A Study on Mycelial Growth Pattern of *Amanita chepangiana*, a Wild Edible Mushroom, on Different Nutrient Sources

A Dissertation Submitted to The Central Department of Botany, Tribhuvan University for the Partial Fulfilment for the Requirement of Master's Degree of Science in Botany

> Submitted by: KHADANANDA ACHARYA Exam Roll No: 6284 Batch No: 065/066 (2008) T.U. Regd. No: 5-1-19-628-2000

> Central Department of Botany, Tribhuvan University Kirtipur, Kathmandu, Nepal October 2012

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RECOMMENDATION

It is certified that Mr. Khadananda Acharya has carried out the dissertation work entitled "A Study on Mycelial Growth Pattern of *A. chepangiana*, a Wild Edible Mushroom, on Different Nutrient Sources" under my supervision.

The entire work is based on the different experiments on Lab as primary data by the student. This work deals with the current issues of the generation for the conservation and well commercialization of mycoflora. To the best of my knowledge, this result has been submitted elsewhere for any other academic degrees. I, therefore, recommend this dissertation to be accepted for the partial fulfilment for the requirement of Master's Degree of Botany from Tribhuvan University, Nepal.

Prof. Dr. Usha Budathoki Central Department of Botany Tribhuban University, Kirtipur Kathmandu, Nepal

Date:....

LETTER OF APPROVAL

We certify that we have read this dissertation work entitled "A Study on Mycelial Growth **Pattern of** *A. chepangiana*, a Wild Edible Mushroom, on Different Nutrient Sources" submitted by Khadananda Acharya and in our opinion it is good in the scope and quality as dissertation in partial fulfilment for the requirement of Master's Degree of Science in Botany.

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Khadananda Acharya

ABSTRACT

Vegetative growth requirement of *Amanita chepangiana* Tullose and Bhandari, an indigenous wild edible mushroom were studied. Malt extract was the best carbon source. This was followed by carbon control and lactose in that order. The least growth was observed in fructose. Sodium nitrate proved to be best nitrogen source while ammonium nitrate to be least. Ascorbic Acid was the best vitamin among the tested while Nicotinic Acid was the lowest. Arginine was the best amino acid source and least stimulating amino acid was valine. Carbon to Nitrogen ratio of 4:1 and 1:4 stimulated good mycelial growth.while the lowest mycelial growth was recorded in 1:1.

Key words: studies, vegetative growth, *Amanita chepangiana*, wild edible mushroom, chepang, nutrient source.

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ABBREVIATIONS

IBO	ibotenic acid
MUS	Muscimol
NAD	Nicotinamide Adenine Dinucleotide
NMDA	N-methyle –D-aspartic acid
PDA	Potato Dextrose Agar
SE	Standard Error
VDC	Village Development Committee
YM	Yeast Maltextract
NTFPs	Non-Timber Forest Products