

Main Types of Entomophages of Juice in Orchard Gardens and the Level of their Spreading

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Abstract: This article provides information on the distribution of entomophagous juices and their species composition in intensive orchards of Andijan region. Four species of entomophages have been identified in the intensive garden. The most common species is *Coccinella septempunctata* L., the relatively rare *Praon volucre* Hal. type.

Keywords: Aphididae, entomophagous, coccinellides, goldfish, aphids, morphology, biology, biological control.

Introduction: Biological protection of plants from pests is based on preventing the loss, reduction or multiplication of harmful species using their disease-causing microorganisms. Various organisms — predators and parasites — insects, canals, birds, and others — are used in biological control. (A.Sh.Khamraev et al., 2017).

Although more than 400 species of phytophages feeding on different parts of fruit trees have been recorded in the garden agrocenosis, the number of species that cause high levels of economic damage does not exceed 150. At the same time, the importance of garden agrocenosis entomo and acariphages in reducing the number of garden pests is invaluable. (A.Sh.Khamraev et al., 2014).

Algae (Homoptera: Sternorrhyncha: Aphidoidea) form a large group of phytophagous insects (more than 400 species in the regional fauna). Many members of this group are pests of agriculture, forestry, medicinal and ornamental crops. Therefore, the study of insects in

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this group is undoubtedly of practical importance. (Shaposhnikov G.X 1983).

The negative effects of the use of chemical pesticides in plant cultivation are well known. Their use pollutes the environment, while toxic residues are formed in the products, destroying beneficial fauna and creating pest-resistant populations. The problem is environmental pollution, which is especially relevant for horticultural crops. The presence of toxic residue in horticultural products reduces its quality.

(Zakharenko, Martunenko, 1996).

More predators and parasites are found among the entomophagous lizards and lice. Suffice it to mention the semi-hard-winged beetles, beetles, spider mites and sirfid flies (A.Sh.Khamraev et al., 2013).

In the 80s of the last century, more than 500 species of phytophagous, more than 100 species of weeds became resistant to pesticides, which were recorded in 45 countries around the world (Zakharenko, Sukhoruchenko, 2001).

The chemical method is harmful to humans and warm-blooded animals, leading to poisoning and excessive pollution of the environment. On the other hand, chronic use of the same drug leads to resistance to pests, which leads to an increase in the volume and frequency of treatment against pests, the rate of application of pesticides (Abdullaev E., 1988; Sukhoruchenko G.I., 1986). ; 1995; 2001).

Despite the widespread use of biological control in the protection of plants in our country, in many cases it is necessary to use pesticides. For example, in 2002, 3.71

million people were involved in pest and disease control alone. The area was treated with chemicals. With this in mind, the goal is to use chemical pesticides wisely only if other means are not effective enough in the combined protection of plants in the fight against pests. (A.Sh.Khamraev et al., 2014).

Research on the types of aphids found in intensive orchards and their main representatives of entomophagous, to determine the biological activity of these species, conducted in 2020-2021.

Research methods: The research was conducted in 2020-2021 in the intensive apple orchard of the Information Experimental Center of the Andijan Institute of Agriculture and Agrotechnology of the Andijan region. In this orchard, species of saplings and their development were observed, samples were collected (Table 1). At the same time, modular trees were identified, and entomophagous species of sap in these trees were studied continuously during the

season (Table 2). The control was performed every 3-5 days and the species composition of entomophagous was determined in the laboratory. Laboratory and field studies were conducted based on entomology and accepted methods in plant protection.

Results of the study. The results of the study show that in the apple orchard, the larvae and imago of red blood sap were initially released from the winter, and it was found that the trees were mostly damaged by young branches. In late March and early April, the first wintering stages of green apple juice began to emerge from the winter. At the same time, their winged offspring were found to be distributed throughout orchards. From the second half of April, the sap began to multiply at the growth points of apple branches. A single growth was observed on the branches to an average of 25-33 pieces. Data were collected on the development of sap and the occurrence of natural cousins on each leaf and branch.

Types of saplings found in orchards and the level of their occurrence (Andijan region, Andijan Institute of Agriculture and Agrotechnology intensive apple orchard 2020-2021yy).

(Table 1)

No	Pest insect type	Latin name	Family	Category	The level of spreading
1.	Apple green sap	<i>Aphis pomi</i>	<i>Aphididae</i>	<i>Homoptera</i>	+++
2.	Red blood sap	<i>Eriosomalanagerum</i>			++

Initial observations of the study identified the Khan daughter beetle (*Coccinella septempunctata*). These seven-pointed khan girl beetles began to appear mainly in early April. In the third decade of April, that is, by the end of April, the eggs were detected. Eggs were found mainly on the backs of leaves on young twigs where apple juice was collected. Eggs were laid in an upright position, with an average of 20-25 balls per leaf. The eggs were constantly monitored. 15–16 days later, in mid-May, the larvae began to appear. When the larvae appeared, the aphids also began to multiply vigorously, and the larvae of the khan's daughter averaged 1-2 on aphids. In late May, the occurrence of fungi was detected.



Seven-pointed khan daughter larva



Beetle

However, two-spotted beetles (*Adalia bipunctata*) belonging to the family Coccinellidae were also found. But these entomophagous were less common than the seven-pointed khan girl beetles. The two-pointed khan's daughter was also found to have met at almost the same time.



The larva of the two-pointed khan



Imagosi daughter

The golden-eyed eggs were hatched later, in mid-April. Eggs were found mainly on the leaves and twigs of the apple tree. After 6–7 days, the larvae began to appear. The larvae were found to be found mainly on the backs of the leaves in the three parts of the plant, which were infested with aphids colonies. In the sap-covered leaves, goldfish larvae averaged 2–3 pieces. By May 9-10, golden-eyed mushrooms have been identified. In the third decade of May, gold-eyed imagos came to the fore.



Golden-eyed larva



Mature breed (imagosi)

Aphidiids began to be identified in early May. Infected syrups were brought to the laboratory and examined, and it was found that the aphids were parasitic on the body of aphids (*Praon volucre*). However, this parasite was found to be less common than other species of entomophagous.



Aphidid imagos Aphidid inside the affected syrup

Types of entomophagous juices found in orchards and the degree of their occurrence (Andijan region, Andijan Institute of Agriculture and Agrotechnology intensive apple orchard 2020-2021yy).

(Table 2).

No	Entomophagous Type	Latin name	Family	Category	The level of spreading
3.	The daughter of a seven-pointed khan	<i>Coccinellaseptempunctata</i> L.	Coccinellidae	Coleoptera	+++
2.	Golden Eye	<i>Chrysopa carnea</i> Steph.	Chrysopidae	Neuroptera	+++
3.	The daughter of a two-pointed khan	<i>Adaliabipunctata</i> L.	Coccinellidae	Coleoptera	++
4.	Aphidids	<i>Praonvolucre</i> Hal.		Hymenoptera	+

Note: +++ most, ++ medium, + low.

In summary, in intensive apple orchards, juices and their entomophages were found to vary in size. There is no need to use chemicals in the gardens if the prevention of aphids, agro-technical, biological control is carried out in a timely and quality manner. Then we will preserve the entomophages that occur in nature.

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