

## ABSTRACT

**Keywords: plum, entomofauna useful, pests**

The research paper mainly aims to determine the useful entomofauna and pests that affect or may affect plum plantations of north-eastern Moldova, according to the applied technology culture; each useful the role in maintaining the pest species under the PED; pest and species dynamics and possibilities antagonistic protect it.

PhD thesis contains 191 pages, which includes 54 tables, 14 figures and color photographs and bibliography containing 140 titles. The paper is structured in two parts. The first part of the work includes the introduction and two chapters on the current state of knowledge and the natural issues approached, and the second part presents own research, conclusions and bibliography.

Proposed for the achievement research objectives are:

1. Identification entomofauna collected epigenous plum orchards.
2. Establishing the structure and dynamics of entomofauna epigenous plum orchards.
3. Comparative studies on entomofauna epigenous depending on environmental conditions, stationary, variety and applied technology.
4. Calculation of Ecological entomofauna the main indices collected from main plum the plantations and interpreting the data.

Research on useful and harmful entomofauna plum plantations were conducted in two experimental stationary, in the county of Iasi.

The experience was organized into two stationary:

- Stationary V. Adamachi where 12 traps were placed as follows:

-6 Traps plum plantations cultivated variety Stanley

-6 Traps plum plantations cultivated variety Rivers Early

-stationary Pietrărie in Iasi County, where placed:

-6 Traps plum plantations cultivated variety Stanley

Collection of entomological material was performed using soil traps type Barber, which consisted of the introduction of recipinte the soil was placed a solution of formalin (40%) diluted with water to a concentration of 5%. Location traps was made on two occasions at a distance of 12 meters between rows and 6 meters between traps, 3 each container in a row. Sampling was done in each of the three years of observation (2013, 2014 and 2015) in the period from May to August, at intervals of about 10-20 days.

Taxonomic study, the spread and environmental requirements was performed on material collected in the field using Barber traps.

After collection and species identification can make an assessment of the specific composition of biota epigenous, the seasonally and cenotic their preferences.

**In 2013** the two stationary situation in the species and number of samples collected are as follows:

- **The variety Rivers Early** were collected 265 samples belonging to a total of 22 species; most samples collected have had the following species: *Dermestes lanarius* (42 samples), the species heteroptera (38 samples), *Cyaniris cyan* (34 samples), *Polydrosus sericeus* Schall (26 samples), *Coccinella septempunctata* L (14 samples) Homoptera (cycads) and *Harpalus distinguendus* Duft (12 samples);

In terms of ecological index situation was: Constance (C) most had a species: Heteroptera (bedbugs (35.71) and *Dermestes lanarius* *Dermestes lanarius* and *Polydrosus L. sericeus* (17.85) *Coccinella septempunctata* Schall (14.28), Homoptera (cycads) and *Tomoxia biguttata* (10.71);

Dominance (D) most had a species: *Dermestes lanarius* (17.23), Heteroptera (15.57), *Cyaniris cyan* (13.93), *Polydrosus sericeus* (10.65) and *Coccinella septempunctata* (5.73 );

Ecological significance index (W) had the highest values of species: Heteroptera (bugs (5.56) *Dermestes lanarius* L. (3.07).

By groups of taxon situation is as follows: beetles are most numerous, accounting for 76.25% of the total followed by heteroptera with 15.51% of the total and the lowest share, 5% have had Homoptera (4 , 03%), Hymenoptera (2.96%) and isopods (1.25%).

- **The variety Stanley stationary Vasile Adamachi** were collected 151 samples belonging to a number of 19 species; most samples collected have had the following species: *Dermestes lanarius* (28 samples), the species heteroptera (28 samples), *Coccinella septempunctata* L (27 samples), *Polydrosus sericeus* Schall (15 samples), *Harpalus calceatus* Duft (11 samples) ;

In terms of ecological index situation was as follows:

Constance (C) most had a species: heteroptera (bedbugs (33.33), *Coccinella septempunctata* and *Polydrosus sericeus* Schal (22.22), *Dermestes lanarius* L., *Harpalus calceatus* Duft. and *Tomoxia bigutatta* (11.11 );

Dominance (D) most had a species: *Dermestes lanarius* and Heteroptera (18.54), *Coccinella septempunctata* (17.88), *Polydrosus sericeus* (9.93) and *Harpalus calceatus* (7.28);

Ecological significance index (W) had the highest values of species: heteroptera (bedbugs (6.79), *Coccinella septempunctata* (3.97) *Polydrosus sericeus* (2.20).

