

BIOLOGY OF THE COCCINELLA SEPTEMPUNCTATA BEETLE

Omonova S.A.

Fergana State University

Abstract: The article presents information on the biology, reproduction and hibernation phases of the *Coccinella septempunctata* beetle. *Coccinella septempunctata* is a common species used for biological control in agricultural settings because its main prey is aphids and major agricultural pests.

Keywords: Hardwings, aphid, cicada, moth, weevil, segment, agrobiocenosis, biocenotic, agrotechnical, entomophagous, form, coccinellid.

These beetles are found in North Africa, Russia (areas close to Europe, Western Siberia, Far East), Afghanistan, China, Iran, Israel, Jordan, India, Kuwait, Central Asia (Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan), but now also found in the Middle East, India and North America. From 1951 to 1971, it was widely used in biological control of aphids in the United States.

Research materials. The appearance of this species is unique, and its color is orange-red. There are usually seven black spots on the elytra, in some cases these spots can be nine. The 3 spots on each elytra are variable and thicker than the others. The body is slightly oval, 5.3-7.5 mm, the upper part is strongly convex, the thoracic segments are dark, the whiskers are tufted, the larva is 7.4-12.6 mm, bluish. black, with yellow spots.

It is one of the dominant coccinellid species of agroecosystems, studies have observed feeding on more than 50 species of plant lice (mainly on cotton, wheat and other plants). In nature, it is mainly distributed in plains, hills, desert zones, under stones in the middle mountain region, up to 3-5...200 colonies (up to 250-300 per 1m² area), as well as 21-23 colonies under tree barks winters, in the climatic conditions of our republic, it becomes active in March, egg-laying is recorded in the 3rd decade of March and the 1st decade of April (lays up to 15-232 100 eggs). It leaves 3 (1-2 in Central Asian climates) generations during the year, migrates to the wintering zone in the range from July to October.

Males and females exhibit specific ethological characteristics during reproduction.

During mating, males approach females at a distance of 1 cm and observe her, males observe the movement of antennae of female beetles. If the female is immature or does not want to mate, she will resist. Each female can mate with many male beetles. Females release spermatophores. They lay 260-1000 eggs during their lifetime. The place is an important factor in the process of laying eggs, that is, it chooses places where other females have not laid eggs.

Eggs are orange, 1 mm long and oval in shape. The larva is 7.2-12.5 mm long, bluish-black in color, and has yellow spots. The head is yellow, the sides are brown.

Larvae vary in temperature. Larvae grow from about 1 mm to 4-8 mm in length over a period of 10-30 days. Large larvae travel up to 10-12 m in search of prey. The second generation will appear in about a month. The bulbous stage lasts from 3 to 11 days, depending on the air temperature. Before turning into a pupa, that is, at the end of the fourth instar, they do not feed for almost 24 hours (Fig. 1). The pupae are about 6.5-7 mm long, gray in color, sometimes white or orange in color. It can take 15-21 days from egg to pupa, and in the second half of summer,

adult beetles live for weeks and sometimes months, depending on the availability of predators and the time of year.



Figure 1. Seven-spotted beetle. A- eggs; B-larva; C – mushroom

Summary. The lifespan of this insect is 1-2 years. Adult beetles hibernate in sheltered areas near fields, where they feed and reproduce. In the spring, newly hatched beetles begin to feed on sap before starting to lay eggs. Adult beetles consume up to 100 aphids per day. They kill their prey and then swallow it. In addition, many coccinellids have been observed to feed on nectar, honey, pollen, fruits, plants, and fungi in the field.

