

Predatory Mites

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Annotation. This article would be discussed Phytoseiulus (Phytoseiulus persimilis Ah) Phytoseiidae is a family of phytoseids, parasitiformes are a genus of parasitiformes – a genus of parasitopharm mites – a predatory mite belonging to the family of phytoseid. It is often found in countries with hot climates. The egg is flat, whitish in color, with yellowish spots. In the month of April, when the average daily temperature reaches 12 ° C, it leaves the wintering grounds and feeds additionally for 1-2 days. The fertilized female tick oviposits eggs around the web of the spider mite or under leaves close to the root system. The larva has 3 pairs of limbs, 0.17-0.20 mm long, and yellowish in color. A one-year-old nymph, like an adult, has a pair of limbs. The body of a two-year-old nymph is larger than that of a one-year-old. The color of their body can be determined using binoculars. Females evolve in the middle of 18-24 days, and during this time they can lay 80 or 100-110 eggs. In Uzbekistan, they are common in the Tashkent, Andijan, and Samarkand regions, they are found in cotton, cherry, apple, plum, pumpkin, and other herbs.

Keywords: phytoseiulus, temperature, egg, females, pairs of limbs, apple trees

Introduction. Phytoseiulus (Phytoseiulus persimilis Ah) Phytoseiidae – a family of phytoseid, parasitiformes - a genus of parasitiformes - a genus of parasitopharm mites – a predatory mite belonging to the family of phytoseid. It is often found in countries with hot climates. The body is ovate or elongated – ovate, colorless, yellow sometimes brown, 0.37 mm long. It is resistant to temperatures of – 30 °C in winter. Fertilized females overwinter in tree crevices, branches, and other areas. The male is smaller in size than the female. The egg is flat, whitish in color, with yellowish spots. In the month of April, when the average daily temperature reaches 12 ° C, it leaves the wintering grounds and feeds additionally for 1-2 days. The fertilized female tick oviposits eggs around the web of the spider mite or under the leaves close to the root system. In accordance with the types of ticks, the female oviposits eggs in 1-3 days, adding up to 20-40 pieces. Tick eggs are twice as large as those of a spider mite.

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Phytoseiulus corniger (Phytoseius corniger Wainstein) (Phytoseiidae - family of phytoseids) is a predatory tick, widespread mainly in East Asia and Southern Kazakhstan. The body of an adult female is an ovoid egg-oblong and greenish in color. At a temperature of 12 ° -15 ° C, it oviposits eggs after wintering, on the apple leaf and at the end of the vein. The first egg appears on the leaves of an apple tree in late March - early April. In April, the number of eggs is 4-6 on one leaf. Evolving consists of five stages (egg, larva, protonymph, deutonymph, and imago).



Picture. 1 Nutrition of *Phytoseiulus corniger* with spider mite

On the contrary, in the summer season, it oviposits very few eggs (0.04 eggs per leaf per piece). By mid-October, the egg-laying process ends.

Larvae hatched from eggs are actively infected and feed on eggs and nymphs of mites and spider mites. Evolving of the tick can be reduced or prolonged due to the presence of air pollution and moisture. During evolving of one tick, the female oviposits an egg on an average of up to 11 at an air temperature of 25-30 °C and a relative humidity of 45-50%. For maximum evolving of the female, the air temperature is 25-28 °C, and the relative humidity is 40-50% for 24 days, or rather 12-13 days with low consumption. The limit of its evolving is from 8.3 °C to 53 °C.

The predatory tick mainly lives in the suburbs of mulberry trees, figs, apples, grapes, and cotton fields in the districts of Tashkent and Andijan. In October - November, at a temperature of 8 °C - 9 °C due to a decrease in air temperature, mature female ticks oviposit eggs in the tree bark and go into hibernation.

B.A. Weinstein believes that the predatory tick is an endemic species in Central Asia. The predator eats the spider mite with pleasure. The female tick eats a lot during the egg-ovipositing period - during development, she eats 100 adults and 113 eggs.

In the fight against spider mites, they are used in a ratio of 1:10. Gives 12-16 generations per season.



Picture. 2 Feeding *Megasailus* with spider mite

Pronematus (*Pronematus rapidus* fall), (Phytoseiidae-family of phytoseids) the body is oblong-flat with a length of 0.26-0.12 mm, feeds on eggs and larvae of spider mites, plant cells, and flower juices during the period when the harvest is in short supply. The predatory tick feeds on 3-7 spider mite eggs, and 3-6 larvae or nymphs. This species is considered prey for phytoseids and anistids in the queue. The tick goes through the stages of eggs, larvae-protonymphs-deutonymphs, triptonymphs and imagos.

The female oviposits her eggs on the leaves on the backside. In one day and night, it oviposits 1-2 eggs, a total of 20-60. The egg is small oblong, the tubercle is colorless and pale. The embryo evolving period is about 1.5 days at an average one-day temperature of 25 °C. As soon as the larvae hatch from the eggs, it actively moves along the leaf veins and feeds directly on the egg of the spider mite. Evolving of the protonymph lasts 32 hours the deutonymph 36 and the triptonymph 40 hours.

The development of one individual in summer is 7-8 days, and the residence period of an adult female is 13-15 days. Females overwinter with fallen foliage, dry leaves, and in the bark of trees. They come out of hibernation in early spring at a temperature of 10 °C-15 °C.

In Uzbekistan, they are common in the Tashkent, Andijan, and Samarkand regions, they are found in cotton, cherry, apple, plum, pumpkin, and other herbs. *Metaseilus* or Western *Metaseilus* (*Metaseilus occidentalis* Nesb.), (Phytoseiidae - family of phytoseids) is a carnivorous mite, widespread mainly in wild plantations of North America and semi-aquatic areas of Canada.



Picture. 3 The attack of the phytoseiulus on the spider mite

According to Sizova (1983), this species occurs in the garden, cotton, and cabbage crops of the Andijan and Tashkent regions. An adult female tick reaches a size of 0.360 - 0.380 x 0.180 mm, ovoid, yellow, or thin brown, mainly due to her age and nutrition, the color changes. The male is slightly smaller than the female 0.250-0.35 x 0.145 mm. The egg is colorless or pale, measuring 0.192 x 0.128 mm in a flat form, and differs in shape and size from spider mite eggs. They lay their eggs in a web of ticks or on a leaf. In accordance with natural conditions, the period of embryonic evolution of the female lasts 2.5-3.0, and in the male - 2.3-2.5 days. The limbs of the larvae make up 3 pairs measuring 0.192 x 0.128 mm, within 24-48 hours and end up eating 2 spider mites. But the larva does not move during the protonymph period.

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