The AJAS THE ASIAN JOURNAL OF ANIMAL SCIENCE December. 2011 | Vol. 6 | Issue 2 | 172-174

RESEARCH ARTICLE

Histopathological alterations in digestive gland of *Bellamya bengalensis* (L.) exposed to detergent 'Tide'

P. RAGHAVA KUMARI, K. SREE RAMULU AND B. KISHORE

ABSTRACT : *Bellamya bengalensis* was exposed to sub-lethal concentrations of detergent Tide for different periods of time for a histological study. The effects of sub-lethal concentrations of Tide on histology of digestive gland have been documented. The histopathological alterations examined are disintegration of basement membrane due to damaged epithelial cells, disruption of hepatic tubules, increase in internal luminar area at 104.71 ppm for 72 hrs, occurrence of cell debris in between the tissue at 69.18 ppm for 96 hrs. The histopathological lesions in digestive gland resulted in the disturbances of overall metabolism and several related physiological processes.

 P. RAGHAVA KUMARI
 relat

 Department of Zoology, S.K.R.
 Key

 College for Women, Rajahmundry,
 GODAVARI (A.P.) INDIA

 Hon
 Email : raghavapk@gmail.com

See end of the paper for **Coopted authors**

Author for Correspondence -:

Key words : Bellamya bengalensis, TIDE detergent, Hepatopancreas, Histopathological alterations

How to cite this article - Kumari, P. Raghava, Ramulu, K. Sree and Kishore, B. (2011). Histopathological alterations in digestive gland of *Bellamya bengalensis* (L.) exposed to detergent 'Tide'. *Asian J. Animal Sci.*, **6**(2): 172-174.

Article chronicle - Received : 10.9.2011; Sent for revision: 28.9.2011; Accepted : 17.10.2011

INTRODUCTION

Widespread use of synthetic detergents creates problems of water pollution. Such type of polluted water damages the life of aquatic organisms. In recent years, the use of detergents has been increased by many folds all over the world. They may enter aquatic ecosystem along with domestic sewage or by direct washing effluents. Exposure to moderate concentrations of detergents can produce a variety of recognizable effects. The present study is devoted to evaluate the toxicological effects of detergent (TIDE) on hepatopancreas in *Bellamya bengalensis*.

Detergent toxicity studies on gastropod molluscs is comparatively very meagre when compared to the fishes. Due to the toxic effects of detergents, important organs like kidney, liver, gill, digestive system, nervous system and other organs are damaged. Balajagannadha Rao and Kishore (2007) have reported histopathological alterations such as vacuolization and necrosis of liver cells and the hepatocytes of *Rana cyanophlyctis* exposed to detergent Rin. The histopathological investigations of Sowbhagyavathi (2009) also gave more details on liver cells of *Puntius sophore* exposed to detergent Rin. Similar histological alterations have been observed in *Bellamya bengalensis* exposed to detergent Tide. The effects of heavy metals and pesticides on the snails are extensive than detergents. Viant *et al.* (2002) reported the copper toxicity on digestive gland of *Haliotis rufescens*. Otludil *et al.* (2004) investigated to determine the histopathological effects of endosulfan on the digestive gland of great ramshorn snail, *Planorbarius corneus*.

RESEARCH METHODS

B.bengalensis are the fresh water snails occurring abundantly in river Godavari at Rajahmundry, East Godavari district of Andhra Pradesh. A total of 50 snails were collected and divided into 5 groups of 10 each. The first group consisted by control snails while the other four groups were exposed to 96 hrs LC₅₀ concentration of detergent Tide. The concentration of a detergent which caused 50 per cent mortality to test organisms during a specified time expressed in terms of LC_{50} . The lethal concentrations was calculated by using probit analysis (Finney, 1971). The digestive gland of the control group and those of experimental groups that survived at the end of 96 hrs. exposure were removed. The tissues were fixed in alcoholic Bouin's fluid and processed. The sections (8µm) were prepared from paraffin embedded tissue and stained with Heidenhain's Azan.