DISTRIBUTION OF ALGOFLORA BY BIOMORPHS

Yusufjonova Munisa Abdumannob qizi
Student of Namangan State University

Annotation: *There is a morphological diversity in the structure of the body (cattana, thallus) of algae. The morphology of their body structure is an important feature in systematics, and it is used as bioforms in ecology. Morphological structures in the evolution of algae are combined into several types. Currently, S.P. Wasser (1989) and N.P. According to Masyuk (1981), there are 11 types of arogeny in the morphological structure of algae: monad, gemimonad, coccoid, sarcinoid, simple thread, thread of different thickness, parenchymatous, pseudoparenchymatous, siphonal, siphinocladial and amoeboid structures.*

Key word: *Cyanophyta, Synechococcaceae, Bacillariophyta, Microcystis pulverea, Xanthophyta, Cyanophyta, Monad, Hemimonad, Coccoid, Sarsinoid.*

During the research work, the morphological characteristics of algoflora determined from the composition of the main types of soils of the Fergana Valley (light gray, typical gray, dark gray, typical brown, light brown) were analyzed. Sections and types of algae whose morphological characteristics were studied were shown in the table. From the composition of the main types of soils of the Fergana Valley, 7 types of the 11 types of arogenesis mentioned above were found (Table 1).

Monad-type morphologically structured algae move actively with gills. In unfavorable conditions, they lose their hyacinths and become covered with thick mucus to the palmelloid state, and when favorable conditions occur, they return to the previous structure [18; 200-201-b]. Among the algae in the main soil type of Fergana Valley, 18 (11.32%) species of monad algae are found.

Table 1

Taxonomic distribution of algae in the main types of soils of the Fergana Valley by morphological characteristics

Section	Monad	Hemimonad	Coccoid	Sarsinoid	Simple thread	Thread of different	Siphonal	Total:
Cyanophyta	-	-	11	-	46	6	-	63
Euglenophyta	3	-	-	-	-	-	-	3
Cryptophyta	1	-	-	-	-	-	-	1
Bacillariophyta	-	-	17	-	-	-	-	17
Xanthophyta	-	1	7	-	-	11	-	19
Chlorophyta	14	2	28	5	5	-	2	56
Total:	18	3	63	5	51	17	2	159

Microorganisms distributed in the soil, including algae, undergo changes in their distribution. Over time, those on its surface move to the lower part, that is, they are distributed along the profile. As a result, the number of species in the lower part of the soil is reduced and the sizes of the cells are usually smaller (Shtina, Gollerbach 1969). The taxonomic composition of algae also changed along the profile of the studied soils. The number of species of algae in the A horizon of the surface layer of soils is higher than in the lower horizon under the influence of edaphic factors.

The distribution of algal species along the soil profile is more evident in the taxa belonging to the section Cyanopyhta, and filamentous structures decrease further down. In the samples taken from the upper A horizon (0-6 cm), there are 6-12 species of blue-green algae, most of which have a filamentous structure, in the B horizon (15-17 cm), this amount is up to 2-5 species, and in the deeper S horizon (40- 50 cm) we found that there are 2-3 types of algae.

Along the soil profile, one-celled colonies of blue-green algae belonging to the class Cyanophyceae, consisting of separate cells, "connected" with mucus, can be found. The shape of such colonies seen through a microscope is related to the specific type of mucus production (Shtina, Gollerbach 1969). The shape of the cells in the colony is usually round, oblong-round. The cells of Gloeocapsa, Microcystis, Synechococcus genera identified from lower horizons usually have round, oblong shapes. The spherical shape of the cells in the genus Aphonothece resulted from the division of this cell (Wasser A. P. 1989).

Multicellular taxa of the class Cyanophyceae were observed to be distributed throughout the soil profile, usually in single filaments. The colonial constructions kept the signs of this Category and Type. In species belonging to the family Oscillatoriaceae, the slimy membrane surrounding the thread is somewhat difficult to clearly see and distinguish. *P. boryanum f. hollerbachiana, P. notatum* in samples taken from the V horizon and surface of light, typical, dark gray soils from the family Plectonemataceae show significant mucilage. This situation is more evident in representatives appearing in samples taken from dark gray soils compared to other species.

