



BIOLOGY AND ECOLOGICAL CHARACTERISTICS OF TERMITES

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Annotation

In the article, the damage to large structures, which is becoming a problem these days, and the methods of their detection are highlighted, and the biology and ecological characteristics of termites are revealed.

Key words. Isoptera, termit, *Anacanthotermes turkestanicus* Jacobs, differentiation, fungus, savannah, mandible.

Termites (Isoptera) are small to medium-sized insects that usually avoid light and live in families by building nests in the ground, wood, or cardboard. Like other communal insects, the communal swarm in a nest is not uniform. But it is different from polymorphism, which lives as a community. In particular, termites develop at the expense of metamorphosis and are active not only in fully developed imagolic form, but also in sexually immature individuals.

The classes of termites (Isoptera) are diverse and sharply expressed compared to the classes of ants, and in the process of development, all termites go through several stages, each of them enters 1 or several years. As a result, each breed embodies its own specialized morphological appearance and functional characteristics.

Figure 1. Developmental stages of Turkestan termite (*Anacanthotermes turkestanicus* Jacobs.).

The larvae hatch from the eggs without any signs of caste differentiation. After several moults, the larvae turn into nymphs, and their wing buds become larger as they age. Usually, once a year, from time to time in the nest, the winged forms of several sexes are formed, they fly out of the nest and after a short flight, they land on the ground, break their wings from special shoulder seams, search for mates and find shelter with their mates, where they join a new family. they build a foundation. These termite founders are called branch mates. Other remaining



larvae do not develop wing lobes, such larvae become true workers or pseudoergots as they grow.

Workers that form a special caste usually reach a certain age (for example, Turkestan termite workers pass 8 years of age) and in other species can become soldiers (soldiers). This unique class differentiation in termites is one of the characteristics of the result of premature evolution.

The main mass of the family is made up of the worker and the larva. Workers are busy collecting food, transporting it to

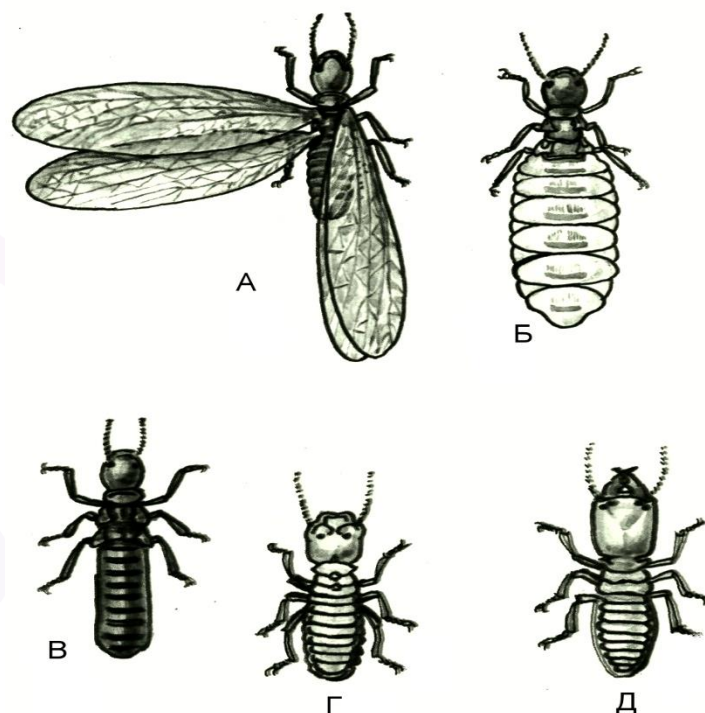
the nest, feeding the brood, brood and larvae, caring for the eggs, and performing construction work inside and outside the nest. True workers are wingless, male or female genitalia. They do not nymph and, accordingly, never become sexually mature.

All termites except the genus *Anoplotermes* (Termitidaeae) have a soldier caste. Sometimes they appear in two or three forms at the same time. In these wingless breeds, the head and mandibles are specialized. The job of the workers is to protect the nest from enemies, especially ants and other termite species. In different species, it works in different ways: catching an enemy and biting it with its strong mandibles (jaws), if there are holes in the nest, it is closed with its head, or it sprays the secretion of the gland on the enemy, etc. Each method they correspond to the morphology of the head structure.

The interaction between the numerous termites in the nest and the control of the composition of their classes is carried out with the help of pheromones. Termites feed on wood, dead plant debris or humus. Some termite species also grow fungi in their nests.

Most termites are xylophagous. Fungi, bacteria and specialized simple animals participate in their feeding on wood and digestion of food.

Fungi are an important food component for most termites.





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The mandible is related to the living conditions of insects and the functional characteristics of their oral apparatus. In termite workers, we can see that their mandibles have undergone a number of changes and formed due to their protective function in the nest.

When studying the mandibles of Turkestan termite workers of different ages, it was found that the mandibles of older workers differ from the mandibles of





younger termites by the hardness and scleritization of the upper apical and marginal teeth.

According to the results of the analysis, it was noted that the scleritization of the front part of the mandible of the young (second) individuals of the working class, i.e., the strength of the cuticle (this sign is distinguished by the dark and light color of the front part of the mandible) is much weaker than the mandible of the middle-aged (sixth) termites.

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