

Environmental monitoring of the urban *Aeolesthes sarta*

Azatova Gulasal Umidbek qizi, Teacher of Urgench State University

Karabayev Azamat Xidirbayevich, Agronomy Department 212 Agronomy 3rd year student of Urgench State University

O`rinova Kamolaxon Otamurod qizi, Student of Urgench State University

Jumanoyazova Gulyora Yodgor qizi, Agronomy Department 212 Agronomy 3rd year student of Urgench State University

Abstract: This article presents the susceptibility and causes of *Ulmus* trees being damaged by *Aeolesthes sarta* in Khorezm region. As a result of our research, it was learned that the weaker the plants, the more susceptible they are to damage by *Aeolesthes sarta*.

Keywords: Insect, *Aeolesthes sarta*, Tree, Damage, *Ulmus*.

The urban *Aeolesthes sarta* is polyphagous and infests several species of trees. We conducted research on the degree of infestation of larch, poplar, and willow trees by the urban *Aeolesthes sarta*. Searches were conducted on the edges of motor transport roads and irrigation networks in Khanka, Urganch, Kushkopir, Yangibazar, Shavot districts. The coordinates were determined using a GPS navigator (Appendix 8). In each district, the degree of damage to larch is 2-90%, depending on its age.

M.A. According to Khudaiberganov, the urban *Aeolesthes sarta* attacks physiologically weakened trees and healthy trees at the same level [25; pp. 44–45, 60; 18 p.,61; p. 39].

As a result of our research, it was learned that the weaker the plants, the more susceptible they are to damage by *Aeolesthes sarta*. We divided the trees into young, middle and old species and conducted research on them. Pine trees were classified by age as follows: young trees or trees up to 5 years old, middle-aged trees - from 6 to 15 years old, and mature trees - over 16 years old (see Figures 3.5 and 3.6).

The trees are shown as a 25-year-old infested pine tree located 50 meters from the irrigation source (see Figure 3.6) and an uninfested larch tree of the same age located 2 meters from the irrigation source. The picture shows the current condition of a healthy tree that was damaged in 2013. He is healthy as he has not been infected by a pest from the tree next to him. It can be seen that these phenomena occurred more often during the experiments.



Fig. 3.6 Pine trees infested and not infested with the urban *Aeolesthes sarta*.

200 trees of each age were studied in the region. As a result, it was found that older trees are more affected by urban *Aeolesthes sarta* than young trees. trees around highways, adult trees are damaged up to 40%, young trees are not damaged. Among the middle-aged trees, jiida trees were damaged to the highest degree.

It was observed that poplar trees began to be affected 3 years after planting. Infected poplar trees were mostly found around irrigation networks (see Figure 3.5). No damage was observed to young poplar trees on the roadsides (see Figure 3.7). Heavily infected poplar groves were observed until the main stems broke as a result of damage by the urban *Aeolesthes sarta*.

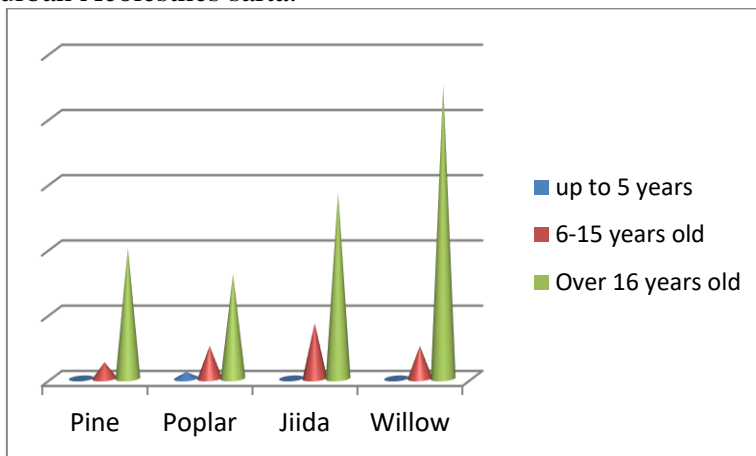


Figure 3.7. It is scenic around the traffic roads degree of infestation of trees by the urban *Aeolesthes sarta*.

It was not observed that the young trees were damaged. Middle-aged trees were affected by 17%, and older trees were affected 3.5 times more than them.

In Khorezm region, almost all willow trees are cut once every 3-5 years as firewood or raw material. This can affect the immunity of trees. From 1 to 5 years after the transfer of willow trees, it was observed that the city was not affected by *Aeolesthes sarta*. It was found that 10% of middle-aged trees were infested, and 90% of older trees were infested with urban *Aeolesthes sarta* (see Figures 3.7-3.8). Since urban *Aeolesthes sarta* are more infested with willow trees after delimiting, adult infested willow trees form delimited trees..