Species of the genus Nostoc, Anabaena, belonging to the family Nostocaceae, composed of a series of coral-shaped cells, were identified mainly from the A partly B horizon. The trichomes are usually homopolar (Wasser S.P.) mucilaginous in some specimens and are not clearly visible in others. This condition is mainly characteristic of Nostoc genera.

In species of the family Anabaenaceae, a simple thread-like mucous membrane surrounds the cell, but is not clearly visible. These formed a colony typical of algae of the type found in the A horizon. Single-stranded trichomes are more common in the B horizon, especially in samples from the S horizon. Anabaena oscillatorides, A.variabilis from this group were found a lot in the A horizon.

Algae of the hemimonad structure type are chivchin and non-chivchin. Its cells are similar to the monad structure, covered with mucus and form colonies of various

shapes. 3 types (1.88%) of such structured algae were found in the main type soils of the Fergana Valley.

The morphology of algae with coccoid structure is quite diverse, the cell has simple spherical, ellipse, oval, cylinder, square, tetrahedral, trapezoidal, egg-shaped, spiral, heart-shaped, lycopoid, worm-shaped, irregular polyhedral, three-rayed, star-shaped. Among the main types of soils of the Fergana Valley, these structural algae made up the most 63 species (39.62%).

Algae of the sarcinoid type, as a result of the division of the coccoid cell in different directions, it forms a bundle of many cells of tetrahedral and other shapes. 5 types (3.14 %) of algae belonging to this type of morphological structure were found in the main type soils of Fergana Valley.

Algae of the simple filamentous morphological type are the appearance of a simple thread formed by the division of stationary cells in one direction. Algae of this type are branched, unbranched, single, multi-rowed, connected, without bundles. 51 types (32.07%) of this morphological structure were found in the main soil types of the Fergana Valley.

Algae formed in morphological types of different thicknesses were formed as a result of fusion of thick and thin filaments and other morphological classifications. 17 species (10.69%) of this morphological structure were identified in the composition of algoflora in the main type soils of the Fergana Valley.

Siphonal-type algae are characterized by the absence of a somewhat differentiated cell wall. In such a thallus, barrier-walls appear when reproductive formations occur. Among them, 2 species (1.25%) were found in the algoflora composition of the studied soil types (Fig. 2).

