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AGE AND SEXUAL STRUCTURE OF *Halyomorpha halys* POPULATION BASED ON PHEROMONE MONITORING IN MOLDOVA

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Halyomorpha halys is a highly invasive polyphagous species that actively colonizes fruit, ornamental, and forest plantings. Despite the widespread use of pheromone traps for population monitoring, the features of the sexual and age structure of its population remain insufficiently studied, which limits the understanding of its demographic organization in newly colonized areas.

The study was conducted in agrocenoses and orchard plantations of IGFPP and the Botanical Garden. Standard pheromone traps baited with the aggregation pheromone of *H. halys* were used. Monitoring was carried out regularly throughout the vegetation period, recording the number of captured adults and nymphs, their sex, developmental stages, host plant species, and meteorological conditions. In total, 2619 individuals were analyzed.

The results of pheromone monitoring showed that nymphal stages dominated in the trap catches, indicating active development of the local population during the vegetation season. Among adults, a consistent predominance of females was recorded, which is typical for this type of aggregation pheromone trapping and may be associated with behavioral traits and feeding activity of sexually mature individuals.

The age structure of nymphs was characterized by the dominance of early instars, while later developmental stages were significantly less frequent. This distribution indicates continuous population reproduction and the presence of several overlapping generations during the season.

The most heavily infested crops were major fruit and woody plantings of the region, including apple, pear, grapevine, and representatives of the genus *Prunus*. These crops can be considered key elements supporting the development and persistence of the pest population in the region and form a spatially heterogeneous pattern of its distribution within the agro-landscape.

The obtained results are consistent with international studies, which report that aggregation pheromone traps often show a bias toward females and also capture a considerable number of immature stages during periods of high population density. Similar patterns have been reported in studies conducted in Europe, the United States, and East Asia, and are associated with behavioral responses to the aggregation pheromone and the population structure during periods of active reproduction.

It should be noted that such data have been obtained for the first time under the conditions of central Moldova, which allows pheromone-based monitoring to be considered not only as a tool for population abundance assessment but also as a method for evaluating the demographic structure of an invasive population. In addition, it has been established that pheromone monitoring reflects not only quantitative changes in the population but also its age–sex structure, which allows this approach to be used for indirect assessment of reproductive activity and developmental dynamics of *H. halys* in newly colonized areas.

Keywords: *Halyomorpha halys*, famel, male, nymphal stages, pheromone monitoring.

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