
On The Study of Hawk Moths in Uzbekistan

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Abstract: This article discusses the level of study of hawk moths in Uzbekistan and the existing species of hawk moths in Uzbekistan. An analysis of the literature available to date on the subject provides a detailed description of the biological and ecological characteristics of hawk moths.

Keywords: Entomology, insects, hawk moths, Sphingidae, Sphinx, Brajniki, mushroom, imago, butterfly, moth, Lepidoptera, night butterflies, Zarafshan river, seasonal generation.

Moths (Lepidoptera) in the formation of a unique charm and beauty in nature are incomparable. Coin-winged insects are systematically a type of arthropod, a group of insects. The coin note class includes several families. These families have representatives who have an active lifestyle during the day and night. The ghost family is a butterfly that has an active lifestyle at night (some species have an active lifestyle during the day). Hawk moths - lots. Sphingidae (Russian: Бражники) is studied as a scientific object. Hawk moths were first studied worldwide several centuries ago, during the reign of Karl Linnaeus, and many of the ghost butterflies known to science were studied by Karl Linnaeus (1758). In the following periods, as a result of research in Central Asia and several expeditions to Central Asia, a large amount of entomological data was collected. Preliminary data on coinage Russian entomologists N.G. Ershov and A. Published by Fields. In his work on coinage, he studied the materials and information collected by Russian travelers M. Menetrie, E. Eversman, A. Fedchenko in Turkestan and gave information about 367 species of butterflies. Among them is a very brief account of hawk moths. The book Nasekomye Uzbekistana (1993) provides information on the occurrence of 20 species of hawk moths in 33 Central Asian countries in Uzbekistan. [3, p. 161]

Hawk moths - Butterflies belonging to the family *Sphingidae* differ from other butterflies by the broadness of the mustache, the length of the trunk, the thinning of the three sides of the ventricle. The hind wing is shorter than the previous ones, and both pairs of wings are long, connected by hooks that attach well to the plant stem and leaf. Butterflies lay eggs from the last months of spring. The seeds are whitish, green, and gray in color, depending on the type of plant being fed and the habitat. The shape of the eggs is oval and round. In a short time from their eggs develop worms. The worms feed on the young twigs and leaves of the plant. The body of the worms consists of almost 8-11 joints in most cases. The last joint of all of them has a branching tumor facing upwards. The worms of hawk moths butterflies are mainly pests. This is because the species that feed on orchards damage many orchards, especially vineyards. But in addition to the harmful species, there are also beneficial species. In the wild, worms that feed on the leaves, flowers and seeds of harmful plants kill harmful plant species and play an important role in the growth and development of cultivated plants. Ghostworms are very active and perform a variety of complex movements, especially in the area close to the head. In many species, when the worms sense a danger, all the joints of the body are pulled towards the head of the tansy, and the body becomes rounded and self-defensive. After the worms are saturated with nutrients (1-2 weeks), they go into a dormant

period. The period of spontaneity takes place in the soil. [2, p. 194]

When the hawk moths come out of the dome, they fly freely and start the butterfly era. Most species of hawk moths feed on the nectar of flowering plants. It also participates in the pollination of flowers, bringing positive benefits to nature. But some hawk moths do not feed during the imago period. The non-feeding species during the imago period in many respects allow researchers to study in a laboratory setting. The color of the hawk moths's imoags comes in a variety of colors, i.e., gray, brown, pink, and a mixture of several colors. They mainly have an active lifestyle at night. The forewings or forewings of some species are glossy and transparent. [4, 5.]

Hawk moths are found in almost all regions of the earth (except the North Pole). Today, more than 1,000 species of hawk moths are known to science around the world. [3, p.161]

Figure 1. Brajnik kuldjinskiy

Sphingonaepiopsis kuldjaensis (Graeser, 1892)



Four species of hawk moths found in Uzbekistan (*Dolbinopsis grisea* (Hampson,1892), *Sphingonaepiopsis kuldjaensis* (Graeser, 1892), *Acosmeryx naga* (Moore, 1857), *Laothoe philerema* (Djakonov, 1923) are included in the Red Data Book of Uzbekistan. [1,p.71]

In short, taking into account the fact that hawk moths have not been studied in Uzbekistan in recent years, we aim to study the biology, ecology and fauna of hawk moths in the middle reaches of the Zarafshan River, one of the central regions of the country. In the course of our research, in addition to studying the bioecological characteristics of ghosts found in the middle reaches of the Zarafshan River, we set ourselves the task of studying the species that are harmful to horticulture, the species listed in the Red Data Book of Uzbekistan. At the same time, among the hawk moths butterflies in Uzbekistan, there are species that are endemic to Uzbekistan, which increases our interest in our research.

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