



Monitoring Of Sucking Pests Of Vegetable Crops From The (Auchenorrhyncha) Series Of Uzbekistan

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ABSTRACT

The article presents the monitoring of sucking pests of vegetable crops of the families Aphrophoridae and Cicadellidae from the Auchenorrhyncha series, their sistematic position, food connections, harmfulness, and modern control measures are recommended.

KEYWORDS

Pests, vegetable crops, Auchenorrhyncha, family, Aphrophoridae, Cicadellidae, mass species, polyphage, species composition, control measures.

INTRODUCTION

The complex of factors influencing the environment is growing catastrophically. According to the results of many years of research, to date, faunistic complexes of

invertebrates have been registered, consisting of more than 20 thousand species [1].

At the end of the 70 years of the last century, taking into account the tense ecological

situation in Uzbekistan, which had developed as a result of the intensive use of insecticides of organochlorine, organophosphate, carbamate and other nature, under the general guidance of Academician A.S. Sadykov, studies were started that led to the creation of a new concept plant protection, which provides for the development and implementation of a system of methods for managing the dynamics of the population of harmful insects, allowing to restrain harmful activities at an economically imperceptible level, with a minimum negative impact on other components of the environment [2].

Research is being carried out in the country to develop methods for artificially controlling the development, reproduction and behavior of insects-pests of agricultural plants.

From this point of view, the study of sucking pests of vegetable crops from the (Auchenorrhyncha) series of the Aphrophoridae and Cicadellidae families is relevant.

These pests suck out juices from vegetables and other crops, apply ovipositor wounds on vegetative parts of plants during oviposition.

Many species of plants transmitting viral diseases are known.

Family APHROPHORIDAE Amyot et Serville, 1843.

Genus Philaenus Stal, 1864.

Philaenus spumarius (Linnaeus, 1758) - damages tomatoes, potatoes and other crops.

Family CICADELLIDAE Latreille, 1825.

Some species of this family are specific carriers of viral plant diseases.

Genus Hephatus Ribaut, 1952.

Hephatus unicolor (Lindberg, 1926) - on irrigated lands, the leafhopper H. unicolor damages beets, carrots, eggplants and other crops.

Genus Austroagallia Evans, 1935.

Austroagallia sinuate (Mulsant et Rey, 1955) is a polyphagous species that harms beets, potatoes, cabbage, eggplants and other agricultural crops.

Genus Anaceratagallia Zachvatkin, 1946.

The species Anaceratagallia laevis (Ribaut, 1935) - damages beets and carrots, but it feeds mainly on legumes (alfalfa, lobia, beans, mung bean, etc.), prefers alfalfa.

Species Anaceratagallia collicola Dubovsky, 1966. In Kazakhstan [3] it is a massive species.

In Uzbekistan, it damages beets, etc.

Genus Cicadella Latreille, 1817.

The species Cicadella viridis (Linnaeus, 1958) - in Uzbekistan, C. viridis damages beets, carrots, in addition to cereals and legumes.

Genus Empoasca Walsh, 1862.

The species Empoasca meridiana Zachvatkin, 1946 - distributed everywhere on irrigated lands, more often found in mass quantities. E. meridiana harms potatoes, beets, carrots and many other plants cultivated in Uzbekistan.

Species Empoasca minor Zachvatkin, 1935 - occurs together with the previous species, harms beets.

Species Empoasca uzbekorum Zachvatkin, 1953. - occurs on onion crops, feeding was noted on weeds. The species E. uzbekorum was observed in large numbers in the Zeravshan valley, in Khorezm and Karakalpakstan.

Genus *Kyboasca* Zachvatkin, 1953.

The species *Pseudophlepsius binotatus* (Signoret, 1880) - concentrates on licorice, which are the reserves of this species. Polyphagous, in the south-east of the country it is often found on plantations of beets, carrots and melons.

Genus *Circulifer* Zachvatkin, 1935.

The species *Circulifer opacipennis* (Lethierry, 1876) is a polyphagous species that sucks up the stems and veins of leaves. In the farming zone, it is a numerous and polyphagous species. The most harmful on plantations of beets, potatoes, tomatoes and melons.

The species *Circulifer haematoceps* (Mulsant et Rey, 1855) - occurs in Uzbekistan together with the previous species, but prevails in the plains and foothills. Damages beets and other crops.

The species *Circulifer tenellus* (Baker, 1896) - found in northern Uzbekistan on legumes and beets [5].

Genus *Balclutha* Kirkaldy, 1900.

Balclutha rhenana Wagner, 1939 - damaging beets.

The species *Balclutha mitjaevi* Dlabola, 1961 is a numerous species, it is found mainly on the irrigated lands of the plains together with the previous species. Harms beets.

Genus *Macrosteles* Fieber, 1866.

Macrosteles quadripunctulatus (Kirschbaum, 1868) - prefers well-lit and sun-warmed places. Its number increases in years with less precipitation [3].

In Uzbekistan, on irrigated lands, it harms beets, potatoes, carrots, cabbage, zucchini, radishes, turnips, etc.

Macrosteles laevis species (Ribaut, 1927) - under the conditions of Uzbekistan, *M. laevis* damages potatoes, beets, carrots, cabbage, etc. on irrigated lands.

Genus *Aconurella* Ribaut, 1948.

Aconurella prolixa (Lethierry, 1885) - damages beets, tomatoes.

