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SPECIALIZATION OF PHYTOPHAGES OF TREE CROPS, THEIR DEVELOPMENT AND ROLE, POPULATION MANAGEMENT

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СПЕЦИАЛИЗАЦИЯ ФИТОФАГОВ ДРЕВЕСНЫХ КУЛЬТУР, ИХ РАЗВИТИЕ И РОЛЬ, УПРАВЛЕНИЕ ЧИСЛЕННОСТЬЮ

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Abstract. The article covers 80% of the pests found in fruit gardens in Tashkent and Samarkand regions and their species composition, their damage to trees and their parasites, and their population, which cause particularly significant damage here. Regarding the degree of damage to fruits in fruit gardens from parasitic entomophages, leaf and fruit pests also make up a huge amount of raw Woodlands, the development of predatory entomophages is very fast and fluffy. Their number of predatory and parasitic entomophages is an area of distribution, and species predominate. In the same process, the dynamic number of parasite-boss or predator-prey proportions will have aloxida axamity. Environmental factors have a sufficient impact on the reproduction and development of forest forests. Because due to the high relative humidity of the air, it becomes unfavorable for the development of certain species of insects. In the forest and ornamental trees, the abundance of natural insects, which cause tearing and parasitizing on the account of leafhoppers, is anicdened. From predatory insects with eggs and worms of apples, plums, and other berries, some types of buzzing transverse, coccinellids, altcoyins are fed. In this case, pests are leading. A decrease in the amount of water in a tree trunk is favorable for the development of phytophages.

Аннотация. В статье рассматриваются 80% вредителей, обнаруженных во фруктовых садах Ташкентской и Самаркандской областей, их видовой состав, повреждения деревьев и их паразиты, а также их популяции, которые наносят здесь особенно значительный ущерб. Количество хищных и паразитических энтомофагов является основной областью изучения. Факторы окружающей среды оказывают достаточное влияние на воспроизводство и развитие лесных массивов. Из-за высокой относительной влажности воздуха эта среда становится неблагоприятной для развития определенных видов насекомых. В лесу, на декоративных деревьях наблюдается обилие естественных насекомых, которые вызывают разрушение растений. Из хищных насекомых яйцами и червями яблок, слив и других ягод питаются некоторые виды жужжащих поперечных, кокцинеллид, альткоинов. В этом случае вредители являются ведущими. Уменьшение же количества воды в стволе дерева благоприятно для развития фитофагов.

Ключевые слова: фитофаги, энтомофаги, плодовые деревья, Узбекистан.

Keywords: phytophages, entomophages, fruit trees, Uzbekistan.

Introduction

All phytophages in the forest and other ecological environments will have a certain nutritious fan. The interruption of this nutrient medium or the increase in the amount of them will affect the number of pests. One phytophag can feed on several plants. These are abundant in nature, and their number is always high [1, 2].

However, the type of entomophages that feed on it is very common. The reason for the meeting of a large number of phytophages in Woodlands is the abundance of a favorable environmental factor and a nutrient medium there. Therefore, in interspecific populations, they are superior in number to species. Only the bark-eaters feed on the bark of 80% of trees in Woodlands. But the number of them will be less than that of other pests since they are interspecific in their development and the species in the density is greater, they are much less likely to give offspring, they are a species of predatory entomophages and have a large number [3, 4].

Also, leaf and fruit pests make up a huge amount of raw Woodlands, and the development of predatory entomophages is very fast and fluffy. Their number of predatory and parasitic entomophages is an area of distribution, and species predominate. In the same process, the dynamic number of parasite-boss or predator-prey proportions will have aloxida axamity. Environmental factors have a sufficient impact on the growth and development of forest forests [5, 6].

Because due to the high relative humidity of the air, it becomes unfavorable for the development of certain species of insects. In this, especially, body pests are leading, and a decrease in the amount of water in the tree trunk will be favorable for their development [7, 8].

Without the deep study of the types of forest entomofauna and the conditions of their development, the number of phytophages cannot be controlled. Therefore, the main maximum is to disassemble forest reserves and identify the factors that led to an increase in the number of phytophages, on the basis of which they manage the number [9, 10]. In studies on tree species in the forest and the food factor of pests in them, their nutrition was different, and some pests were distinguished by their concentration. In doing so, it was made clear that one phytophagus feeds on several tree species and has different damage rates in all of them. According to Aeolesthes Sarta Sol having fed more than 39 species of trees, the degree of damage in all of them varied.

