

**HISTOLOGICAL STUDY ON EFFECT OF *Agave americana* ON
STOMACH AND INTESTINE OF *Clarias batrachus*.**



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A thesis submitted in partial fulfillment of the requirements for the award of the degree of Master of Science in Zoology with special paper Fish and Fisheries.

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RECOMMENDATION

This is to recommend that thesis entitled “Histological Study on Effect of *Agave americana* on Stomach and Intestine of *Clarias batrachus*” has been carried out by Mrs. Srijana Bhusal for the partial fulfillment of Master’s Degree of Science in Zoology with special paper in Fish and Fisheries. This is her original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in my institutions.

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ABSTRACT

The study was carried on freshwater fish *Clarias batrachus* which was subjected to 24hours, 48hours, 72hours and 96hours administration of *Agave americana* of sub-lethal concentration. Research was conducted to observe the histopathological changes in the stomach and intestine. Fish meal comprised liver of chicken and soyabean. After sacrificing the fish (0.5cm × 0.5cm) from its stomach and intestine were fixed by immersion in Bouin's solution. The specimen were processed through routine paraffin embedding technique and cut at 7µm and stained with hematoxylin and eosin. Histopathological changes which includes ; Necrosis, rupture of serosa layer, disorganization of villi, enlargements of glands, hemorrhage and congestion in the sub mucous layer in intestine and necrosis of columnar epithelial cells, accumulation of toxicity within the tissue spaces, atrophy and shrinkage of mucosa, enlargement of glands in stomach of test species. In 96 hours of treatment all the treated fishes were died.

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LIST OF ABBREVIATIONS

Abbreviated form



C

Ce

G

Gc

L

Lp

Mm

S

T

V

Vc

Details of abbreviation

Sub mucosa

Necrosis

Muscle layer

Villi

Leucocytes

Mucosa layer

Sinus formation

Blood capillaries

Columnar epithelium

Glands

Goblet cells

Lumen

Lamina propria

Muscularis mucosa

Serosa

Toxicity

Vacuoles

Vesicular cleft