Genus *Phlepsius* Fieber, 1866.

Phlepsius intricatus (Herrich-Schaffer, 1838) - damages carrots and beets on irrigated lands in Uzbekistan.

Genus *Cicadula* Zetterstedt, 1840.

The species *Cicada divaricata* Ribaut, 1952 is a numerous species. Sucks on beets, carrots, cabbage, turnips, especially in the autumn months. Polyphagous [3].

Genus *Euscelidius* Ribaut, 1942.

The species *Euscelidius mundus* (Haupt, 1927) - in Central Asia lives in the foothills and mountains, mainly in the mountain half-savannas of the Tien Shan. It is common. Recorded in carrots [4].

Genus *Psammotettix* Haupt, 1929

The species *Psammotettix striatus* (Linnaeus, 1758) - in Uzbekistan, *P. striatus* harms beets, carrots and other crops, in spring it noticeably harms young plants, causing inhibition of seedlings.

The species *Psammotettix dubovskyi* Vilbaste, 1960 - is widespread throughout Central Asia. The leafhopper is polyphagous [3].

In Uzbekistan, it is a very numerous species that harms potatoes, beets and tomatoes.

To carry out integrated pest control measures for vegetable and melon crops, it is necessary, first of all, to determine the species

composition of pests, the nature of the harm caused by them, identify the most harmful species, comprehensively study them, determine the economic damage from these pests, study their predators and parasites, then, based on the results of the studies obtained, develop a scientific basis for protective measures and recommend them for safe and modern control measures.

Insects (song cicadas) with an oblong body are medium-sized or small, sometimes large. The head with large compound eyes is motionlessly articulated with the prothorax. Short trichlenic antennae. At the end of the 3rd segment is a long, often segmented bristle. Webbed forewings, sometimes stiffened (elytra). The front and middle legs are mobile, the rear legs are jumping. The sound organ is located on the base of the abdomen from below, especially developed and noticeable in male singing cicadas, which can produce sonorous, sometimes very loud sounds. Insects feed on the juices of plants, sucking them out with the help of a pochlenovannogo proboscis. During the year, one or two generations develop. The larvae of most species and adult insects live on plants, and some live underground, in anthills.

The main harm

Sucking of juices, which significantly harms plants during germination and mass reproduction

Transfer of pathogens of viral diseases

Pruning of young plant shoots with ovipositor.

Striped cicada (*Psammotettix striatus* L.)

Body length 3.3-4.3 mm. The body of the cicada is brownish or brownish-yellow with a slightly pronounced brown pattern. Pronotum with brownish stripes. Elytra are yellowish-brown, with dark cells, sometimes transparent. The

legs are brownish-yellow. It overwinters in the egg phase. The eggs laid are yellow at first, later turning red at one end. The female seizes them several times or one at a time in the incisions made by the ovipositor. The larvae hatch from the eggs in late April-early May. At first they are dark brown, with age their color gradually approaches that of an adult insect. The larvae move by jumping with the help of their jumping hind legs. In late May - early June, the larvae turn into adult insects. After additional feeding with plant juice, the females lay eggs, which develop from 23 to 40 days, depending on the temperature. The larvae live for 22 days and during this time molt 4 times, that is, they have 5 larval instars. The life span of cicadas is up to two months, so it is difficult to define a clear boundary between generations. Therefore, during the season, different phases of cicada development can be observed simultaneously. Usually, between 1 and 3 generations develop during the growing season.

The main harm

It damages all grain and fodder cereals, causes their liquefaction, weak tillering and general weakening of plants.

On spring crops, it is harmful during the period of earing and milk ripeness of grain, reduces its quality and reduces the yield (sometimes up to 20-45%).

Vector of viruses-pathogens of mosaic disease of winter wheat.

After harvesting the spring loaves, the cicadas migrate to corn and wild cereals, and partially remain on the stubble weeds.

In August and September, they move to the seedlings of winter crops, where they lay eggs that overwinter.

Dark cicada (*Calligypona striatella*)

Body length 1.7-4 mm. The body of the cicada is brown-black (female) or orange-yellow (male). Head with two black stripes between the eyes. The second segment of the antennae is thickened. The spike is large, lance-shaped, pointed at the end and has a light longitudinal stripe. The wings are transparent; the forewings are with a brown spot on the inner side (in females) or up to half smoky (in males). Sometimes the wings are shortened. The hind legs are very mobile. The wintering phase is the larva of the 3rd-4th century. Fledging occurs from the end of April to the middle

May. The female of this species lays eggs in piles of several pieces in the fabric of the sheath of one of the older basal leaves. After laying the eggs, adult cicadas quickly die. There is a clear boundary in time between the first and second generation.

The duration of egg development is 32-35 days. Larvae of the first and second instars are yellowish in color, with gray stripes on the upper part of the abdomen. Starting from the third instar, the larvae become brownish-gray. They avoid the exposed surface. Only occasionally, older larvae are selected on the upper part of the plants. In the first half of summer, the first and second generations of cicadas are winged, and from this time until late autumn, adult cicadas and larvae can be found in the fields. After reaching the 3rd-4th century, the larvae overwinter. The subsequent stages of development of the cicada die during the first frosts.

The main harm

It mainly damages a variety of cereals.

Specific vector of pathogens of the viral disease of cereals

Suck the juice from the scabbard of the lower leaves of cereals [6].

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