Materials and methods

The research was carried out in fruit and ornamental gardens in Tashkent and Samarkand regions. The variability of the papules of phytophagous insects was determined using the method of changing the number of their tabby enemies. Methods of increasing phytophages were used.

Results and discussion

For example, the pest is a high degree of damage in Willow, Poplar, Kayrağach, and maple trees, which are frail, damaged, and disconnected from the water, and some have completely dried up. In oleaster, Mulberry, and apricot trees, the pest's damage was relatively small, and in some, no descendants of the pest's development were observed (Table 1).

Table 1

Arboretum (*Aeolesthes sarta* Sol).) damage (velvet clothing, 2020-2021)

Tree types	*Number of detected pests*	*From this*		
		number of larvae	*number of imagos*	*average drained trees, %*
Tal	46	31	15	22
Poplar	12	12	-	16
Kairagach	71	64	7	34
Maple	15	9	6	13
Apple tree	28	12	16	8

Tree types	*Number of detected pests*	*From this*		
		number of larvae	*number of imagos*	*average drained trees, %*
Walnut	12	8	4	6
Mulberry	29	27	8	3
Oloster	17	11	6	14

And this is due to the fact that these pest species specialize in the nutritious fan and the location of tree species, environmental factors, and the density of the tree trunk is large. A relatively large number of urban whiskers were observed on the plots of the population and in hills. The town mustache was a low-damaged tree Mulberry, accounting for 3% of the total number of damaged and withered trees.

The occurrence of forest body pests, specializing in tree species, is a link to their feeding fan. In nature, its entomophagous species are rare, and only it's infestation with flies was anecdotal.

In the forest and ornamental trees, the abundance of natural insects, which cause tearing and parasitizing on the account of leafhoppers, is anicdened. From predatory insects with eggs and worms of apples, plums, and other cockroaches, some types of buzzing transverse, coccinellids, and lacewings are fed.

Pterostichus cardaticolla of buzzing rams on fruit trees in Tashkent region, Amara sp. types recorded. Species of Chrysopa satea from the ladybug landings Coccinella septempunctata and lacewings are found in bulk on fruit trees [19].

Simple (*Trichogramma evanescens* Westwood), yellowish (*T. cacaeciae*), and without a man (*T. embryophagum* Hartig) trichograms are also pimplas (*Pimpla turionellae* L. and *P. melanacrias* Perkins), pristoerus, liotrifon, poachonids — four-gear askogaster, microduses (*Microdus rufipes* Nees, *M. dimidiator* Nees) and headscarves will earn important influence.

Ageniaspis (*Ageniaspis fuscicollis* Dalm. constantly) Encyrtidae — family of entsirtides, genus of Humenoptera paradcanoths — is a small insect with a body of 1-1.5 mm, male 0.9-0.95 mm, color black. The front part of the head is round, short, with a wide chest. The mustache is hairy, the last part becomes smaller. The wing of the female is large, colorless, and covered with gray hairs. The eggs of the apple fruit, which is from the genus of hairy moths, are shackled at the root of the moth and head-type moths. The development of *Ageniaspis* and boss insects is the same; egg donation and the process of mass reproduction are both phases like the master insect. *Ageniaspis* has the property of multi-Bolt (polyembryony) reproduction. Up to 50-200 larvae develop in one lump of pussies. The eggs and larvae of one year old belong to the genus entsiroid, the adult larvae are worm-shaped. The larva of ageniaspis passes 3 years old. One-year-olds fit together in the form of a chain of endings; the second-year-olds are similar to the first-year-olds. But when it turns 3 years old, it is aloxida. After the moth larvae reaches the fifth age, the larvae of the weevil hatch in Tashkent. In this competence, the affected pest dies, and the larvae turn into a hummingbird in the body of the master (Figure 1). The fumbalic phase lasts 3 Weeks [11].

The flying out of an adult ageniaspis coincides with the egg-feeding period of female moths. The development of Beijing ageniaspis takes 8-15 days. Due to the fact that the egg coat of the apple moth lasts for a month, most of the Colgan moths come undamaged with mastrus.

