MYCOLOGY IN MIZORAM: CURRENT SCENARIO AND PROSPECTS

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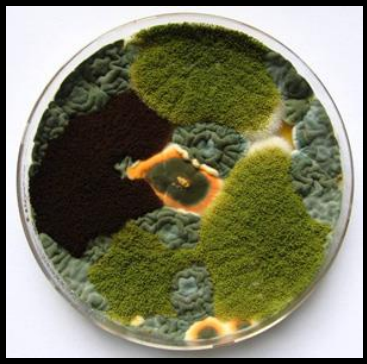
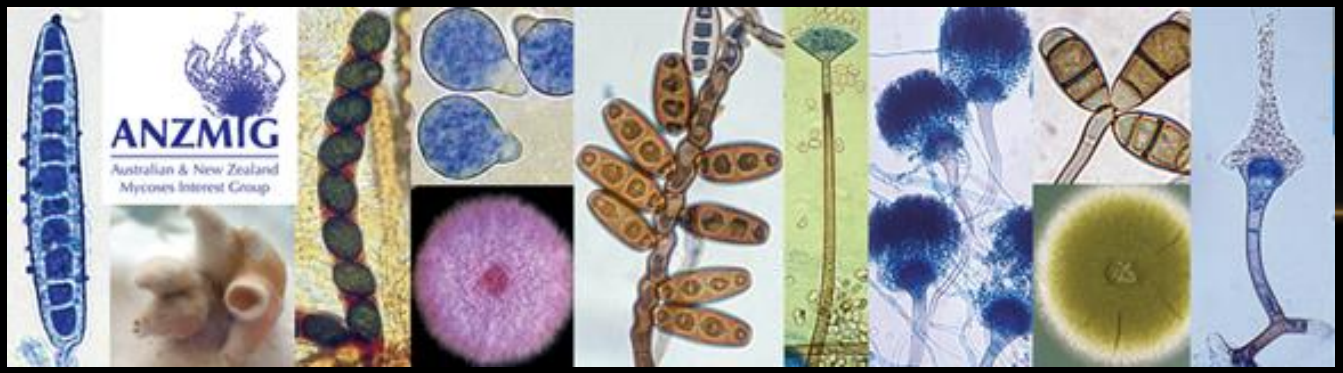
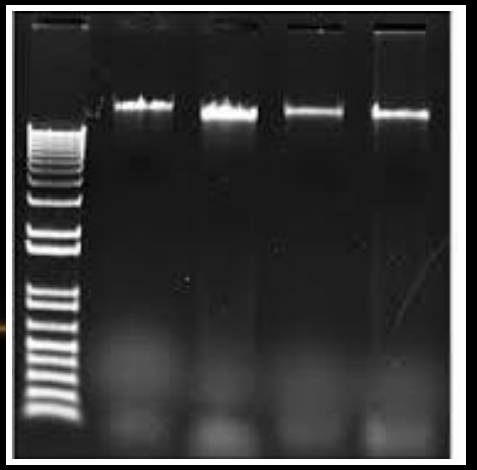
INTRODUCTION

Mycology- is the study of fungi. Fungi are not able to manufacture their own food. Hence they may be wood rotting (on dead/ live/ standing trees) or saprotrophic on other organic matter or may have association with other plants including the algae.







Current Scenario:

Wood rotting fungi – Taxonomical study is based on Morphological Identification

- 2011- NS Bisht, an IFS officer (mycologist) published a book on the wood decaying fungi of Mizoram with about 51 species.

- 2011 & 2012 - John Zothanzama in also reported some species.

Current Scenario:

Soil fungi (Mushrooms) –
Taxonomical study based on Morphological Identification

- Lalrinawmi Hmar and John Zothanzama has started work on from 2013 with about only 25 species identified by the classical method.

Current Scenario:

Soil fungi– Arbuscular Mycorrhizal Fungi (AMF)

- ***Current status-*** No reports on the nature of redistribution and diversity of mycorrhizal fungi Mizoram
- ***Current goal-*** identify the type and diversity of AMF with some selected crops
- Study is based on Morphological Identification

➢ Lalnunthari and John Zothanzama has started work on the **AMF** from 2013 with about a few species identified

Mycorrhizal fungi

Methodology **–**

- Shifting cultivation sites of different ages
- Soil samples of the rhizosphere region are taken
- Soil physico-chemical properties studied
- Identification of the mycorrhizal spores by morphology.
- Fine roots of plants studied for mycorrhizal propagules.

