

CONSTITUTION OF USEFUL AND HARMFUL FAUNA OF MAIZE CROP FROM CLINCENI, DOMNESTI, BRAGADIRU IN 2007

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Abstract

*The research aimed to know the structure of phytophagous and entomophagous fauna of maize crop from Clinceni, Domnesti, Bragadiru, Ilfov, 2007. The material analyzed comprises a total of 282 individuals, of which 138 belonging to the useful fauna and 144 individuals belonging harmful fauna. Entomophagous fauna are represented by species *Allolobophora rosea* L. si Fam. Formicidae. Phytophagous fauna are represented by species, *Agriotes ustulatus* Schall., *Tanymecus dilaticollis* Gyll., *Opatrum sabulosum* L.*

INTRODUCTION

The research was conducted in Bucharest and the surrounding area in order to study the structure and biodiversity of harmful and useful fauna of maize agroecosystems in 2007.

MATERIAL AND METHODS

Harmful and useful fauna was collected in 12 to 13 March 2007 soil survey method (25x25x30 cm). The research points were located at Clinceni, Domnesti and Bragadiru (Ilfov).

RESULTS AND DISCUSSION

The material examined comprises 282 individuals, of which 138 belonging to the harmful fauna and flora belonging to 144 individuals useful fauna. Looking at the overall relative abundance, harmful fauna is 48.94% and 51.06% have useful fauna.

Table 1

Numerical abundance of the useful fauna of maize from Clinceni, Domnești, Bragadiru - 2007

Ord. no.	Group and specie	Clinceni	Domnești	Bragadiru	Total fauna
		Ab.no.	Ab.no.	Ab.no.	
CLASS INSECTA					
Ord. HYMENOPTERA					
1	Fam. FORMICIDAE	5	7	6	18
Ord. COLEOPTERA					
Fam. CARABIDAE					
2	<i>Pterostichus cupreus</i> L.	2	1	2	5
3	<i>Calosoma auropunctata</i> L.	2	1	3	6
Fam. SCARABAEIDAE					
4	<i>Pleurophorus caesus</i> Panz.	2	1	3	6
5	<i>Aphodius luridus</i> Fabritius	1	2	2	5
CLASS MYRIAPODA					
Fam. LITHOBIIDAE					
6	<i>Lithobius forficatus</i> L.	1	2	3	6
7	Fam. GEOPHILIDAE	2	3	0	5
CLASS ARACHNIDA					
Ord. ARANEAE					
8	Fam. LYCOSIDAE	7	6	4	17
CLASS OLIGOCHAETA					
Fam. LUMBRICIDAE					
9	<i>Lumbricus terrestris</i> L.	6	2	4	12
10	<i>Allolobophora caliginosa</i> L.	7	6	11	24
11	<i>Allolobophora rosea</i> L.	5	7	10	22
Fam. ENCHYTRAEIDAE					
12	<i>Fridericea bulbosa</i> Rossa.	3	1	5	9
13	<i>Fridericea bistosa</i> Levester	0	1	2	3
TOTAL USEFUL FAUNA		43	40	55	138

Table 2

Numerical abundance of the harmful fauna of maize from Clinceni, Domnești, Bragadiru - 2007