Ageniaspis was brought from Russia to the mountainous regions of Tashkent and Fergana region, where the fullness was acclimatized. Buckwheat and dill, planted among fruit orchards, contribute to the continuation of the diet and increase its effectiveness. Pinkish lays eggs, on average, delivering up to 85-300 eggs. The sex ratio of Mastrus is 1:1,25-1,5 partly 1: 1, it is found in many regions in Tashkent and Fergana region. Mastros — Mastros sp. (*Hymenoptera genus*, Ichneu — monidae family). The external parasite of the apple berry cocoon-beating worm is widely abandoned.

An insect flies early in spring. The reproductive system of a Sagittarius flying out of a cocoon is fully developed, with 6-12 mature eggs in the ovary. A few hours after the platoon flies out, the eggs begin to hatch. To do this, a Sagittarius with the help of his whiskers palpates the bark and finds its prey, and in the near-bark part of it, several times prick the egg burner and paralyze the Apple worm in the cocoon. Sometimes it goes into the cocoon. In this case, the worm often attacks the parasite and kills it (Figure 2).

On the body of one worm, the layman lays 5-6 eggs. The embryonic development of the parasite takes 2-3 days. The more eggs the parasite lays on The Wolf's body, the smaller the racers flying out of it. Parasite larvae need 5-6 days to develop. Then the parasite larvae shed cocoons (for 2-3 days) in order to become hummingbirds in Wolf's caldycar. The cocoons of the summer generation of the parasite are satisfactory, and those of the wintering ones are light brown to full-brown. One generation of parasites needs 23-27 days to develop fullness. An adult parasite lives on average 15-20 days and some 25-30 days.

In the parasite population, female breeds are 65-70%, and each female mastrus lays an average of 75-100 eggs. The parasite gives offspring 5-6 times a year.

Figure 1. Ageniaspis fuscicollis Dalm

Figure 2. Mastrus sp. damage to the Leaf-beating worm

In the studies of Abdullaev, the mastrus layman damaged the population of the autumn generation of the Apple kurti in the Fergana region by up to 60%.

Liatrifan-Liatryphan rip-chtolatus (Ephialtas extensar). The broad-leaved external parasite of the shoots of the Apple diapause (ectoparasite), oligophagous. The parasite shackles in the cocoon of an Apple wolf in the larval-like phase of an adult and becomes a hummingbird in the next year February. In Uzbekistan, adults fly out of liotrifon domes, mainly in late March — early April.

Flying out, the insects will have time to damage the wintering shoots of the apple orchard. Pests burn their eggs on or next to the Apple fruit worm. One larva can burn up to 7 eggs, but from them, only develops one compleatly larva, while Colgan larvae die due to damage to each other [16].

Butterfly maggots and some dicotyledonous larvae are parasitized (Figure 3). It is shackled in fruitful shoots in the larval phase at the age of 4 and 5 years. In the first and second age eggs, the females breed Apple fruitful, when they are found under the Apple peel or in the nut, 1 egg burns inside their body.

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The larva completes its development during the period when the Apple worm turns into a hummingbird. The female parasite burns 50-60 eggs [12].

Push-up askogaster *Ascogaster quadridentatus*. It is an effective parasite that kills insects due to the eggs and worms of Apple and plum berries. Eggs are found in all abandoned places.

In Uzbekistan, askogaster from Apple fruitful buds fly from the first half of May to the beginning the end of the period of mass egg-burning of butterflies eggs comes. In this askogaster sexually infected, after 5-6 hours the egg begins to moth. Askogaster searches for the butterfly egg and burns the egg into it. From an unfertilized egg, only male insect develops. The female can hatch up to 700 eggs. During the period of beating the cocoon of the master worm, the parasite larva is fed by its internal presence. When fed, the master worm rolls into a cocoon inside a cocoon and turns into a hump. Askogaster needs 30-35 days for the development of plumage. During the growing season, poaching gives 3-4 generations. Redleg mikrodus — *Microdus rufipes* (genus *Hymenoptera*, family of *Braconidae*). Apple fruitful and head are widely abandoned parasites of butterfly buds. In the larval phase in the microdus diapause, the eggs are shackled inside the cocoons.

