# **Research Paper:**

# Morphotaxonomical studies on diversified algal community from Swarnrekha river at Namkum, Ranchi, Jharkhand

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## SUMMARY

The present paper deals with morphotaxonomical investigation of algal flora growing in Swarnrekha River at Namkum, Ranchi. Important genera recorded from river flowing through this area were *Spirulina, Chlorella, Scenedesmus, Oscillatoria, Lyngbea, Pithophora, Oedogonium* etc. In the current scenario the algae are beneficial in various ways. So, it is necessary to conserve algal genetic resources and to do more systematic work on its potential and application for benefit of human beings as well as for other organisms which is possible only after understanding the ecology and habitats of various algal forms.

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## Key words :

Swarnrekha river, Anthropogenic eutrophication, Algal population

#### **Received:**

October, 2010 Revised: November, 2010 Accepted : December, 2010 The river Swarnrekha, is an important river of Ranchi, Jharkhand which is originated from Pisca, Nagri, Ranchi. It flows from SW to NE near Namkum area and is in the process of anthropogenic eutrophication. This river receives effluents from sewage, industrial emission, fertilized farm lands, cremation spots etc. are gradually broken down by microorganisms which cause lowering of BOD. Human activities fertilize water bodies with nitrogen phosphorus and calcium leading to change in water quality resulting increase in the algal population.

As there is no report of any kind of algal investigation in the Swarnrekha river running throw Namkum area at Ranchi, Jharkhand, a survey was made for the collection and identification of various algal specimens during the period of October 2008 to May 2009. Present paper deals with the total 21 algal taxa belong to three different classes *viz.*, Cynophyceae (7), Chlorophyceae (12) and Basccilaiophyceae (2). *Spirulina platensis, S. major and Microcystis stagnalis,* were collected from the bank of river with pH ranging between 8.5-10.5 near cremation spots where the burnt ashes of the rituals are thrown in the river. Flourishing growth of *Chlorella* and *Scenedesmus* species were found in the moist soil with pH 6-7.5. Rest Cynophycean members were found at pH of 8-9 and Clorophycean membes were at pH 7-8.

## MATERIALS AND METHODS

Materials were collected with the help of their suitable tools and brought to the Algal Biotechnology Laboratory, Ranchi University Ranchi. Collected samples were thoroughly washed and temporary slides were prepared after staining with suitable stains and observed under standard microscope. These were preserved at 4% formalin. Camera lucid drawings were made. Identification was done with the help of available literature, journals and standard monographs.

## **RESULTS AND DISCUSSION**

Systemetic enumeration and description of the algal materials found in the river-

CLASS: - CYANOPHYCEAE - *Microcystis stagnalis* Lemm. Colonies very long, cells very closely