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THE IMPORTANCE OF SOIL ALGAE IN THE ECOLOGICAL ENVIRONMENT

Universitiy of Economics and Pedagogiy NOTM

“ Ijtimoiy Gumanitar fanlar”

Kafedrasi asisstent o’qituvchisi

Zuxriddinova Risolat Dilshodbek kizi

Annotatsiya. Ko'rinmas bo'lishiga qaramay, tabiatda uchraydigan eng yosh o'simlik turi bo'lgan bentik suvo'tlar o'simlik dunyosida katta ahamiyatga ega. Chunki tuproqning shakllanishi va suv muhitining musaffoligi suv o'tlari bilan bevosita bog'liq.

Kalit so'zlar: ekologik muhit, muhit, suv o'tlari, hujayra, yadro

Аннотация. Несмотря на свою невидимость, бентосные водоросли, самый молодой тип растений, встречающийся в природе, имеют огромное значение в растительном мире. Это объясняется тем, что формирование почвы и чистота водной среды напрямую связаны с водорослями.

Ключевые слова: экологическая среда, окружающая среда, водоросли, клетка, ядро

Abstract. Despite being invisible, benthic algae, the youngest type of plant found in nature, are of great importance in the plant world. Because the formation of soil and the purity of the aquatic environment are directly related to algae.

Keywords: ecological environment, environment, algae, cell, nucleus,

Green algae are a division (type) of benthic plants. Their cells contain green chlorophyll. Green algae contain pigments similar to those found in higher plants. They are unicellular, colonial, and multicellular, some have acellular structures. Cells are unicellular, uninucleate, or rarely multinucleate, surrounded by a cellulose shell. Chromatophores reproduce by perenoids, asexually, sexually, and vegetatively. Vegetative cells serve as reproductive organs. Green algae are divided into the subdivisions true green algae and conjugates. There are 360 families and 5,700 species of green algae known. They are mainly distributed in fresh water and seas.

DESCRIPTION OF THE SOIL ALGAE DIVISION. The blue-green algae are close to the red algae in terms of the type of pigments and the absence of filamentous stages, but are similar to the Schizophyta division in terms of the absence of a typical nucleus, mitochondria, and chromatophores, and are therefore studied in the Prokaryota group. When the cell of the blue-green algae is examined under a light microscope, the cytoplasmic membrane is not visible, but is characterized by the separation of only the colored part near the cell membrane (chromoplasm) and the central colorless part (centroplasm). There is no strict boundary between the chromoplasm and the centroplasm. The centroplasm does not have a nuclear membrane, nucleus, or nucleoli. However, DNA accumulates in the cytoplasm. Therefore, it is primitive (we study it by including it in the group of primitive archaea) in the cytoplasm, where reserve nutrients are also located (glycogen, volutin, cyanophycin grains) and a space filled with gas is formed, which is called gas vacuole or pseudovacuole. Some types of these pseudovacuoles are

preserved throughout the entire vegetation period, while others are presenal only at certain stages of development.

CLASSIFICATION. IMPORTANT REPRESENTATIVES. Blue-green algae families are divided into three genera: Chrococcopsida, Xamesifonsimones (Chame siphonopsida) Hormogoniums (Hormogoniopsida) Ancestor of blue-green algae - Chrococcopsida Classification: Section: Blue-green algae genera - Cyanophyt Ancestor: X rok ok k sim onla r– Chrococcopsida Turkum: Mic rot cysts lar – Microsy st is Turkum: Gleok apsa – Gle ocapsa Turkum: Merism opediy a - Me rismope dia

CLASSIFICATION. IMPORTANT REPRESENTATIVES .This ancestor includes mainly colonial, sometimes unicellular algal forms. The cells are differentiated into basal and apical parts. Reproduction occurs as a result of equal cell division. If the divided cell does not separate, it is surrounded by a mucous membrane, forming a colony. The shape of the colony can be round, spherical or flat - plate-like. Representatives of this ancestor are divided into several tribes and orders. We will get acquainted with the most important orders. Microcystis Microsystis - widespread in the planktonic state of freshwater algae, forming a "bloom" of water during development. The cell shape is spherical, such a cell divides in all directions, forming a mucous colony that does not have a clear shape.Microcystis species play an important role in purifying lake waters from organic matter and are food for microorganisms in the water. Some species, for example, M. toxica, found in South America, are poisonous to animals. Gleocapsa genus (Gleocapsa). This genus includes unicellular and colonial representatives. They grow freely in water or attached to the substrate. The cell shape is spherical, covered with a single or multi-layered mucus membrane. Species of the Merismopedia genus (Merismopedia) grow as plankton in stagnant freshwater together with other algae.

General information about soil algae

• Definition and types: Soil algae are among the living organisms (microflora) of the soil. Among them are species such as blue-green, green, diatom algae.

• Importance: Microalgae have a positive effect on soil fertility, absorb part of the mineral salts and help redistribute the mobile forms of chemical elements. They also participate in the cycle of organic matter in the soil.

• Distribution: They are mainly found in moist and well-lit areas, including in the soils of cultivated fields and gardens. Direct sunlight keeps them in the surface layers of the soil.

Ecological importance

Importance in oxygen production: During photosynthesis, terrestrial plants take carbon dioxide from the atmosphere and produce oxygen, which is essential for life on Earth.

Nutritional basis:

They form the lowest level of the food chain. They produce food and energy through photosynthesis and serve as a source of food for other organisms (zooplankton, fish, etc.).

Ecosystem stabilizer:

The growth of seagrasses helps to stabilize the seabed and lakebed. They serve as food and shelter for aquatic animals, and also contribute to reducing water pollution.

Economic and human importance

Food industry:

Some benthic plants, such as seaweed, are used in the food industry. In traditional medicine, benthic plants are used as medicinal agents.

Chemical industry:

Substances obtained from them are also used in the production of various chemical products. Conservation of biological diversity: Ground plants enrich the biodiversity of the plant world and play an important role in ensuring the health of Earth's ecosystems

Conclusion:

Ground plants are of great importance not only for ecological systems, but also in various areas of human life. Their ecological and economic benefits, their role in scientific research, and their contribution to ensuring the sustainability of nature indicate the need for their conservation and research. Despite the simple structure of ground plants, their ecological, economic, and human importance are very great. They constitute the main part of ecosystems and play an important role in maintaining the balance of nature. In addition, it is known that humans can significantly affect important physiological processes such as gas exchange during respiration

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