NEW FACTS ABOUT THE BIOECOLOGY OF SOME TERRITORIES IN EASTERN FERGANA

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Annotation. The article provides new information on the distribution, biology and life cycle of the red giant worm (D. turkestanica), Handon pistachio (A. pistaciae) and plum (S. prunastri) found in the eastern regions of the Fergana Valley.

Keywords: shield, fake shield, entomophagous, bioecology, larva, pest, East Fergana.

Introduction.

In recent years in Uzbekistan, including in the Fergana Valley, there is a growing interest in the study of different groups of flora and fauna and their adaptations that have emerged during their mutual historical development [5, 8, 9, 11, 12]. Therefore, the trophic interactions of shield beetles with insectivorous insects on fruit plants, especially the distribution of species that damage fruit plants, bioecological features and predators are being studied. It is important to develop theoretical aspects of combined protective measures against pests of fruit plants by determining the morphological and physiological aspects of trophic interactions between plants and shield, the species composition of shield entomophagous, the effectiveness of reducing the number of hosts. is important.

Trophic relationships of shield plants with fruit plants have not been studied not only in the Fergana Valley, but also in the Republic. However, the study of the interactions of plants with shields allows us to determine the structure of plant protection against pests during historical development, and in insects to feed on plants. In addition, the study of the vital processes of shield beetles and entomophagous organisms that reduce their number is an important task in the development of effective control measures against fruit trees.

Review of research methods and literature.

Studies on the faunal composition, biology, ecology and phylogeny of shielders in different regions have been conducted by leading foreign scientists, including V.I. Talitsky [8], B.B. Bazarov [2], N.S. 3, 4].

The results of research in this area in Uzbekistan in the research of AD Arkhangelskaya [1], K. Zokirov [6, 7, 8] and O. Sobirov [7, 8, 9] The results were announced.

However, in the territory of Uzbekistan there is not enough work on the species composition of shields, their interaction with food plants, their life processes, especially their predators and predators, the interaction of shields with food plants. Therefore, it is of great practical importance to develop coordinated control measures against shields and their entomophagous plants in the fruit plants of the Fergana Valley.

The research was conducted in 2018-2020 on the basis of faunistic research from the eastern part of the Fergana Valley in the Andijan region. Commonly accepted coccidiological methods [1, 3, 4] were used in the collection and storage of shields.

The results obtained and their discussion.

During the analysis of the species composition of the shield of fruit plants of the East Fergana region and their entomophagous, it is envisaged to improve the coordinated control measures against pest shields.

In some literature, the distribution of 13 species of shrubs belonging to 4 families in the fruit plants of the Fergana Valley, their association with forage plants, biological characteristics of important species that damage plants, species of entomophagous species that reduce their number, their effectiveness in reducing the number of hosts [5].

During our scientific research, species that cause serious damage to fruit plants have been identified. Among the identified species, information is provided on the most common, dominant species.

Drosicha turkestanica Arch. - red giant worm, first found in 1937 by Arkhangeskaya in the Omon-Kotan forest zone of Samarkand, the main forage plant is willow and poplar. The red

giant worm is found in the territory of East Fergana, along with poplar and willow, in fruit trees such as quince and jiida.

The red giant worm develops under different environmental conditions, giving one generation per year. According to A.D. Arkhangelskaya [1], the second-year larvae of the worm have been found to overwinter near the roots of plants. Females of overwintering larvae were found to hibernate in the bark of a dead body. In the laboratory, wintering larvae were observed to move slowly under the influence of hot temperatures. The larvae, which overwinter in early spring, move slowly from the bottom of the tree to the top and begin their life by staying where they found it to feed on the plant.

The worms are often observed feeding on the leaf axils, next to the buds. The transition of feeding larvae to the second age occurs in late April. When larvae were observed to develop and shed their skins, we witnessed a reddish body where their skin was cracked from the shoulder. The conversion of these larvae into females takes place in June. In our observations in nature, it was observed that sexually mature females appeared in the first decade of June (2019). The males, on the other hand, appeared in the first decades of June. The bodies of males are reddish, about 1 cm long, and are insects with beautiful purple wings. Men's breasts, legs, and mustaches are black. The newly emerged male was found to have lived in the laboratory for 6 days. The males find their female at the expense of crawling and flying and copulate with the female. After copulation, the males die.

The females of the father enter various cracks in the forage plants and spend the winter there. The bodies of the females left for the winter are wrapped in a white cotton wax curtain, inside which the females lay their eggs. One female lays an average of 70-75 eggs.

Anapulvinaria pistaceae (Bodenh.) Is a pseudo-shield of handon pistachio, one of the pests that feed on handon pistachio (Pistacea Vera) in Uzbekistan, including in the Fergana Valley. In Uzbekistan, it was found by A.D. Arkhangelskaya in 1937 in pistachios around Samarkand, Bukhara, Shakhrisabz [1].