Current Scenario:

Summing up:

The Result – Mainly recorded species are compared with and No new records so far !

Many Questions –

- Method is tedious
- Literature give conflicting identifications
- Classical taxonomical method, is it dying?

Prospects:

Wood rotting fungi – Taxonomical study based on Morphological Identification supplemented with molecular identification using specific DNA sequences offers a new hope.

- John Zothanzama and Robert A. Blanchette have started working on some species since 2014

Prospects:

Results of some species

Sample	Best BLAST Match	Max Identity (%)
D.E.Mizoram D30	*Microporus xanthopus*	97
D.E.Mizoram D26	*Earliella scabrosa*	99
D.E. Mizoram D/11	*Microporus xanthopus*	97
D.E. Mizoram D/28	***Trametes trogii***	**94**
D.E. Mizoram D/29	*Favolus glaber*	99
D.E. Mizoram D/27	*Fomitopsis dochmia*	99
D.E. Mizoram D/39	*Microporus xanthopus*	97
D.E. Mizoram MZU/4	*Strobilomyces verruculosus*	98
D.E. Mizoram MZU/27	*Ganoderma carnosum (Amauroderma ?)*	94
D.E. Mizoram D/33	*Ganoderma mastoporum*	99

D-39 *Microporus xanthopus*

MZU-4 *Strobilomyces verruculosus*

D-28 *Trametes sps (trogii - 94%)*

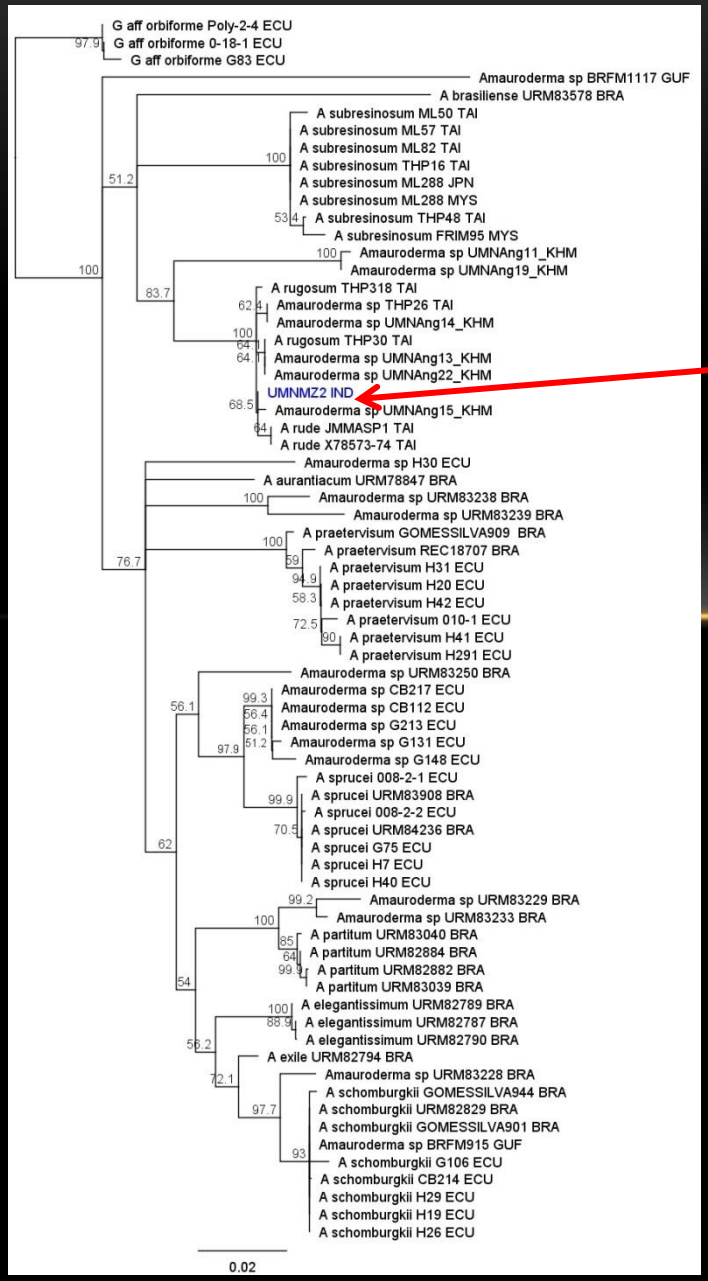
Earliella scabrosa (D 26)

