THE SPECTRUM OF THE HARMFUL ARTHROPODS FAUNA FROM THE S.D. BANU MARACINE PLUM ORCHARDS

SPECTRUL FAUNEI DE ARTROPODE DĂUNĂTOARE DIN PLANTAȚIILE DE PRUN DE LA S.D. BANU MĂRĂCINE

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Abstract. *Within the cultivation technology, one of the most important link in order to obtain high and quality yield, is represented by the protection against the diseases and pests. In order to establish the biological reserve of the pests, we have to inventorying and follow the evolution of the pest populations. Also it's very important to know the climatic conditions during the vegetative repose, which can modify the forecast establish in the autumn. The research that make the object of this paper has been materialized through establishing the structure of the harmful fauna of arthropods from the fruit-growing ecosystem Banu Mărăcine- Craiova.*

Rezumat. *În cadrul tehnologiei de cultură, una dintre verigile determinante pentru obținerea de producții mari şi de calitate o reprezintă protecția împotriva bolilor şi dăunătorilor. Inventarierea şi urmărirea evoluției dăunătorilor din zonă pentru a se cunoaşte rezerva biologică pentru anul următor constituie un factor important care trebuie avut în vedere la stabilirea schemelor tehnologice de combatere. Totodată este necesară cunoaşterea condițiilor climatice din perioada repausului vegetativ, care pot modifica prognoza stabilită în toamnă.* Cercetările care fac obiectul acestei lucrări s-au concretizat în *stabilirea structurii faunei de artropode daunatoare din ecosistemul pomicol aparținând S.D. Banu Mărăcine- Craiova.*

The research has been made in a plum orchard at the Didactical Station Banu Maracine, and has focused on the identification of the harmful species of arthropods. During 2007 at the S.D.Banu Maracine there has been collected entomological material, and then analyzed in order to establish the harmful fauna of arthropods that affect the plum trees.

MATERIAL AND METHODS

In order to establish the harmful entomofauna of the plum orchard from S.D. Banu Mărăcine, during 2007, there has been made collects of the entomological material, using different means and method: colecting using the entomological net, pheromonal traps, light traps, food traps, visual control, analyzing the sample with the magnyfing glass and miscroscop, in the field or in laboratory.

The collects has been made in different phenophase of the plum.

The entomological material collected from the Banu maracine ecosystem has been determined using different guides for determine the species of insects .

RESULTS AND DISCUSSIONS

The year 2007 has been characterized by an excesive droughtnes climate with very high temperature during spring and summer (table 1).

Regarding the air relative humidity, had low values during April-September of 36%-66%, which favorized the instalation of a very accented hydric stress climat. We have to notify the droughtness climat, with pluvio-metric deficite of 42,8 mm respectively 48,6 mm (Table 2). Besides the fact that there has been recorded a long period of droughtness, the air average temperature during the vegetation period, has been higher than the multiannual average (table 1).

Table 1

The temperature during the vegetation period in 2007

Month	Average temperature (^{o}C)	
	Monthly average	Multiannual monthly average
January	5,5	-2,6
February	4,0	-0,2
March	7,6	4,8
April	12,9	11,4
May	18,7	16,8
June	23,0	20,9
July	26,5	22,1
August	23,0	22,0
September	15,6	17,5
Total/Average		10,8

Table 2

The humidity during the vegetation period in 2007

Month	Rainfall (mm)		Relative humidity (%)
	Monthly sum	Multiannual monthly sum	
January	17,6	36,4	69,0
February	36,9	31,4	72,0
March	51,3	35,0	64,0
April	0,0	42,8	46,0
May	93,6	61,7	60,0
June	57,6	63,8	57,0
July	5,6	54,6	36,0
August	148,6	43,6	66,0
September	65,6	38,0	71,0
Total/Average		538,5	

The structure analyze of the phytopagous arthropods, from the Banu Maracine ecosystem, impose a first remarque that not all the phytophagous arthropds encountered in the plum orchard, are harmfull for this species. Some of them are only passing, a plum orchard represent an biotope which ensure if not food at least a temporary shelter.

The colected data has been processed and presented in the table 3. Thus, the harmful fauna, encountered in the plum orchard from the fruit-growing ecosystem Banu Maracine, comprise a number of 25 species.

The most numerous order has been *Coleoptera* with 9 species (36%), from the total of 25 species of harmful arthropods, followed by *Lepidoptera* order with 7 species (28%) and *Homoptera* order with 5 species (table 3).