Ord.No.	Group and specie	Clinceni	Domnești	Bragadiru	Total fauna
		Ab.no.	Ab.no.	Ab.no.	
CLASS INSECTA					
Ord. ORTHOPTERA					
1	<i>Gryllus desertus</i> Pall.	2	1	2	5
Ord. HETEROPTERA					
2	<i>Tritomegas bicolor</i> L.	3	2	1	6
Ord. COLEOPTERA					
Fam. CARABIDAE					
3	<i>Zabrus tenebrioides</i> Goeze.	5	4	6	15
4	<i>Harpalus pubescens</i> Mull.	4	4	5	13
5	<i>Harpalus distinguendus</i> Duft.	4	3	6	13
6	<i>Harpalus aeneus</i> Mull.	2	3	3	8
7	<i>Bembidion properans</i> Steph.	2	3	2	7
Fam. ELATERIDAE					
8	<i>Agriotes ustulatus</i> Schall.	4	3	5	12
9	<i>Agriotes obscurus</i> L.	2	4	4	10
Fam. TENEBRIOIDAE					
10	<i>Opatrum sabulosum</i> L.	4	3	4	11
Fam. ANTHICIDAE					
11	<i>Anthicus hispidus</i> Ross.	7	6	11	24
Fam. CURCULIONIDAE					
12	<i>Tanymecus dillaticollis</i> Gyll.	5	4	3	12
Ord. LEPIDOPTERA					
13	Fam. NOCTUIDAE	1	2	1	4
Ord. DIPTERA					
14	<i>Bibio hortulanus</i> L.	3	0	1	4
CLASS ARACHNIDA					
15	<i>Trombidium holosericeum</i> F.	6	3	1	10
TOTAL HARMFUL FAUNĂ		54	45	55	144

Useful fauna

The 138 samples taken in three villages belonging to 13 systematic units, grouped into four classes - *Insecta*, *Myriapoda*, *Arachnida*, and *Oligochaeta*. Class *Insecta* is represented by two orders - *Hymenoptera* with Fam. *Formicidae* and *Coleoptera* with Fam. *Carabidae* and *Scarabaeidae*. Class *Myriapoda* has two families: *Lithobiidae* and *Geophilidae*. Class *Arachnida* Ord. *Araneae* is the Fam. *Lycosidae*. Class *Oligochaeta* has two families: *Lumbricidae*, *Enchytraeidae*.

Among the towns, the first place is Bragadiru with 55 individuals caught, Clinceni with 43 individuals and Domnesti with 40 individuals. In Clinceni, Domnesti and Bragariru are present species *Allolobophora rosea* L., a significant numerical abundance of 5 individuals, 7 individuals and 10 individuals, respectively.

In Clinceni and Domnesti the presence of Fam. *Geophilidae* are observed with an abundant number of 2 and 3 individuals, respectively.

The arrangement to the numerical abundance of the useful fauna is:

- *Allolobophora caliginosa* L. has overall numerical abundance 7 in Clinceni, 6 in Domnesti and 11 in Bragadiru;
- *Allolobophora rosea* L. has overall numerical abundance 5 in Clinceni, 7 in Domnesti and 10 in Bragadiru;
- Fam. *Formicidae* has overall numerical abundance 5 in Clinceni, 7 in Domnesti and 6 in Bragadiru;
- Fam. *Lycosidae* has overall numerical abundance 7 in Clinceni, 6 in Domnesti and 4 in Bragadiru;
- *Pleurophorus caesus* Panz. has overall numerical abundance 2 in Clinceni, 1 in Domnesti and 3 in Bragadiru;
- *Calosoma auropunctata* L. has overall numerical abundance 2 in Clinceni, 1 in Domnesti and 3 in Bragadiru.

Harmful fauna

It includes 15 taxons with a total of 144 specimens, grouped into two classes - *Insecta* and *Arachnida*. Class *Insecta* is represented by six orders - *Orthoptera* with Fam. *Gryllidae*, *Heteroptera* with Fam. *Cydnidae*, the Order *Coleoptera* Fam. *Carabidae*, *Elateridae*, *Tenebrioidae*, *Scarabaeidae*, *Curculionidae* and *Anthicidae*, Order *Lepidoptera* with Fam. *Noctuidae* and the Order *Diptera* Fam. *Bibionidae*. Class is subclass *Arachnida Acari*.

Among the towns, Bragadiru is in first place with 55 specimens, Clinceni second with 54 specimens and third, with 45 specimens Domnesti.

