RESEARCH ON KNOWLEDGE OF SPECIES OF INSECTS BELONGING USEFUL FAUNA IN SOME CHERRY ORCHARDS FROM IAŞI COUNTY

CERCETĂRI PRIVIND CUNOAŞTEREA SPECIILOR DE INSECTE APARŢINÂND FAUNEI UTILE ÎN UNELE PLANTAŢII DE CIREŞ DIN JUDEŢUL IAŞI

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Abstract: *Research on knowledge of useful species of insects was took place and during 2010 from Teaching resort „Vasile Adamachi" Iasi, Rediu Farm and at Research and Development Station for Fruit Tree Growing Iasi National Cherry Collection. For catching insects in orchards we chose for two methods: capture using traps soil type Barber method and beeting method. During the vegetation at traps type Barber have been collected insects at the following dates: 24.05; 09.06; 22.06; 05.07. Through the beeting method have been captured insects on the following dates: 24.05; 09.06; 22.06; 14.07 and 30.07. The most frequently species was: Forficula auricularia L., Brachysomus echinatus, Podonta nigrita F., Attagenus piceus Olivier, Pyrrhocoris apterus L, Carabus coriaceus L., Chrysopa carnea Steph., Coccinella 7 punctata L., Halyzia 12 gutatta and those family belonging: Formicidae, Anyhomiydae, Cicadellidae, Miridae, Lygaeidae*.

Key words: traps soil type Barber, beeting method, useful species, *Attagenus piceus*, *Chrysopa carnea*.

Rezumat: *Cercetări privind cunoaşterea speciilor de insecte utile s-a desfăşurat pe parcursul anului 2010 în staţionarele: Staţiunea Didactică „Vasile Adamachi" Iaşi, Ferma Rediu şi la Staţiunea de Cercetare Dezvoltare pentru Pomicultură Iaşi - Colecţia Naţională de Cireş. Pentru capturarea speciilor de insecte din plantaţiile pomicole am optat pentru două metode: metoda capturării cu ajutorul capcanelor de sol de tip Barber şi metoda frapajului. Pe parcursul perioadei de vegetaţie la capcanele de sol de tip Barber s-au făcut colectări la următoarele date calendaristice: 24.05; 09.06; 22.06; 05.07. Prin metoda frapajului s-au capturat insecte a următoarele date: 24.05; 09.06; 22.06; 14.07 şi 30.07. Speciile frecvent întâlnite au fost: Forficula auricularia L., Brachysomus echinatus, Podonta nigrita F., Attagenus piceus Olivier, Pyrrhocoris apterus L., Carabus coriaceus L., Chrysopa carnea Steph., Coccinella 7 punctata L., Halyzia 12 gutatta cât şi cele aparţinând familiilor: Formicidae, Anyhomiydae, Cicadellidae, Miridae, Lygaeidae.*

Cuvinte cheie: capcane de tip Barber, frapaj, entomofaună utilă, *Attagenus piceus*, *Chrysopa carnea*.

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MATERIAL AND METHOD

The research was conducted in 2010 in cherry orchards in Science Teaching Station "Vasile Adamachi", Rediu Farm and Research and Development Station for Fruit Tree Growing Iasi, National Cherry Collection.

Harvesting of material it was used traps type Barber. Setting traps was installed in mid-May, they worked until the end of July, one six traps for each inpatient. Beting method which consisted of shaking suddenly two branches of 30-50 cm length of 10 trees (Herea Monica et al., 2010).

The research are made to continue in 2009 to establish a structure of parasitic and predatory insect species, and useful depending on the parking surveys were conducted and by default depending on the degree of pollution

From material collected were selected only species belonging useful entomofauna.

RESULTS AND DISCUSSIONS

Results of useful entomofauna centralize represented by parasitic, predatory and indifferent insect species, were met in Science Teaching Station "Vasile Adamachi", Rediu Farm and Research and Development resort for Fruit tree growing Iasi National Cherry Collection using traps Barber type and beating method. In the "Vasile Adamachi" Iasi Farm from table 1 using traps type Barber from collections we recorded a total of 472 samples belonging to orders Heteroptera, Coleoptera, Hymenoptera, Dermaptera.

Table 1

The situation of trap collections by Barber method of "Vasile Adamachi" farm in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Heteroptera	1	Pentatomiidae	1	Pd
	2	Miridae	3	Pd
Coleoptera	1	*Harpalus aeneus* L.	3	Pd
	2	*Cymindis vaporariorum* L.	1	Pd
	3	*Olibrus affinis* Sturm.	1	Pd
	4	*Harpalus distinguendus* Duft.	2	Pd
	5	*Cymindis humeralis* Fouk.	4	Pd
	6	*Harpalus calceatus* Duft.	1	Pd
	7	*Attagenus piceus* Olivier	4	Pd
	8	*Staphylinus caesareus* Cederh	2	Pd
	9	*Amara eurynota* Duft.	1	Pd
	10	*Dromius longiceps* Dejean.	3	Pd
Hymenoptera	1	Formicidae	249	Pd
	2	Ichneumonidae	12	Pz
	3	Syrphidae	1	Pz
	4	Apoidea / Apidae	2	U
	5	Encyrtidae	3	Pz
Dermaptera	1	*Forficula auricularia* L.	15	Pd
	2	Ixodes	1	Pd
	3	Aranea /Araneidae	3	Pd
Total			472	

In the Farm Miroslava Iasi belogning Research and Development Station for Fruit Tree Growing Iasi, National Cherry Collection from table 2 using traps type Barber from collections we recorded a total of 221 samples belonging to orders Hymenoptera, Coleoptera, Heteroptera.

