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ALGOFLORA OF BIOPRIDES OF BUKHARA OF THE PONDS OF UZBEKISTAN

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Resume
The article presents data on the comparative analysis of biological ponds, sewage treatment plants, which according to its climatic , hydrological and physical- chemical conditions of the environment is different from the other ponds. This article discusses the ecological- floral analysis of natural population of algal ponds used as biological ponds - reservoirs, clarifiers.

Keywords: factor, pond, algae, flora, al′goflora, saprobity, systematic, filtering, season.

Аннотация: В статье приведены данные о сравнительных анализах в биологических прудах очистных сооружений, который по своим климатическим, гидрологическим и физико – химическим условиям среды отличается от других прудов, а также приведены экофлористический анализ природного водорослевого населения водоемов, используемых в качестве биологических прудов – накопителей, отстойников.

Ключевые слова: фактор, пруд, водоросль, флора, альгофлора, сапробность, систематика, фильтрация, сезон

Introduction

Algae of biological ponds largely determines the appearance of phytoplankton in various water bodies. The difference in the species composition of algae in biological ponds of purification plants from other bioproducts in Uzbekistan and Central Asia is not surprising, since the hydrological and hydrochemical characteristics of water bodies affect the composition of the flora. The level of development of phytoplankton in biological ponds of sewage treatment plants is much more common from other ponds in Uzbekistan and Central Asia [1-28].

Comparative monotony of conditions the existence of algae in water bodies and their transfer from place to place affect their geographical distribution. Seasonal changes in conditions causing a change in algae in the same water body during the period under study are also very significant. The similarity of the flora is determined by geographical proximity [3-27].

In biological ponds of treatment plants, which differs from other ponds in its climatic, hydrological and physicochemical conditions, this complex complex of factors determined the specific features of the species composition and development of algae [5-30].

The species composition of the algae flora of ponds in different regions of Uzbekistan and Central Asia is different. These reservoirs differ in area, depth, mineralization, nutrition, location, composition of prevailing species [7-20].

So in the biological ponds of purification plants in the city of Bukhara in early spring, late autumn and in winter, the algae found are peculiar to the mountain and northern water bodies proper. In the spring, summer and early autumn, the more thermophilic forms of algae developed [11-25].

The study of the qualitative and quantitative composition of algae in the ponds of the Kalgan Chirchik fish farm in the Tashkent region, as well as the periodicity of its development for the seasons of the year, was studied by P.N. Saksen also identified 522 taxa, of which blue-green -87, golden -6, diatoms -209, dinophyte -6, euglene -37, yellow-green -4, green -172. In the list of algae found in the Kalgan Chirchik fishery, 56 species of algae are similar to our studies [15-20].

Since, for example, Merismopedia punctata, Gomfhosphaeria lacustris, Pediastrum duplex, P. simplex. Tetraedron minimum, Ankistrodesmus densus, Scenedesmus acuminatus, Pandoriuna morum and others were also found in the spring, summer and autumn of the biological ponds of the purification facilities in Bukhara [13-19].

Also, AE Ergashev (1974) studied the algoflora of the ponds of the Kolkhoz Farm. Kalinin Yakkabagsky district of the Kashkadarya region. As a result of processing of the collected algological material, 118 taxa were found out of them, blue-green, -38 diatoms, -68 euglens, -12 green, -2 green. Similar species were found in 32 species: Oscillatoria lacteirens, O.grinceps, O.woronichinii, Phormidium tenue, Gloecapsa tarrgida, mastogloia smittii, M.baltica, Nitzshia sigina, N. Signoidea, N.trublionella, Euglena oxyuris, Chlorella vulgaris and others [18-23].