Our observations revealed that this fake was spread in the mountainous areas around Khojaabad district, in the pistachios in the Bogishamol district of Andijan. This lizard is a monophage and lives only on handon pistachios. The larvae and young females live on the horns and twigs of the pistachio and feed by sucking their tissue sap.

Pistachio pillows have been found to feed more on the leaves and underside of pistachios. In the leaves, which are fed by lizards, the metabolism is disturbed, and they gradually turn yellow. Pistachio grows for a generation per year. The second-year larvae of the lizards overwinter on the trunks and branches of various food plants during the second-year larval stage. Wintering larvae become more active in the second quarter of March and move from the wintering grounds to the branches of food plants. The larvae develop into young females in late April. There were no reports in the literature that pistachio shields were male, but it was the first time that it was observed in Andijan. The males are elongated, oval-shaped, developing under the shield, and in laboratory conditions, the flight of males under the shield was observed in late April.

After the males and females mate, a white cotton-like egg sac separates from the female's body. The length of the egg sac is up to 5 mm. The width of the egg sac is larger than the width of the female's body, and the females begin to lay their eggs in this egg sac.

The laid eggs are green, with about 250 to 300 eggs per egg yolk. The larvae hatched in the laboratory conditions were observed at the end of the June game (2018). Under natural conditions, both larvae emerge during this period. By the end of the second season, the larvae have been observed to move from leaves to twigs and shoots.

Sphaerolecanium prunastri (Boyer de Fonscolombe, 1834) is a plum liar, first discovered in Uzbekistan in 1931 by cocoidologist AD Arkhangelkaya in fruit trees in Namangan. Subsequent quarantine observations have shown that this fake shield is also prevalent in several districts of Namangan. Literature sources indicate that this lizard is found in fruit trees as the main food plant. During our observations, it was found that the fake plum is widespread in almost all legumes of the city of Andijan, such as peaches, cherries, plums, cherries. It is known that this fake is especially common in cherries and sour cherries.

K. Zokirov's plum liar has been shown to be widespread in the wild cherries growing in the mountainous areas of the Fergana Valley, damaging the cherries by almost 4 points. Plum lizards develop by giving only one generation per year. Its second-year larvae overwinter in very dense areas of the body of the forage plant [5].

K. Zokirov's research has shown that cherry plants overwinter an average of 35 to 46 larvae per 1 cm 2 of bark. According to our calculations, the number of wintering larvae is 20-30 per 1 cm2 of forage. Wintering larvae are affected by different temperatures. It has been estimated that 30-40% of wintering larvae die in extreme cold. Wintering larvae migrate to the upper branches of plants in the spring. Once feeding begins, the larvae undergo changes to form female and male larvae. It is noteworthy that the number of larvae that sometimes turn into males is several times higher than that of females. The larvae, which turn into males, develop in a long cylindrical shell. The larvae, which turn into females, also gradually appear and turn dark brown. In nature, the flight of men was observed in the third decade of April.

However, in mountainous areas, the development of this insect takes almost a month. K. According to Zokirov, the appearance of these insect females, which are found in wild cherries in Arslanbob, was observed in late May. The males of the plum liar are reddish in color and actively move and fly after they emerge from under the shield.

Newly released males were found to have lived in laboratory conditions for up to 1.5 days. The female liar is one of the live-bearing insects. When their bodies were dissected before laying eggs, it was observed that many eggs were collected in tubes. In our binocular observations, it was observed that eggs develop differently. They are oval, reddish in color. In some eggs, the body shape, head and eyes of the future larva are also clearly visible.

The release of larvae from the eggs occurs in the first decade of May. Females give birth for a long time. Therefore, the emergence of larvae from eggs in some cases continues in June. The literature shows that larvae hatched from eggs live 4-5 days. The larvae hatch from the eggs and spread to the branches and twigs of the food plant, where they continue to develop

by sucking the tissue sap of the plant. By autumn, 2-year-old larvae slowly overwinter in different parts of the plant.

CONCLUSION. In the conditions of Eastern Fergana, the dominant pests of shields occur and cause serious damage to horticulture. As a result of the research, 3 species of shield (Drosicha turkestanica, Anapulvinariya pistaceae, Sphaerolecanium prunastri) were identified as important economically harmful species, and their bioecological characteristics were studied in the conditions of Andijan region.

Studies show that the ecological systems of different ecosystems require extensive study of the trophic interactions of shields with plants, the systems of "parasite-host" and "predator-prey" relations in their control, and the introduction of biological control.

This, in turn, allows for a theoretical analysis of the role and importance of harmful and beneficial insects in the entomocomplex.

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