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MICROBIAL ANALYSIS OF SURFACE WATER OF THE KRISHNA RIVER IN SANGLI

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ABSTRACT

Waterbody provides easily available fresh water which is basic requirement of stable community for any population. During present investigation the isolation, identification and frequency distribution of fungi from the Krishna River were done to understand the overall diversity of fungi. The varieties of fungal strains were isolated from the surface water. Out of total 553 fungal colonies, 43 fungal species belongs to 19 fungal genera. The most predominant genera were *Aspergillus niger* with (78.76%), *Aspergillus nidulans* (76.33%) and *Rhizopus stolonifer* (71.66%).

KEY WORDS: Microbial analysis, mycoflora, Krishna River.

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1.INTRODUCTION

Sangli district is situated in between Warna and Krishna rivers. The Valley of Krishna River provides many irrigation advantage which increase economy of district. Fungi are present in variety of Habitat Rivers, soil, lakes, air, oceans etc. (Arvanitidou *et.al.*; 1999). Most of the fungal species are pathogenic and can cause serious fungal infections. (Macher and Girman, 1990). Fungal pathogens causes variety of infections and more frequently they cause community

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acquired infections, which are acquired from use of community river water as seen in immune depressed individual (Arvanitidou *et.al.*, 1999). Main aim of present investigation is to isolate and identify the prevalence of fungal species from Maighat region of Krishna River in the Sangli district.

2. MATERIAL AND METHODS

Study area

The surface water samples was used for this study were collected from bank of Maighat region of Krishna river from sangli.

Collection of water samples and identification of mycoflora

100 water samples were aseptically collected from 3 different parts of the site in presterilized glass bottles. The bottle was dipped below the surface water (about 1 meter) and cap was removed to fill water inside and the bottle recapped. The filled sample bottles were stored in the thermacoal box containing ice crystals and emidiately brought to the laboratory for microbial analysis. The water samples were collected twice a month during period of one year from July 2014 to June 2015. Potato dextrose agar medium were used to isolate fungi throughout the study. The identification of mycoflora was done by using standard manuals (Ellis, 1960), (Ellis, 1963), (Ellis, 1976), (Subramanian, 1971)

3. RESULTS AND DISCUSSION

Out of 53 fungal colonies, 43 species belongs to 19 fungal genera. The most predominant genera were *Aspergillus Niger* (78.76%) followed by *Aspergillus nidulans* (76.33) and *Rhizopus stolonifer* (71.66). It is also found that maximum frequency of *Penicillium sp.* (63.37) followed by *Curvularia sp.* (50.67) and *Alternaria sp.* (33.13). On the contrary minimum frequency percentage was of *Fusarium oxysporum.* (Table 1), (Plate 1)

Table 1- Isolated mycoflora and their frequency distribution from Maighat site of Krishna river.

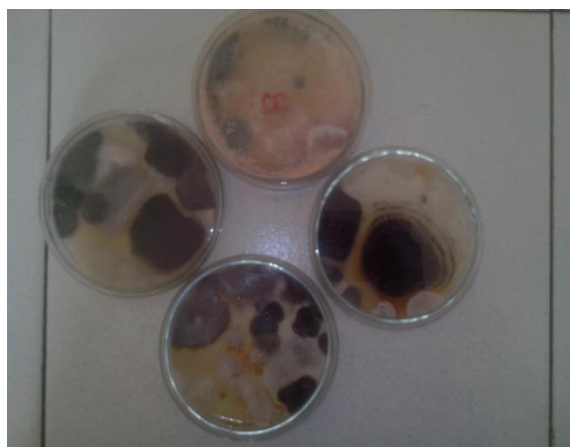
Sr No.	Isolated mycoflora	Frequency%
1	<i>Aspergillus niger</i>	78.76
2	<i>Aspergillus nidulans</i>	76.33
3	<i>Aspergillus stolonifer</i>	71.66
4	<i>Penicillium sp.</i>	63.37
5	<i>Curvularia sp.</i>	50.67
6	<i>Alternaria sp.</i>	33.13
7	<i>Cladosporium sp.</i>	22.17
8	<i>Trichoderma sp.</i>	08.33
9	<i>Aspergillus fumigatus</i>	08.22
10	<i>Fusarium oxysporum</i>	03.33

It has been observed from results of this investigation the Krishna river heavily contaminated with water microorganisms. The occurrence of various *Aspergillus* species denotes that water is very salty.

4. CONCLUSION

The water quality distributed in Sangli district requires more efforts for limiting the number of microbes. The Krishna River at Might site can be considered as a possible transmission way of fungi and may cause serious health problems especially those peoples are there numerous number of visits the site. Continuous use of such contaminated water can cause various waterborne diseases to immunodepressed peoples.

Plate 1- Isolated mycoflora from Maighat site of Krishna River.



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REFERENCES

1. Arvanitidou M, Kanellou K, Constantinides TC. (1999) .The occurrence of fungi in hospital and community potable water. Letters in Appl. Microbio, 29: 81-84.
2. Ellis, M.B., 1960. *Dematiaceous hypomyces*, I. Mycol. Pap., 76:1 – 36.
3. Ellis, M.B., 1963, *Dematiaceous hyphomycetes*, V, Mycol. Pap, 93: 1-33.
4. Ellis, M.B., 1976. *Dematiaceous hyphomycetes*, CMI. pp-5.
5. Subramanian, C.V., 1971. *Hypomyces* ICAR, New Delhi, India.