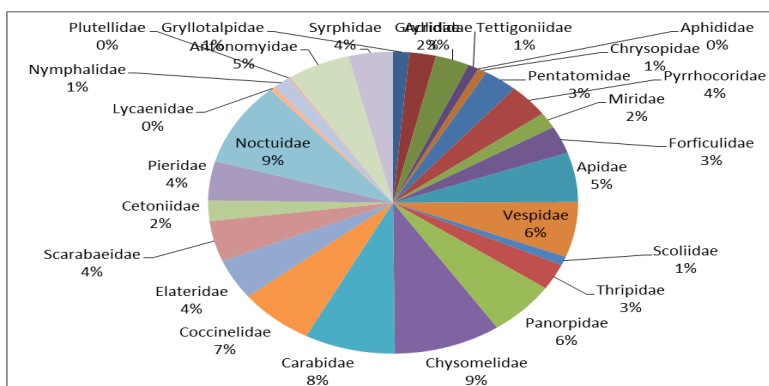


Figure 2. Classification of the families according to the species identified

Of the total number of species identified in the Bratovoesti stationary, 15 insect species were found to be useful, totalling 157 specimens. (Fig. 3.)

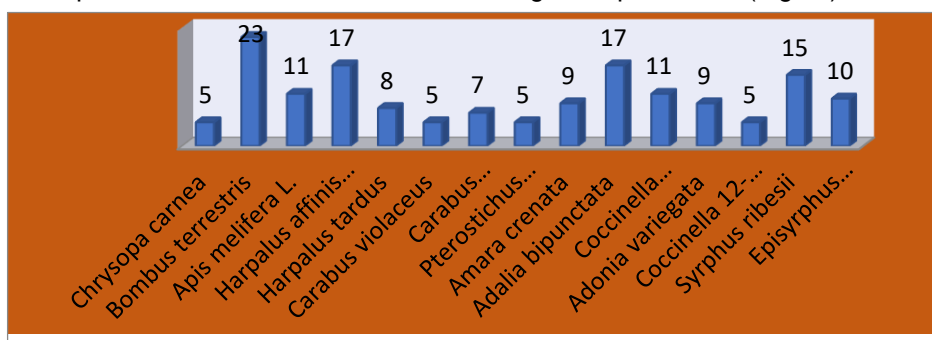


Figure 3. Structure of useful insect species in the Bratovoesti stationary, 2017

The species *Bombus terrestris* had the most specimens collected (23), followed closely by *Harpalus affinis* Schrank and *Adalia bipunctata* (each with 17 specimens), *Syrphus ribesii* with 15 specimens, *Apis mellifera* L. and *Coccinella septempunctata* (each with 11 specimens), and at the last places are *Chrysopa carnea*, *Harpalus tardus*, *Carabus violaceus*, *Carabus cancellatus*, *Pterostichus niger*, *Amara crenata*, *Adonia variegata*, *Coccinella 12-punctata* and *Episyrphus balteatus* Figure 4.)

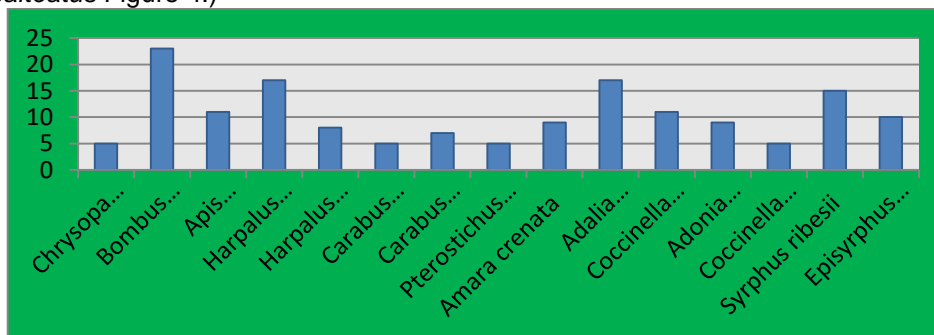


Figure 4. Structure of useful insect species in Bratovoesti stationary

Regarding the species of useful insects collected, the Family Carabidae has the highest number of species identified (6 species), the Family Coccinellidae has 4 species, the Family Apidae and Syrphidae with 2 species each and the last place with only 1 species is the Family Chrysopidae

Family Carabidae had 51 specimens (32%), Family Coccinellidae 42 specimens (27%), Family Apidae with 34 specimens (22%), Family Syrphidae with 25 specimens (16%), and last place was Family Chrysopidae with only 5 specimens (3%) (Figure 5).

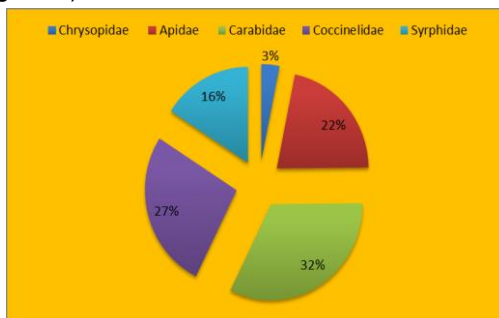


Figure 5. Structure of families identified in Bratovoesti stationary, 2017

## CONCLUSION

Useful entomofauna serve as indicators to solve certain problems, their abundance in ecosystems being of economic interest.

The useful entomofauna identified in the Bratovoesti stationary belongs to 5 families with 15 species and 157 identified specimens.

The Family Carabidae has the highest number of species (6 species), the Family Coccinellidae has 4 species, the Families Apidae and Syrphidae have the same number of species (2) and the last place is occupied by the Family Chrysopidae with only 1 species identified.

*Bombus terrestris* (with 23 specimens) has the highest percentage, while *Coccinella 12-punctata*, *Pterostichus niger*, *Carabus violaceus*, *Chrysopa carnea* are in last place with only 5 specimens each.

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