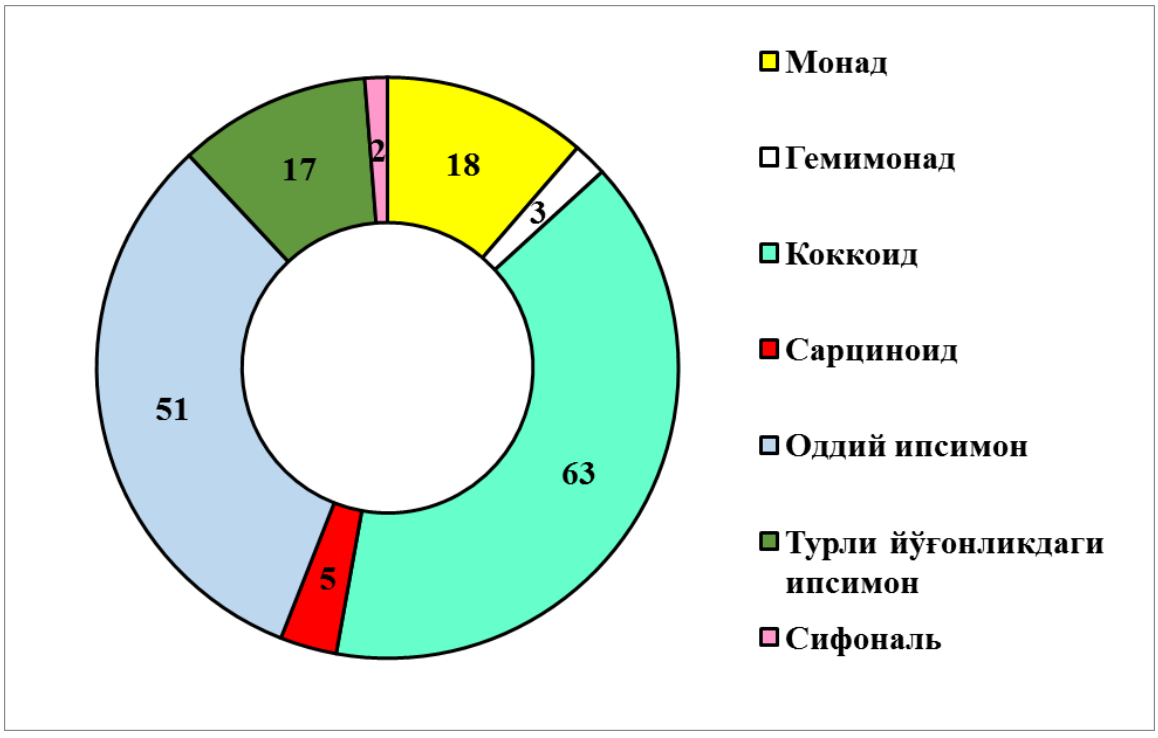

Figure 2. Distribution of algae in the main types of soils of the Fergana Valley by morphological characteristics

S.P. Wasser (1989) and N.P. According to Masyuk (1981), among the 11 types of arogenesis in the morphological structure of algae, the species with parenchymatous, pseudoparenchymatous, syphinocladial and amoeboid structures were not found in the composition of the main types of soils of the Fergana Valley. This situation is explained by the fact that species with these morphological characteristics are found in water bodies.

Conclusion

When studying the morphological characteristics of algae in the main types of soils of the Fergana Valley, algae with seven types of morphological structure were found. Among them, it was found that coccoid algae are more common than others (63 species, 39.62%). In this case, coccoid-type structures are more diverse than other biomorphs and have several forms (simple spherical, ellipse, oval, cylinder, square, tetrahedral, trapezoidal, ovoid, spiral, heart-shaped, lycopoid, worm-shaped, irregular polyhedral, three-ray, star-shaped) is explained by having.

Although single-celled Chlorella species are found in the upper and lower horizons, their elongated-round cells are more common in the S horizon. It is noted in the literature that Chlorella vulgaris from this group is among the cosmopolitans distributed in the soil (Gollerbach, Shtina, 1989, Shtina, Gollerbach, Kabirov 1991). Their cell membrane is thin, with one large horseshoe-shaped plastid.

The taxonomic composition of algae was found in all types of soils studied, with single-celled Chlorococcum species found in all areas of the soil cross-section. A small number of its slightly elongated cells were seen in the S horizon, and rounded structures were always seen in samples from the B and A horizons. Its Chlorococcum infusionum, Ch. humicola species were recorded in sample cultures from all soils, and Ch. humicola was recorded in B and S horizons of typical brown and light-brown soils.

REFERENCES:

1. Fritch F.E.& John R.P. An ecological and taxanomic study of the algae of British soil. Consideration of the species observed. Annals of Botany. New series – № 6. – P. 371-395.

2. Тожибоев Ш.Ж. Водоросли целинных почв Ташкентской области и некоторы биохимические особенности / Диссертация на соискание канд.биол.наук. – Ташкент, 1973. – С. 45-46.

3. Neustupa J.I., Skaloud P. Xylochloris irregularis gen.et sp.nov.[Trebouxiophyceae, Chlorophyta], a novel subaerial coccoid green alga // Phycologia. 2005. – 50[1]: – P. 119-131

4. Nemcova L. Mechorosty a jejich spoleceustva na sutich v Ceskem Stredohori a sousednich urenich // PhD Thesis Charles University in Prague. – Crech Republic. – P. 143-144.

5. Мусаев К.Ю. Водоросли целинных почв сероземов Самаркандской области / ТашГУ. – Тошкент.: Труды, Вып. 241. Биологические науки. кн. 44. 1964. – С. 58-62.

6. Pantle R., Buck N. Die biolodische Uberwachund der Gewasser und Darstellund der Ergebnisse // Gas-und Wasser-fash. 1955. Bd. 96. – P. 600 - 604.