

## IMPORTANCE OF WEEVIL BEETLES IN NATURE

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**Abstract:** In the world of natural science, it is an important issue to determine the ways of biological protection of plants, to study useful and effective flora and fauna in this regard. Biological protection of plants means fighting against some parasites that are dangerous for them, treating various diseases. There are many insects with this characteristic in nature. Weevils are one of them. This article provides information about the importance of weevils in the fight against harmful insects.

**Key words:** Plant, ecology, category, class, hardy birds, weevil beetle.

Weevil beetles occupy one of the first places in terms of species number among all families of hardy beetles and are of great importance in the elimination of harmful insects in ecosystems. Plant pests are animals that damage or destroy cultivated plants. The mammalian class of vertebrates, especially the rodents, has many plant pests. Among the invertebrates, some species of gastropod molluscs, and most of the roundworms from the class of nematodes damage plants. Arthropods include the insect class, the arachnid class (mites), some species of the arachnid class, and a variety of crustaceans (earthworms) and many species of plant pests. Insects are particularly damaging to crops. More than 60,000 herbivorous species are known, including about 4,000 species that damage cultivated plants, destroy products, etc. Insects harmful to agriculture are classified according to the systematic principle (by categories) and the nature of nutrition. Herbivorous insects and mites are omnivorous insects that feed on plants belonging to different families - polyphages; insects that feed on different types of plants belonging to the same family - oligophages; insects that feed only on one type of plants are divided into monophages.

Omnivorous pests of various crops: grasshoppers, some beetles, beetles, black beetles (false beetles), etc., butterflies, autumn moth, cotton moth, caradrina, etc. cause great damage. There are also many insects that feed on different types of plants belonging to the same family. These include the Swedish fly, the Hessian fly, and others, which feed only on spiky plants. There are also many types of insects that feed on plants belonging to the carnations. These include cabbage white butterfly, cabbage moth, cabbage fly and others. Phylloxera (the main pest of the vine), alfalfa leaf filth (phytonomus) and others are among the insects that feed on only one type of plants. Pest insects and mites are also classified according to the plant groups they infest. Corn, corn pests, cotton pests (there are more than 200 species), garden pests, vegetable crop pests, etc. Carabidae is a family of carnivorous beetles. The length is 12-90 millimeters, the body is usually elongated, the whiskers are often stringy, the legs are long, running. The gills are often stuck to each other through seams, the gills are not

developed. In most cases, the color is black or brown, shiny like metal, iazan chipor. Most species have anal glands that produce a protective fluid. Weevil beetles live in the soil and its surface, sometimes in trees and their wood, in ant and termite nests, and in caves. Most species feed on a variety of soil-dwelling invertebrates. In particular, leech beetles feed on caterpillars of butterflies, Carabus insects and molluscs. Herbivorous weevils cause damage to crops, for example, grain weevils (*Zabrus tenebrioides*) damage wheat. A number of Weevildak beetles, such as cannonball worms, are ectoparasitic in the burrows of other beetles. It has a one-year, two-year, sometimes longer generation. A number of studies on zoogeographical, geographical variability and life forms have been conducted on weevil beetles. Weevils, members of the diverse Curculionidae family, are a fascinating group of insects that capture the attention of entomologists and nature lovers worldwide. With an astonishing collection of over 60,000 species, these tiny creatures play vital ecological roles and exhibit remarkable adaptations and behaviors that set them apart in the insect world. One of the most striking features of weevil beetles is their elongated beak which they use for various purposes, such as feeding, drilling, and even mating. This characteristic, combined with their often complex body patterns and colors, makes them easily recognizable in the wild. It can be found up to 10 years old, which emphasizes their great adaptability. Their diverse dietary preferences—from plant tissue and seeds to fungi and even other insects—help contribute to their success and abundance in a variety of ecosystems. These beetles are known for their complex life cycles. and some species exhibit remarkable behaviors such as maternal care and elaborate courtship rituals. In addition, beetles have developed sophisticated mechanisms for defense and protection, including chemical defenses and mimicry, which allow them to survive in competitive environments. Despite their small size, plant beetles ngiz have a significant impact on the wider ecosystem. As plant pests, pollinators, and seed dispersers, they play an important role in plant reproduction and nutrient cycling, emphasizing their ecological importance. It is used as a bioindicator because it is very sensitive to changes in its conditions. More than 30,000 species are distributed in the regions from the north to the equator, several species are included in the Red Book of different countries. More than 400 species are found in Uzbekistan.

### Conclusion.

In conclusion, fireflies are truly nature's little puzzles, offering many opportunities for study and wonder. Their diversity, adaptations and behavior continue to fascinate and inspire researchers, highlighting the beauty and complexity of the natural world.

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