Favolus glaber (D 29)

Ganoderma mastoporum (D 33)

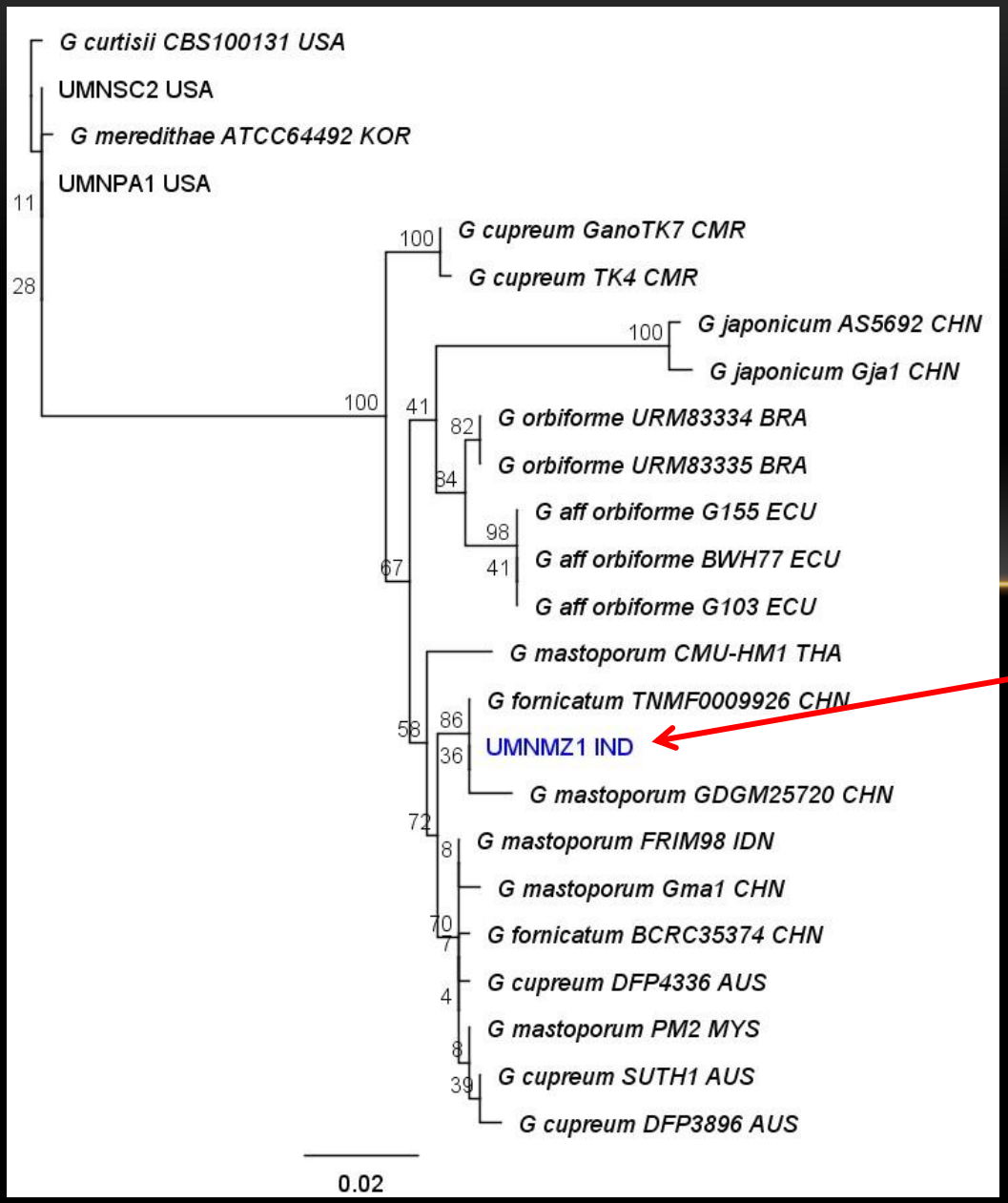
Fomitopsis dochmia (D 27)