Ponds of the fish farm of the Akkurgan district of the Tashkent region collected 104 algological samples and as a result of treatment 168 taxons were found, among them blue-green -28, diatoms -64, dinophyte -6, euglenic -8, green -58. (Ergashev, 1974) Of the algae found common to our ponds -17, such common are Microcystis

aeruginosa, M.pulverea, Gomphosphaeria lacustris, Anabaena flosague from blue-green; Cyclotella kuetzingiana, C.meneghiana, Melosira granulata Fragilara crotoneusis, F.capucina of diatoms; Euglena oxyuris of euglena; Chlamydomonos ehrenberii, Dalmella microscopica, Tetrraedron minimum, Pediadtrum duplex, P.simplex, Scenedesmus quadricauda, S.obliquus and others from green algae [17-26].

Ponds of Tashkent fish hatchery registered 118 species and algae species, consisting of 118 taxa of which blue-green-14, diatoms-18, euglenic -22, green -78. (Ergashev, 1974). Similar to ours are Oscillatoria amphibia, Lungbua aestuarii of blue-green, Synedra ulna, Nitzschia sigmoidea of diatoms; Euglena texta, E.proxima, E.gracilis from Euglena; Golenkinia radiata, Dictyosphaerium ehrenbergienum, Sphaerocustis schroeterii, Cladophora glomerata and others from green algae. Thus, the species composition of algae biological ponds of purification facilities in Bukhara has some commonness with flora ponds of Uzbekistan and Central Asia [1-21].

We begin our comparisons in the ponds of Uzbekistan and Central Asia. When comparing the flora of algae in the biological ponds of sewage treatment plants with some other places in Uzbekistan and Central Asia, one can see here that it has much in common with the flora of other regions [2-22].

Algae biological ponds purification plants in Bukhara, we studied the first time. According to our observations, representatives of all systematic groups of algae developing in one or another body of water participate to a varying degree in the processes of self-purification of sewage [17-20].

This indicates the need for comprehensive and deep floristic studies of the natural algal population of water bodies used as biological ponds - storage tanks, sedimentation tanks and filtration fields. In addition to scientific interest, such studies are of purely practical significance, since the features and seasonal changes in the species composition of the algoflora can be used to enrich it with the species most desirable in this case [6-16].

Before the algalization, we investigated the species composition of the natural algae flora and their distribution by bioplasts, 120 species, varieties and forms of algae characteristic of polluted water bodies were identified [13-21].

With the development of introduced organisms in biological ponds, favorable conditions are gradually created for many accompanying species of hydrobionts. Some introduced algae gave active development in ponds.

This contributed to a decrease in the organic content of water and gave rise to an increase in the amount of oxygen dissolved in water. In the coastal parts in all ponds, there were often accumulations of filamentous algae consisting of the waters of the

genera Stigeolonium, Cladophora, Spirogyra and others. Along with them occasionally came across blue-green, diatoms and other algae. Among them, Oscillatoria tenuis, O.sancta, Phormidium foveolarum, Lungbya aestuari and others were distinguished [11-21].

Fouling was observed on the surface of various underwater objects (branches, boards, stones) consisting of Stigeoelonium tenue, along with them the threads Oscillatoria brevis, O.irrigua, O.limosa, O.tenuis and on the surface of filaments epiphytic species of diatoms Cocconeis placentula, Navicula tryptocophala and much more.

Thus, after algalization, the phytoplankton and phytobenthic groups were enriched in qualitative and quantitative terms of the biological ponds of the purification plant in the city of Bukhara. The increase in the species composition of algae up to 357 taxa and their adaptation in bioproducts allowed to continue work on revealing the role of algae in wastewater treatment [6-13].

Algae are mostly composed of alpha-beta-mesosaprobes. The content of dissolved oxygen in water is one of the important factors of water self-purification. As the amount of dissolved oxygen increases, the self-cleaning process accelerates. In the spring period, when the temperature of water and solar energy rises in biological ponds, intensive development of phytoplankton is observed. As microalgae develop in water, the amount of dissolved oxygen increases to 3.0-4.0 mg / l. Reduces the amount of organic substances in BOD_5 to 44.0-50.8 mg O2 / l.

