

**OCCURRENCE AND DISTRIBUTION OF MICROSCOPIC ALGAE
IN SELECTED RIVERS OF INDANG, CAVITE**

THESIS

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**OCCURRENCE AND DISTRIBUTION OF MICROSCOPIC ALGAE IN
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ABSTRACT

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This study aimed to identify the algae present in the selected rivers of Indang, Cavite which involved the collection and identification of algae. The study also aimed to determine the physicochemical properties of river water and its effect on the occurrence of algae.

Thirteen algae were identified under microscopic examination belonging to the different groups. These were Chlorohyta with eight genera, namely; *Pediastrum*, *Pluerotaenium*, *Characium*, *Gloeomonas*, *Chlorella*, *Closteriopsis*, *Pandorina*, *Chaetophora*; Charophyta with four genera, namely; *Spirogyra*, *Hyalotheca*, *Closterium*, and *Zygnema*, and Glaucophyta with only one genus named *Gloeochaete*. Among the algae, *Pediastrum* and *Gloeomonas* were the most distributed, being found in most of the rivers. Diversity indices revealed that *Gloeomonas* showed the highest richness among the algae, however, low evenness or similarity, as well as, low to very low diversity were noted among all identified algae.

Pearson Correlation and One-way ANOVA of physicochemical data showed correlation of the algae to the effects of river parameters to the presence of algae in the rivers of Indang Cavite. Statistical analysis revealed that only TDS and salinity showed significant correlation to the presence of *Characium* while width and depth showed significant correlation to the presence of *Closteriopsis*, *Pandorina*, *Chaetophora*, *Closterium* and *Zygnema*. Only *Gloeochaete* showed significant correlation to temperature.

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INTRODUCTION

Algae range from single-celled organisms to multicellular organisms and from microscopic to macroscopic. They have been regarded as simple plants and considered as the primary producers of freshwater and marine ecosystem (Addy and Green 1996) Algae have high growth rate and can grow in any kind of weather conditions and can be cultivated in any aquatic environment ranging from fresh water, brackish water to salty water. They do not compete in agricultural area and still grow even in non-arable or unconditioned lands (Priyadarshani and Rath, 2012).

Algae are very simple chlorophyll-containing organisms composed of one cell or grouped together in colonies or as organisms with many cells, sometimes collaborating together as simple tissues. They vary greatly in size – unicellular of 3–10 μm (microns) to giant kelps up to 70 m long and growing up to 50 cm per year. They are found everywhere on earth: in the sea, rivers, lakes, soil and rock walls, in animal and plants (as symbionts-partners collaborating together) where there is light to carry out photosynthesis (Bold and Wynne, 1985).