By groups of taxon situation is as follows: beetles are most numerous, accounting for 80% of total heteroptera followed by 19% and Homoptera (cycads) 1%.

- **The variety Stanley, stationary Pietrărie** were collected 317 samples belonging to 33 species numbers; most samples collected have had the following species: *Ontophagus ovatus* (55 samples), heteroptera (bedbugs) (30 samples), *Anisodactylus binotatus* (27 samples), *Dermestes lanarius* (18 samples), *Pseudophonus griseus* and *Ontophagus taurus* (15 samples), *Harpalus distinguendus* Duft. (14 samples), *Polydrosus sericeus* Schall (13 samples), Homoptera (cycads) and *Plydrosus amoenus* (12 samples);

In terms of ecological index situation was as follows:

Constance (C) most had a species: *Anisodactylus binotatus* and Heteroptera (bedbugs) (32.14), *Dermestes lanarius* L (21.42), *Polydrosus sericeus* Schall (14.29), Homoptera (cycads) (14.28) *Ontophagus ovatus*, *Polydrosus amoenus* and *Harpalus distinguendus* Duft. (10.71);

Dominance (D) most had a species: *Ontophagus ovatus*, *Ontophagus taurus*, *Hister purpurascens*, *Pseudophonus griseus* (17.35), Heteroptera (9.46) *Anisodactylus binotatus* (8.52) *Dermestes lanarius* (5, 69);

Ecological significance index (W) had the highest values of species: Heteroptera (bugs) (3.04) *Anisodactylus binotatus* (2.74) and *Ontophagus ovatus* (1.85).

By groups of taxon situation is as follows: beetles are most numerous, accounting for 82.97% of the total followed by heteroptera with 9.46% of the total and the lowest share, 5% have had Homoptera (4, 42%), isopods (2.82%) and Hymenoptera (0.32%).

**In 2014**, the two stationary situation in the species and number of samples collected are as follows:

- **The variety Rivers early stationary Vasile Adamachi** were collected 744 samples from a number belonging to 38 species.

In terms of ecological index situation was as follows:

Constance (C) most had a species: Orthoptera (grasshoppers) (37.83), Lepidoptera (larvae) (29.73), Hymenoptera (wasps) and Araneida (27.02), Hymenoptera (bees) (24.32) adult Diptera (21.72), *Galeruca tanaceti* (16.22), *Opatrum sabulosum* and Hymenoptera (ants) (10.81);

Dominance (D) most had a species: Hymenoptera (bees) (12.36), Orthoptera (11.39), Lepidoptera (adults) (11.21);

Ecological significance index (W) had the highest values of species: Orthoptera (grasshoppers) (4.42), Hymenoptera (bees) (3), Lepidoptera (larvae) (1.48) Araneida (1.19) , Hymenoptera (wasps) (1.08).

By groups of taxon situation is as follows: beetles are most numerous, accounting for 38.70% of the total followed by Hymenoptera with 23.52% of the total and the lowest share, 5% have had Araneide (4 , 43%), Gastropoda (1.74%) and Colembola (0.27%).

- **The variety Stanley stationary Vasile Adamachi** were collected 402 samples belonging to 29 species numbers

In terms of ecological index situation was as follows:

Constance (C) most had a species: Diptera and *Amara aenea* (44.82), Orthoptera (locusts) (37,93), *Pseudophonus rufipes* (34.48), Lepidoptera (larvae) (24.13), *Pseudophonus griseus* (20.68), Hymenoptera (bees), Araneide and wasps Hymenoptera (17.24), Hymenoptera (ants), *Anisodactylus binotatus*, Gastropoda (13.79);

Dominance (D) most had a species: *Pseudophonus rufipes* (21.39), *Harpalus distinguendus* (16.91), *Pseudophonus griseus* (9.45) and Orthoptera (grasshoppers) (8.20);

Ecological significance index (W) had the highest values of species: *Pseudophonus rufipes*, *Harpalus distinguendus*, *Amara aenea*, Diptera, Orthoptera (grasshoppers), *Pseudophonus griseus*.