References:

1. Agarwala BK, Raychaudhuri DN, 1981. Note on some aphids affecting economically important plants in Sikkim. *Indian Journal of Agricultural Sciences*, 51(9):690-692
2. Жабборова О.И., Шарипова Ф.С., Худойбердиева М.О. Бухоро вилояти кокцинеллидларини биоэкологияси//«Зоологическая наука Узбекистана: Современные проблемы и перспективы развития». – Ташкент, 2019. – Изд-во «Фан». – С.133-135.
3. Амиров И.Б., Эшчанов Б.Р., Анорбаев А.Р. Хонқизини лаборатория шароитида кўпайтиришнинг истиқболлари ва муаммолари // «Зоологическая наука Узбекистана: Современные проблемы и перспективы развития». – Ташкент:Фан, 2019. – С.112-113.
4. Akramjonovna, O. S. (2022). NUQTALI XONQIZI STETHORUS PUSILLUS (HERBST, 1797) NING TARQALISHI, BIOLOGIYASI VA QISHLASH XUSUSIYATLARI. *IJODKOR O'QITUVCHI*, 2(24), 384-390.
5. Akramjonovna, O. S. (2023). YETTI NUQTALI XONQIZI QO'NG'IZI (COCCINELLA SEPTEMPUNCTATA LINNAEUS, 1758) NING BIOLOGIYA VA EKOLOGIYASI. *IJODKOR O'QITUVCHI*, 3(27), 51-55.
6. Akramjonovna O. S. et al. KOKSINELLIDLARNING OZIQA ZANJIRIDAGI O'RNI //IJODKOR O'QITUVCHI. – 2022. – T. 2. – №. 23. – С. 439-443.
7. Akramjonovna O. S. et al. KOKSINELLIDLAR (COCCINELLIDAE) OILANING O'RGANILISHI //O'ZBEKISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI. – 2022. – T. 2. – №. 13. – С. 733-737.

8. Akramjonovna O. S. et al. UY PARMALOVCHISI (ANOBIUM PERTINAX L.) NING BIOLOGIYASI, OZIQA MANBALARI VA ZARARI //Ta'lim fidoyilari. – 2022. – T. 8. – C. 135-140.
9. Akramjonovna O. S. SAKKIZ NUQTALI SKRIPUN HYLOTRUPES BAJULUS LINNAEUS, 1758) QO'NG'IZIGA DOIR MA'LUMOTLAR //PRINCIPAL ISSUES OF SCIENTIFIC RESEARCH AND MODERN EDUCATION. – 2022. – T. 1. – №. 7.
10. Akramjonovna O. S. et al. KUNGABOQAR UZUNMO'YLOV QO'NG'IZI AGATHANTHIA DAHLI (RICHT.) NING BIOEKOLOGIK VA ZARAR KELTIRISH XUSUSIYATLARI //IJODKOR O'QITUVCHI. – 2023. – T. 3. – №. 27. – C. 46-50.
11. Akramjonovna O. S. et al. KARAM ZARARKUNANDALARINING TUR TARKIBI //IJODKOR O'QITUVCHI. – 2022. – T. 2. – №. 24. – C. 361-367.
12. Mirzahalilovich Y. M., Akramjonovna O. S. Use of species belonging to the Cossinellidae family and carnivorous beetles against pests //INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876. – 2022. – T. 16. – №. 10. – C. 89-99.
13. Akramjonovna O. S. et al. QORA UY YOG'OCHQIRQARINING BIOLOGIYASI, EKOLOGIYASI VA ZARAR KELTIRISHI //O'ZBEKISTONDA FANLARARO INNOVATSIYALAR VA ILMIY TADQIQOTLAR JURNALI. – 2022. – T. 2. – №. 13. – C. 727-732.
14. Akramjonovna O. S. COLORADO BEETLE (LEPTINOTARSA DECEMLINEATA SAY.) AND MEASURES TO CONTROL IT //Ethiopian International Journal of Multidisciplinary Research. – 2023. – T. 10. – №. 09. – C. 315-317.
15. Akramjonovna O. S. COLORADO BEETLE (LEPTINOTARSA DECEMLINEATA SAY.) AND MEASURES TO CONTROL IT //Ethiopian International Journal of Multidisciplinary Research. – 2023. – T. 10. – №. 09. – C. 315-317.