Table 2

The situation of trap collections by Barber method of Miroslava Farm belonging Research and Development Station for Fruit Tree Growing Iasi, National Cherry Collection Iaşi in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Hymenoptera	1	Formicidae	183	Pd
	2	Encyrtidae	3	Pz
	3	Ichneumonidae	5	Pz
	4	Chalcididae	2	Pz
	5	Torymidae	1	Pz
	6	Apoidea	3	U
Coleoptera	1	*Harpalus distinguendus* Duft.	1	Pd
	2	*Ontophagus lenur* F	1	U
	3	*Harpalus tardus* Panz	1	Pd
	4	*Microlestes minutulus* Goeze.	2	Pd
	5	*Halyzia 12 gutatta* L.	2	Pd
	6	*Dermestes lardarius* L	11	Pd
	7	*Chalatus fuscipes* Goeze	3	Pd
Heteroptera	1	Miridae	3	Pd
Total			221	

Pd- predator species; Pz – parasite species; U - useful species.

Table 3

The situation of trap collections by Barber method of Rediu farm in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Dermaptera	1	*Forficula auricularia* L.	15	Pd
Hymenoptera	1	Formicidae	149	Pd
	2	Apidae	3	U
	3	Ichneumonidae	13	Pz
	4	Encyrtidae	4	Pz
	5	Omiscidae	12	U
Coleoptera	1	*Ontophagus taurus* Lat.	14	U
	2	*Calathus fuscipes* Goeze.	2	Pd
	3	*Calathus metallicus* Dejean.	1	Pd
	4	*Cantharis fusca* F.	5	Pd
	6	*Harpalus calceatus* Duft.	2	Pd
	7	*Harpalus aeneus* L.	3	Pd
	8	*Cymindis humeralis* Fourc.	4	Pd
	9	*Attagenus piceus* Olivier	4	Pd
	10	*Amara eurynota* Panz.	1	Pd
	11	*Dromius longiceps* Dejean.	1	Pd
Heteroptera	1	*Pyrrhocoris apterus* L.	4	Pd
	2	Miridae	3	Pd
Acari	1	Aranea	3	Pd
Total			244	

In the Farm Rediu Iasi from table 3 using traps type Barber from collections we recorded a total of 244 samples belonging to orders Dermaptera, Hymenoptera, Coleoptera, Heteroptera and Acari.

The "Vasile Adamachi" Farm from table 4 using the beating method after harvesting we recorded a total of 82 samples belonging to the orders Hymenoptera, Coleoptera, Neuroptera and Dermaptera.

Table 4

The situation of collections by beating method of "Vasile Adamachi" farm in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Hymenoptera	1	Formicidae	25	Pd
	2	Chalcididae	12	Pz
	3	Braconidae	6	Pz
	4	Cynipidae	2	Pz
	5	Encyrtidae	4	Pz
	6	Eulophidae	1	Pz
	7	Pteromalidae	2	Pz
	8	Scelionidae	10	Pz
Coleoptera	1	*Cantharis assimilis* Payk.	1	Pd
	2	*Cartodere elongata* Curtis.	1	Pd
	3	*Coccinella bipunctata* L.	1	Pd
	4	*Stethorus punctilum* Wiesse.	5	Pd
Neuroptera	1	*Chrysopa carnea* Steph.	9	Pd
Dermaptera	1	*Forficula auricularia L.*	3	Pd
Total			82	

Pd- predator species; Pz – parasite species; U - useful species.

The Rediu Farm from table 5 using beating method after harvesting we recorded a total of 63 samples belonging to the orders Coleoptera, Hymenoptera, Neuroptera, Dermaptera and Heteroptera.

Table 5

The situation of collections by beating method of Rediu farm in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Coleoptera	1	*Cantharis flavipes* F.	1	Pd
	2	*Cantharis assimilis* Payk.	1	Pd
	3	*Cartodere elongata* Curtis.	1	Pd
	4	*Stethourus punctilum* Wiesse.	4	Pd
Hymenoptera	1	Formicidae	17	Pd
	2	Braconidae	9	Pz
	3	Chalcididae	5	Pz
	4	Cynipidae	2	Pz
	5	Encyrtidae	1	Pz
	6	Eurytomidae	2	Pz
	7	Pteromalidae	3	Pz
	8	Scelionidae	5	Pz
	9	Vespidae	1	U
Neuroptera	1	*Chrysopa carnea* Steph.	6	Pd
Dermaptera	1	*Forficula auricularia* L.	1	Pd
Heteroptera	1	Miridae	4	Pd
Total			63	

Pd- predator species; Pz – parasite species; U - useful species.

