

ENVIRONMENTAL FACTORS AND THEIR IMPACT ON INSECT ECOLOGY

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Abstract: This article is about environmental factors and their influence on living conditions of insects. The environment plays a big role in the survival of insects. With changes in temperature and humidity, the lifestyles of insects also change.

Key words: abiotic, hydroedaphic, biotic, anthropogenic, zoophagous.

INRODUCTION

Each species and individual has its own ecology. Ecology (from Greek oikos or okos - habitat or environment and logos - science) studies the interaction between living organisms and their environment. The organism first lives under the influence of three environments - air, water and soil [13]. Environmental factors can mainly be divided into four: abiotic, hydroedaphic, biotic, anthropogenic factors. Abiotic, i.e. inorganic factors, the influence of climatic conditions, terrain, composition of the atmosphere and similar factors on the organism [5]. Hydro-edaphic, that is, water-soil factors, that is, the influence of water and soil on the organism as an important habitat. Biotic, that is, organic factors: the influence of living nature on the organism, the relationship of organisms to each other based on nutrition, the relationship of species, etc. Anthropogenic factors: the impact of human activity on nature and organisms, development of dry land, construction of irrigation systems, pest control, breeding and distribution of entomophages, etc [6].

LITERATURE ANALYSIS AND METHODOLOGY

In particular, these environmental factors have a great impact on the way of life of insects. Insects are cold-blooded - paikilotherm organisms, that is, they do not have a constant body temperature [7]. They are usually active at temperatures between 10 and 40°C. When activity slows down, they stop feeding, then moving, and finally die. Excessive movement also has a negative effect on insects. Temperature in the maturation of the sexual product of insects, embryonic and postembryonic development; plays an important role in the increase or decrease in number and spread [4]. In the ecology of insects, the relative humidity of the environment, that is, the degree of saturation with water vapor, is important. The amount of water in the body of insects causes them to be affected by humidity in different ways. The humidity of the environment affects the fertility and vitality of insects [12]. There are types of insects whose development is affected differently by humidity than by temperature.

For example, some types of insects develop quickly under the influence of moisture, while other types develop slowly [8].

RESULTS AND DISCUSSION

In most winged insects, the egg and pupa, and often the larval stage, are spent in water and soil. Most primary wingless insects and some winged insects spend all their developmental stages in the soil. All organic life is concentrated in water bodies and soil, the biosphere, that is, the main structure of the earth's crust [3]. These two living environments are saturated with living matter, and insects are of great importance in their formation. Living organisms in water and soil not only live, but also form their dead organic matter after death. Therefore, soil and water are always enriched with biogenic products [9].

The need for food is a physiological necessity that creates various adaptations in insects. Food is one of the most important environmental factors for their survival. There are many different food sources for insects. For example, insects that feed only on plants are called phytophages [2]. Examples of these include long-whiskered beetles, leaf-eaters, long-nosed beetles, bark-eaters, grasshoppers, and others. Zoophages are insects that feed only on animals. In turn, these insects are divided into predators and parasites [14]. Predators include hornbills, dragonflies, beshikterwater and others. Parasites include bedbugs, lice, pinworms, and others. Insects that feed on plant debris are called saprophages. These include the larvae of dipterans, most arthropods, and some beetles [10].

CONCLUSION

Insects that feed on plants are called necrophages. Representatives of this group include living beetles and the larvae of some flies. Insects that feed on manure are called coprophages. Dung beetles, staphylinids, larvae of some flies are examples of these. Phyto, zoo, sapro, necro, and coprophages are the primary food-adapted insects [1]. Each category boundary is characterized by a level of nutrient requirement, called nutrient adaptation in secondary order. Those that feed on the same food are called monophages, and those that eat a variety of food are called polyphages. Monophagous include vine phylloxera, pea beetle and weevils. Polyphages are often limited [11]. But insects that eat a wide variety of organic matter (plant and animal remains), even their own excrement, are omnivores or polyphages, and those that eat food selectively, for example, feeding on plants belonging to the same botanical family, are called oligophages. is called [15].

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