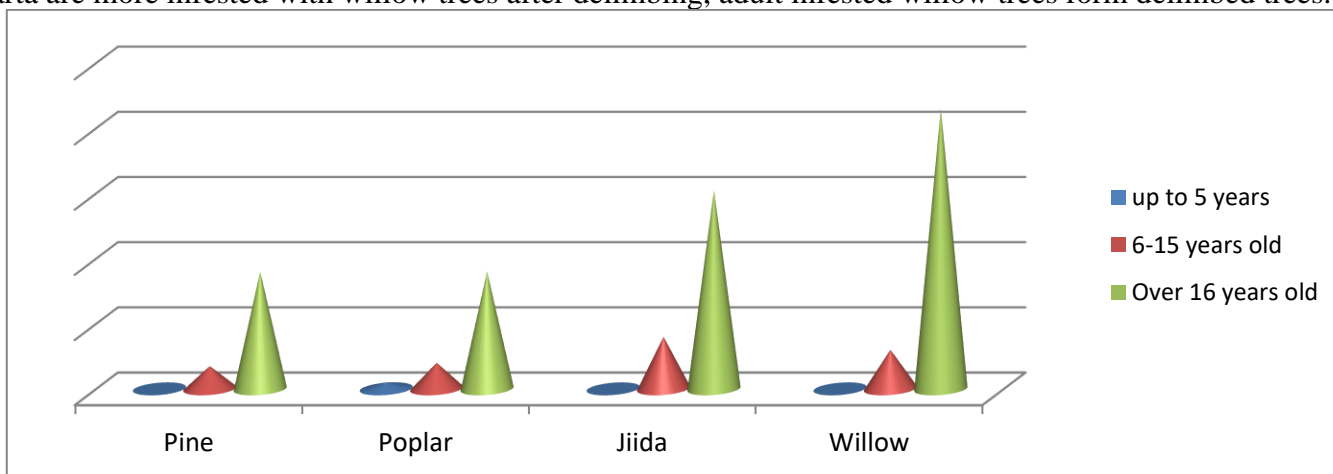


Figure 3.8. Damage level of ornamental trees planted around irrigation networks



Figure 3.9. Distribution centers of urban *Aeolesthes sarta* in Khorezm region

On January 10, larch trees with nests of the *Aeolesthes sarta* were cut down and stored outdoors in special containers under closed conditions. (See Figures 3.10). They were constantly checked. After April 20, the cut pieces of wood were checked every day. From April 24, beetles began to emerge from the nests in tree cuttings. From April 29, they began to lay eggs. An average of two eggs was laid that day. On May 2, this figure doubled. The number of eggs decreased on May 6 and increased again on May 7. No spawning was observed in all variants on May 8.

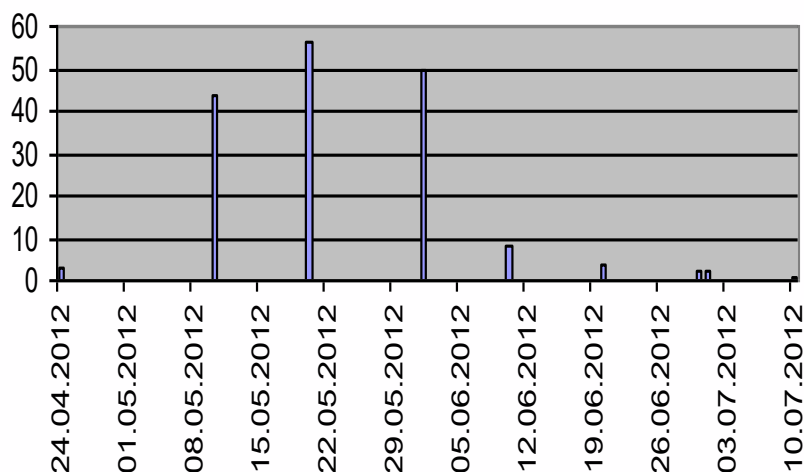


Figure 3.10. Flight of the urban *Aeolesthes sarta* in Khorezm region.

By May 10, the number of eggs increased to 6. In this order, the number of city *Aeolesthes sarta* eggs increased and decreased. The egg-laying process continued until May 23, when it was studied in closed containers. When studied in this order, it was observed that the minimum number of *Aeolesthes sarta* lays 86 eggs, 119 eggs on average, and 145 eggs in total. Determining the number of eggs and the period of egg laying is one of the important factors in the fight against them. We conducted experiments in natural climatic conditions. One female beetle gives birth to more than 100 pests. This information requires them to identify the foci of their spread. We have identified and developed digital maps of urban *Aeolesthes sarta* distribution centers in Khorezm region (see Figure 3.9)..

References.

1. Khojaev Sh.T. Fundamentals of entomology, protection of agricultural crops and agrototoxicology. - Tashkent: "Science", 2010. - 352 p.
2. Khojaev, Sh.T. Basics of general and agricultural entomology and integrated protection system // Tashkent: "Yangi Nashr". -2019.- 409 p.
3. Yakhontov V.V. Ecology nasekomyx // Uchebnoe posobie dlya Gos. flour, Moscow: Vysshaya shkola, 1964. - 442 p.
4. Sherbakova L.N. Vrediteli gorodskikh i zashchitnykh nasajdeniy / Uch pasobie – L: Izd-vo LTA, 1980. - P. 3-99