On the basis of 520 algological samples collected biological ponds of the city of Bukhara and as a result of treatment 357 algal taxa, belonging to 5 systematic groups, were found; blue-green - 105, diatoms - 100, dinophytes - 10, euglenic - 30, green - 112. The highest occurrence is observed by the predominance of green algae, then blue-green and diatom algae. A small number is euglenic and dinophyte. As can be seen species diversity of bioproducts is great.

References

1. Мустафаева, М. И., Лаханова, К. М., Кедельбаев, Б. Ш., Изтлеуов, Г. М., Абдуова, А. А., & Кенжалиева, Г. Д. (2020). Экологические аспекты выращивание хлопка для текстильной промышленности. Известия высших учебных заведений. Технология текстильной промышленности, (4), 165-169.
2. Mustafayeva, M. I., & Khakimov, K. Z. (2021). CHANGE IN QUALITATIVE AND QUANTITATIVE COMPOSITION OF ALGAE AFTER ALGOLIZATION. Энигма, (33), 244-245.

3. Mustafayeva, M. I., & Khakimova, Z. Z. (2019). The study of the ecology of the algae of sewage as biotechnological disciplines. In International Conference EUROPE, SCIENCE AND WE ISBN (pp. 978-80).
4. Aminjonova, C. A. (2021). Methodology and problems of teaching the subject "Biology" in medical universities. Смоленский медицинский альманах, (1), 15-18.
5. Жумаева, Ш. Б. (2022). КОЛИЧЕСТВЕННЫЙ УЧЕТ И КАЧЕСТВЕННАЯ ХАРАКТЕРИСТИКА ФИТОПЛАНКТОНА В ВОДОЕМАХ БУХАРСКОЙ ОБЛАСТИ. Scientific progress, 3(1), 1132-1136.
6. KHUDOYKULOVA N.I. (2022, February). CONGENITAL ANOMALIES, ANALYSIS AND DEVELOPMENT IN THE NAVOI REGION. INTERNATIONAL JOURNAL OF PHILOSOPHICAL STUDIES AND SOCIAL SCIENCES 2(2) (pp.46-49).
7. Худойкулова, Н. И. (2018). Пути воспитания толерантности у молодежи. Наука, техника и образование, (11 (52)), 98-100.
8. Худойкулова, Н. И. (2022). АНАЛИЗ И РАСПРОСТРАНЕНИЕ ВРОЖДЕННЫХ АНОМАЛИЙ В БУХАРСКОЙ ОБЛАСТИ. Scientific progress, 3(1), 954-957.
9. Ismailovna, M. M. (2020). Ecological and Sanitary Assessment of Biological ponds based on the species composition of algae. European Journal of Molecular & Clinical Medicine, 7(03), 2020.
10. Аминжонова, Ч. А., & Мустафаева, М. И. (2017). Биоэкологическая Характеристика Водорослей Биологических Прудов г. Бухары. In Экологические проблемы промышленных городов (pp. 387-389).
11. Nazarova, F. I. (2022). ABU ALI IBN SINONING SOG 'LOM TURMUSH TARZINI SHAKILANIRISHI HAQIDA. Scientific progress, 3(1), 1137-1142.
12. Мустафаева, М. И., & Хакимова, З. З. (2020). Развитие фитопланктонов в зависимости от сезона года в прудах очистительных сооружений. ЖУРНАЛ АГРО ПРОЦЕССИНГ, 2(6).
13. Назаров, А. И. (2022). АУТИЗМ КАСАЛЛИКИНИ ЭРТА АНИҚЛАШДА ВА ДАВОЛАШДА ДАВО ЧОРАЛАРИНИ ИШЛАБ ЧИҚАРИШ ВА ДАВО САМАРАДОРЛИГИНИ ОШИРИШ. Scientific progress, 3(1), 1143-1152.
14. Худайкулова, Н. И., & Жумаева, Ш. Б. (2020). О стимуляции иммунитета на гиалуронидазу-фактор патогенности паразитов. In Университетская наука: взгляд в будущее (pp. 106-108).