A few days before the parasite eggs, flies sexually immature and has a craving for feeding with extra carbohydrates. 2-4 days later the female microdus apple fruit burns eggs into the first and second year old worms of parasite in the seeds under the peel, after the larva come internal parasitism (endoparasitis) is killed and after the parasite worm hits the cocoon, the parasite larva emerges from it and feeds on its coldicdary (ectoparasitism). Inside the cocoon, a cocoon surrounds and turns into a hump [13].

Figure 3. Liotryphon

Figure 4. Common anthocoris (*Anthocoris nemorum* L.) of feeding with barrowing Wolves

Common Anthocoris (*Anthocoris nemorum* L.) — fruit bogs have a significant effect on the formation of biological from harmful organisms. Adult breeds, mating, shackle between the peel, under the feathered leaves. Appearing in bogs in late April - early May, the fruit is fed with redmite, and Ottoman lice. Females burn their eggs into the leaf tissue, 2-8 at the end of the partly leaf. Although the eggs on the Leaf are hard to find the larvae can be spoiled. They are actively leaves, spreading red — Brown, legs are yellow or gray. Antokoris enter the group of insects. Mature and larvae are fed with 37 different types of mites and insects.

This predator clumps together in the full phase of the development of the red fruit mite. One female lays up to 60-100 eggs. In gardens, khisbons, often is found in plants that are being razed. The period of egg burns lasts up to two months, subject to adverse weather conditions. Also within the prey are the predator insects, and stetorus, lacewings, staphylococcid larvae, and phytoseid mites are among them. For the development of plumage of one generation, 35-40 days are enough.

Liotropon (*Liotrypon punctolatus* Ratz,) — external representative of the adult parasite, which lives under the thicket tree peel to the liotrifon generation, which belongs to the original Sagittarius family. The Leaf is left in the eggs of some of the glassmen, except for the Reapers [12].

Liotriphon is inferior to oligophagous species. The larvae of the last age are shackled under the peel, in a cocoon. This insect will fly in Uzbekistan in the second half of March and will begin mass flying in early April [15, 17]. He flies 2-3 palms before the fruit.

The flying insect will have time to damage the apple fruit tree that is being cut. The first generation of them develops mainly on the Apple parasite eggs, which are being shackled. After 5-6 days of flying out of the dome, the urges are fed with flower nectar, powdered juice, and hemolymph, and from 2 -3 palms the sung egg begins to moth. Females do not burn eggs when the host does not find an insect. Females pierce the cocoon and paralyze the egg, burning the egg to the body or side of the parasite with a slight sting. The egg is white and milky, the length is 1.5-1.7 mm. The larvae flutter 4 times in the direction of feeding with worms, the sung cocoon becomes a beating hummingbird. One female burns up to 7 eggs per egg, but from them, the only develops one larval plumage. During Uzi's diet, up to 120-150 eggs burn. An egg that has been shot and has not been shot will burn. From the first of them, female, and from the second, male species fly out. But up to 100 werewolves can die in the stroke representative [14].

The larva, hatching from the egg, with its well-developed, clings hard over the body of its victim and gradually begins to eat. During development, it will feed 5 years. Insects fly out of the cocoon in an ungodly manner. The development of mature breeds fed with carbohydrates and females lasts 30-40 days, the male-up to 15-20 days. In nature, the apple berry damages by up to 25-27%. One season develops by giving 5-6 bugs. Found in Tashkent and Samarkand regions [16].

Conclusions

In observations on Spruce, Chestnut, and poplar trees in the foothill regions of the forest, it was found that of the 171 insects identified in their areal, there are 47 species of various forest pests belonging to 6 families, 32 species of parasites belonging to 8 families and 26 species of predatory entomaphages, and the remaining (66 pieces) are insects that develop in

22 types of detected phytophages have been reported to be more common than others. The degree of damage in the trees of the city mustache: Willow, Poplar, birch, and maple trees are large the harm of pests in Mulberry, Linden, and apricot trees is relatively small, and the development of pests in some of them was not observed.

In this, it turned out that the most affected forest trees are pistachios, syrups, almonds, apples, Hawthorn, and Linden. The family of hard-winged and coin-winged are the most volatile pests, accounting for 67% of the total phytophages. It has been found that up to 84% of body pests damage Birch, poplar, willow, apricot, and peach forest trees in hill areas.

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