THE ALGAE MUSEUM SPECIMENS PREPARATION

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Introduction. The herbarium is a collection of the dried (flat) samples of the plants prepared in consent with certain rules.

The purposes and problems of herbariums are diverse. A herbarium is the main basis for works on systematization of plants. The herbarium documents structure of flora of this or that territory, region and also distribution (areas) of separate taxons. The herbarium is used for research of plants morphology, their ecological, geographical and individual variability.

Aim. The purpose of the work, which is carried out at department of biotechnology of NUPH, is preparation of museum specimens of seaweed, which are a subject of studying of discipline "Biology of biologically active agents producers".

Materials and methods. Representatives of brown algae (Phaeophyta) Division, genus Fucus and Diktyota and green algae (Chlorophyta) Division, the genus Valonia were objects of research.

Several brown and green algae biology features, their importance in nature and practical human activity were studied during the work.

Biological material have been dried up with a herbarium grid use. Each sample has been placed on an individual sheet after which it was wrapped in a paper cover. On the sample label systematic position (Division, Genus, Species), a habitat, the place of collecting, date of collecting, names of people who have collected algae and have defined it, were specified.

By means of these herbariums it is possible to compare morphology of different representatives of seaweed as well as the peculiarities of each of them.

The part of seaweed has been placed in glasswares in which the preserving solution consisting of water – 30%, alcohol – 30% and formaldehyde – 30% has been poured.

Results and discussion. Fucus vesiculosus, known by the common name bladder wrack or bladderwrack, is a brown alga which grows as a bush with lamellar dichotomizing branched parts, reaching a height of 100-150 cm. The Fucus is attached to underwater boulders and rocks, and the upper part has an appearance of freely floating lamellar segments with slices of the middle vein, containing a pair of pneumatic bubble both sides. With air bubble a alga always takes a vertical position.

A habitat of this alga is the coastal stony zone in the lower and average water layers of the Arctic and Atlantic Ocean, the Barents, Northern, White and Baltic seas. These algae are edible for humans. A Fucus provide a human body with vitamins,

amino acids, polynonsaturated fatty acids. Besides, its fucoidan component possessing antiviral, antineoplastic, immunoregulatory properties. Fucus is widely used in medicine.

It allows to rid the body of radionuclides and heavy metals. It also helps to strengthen the immune system, it helps to normalize metabolism, prevents the blood clots formation.

Dictyota dichotoma has thallus height of 10-20 cm, rough leathery, flat, branched dichotomously. Segments are 2-8 mm wide; almost uniformly wide or slightly narrowed to the apex and are parallel to each other. Dictyota attaches to the substrate with numerous rhizoids forming felt near the bottom. It grows on rocks or on other algae in the subtidal and lower intertidal zone. Dictyota habitat is the Caspian Sea, the Mediterranean Sea and the Indian, Atlantic, Pacific Oceans.

Green algae are characterized by a green color due to the predominance of chlorophyll in their cells. Green algae include the same pigments as that of higher plants (chlorophyll a and b, carotenes and xanthophylls) and almost at the same ratio. There are unicellular, colonial, and multicellular green algae. Multicellular Green algae are often filamentous, less plate-shaped. Some green algae have a non-cellular structure. Green algae is used in agriculture as fertilizers. They are eaten, some are used as indicators of water pollution. Several green algae species are lichen phycobionts.

Valonia is the green seaweed genus from Family Valoniaceae Order Cladophorales. The noncellular thallus is 5 – 15 cm large, bushy, with small rhizoids at the base. Due to the large cell size Valonia is a convenient object for experimental study of intracellular processes. It lives in the tropical and subtropical seas. It has recently become a popular inhabitant of the marine aquarium.

Results and conclusions. Herbarium is used for conduction a comparative analysis of the algae on morphological, ecological and systematic characteristics, reinforcement of theoretical knowledge of plant morphology and taxonomy. The herbarium preparations and preserved seaweed preparations can also be studied repeatedly to give new information as required.