

**EFFECT OF *Agave americana* (KETUKE) ON THE KIDNEY OF
*Clarias batrachus***



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RECOMMENDATION

This is to recommend that the thesis entitled “Effect of *Agave americana* (Ketuke) on the kidney of *Clarias batrachus*” has been carried out by Rukmini Puri for the partial fulfilment of Master’s Degree of science in Zoology with the special paper 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 any institutions.

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LETTER OF APPROVAL

On the recommendation of supervisor “Dr. Archana Prasad” this thesis submitted by Rukmini Puri entitle “Effect of *Agave americana* on the kidney of *Clarias batrachus*” is approved for the examination and submitted to the Tribhuvan University in partial fulfilment of the requirements for Master’s Degree of science in Zoology with special paper Fish and Fisheries.

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DECLARATION

I hereby declare that the work presented in this thesis has been done by myself, and has not been submitted elsewhere for the award of any degree. All sources of information have been specifically acknowledged by reference to the authors or institutions.

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Abstract

The present study work was conducted to investigate the effect of local plant piscicide, *Agave americana* (Ketuke) on behavioural changes of freshwater catfish *Clarias batrachus* and histological alterations in its kidney. The different concentration of extract of 'Ketuke' like 3gm, 4.5gm and 6gm and were exposed to the experimental fishes for 24, 48, 72 and 96 hours in each concentration.

The restlessness, rapid opercular movement, loss of appetite, vigorous movement, and excessive secretion of slime from the skin was noted behavioural changes after keeping fishes in different concentrations of extract. Later fish became sluggish, lethargic and finally floated on the surface as dead. The histological alteration in the kidney of fishes was glomerular contraction, formation and clumping of melanomacrophages, degeneration of epithelial tissue along with the degeneration of renal tubules at all doses of *Agave americana* extracts. Increase in the Bowman's space is one of the important histological changes due to the glomerular contraction. The accumulation of extracts in the tissue was noted as cloudy appearance. The necrosis in kidney might have resulted due to physiological and metabolical disturbance.

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