Table 3

The harmful arthropods from the plum orchards S.D. Banu Maracine, 2007

Nr. crt.	Species denomination	Family	Order
1	*Bryobia rubrioculus* Scheut.	*Tetranychide*	*Acari*
2	*Quadraspidiotus perniciosus* Comst.	*Diaspididae*	*Homoptera*
3	*Ceresa bubalus* F.	*Membracidae*	*Homoptera*
4	*Parthenolecanium corni* Bouché	*Coccidae (Lecaniidae)*	*Homoptera*
5	*Hyalopterus pruni* Geoffr.	*Aphididae*	*Homoptera*
6	*Brachycaudus helichrysi* Kalt.	*Aphididae*	*Homoptera*
7	*Rhynchites bachus* L.	*Curculionidae*	*Coleoptera*
8	*Capnodis tenebrionis* L.	*Tenebrionidae*	*Coleoptera*
9	*Perotis lugubris* F.	*Tenebrionidae*	*Coleoptera*
10	*Epicometis hirta* Podo.	*Scarabaeidae*	*Coleoptera*
11	*Rhynchites auratus* Scop.	*Curculionidae*	*Coleoptera*
12	*Rhynchites cupreus* L.	*Curculionidae*	*Coleoptera*
13	*Sciaphobus squalidus* Gyll.	*Curculionidae*	*Coleoptera*
14	*Melolontha melolontha* L.	*Scarabeidae*	*Coleoptera*
15	*Anomala solida* Er.	*Scarabeidae*	*Coleoptera*
16	*Neurotoma nemoralis* L.	*Pamphilidae*	*Hymenoptera*
17	*Vespa vulgaris* L.	*Vespidae*	*Hymenoptera*
18	*Vespa germanica* L.	*Vespidae*	*Hymenoptera*
19	*Grapholitha funebrana* Tr.	*Tortricidae*	*Lepidoptera*
20	*Yponomeuta padellus* L.	*Hyponomeutidae*	*Lepidoptera*
21	*Operophtera brumata* L.	*Geometridae*	*Lepidoptera*
22	*Euproctis chrysorhoea* L.	*Lymantriidae*	*Lepidoptera*
23	*Hyphantria cunea* Drury.	*Arctiidae*	*Lepidoptera*
24	*Aporia crataegi* L.	*Pieridae*	*Lepidoptera*
25	*Lymantria dispar* L.	*Lymantriidae*	*Lepidoptera*

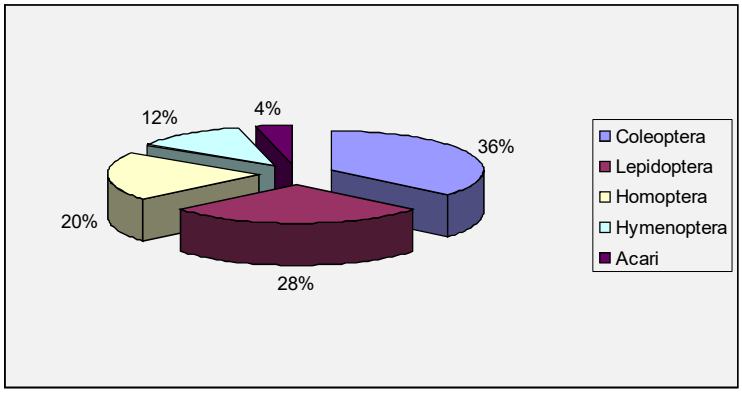

Fig. 1. The structure of the harmful fauna of arthropds in the fruitgrowing area S.D. Banu Mărăcine in 2007

In the plum orchard from the S. D. Banu Maracine, only a few species have a high economically influence. These are the species encountered yera by year, and represent the key species, that required a special attention.

The main pests of the plum in the fruit-growing ecosystem S.D. Banu Maracine are :

- Mealy plum aphid (*Hyalopterus pruni* Fabr.);
- European fruit lecanium (*Parthenolecanium corni* Bouché);
- Small ermine moth (*Hyponomeuta padella* L.).
- Plum moth (*Grapholitha funebrana* Tr.);

CONCLUSIONS

Following the recorded data we can acertain that the main pests of the plum in the fruit-growing ecosystem Banu Maracine, during 2007, has been the following:

- Mealy plum aphid (*Hyalopterus pruni* Fabr.);
- Plum moth (*Grapholitha funebrana* Tr.);

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