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## **THE COMPLEX OF PHYLLOPHAGOUS INSECTS OF POPLAR (*POPULUS* L.) IN URBOCENOSES OF DNIPRO CITY**

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Poplar is damaged by more than 700 species of insects [5]. Among them, about 200 species are phyllophagous [2]. It is believed that woody plants of the genus *Populus* L. are tolerant to defoliation, that is, they are able to compensate for weak and moderate destruction of the leaf surface [3, 4], however, outbreaks of mass reproduction of phyllophagous can lead to partial or complete loss of leaves by poplar trees, which makes it impossible for them to fully fulfill their environmental protection functions in urban conditions and leads to their subsequent death. Phyllophagous pests, due to their intensive reproduction and rapid spread, not only significantly reduce the area of the photosynthetic surface, they can also significantly reduce the generative capabilities of the apical and cambial meristem, and therefore the overall growth of trees [2].

The purpose of the work is to establish the taxonomic composition of insects – phyllophagous of poplar trees in green plantations of Dnipro city.

This study was conducted during the growing seasons of 2019–2020 on the territory of 19 research plots in different districts of the Dnipro city (Diivskyi forest park, Lazar Globa Park, Yuri Gagarin Park, Taras Shevchenko Park, Monastyrskyi Island, Novokodatskyi Park, «Sahaidak» Park, Metallurgy Square; school plots – No. 56, No. 134; the territory of City Clinical Hospital No. 2, City Clinical Children`s Hospital No. 1; plots of the residential districts of Chervony Kamin and Pokrovsky; streets – Naberezhna Zavodska, Vysotskogo, Promyslova, Dementieva, Vasylivskyi Lane). The object of the study was the leaves and young shoots of three types of poplar, which are most common in park and street plantings in Dnipro city: *Populus alba* L.; *P. nigra* L.; *P. nigra f. pyramidalis* (Rozier) Delaunay.

Examination of poplar leaves to analyze the distribution, level of damage and establish the species composition of leaf pests was carried out during the growing season once a decade. When collecting entomological material, a complex of ecological and faunal methods of research on phytophagous insects was used. Identification of pests taxonomic affiliation was carried out according to generally recognized sources [1].

As a result of the study, it was established that the complex of phyllophage insects of woody plants of the genus *Populus* L., growing in the green areas of Dnipro city, includes 29 species from 17 families of 24 genera. At the same time, the share of Hemiptera is 34.5%, Lepidoptera – 27.6%, Coleoptera – 24.1%, Hymenoptera – 10.3%, Diptera – 3.5%.

The following species are characterized by the highest frequency of occurrence: *Chaitophorus populeti* Panzer, 1804 i *Ch. leucomelas* Koch, 1854; *Archips rosana* Linnaeus, 1758; *Phyllobius oblongus* Linnaeus, 1758; *Zeugophora scutellaris* Suffrian, 1840; *Pristiphora platycerus* Hartig, 1840; *Fenusella hortulana* Klug, 1816.

Species with an average frequency of occurrence: *Tritomegas bicolor* Linnaeus, 1758; *Rhytidodus decimusquartus* Schrank, 1776; *Populicerus populi* Linnaeus, 1760; *Monosteira unicastata* Mulsant & Rey, 1852; *Lygus lineolaris* Palisot, 1818; *Gypsonoma minutana* Hubner, 1799; *Archips xylosteana* Linnaeus, 1758; *Amphipyra pyramidea* Linnaeus, 1758; *Stigmella trimaculella* Haworth, 1828; *Phyllonorycter comparella* Duponchel, 1843; *Phyllocnistis unipunctella* Stephens, 1834; *Batrachedra praeangusta* Haworth, 1828; *Dorytomus longimanus* Forster., 1771; *Plagioderma versicolora* Laicharting, 1781; *Labidostomis lucida* Germar, 1823; *Byctiscus populi* Linnaeus, 1758; *Agrilus pratensis* Ratzeburg, 1839; *Fenusella hortulana* Klug, 1816; *Aulagromyza populicola* Walker, 1853.

Gall-inducing aphids of the genus *Pemphigus* (*P. lactucarius* Passerini, 1856; *P. populinigrae* Schrank, 1801; *P. spyrothecae* Passerini, 1860) are found in the smallest number.

A total of 25,944 poplar leaves were examined. The average level of damage was 15.3 %.

The distribution by different types of damage is as follows: nibbling of the leaf edges and eating out the holes by gnawing insects – 30.3 %; mines – 27.3 %; leaf distortion, discoloration due to feeding by sucking insects – 18.2 %; curling of leaves – 12.1 %; galls – 9.1%; piercing – 3.0 %.

Further detailed study of the species composition of poplar phyllophage pests will help to develop an appropriate and effective tree protection system in urbocenoses, the success of which depends on timely diagnosis of damage, well-organized tree care and a balanced set of measures.

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