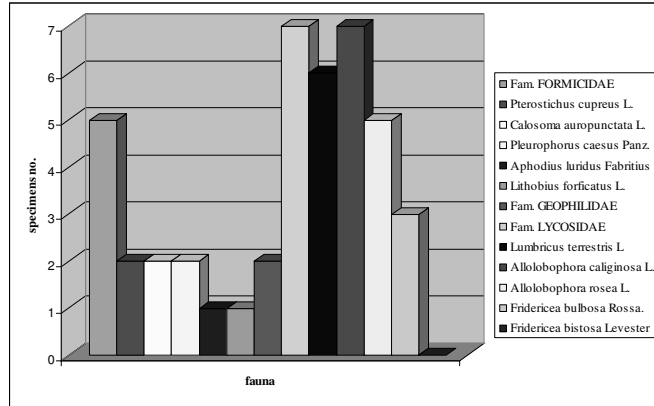


Fig. 1. Useful fauna of maize crop from Clinceni 2007

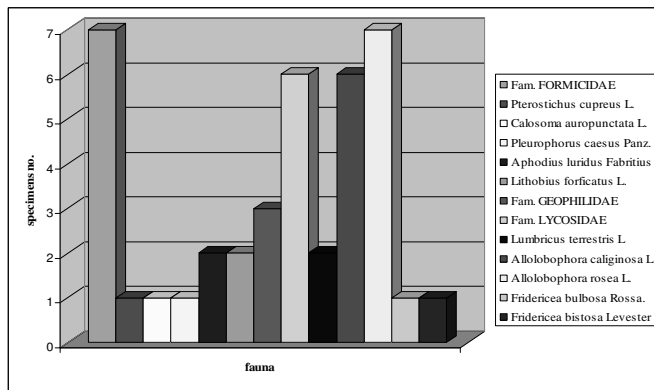


Fig. 2. Useful fauna of maize crop from Domnesti 2007

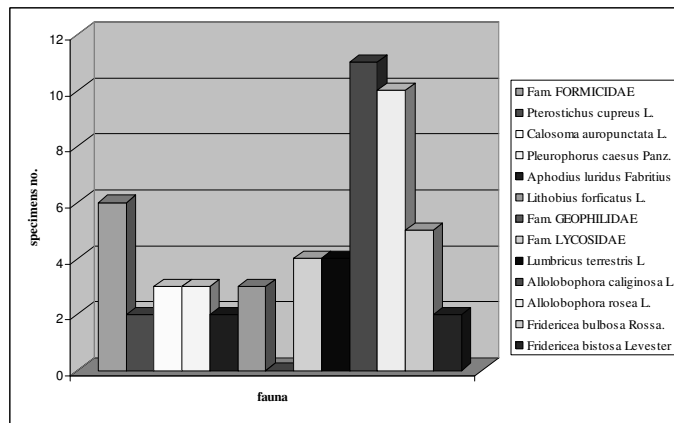


Fig. 3. Useful fauna of maize crop from Bragadiru 2007

In Clinceni, Domnesti and Bragadiru *Anthicus hispidus* Ross specie are present, with a significant numerical abundance of 7 specimens, 6 specimens respectively 11 specimens, and *Agriotes ustulatus* Schall species. with a significant numerical abundance of 4 specimens, 3 specimens and respectively 5 specimens.

The arrangement to the numerical abundance of the harmful fauna is:

- *Anthicus hispidus* Ross. has overall numerical abundance 7 in Clinceni, 6 in Domnesti and 11 in Bragadiru;
- *Zabrus tenebrioides* Goeze. has overall numerical abundance 5 in Clinceni, 4 in Domnesti and 6 in Bragadiru;
- *Harpalus pubescens* Mull. has overall numerical abundance 4 in Clinceni, 4 in Domnesti and 5 in Bragadiru;
- *Harpalus aeneus* Mull. has overall numerical abundance 2 in Clinceni, 3 in Domnesti and 3 in Bragadiru;
- *Agriotes ustulatus* Schall. has overall numerical abundance 4 in Clinceni, 3 in Domnesti and 5 in Bragadiru;
- *Tanymecus dilaticollis* Gyll. has overall numerical abundance 5 in Clinceni, 4 in Domnesti and 3 in Bragadiru;
- *Opatrum sabulosum* L. has overall numerical abundance 4 in Clinceni, 3 in Domnesti and 4 in Bragadiru;
- *Agriotes obscurus* L. has overall numerical abundance 2 in Clinceni, 4 in Domnesti and 4 in Bragadiru.