By groups of taxon situation is as follows: beetles are most numerous, accounting for 70.14% of the total followed by Hymenoptera with 11.44% of the total and the lowest share, 5% have had Lepidoptera (4 , 22%), Araneide (2.23%); Diptera (1.99%), Homoptera and Gastropoda (0.99).

- **The variety Stanley stationary Pitrărie** were collected 338 samples belonging to 33 species numbers

In terms of ecological index situation was as follows:

Constance (C) most had a species: Hymenoptera (wasps), Orthoptera (locusts) and Araneide (46.42), Hymenoptera (bees) (35,71), Orthoptera (*Gryllus*) (21.46) Hymenoptera (ants), Gastropoda (snails) and *Podagrica fuscicornis* (17.86), *Pseudophonus rufipes*, Diptera (adults) and *Phyllotreta vittula* (14.29), *Silpha obscure*, *Anisodactylus binotatus*, *Harpalus calceatus* and *Anisodactylus signatus* (10.71) ;

Dominance (D) most had a species: Hymenoptera (wasps) (9.17), *Pseudophonus rufipes* (8.58) Araneide (8.29), Hymenoptera (bees) (8.02), Orthoptera (locusts) (7.10), Hymenoptera (ants) (6.81);

Ecological significance index (W) had the highest values of species: Hymenoptera (wasps) (4.26), Araneida (3.84), Orthoptera (grasshoppers) (3.29), Hymenoptera (bees) (1, 79);

By groups of taxon situation is as follows: beetles are most numerous, accounting for 48.81% of the total followed by Orthoptera with 21.24% of the total and the lowest share, 5% have had gastropods (4 , 43%), Lepidoptera (3.55%) Homoptera (1.77%), Colembola (0.88%).

**In 2015**, two stationary situation in the species and number of samples collected are as follows:

- **The variety Rivers early stationary Vasile Adamachi** were collected 1130 samples belonging to 46 species. By groups of taxon situation is as follows: beetles are most numerous, accounting for 45.93% of the total followed by Hymenoptera with 17.96%, and 12.74% Araneide with then Lepidoptera with 8.94% of total and the lowest share, 5% have had Diptera (4.51%), Gastropoda (4.42%), heteroptera (2.12%), Homoptera (1.59%), Chrisopidae (0, 71), isopods (0.54), miriapode and colebole (0.27%).

- **The variety Stanley stationary Vasile Adamachi** were collected 785 samples belonging to 29 species numbers. By groups of taxon situation is as follows: beetles are most numerous, accounting for 34.65% of the total followed by Hymenoptera with 28.79% of the total and the lowest share, 5% have had heteroptera (3,44%), Homoptera (3.06) and Gastropoda (1.78) Diptera (1.40).

**The variety Stanley stationary Pierărie** were collected 742 samples from belonging to 37 species. By groups of taxon situation is as follows: beetles are most numerous, accounting for 33.96% of the total followed by Hymenoptera with 20.88%, with 10.37% Orthoptera, Araneide with 10.10% Homoptera 8, Gastropoda with 62% and 8.49% of the total and the lowest share, 5% have had Diptera (4.44%), Lepidoptera (2.69%) heteroptera (0.40%).

Throughout the research period, the situation is as follows:

- **The variety Rivers Early of farm Vasile Adamachi** were collected in total 2139 samples. In 2013 the 265 collected samples belonging to 22 species. In 2014 we collected a total of 744 samples belonging to numbers 41 species. In 2015 we recorded a total of 1130 samples that belong to identified 46 species.

- **The variety Sanley at the farm Vasile Adamachi** were collected in 1338 samples. In 2013 identified the 19 species totaled a number of 151 samples. In 2014 we collected a total of 402 samples belonging to 29 species. In 2015, the total number of samples was 785, and belonging to 29 species.

- **The variety Stanley of the stationary Pietrărie** were collected in total 1397 samples. In 2013 the collected 317 samples belonged to 33 species. In 2014 the total number of 338 samples have belonged to a number of 33 species. In 2015 we recorded a total of 742 samples belonging to 22 species.

*As a general conclusion we can say that the number of samples and sensitive species collected was similar in both stationary and two varieties. Larger differences, appear significant from year to year which shows that the greatest influence on entomofauna have in general environmental conditions from one year to another in this case were very different.*