Miroslava farm belonging to SCDP from table 6 Iasi using the beating method after harvesting we recorded a total of 36 samples representing two orders Coleoptera and Hymenoptera.

Table 6

The situation of collections by beating method of Miroslava farm belonging SCDP Iaşi in 2010

Order	No.	Name of species or a family	Total	Type of fauna
Coleoptera	1	*Stethourus punctilum* Wiesse.	24	Pd
Hymenoptera	1	Ichneumonidae	2	Pz
	2	Formicidae	2	Pd
	3	Pteromalidae	4	Pz
	4	Scelionidae	4	Pz
Total			36	

Pd- predator species; Pz – parasite species.

It is necessary to fight to be taken into account taxonomy studies (Talmaciu M. et al, 2003) determination of host and parasite species and predators, studies the biology, ecology studies the influence of climate factors, relationships between species attacked and harmful pests and species of parasites, the importance of parasites in limiting pest population.

These studies are offered guided intervention of human, in order to reduce damage and recovery biocenotic balances and observations conducted in the four stationary we noted that all species of insects belonging useful entomofauna 2010 is 1098 samples. The method used traps type Barber amounted to a total of 917 samples (fig. 1) and beating method were collected a total of 181 specimens (fig. 2).

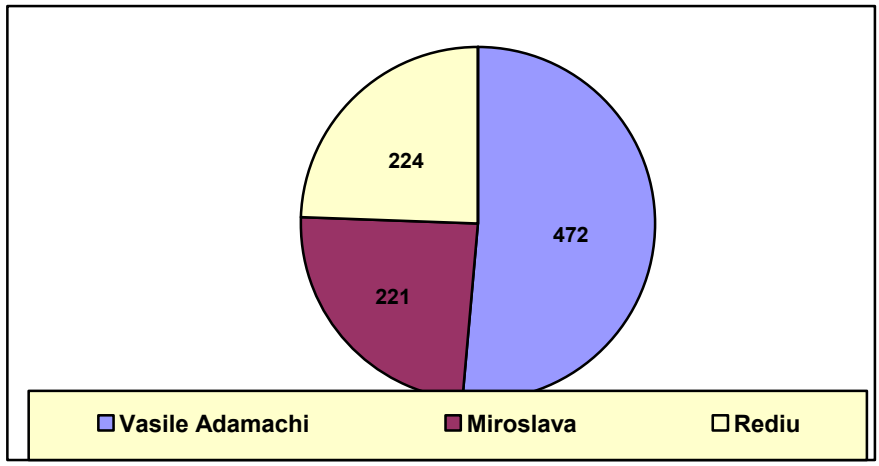

Fig. 1 - The general situation of useful entomofauna collected using traps type Barber in three stationary.

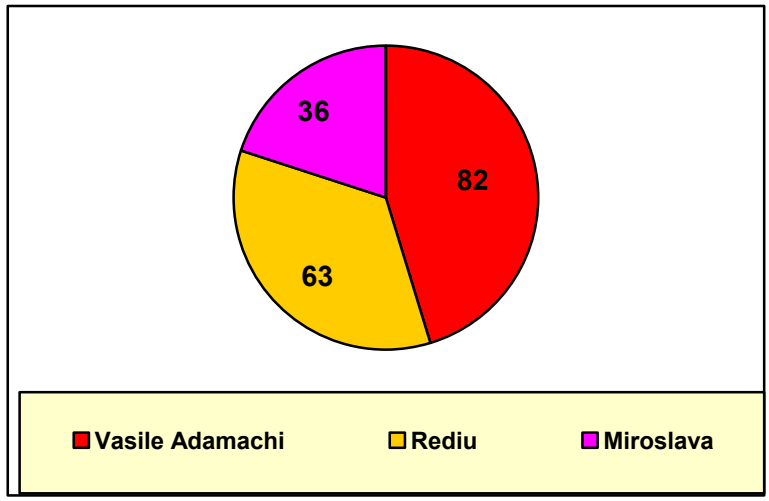

Fig. 2 - The general situation of useful entomofauna collected using beating method in three stationary

From this analysis shows that the number of samples representing useful entomofauna from Barber method is significantly greater than the number of samples collected by beating method.

CONCLUSIONS

1. In the investigated stationary in entomofaunistic terms the useful species have been identified are: Ichneumonidae, Formicidae, Braconidae, Scelionidae, Chalcididae, *Ontophagus taurus*, *Stethourus punctilum*, *Cartodere elongata* Curtis, *Harpalus aeneus* L. *Dermestes lardarius* L., *Forficula auricularia* L..

2. Biodiversity has been most in the "Vasile Adamachi" Farm using Barber method and biodiversity has been the lowest in Miroslava stationary used the beating method in tree crown.

3. Total number of samples of useful species collected by the two methods in the Iasi stationary was 1098 samples.

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