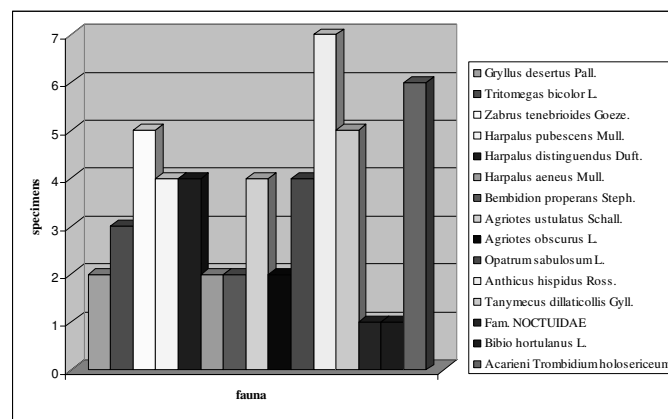


Fig. 4. Harmful fauna of maize crop from Clinceni 2007

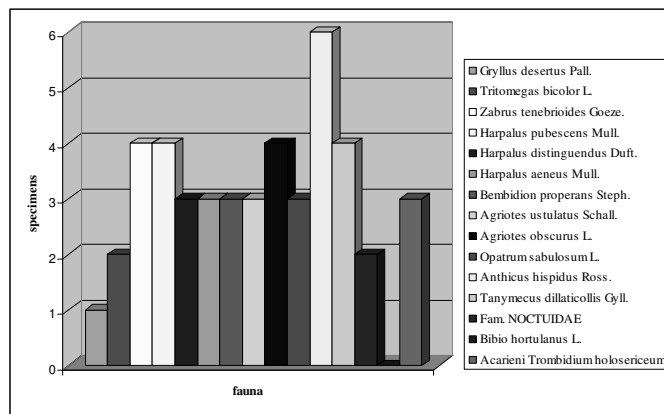


Fig. 5. Harmful fauna of maize crop from Domnesti 2007

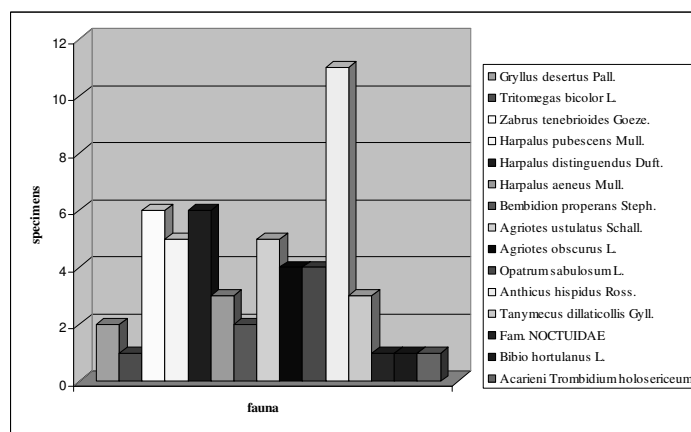


Fig. 6. Harmful fauna of maize crop from Bragadiru 2007

CONCLUSIONS

1. Research was conducted in Clinceni, Domnesti and Bragadiru in 2007, obtaining data on the useful and harmful fauna by the soil survey method.
2. Into the useful fauna structure was observed the presence of the Fam. *Formicidae* with numerical abundance in Clinceni 5, in Domnesti 7 and in Bragadiru 6, *Pleurophorus caesus* Panz. species is the numerical abundance of 2 in Clinceni, 1 in the Domnesti, 3 in Bragadiru.
3. Into the harmful fauna structure was observed the presence of the species *Zabrus tenebrioides* Goeze. with numerical abundance in Clinceni 5, in Domnesti 4, in Bragadiru 6, *Tanymeus dilaticollis* Gyll species with

numerical abundance in Clinceni 5, in Domnesti 4 and 3 in Bragadiru, next *Opatrum sabulosum* L., species with numerical abundance in Clinceni 4, 3 in Domnesti and 4 in Bragadiru.

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