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NEW SPECIES OF MYXOMYCETES (*SYMPHYTOCARPUS NANNENGAE*) RECORDS FROM SANGALI DISTRICT, MAHARASHTRA, INDIA.

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ABSTRACT:

Microbes are the indicators of the fertility of the soil and soil biota. The myxomycetes are intermediate organisms between protozoan and fungi. They feed upon microorganisms like bacteria, fungi, and other organic matter present in the soil. The myxomycetes grow better on waste material such as straw and bagasse as it contain cellulose, hemicellulose, lignin, wax, etc. The myxomycetes grow in abundance in such environments giving support to the growth of bacteria, fungi, etc. In the present study, the Symphytocarpus nannengae species of myxomycetes was newly recorded first time in India, from Manganga Sugar Factory, Atpadi. Dist. Sangali (MS) India.

Keywords: Myxomycets, Slime Moulds, Capillitium, Sporangia, Symphytocarpus.

INTRODUCTION:

The myxomycetes are widely distributed and found frequently where dead or decaying organic matter is abundantly present. They feed by phagocytosis on living bacteria, fungal spores, pollen grains, mycelial fragments, and bits of organic matter. The nutrition is typically holozoic. However, myxamoebae and plasmodia can absorb food in solution (Guttesand Guttes, 1960). Certain Myxomycetes cause damage to mushroom beds (Harda, 1977). The Myxomycetes may be capable of cellulose degradation (Koeving& Liu, 1981).

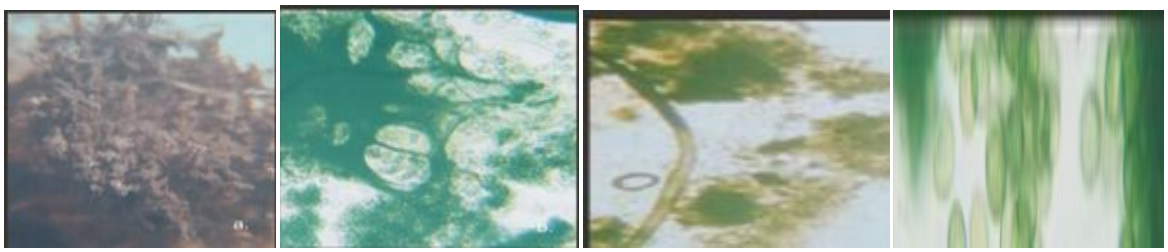
STUDY REGION:

Sugar cane farming is one of the important components of Indian agriculture as it isthe second largest raw material provider to the sugar industry

in the world (Mangala and Shrinivasa, 2021). Sangali district is also one of the economically and ecologically rich districts in the South-east district of Maharashtra state where sugarcane is cultivated as a major cash crop next to the grapes. There are about 30 sugarcane processing units including 03 jaggary processing units and 27 sugar factories located in the different talukas of the district (www.mahasdb.maharashtra.gov.in, 2013). The present species of myxomycets occurred in Manganga Sugar Factory, Atpadi Dist. Sangali (MS) India.

RESULTS:

In the present study, Symphytocarpus nannengae of Myxomycetes was first time newly recorded form the study area



a b c d

Symphytocarpus nannengae (Nanir& Tembhurne sp. nov.) fig.-I a-Habit, b-Hypothallus, c- Capillitium and d-Spores

Description of the species *Symphytocarpus nannengae* (Nanir& Tembhurne sp. nov.)

Symphytocarpus spp-I is characterized by its fructification sporangiate, stipitate, sporangia drooping, sloping, and sleeping; capillitium lax with a frequent expansion; spore warty reticulate and reticulation is irregular. *Symphytocarpus* spp-I is compared with *S. trechisporus* (Torrend) Nann-Brem. However *S. trechisporus* (Torrend) Nann.-Brem. is marked by its fructification sporangiate, stipitate, not drooping, sloping and sleeping; capillitium abundant with numerous expansion; spores faintly, delicately with banded reticulate.

DISCUSSION:

Sugarcane straw and bagasse are the waste products generated from sugarcane crop fields and sugar cane factories. Bagasse contains about 40 to 50 percent of cellulose, about 25 to 30 percent of hemicellulose, lignin, wax, etc (Jacbosen*et al.,* 2002; Wiman, 1999). Myxomycets are organism's shows exhibit the characteristics of both protozoa and fungi. They feed upon microorganisms

developed on organic matter and wastes from agricultural areas. The occurrence of myxomycetes in such an environment indicates favorable conditions of agricultural crop fields for the healthy growth of crops. Thus, Myxomycets are nothing but the ecological indicators of soil fertility. In the present study, the occurrence of *Symphytocarpus nannengae* species of myxomycets from sugar straw is an ecological indicator that indicates better fertility of the soil. Crop residue is the main source of energy in the soil (Novarrete, 2015). The sugarcane straw provides the substrate for soil organisms which increases the soil organic matter (Sousa, 2018). The sugar cane straw from the Manganga sugar factory, Tal. Atpadi provides a better environment for the development and establishment of microorganisms which ultimately has given support to the growth of *Symphytocarpus nannengae* which is newly recorded first time in India, Nanir & Tembhurne sp. nov.(2012).

CONCLUSION:

The occurrence of *Symphytocarpus nannengae* species from sugarcane straw might be due to the favorable conditions for the growth. It is necessary to conduct such a type of survey of sugar factories to explore the diversity of myxomycetes.

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