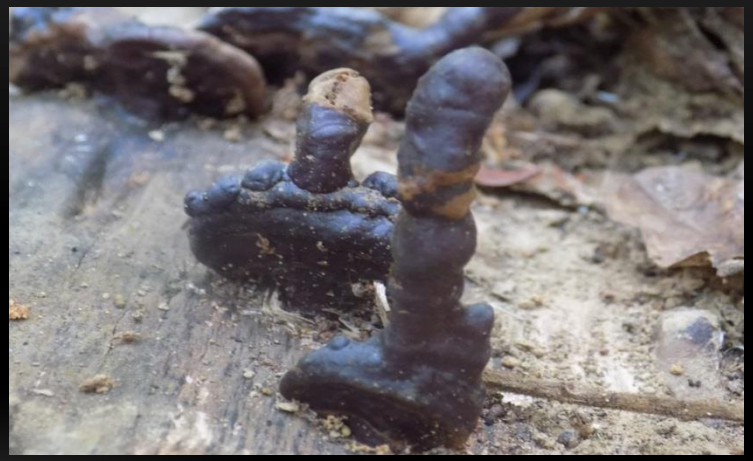
Prospects:



MZ 27 *Amauroderma* (*rugosum ?*)

Prospects:





D-33 *Ganoderma mastoporum*

Prospects:

Soil Mushrooms:

Edible mushrooms in Mizoram– just over 20 names have been known from study.

Poisonous/hallucinogenic – knowledge is very poor

Prospects:

EDIBLE MUSHROOMS:

Sl. No.	Mizo Name	Scientific name
1	Pa-si	*Schizophyllum commune*
2	Pa-lengsen	*Russula sps*
3	Changél-pa	*Agaricus sps*
4	Mau-pa	*Cantharellus sps*
5	Pa-sawntlung	*Termitomyces sps*
6	Pa-chang eng	*Cantharellus sps*
7	Pa-chang var	*Pleurotus sps*
8	Pa-uithin	*Lactarius corrugis*
A total about 22 species mentioned as occuring from survey conducted.		


Pa-chang eng (*Cantharellus* sps)


Pa-uithin (*Lactarius corrugis*)


Changel-pa (*Agaricus* sps)

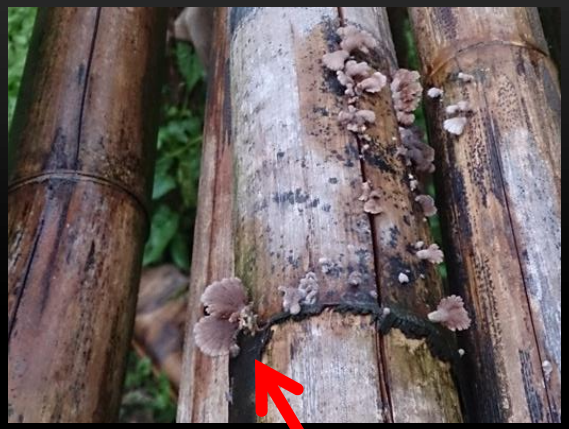

Pa-chang var (*Pleurotus* sps)


Pa-leng sen (*Russula* sps)


Pa-sawntlung (*Termitomyces* sps)


Russula sps

Prospects:



Schizophyllum commune (Pa-si)

Phalus indusiatus

Prospects:

MUSHROOM POISONING IN MIZORAM

Causes death to two persons (2014)

Four cases of poisoning (15 persons, 6 deaths) in 2014 reported by the State department.

Challenge-

Inventorying the poisonous and hallucinogenic mushrooms

Conclusion:

- Wood Rotting/decaying fungi
- Soil inhabiting fungi
    - * Poisonous Mushrooms
    - * Edible Mushrooms
    - * Mycorrhizal fungi

THANK YOU