15. Мустафаева, М. И., & Файзиева, Ф. А. (2016). ПРЕОБЛАДАЮЩИЕ ВИДЫ ВОДОРОСЛЕЙ БИОЛОГИЧЕСКИХ ПРУДОВ ОЧИСТНЫХ СООРУЖЕНИЙ. Национальная ассоциация ученых, (4-1 (20)), 100-101.
16. Nazarov, A. I. (2022). ATROF-MUHITNING INSON SALOMATLIGIGA TA'SIRI. Scientific progress, 3(1), 881-885.
17. Nazarov, A. (2021). Challenges to Uzbekistan's secure and stable political development in the context of globalization. Journal on International Social Science, 1(1), 26-31.
18. Nazarov, A. (2021). Challenges to Uzbekistan's secure and stable political development in the context of globalization. Journal on International Social Science, 1(1), 26-31.
19. Аминжонова, Ч. А., & Мавлянова, Д. А. (2020). Методика преподавания предмета "биология" в системе высшего медицинского образования. In методологические и организационные подходы в психологии и педагогике (pp. 8-11).
20. Akmalovna, A. C., & Olimovna, A. G. (2020). Methodology and problems of teaching the subject "Biology" in medical universities and secondary educational schools. Eurasian Medical Journal, (2), 6-8.
21. Худайкулова, Н. И. (2022). ХИМИЧЕСКИЕ И ФИЗИЧЕСКИЕ ФАКТОРЫ И ИХ ВЛИЯНИЕ НА ИММУННУЮ СИСТЕМУ ОРГАНИЗМА. Scientific progress, 3(1), 891-895.
22. Aminjonova, C. A. (2022). SOG'LOM ONA VA BOLA–BAXTLI KELAJAK ASOSI. Scientific progress, 3(1), 874-880.
23. Назарова, Ф. И. (2022). БУХОРО ВИЛОЯТИ ШАРОИТИДА ИНГИЧКА ТОЛАЛИ ҒЎЗА НАВЛАРИНИ ЯРАТИШ-ДАВР ТАЛАБИ. БАРҚАРОРЛИК ВА ЕТАКЧИ ТАДҚИҚОТЛАР ОНЛАЙН ИЛМИЙ ЖУРНАЛИ, 2(2), 92-94.
24. Мустафаева, М. И. (2018). ЭКОЛОГИЧЕСКАЯ ЭФФЕКТИВНОСТЬ АЛЬГОЛИЗАЦИИ БИОПРУДОВ. In Человек, экология, и культура (pp. 275-277).
25. Мустафаева, М. И. (2017). ОЧИСТКА СТОЧНЫХ ВОД ПРИ ПОМОЩИ АЛЬГОЛИЗАЦИИ ВОДОРОСЛЕЙ. In Экологические проблемы промышленных городов (pp. 459-462).
26. AMINJONOVA, C. (2021). PROBLEMS AND METHODS OF TEACHING THE SUBJECT "BIOLOGY". ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz), 1(1).
27. Kholliyev, A., Nazarova, F., & Norboyeva, N. (2021). Cotton resistance indicators in the conditions of water deficiency. Збірник наукових праць SCIENTIA.

28. Nazarova, F. I. R. U. Z. A. (2021). The use of phenological observations in the determination of the main phases of the development of thin-fiber goose varieties in the conditions of bukhara region. Theoretical & applied science Учредители: Теоретическая и прикладная наука,(9), 523-526.
29. Akmalovna, A. C. (2022). Characteristics and Advantages of Soybean Benefits in Every way. Journal of Ethics and Diversity in International Communication, 1(8), 67-69.
30. Nazarova, F., & Hudaikulova, N. (2019). Healthy generation-the basis of a healthy family. Scientific Bulletin of Namangan State University, 1(7), 69-73.
31. Nazarova, F. (2022). QARIDOSHLAR ORASIDAGI OFAT. Scientific progress, 3(1), 663-669.