EXECUTIVE SUMMARY OF MRP(S)-0603/13-14/KLCA019/UGC-SWRO, DATED 19 JANUARY 2015, ENTITIED “HABITAT, TAXONOMIC AND BIOCHEMICAL STUDIES ON SCLEROTIUM STIPITATUM (NILAMANGA) - A RARE TERMITE FUNGUS”, BY ANTO P. V.

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3. UGC Approval No. And Date:

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**TITLE OF THE PROJECT:**

“Habitat, Taxonomic and Biochemical studies on Sclerotium stipitatum (Nilamanga) - A rare Termite fungus”.

**OBJECTIVES OF THE PROJECT:**

a. To collect and study the underground special habitat of the *Sclerotium stipitatum.*

b.To develop a taxonomical clarification with relevant evidences of the *Sclerotium stipitatum*

c.To study the biochemical content of the *Sclerotium stipitatum*

**WHETHER OBJECTIVES WERE ACHIEVED:**

a. *S*clerotium stipitatum collected from its natural habitat of different places of Thrissur and Palghat district of Kerala.

b. Two different forms were identified and published in the Journal.

c. Biochemical studies were conducted and find out the steroid present in this plant extract.

**ACHIEVEMENTS FROM THE PROJECT**

1. Collection and culture of this plant done successfully.
2. Biochemical characterization of this species is done.
3. Pure culture study is successful in freshly collected fungus materials.
4. Two forms of this species published in an international journal.

**SUMMARY OF THE FINDINGS**

For phytochemical analysis, 5 types of solvent extract are used. They are petroleum ether, chloroform, acetone, methanol and distilled water. All the 5 solvent extract contains the phytosterol.

In-vitro cytotoxicity study conducted for the determination of the toxicity of fungi because the local peoples take this fungus as a medicine without any purification. This study conducted in two solvent extract and it show no toxicity to the tumor cells of mice, because it could not destroy the in vitro cancerous cells. So the consumption of the fungus as medicine has no side effect in human body.

The GC – spectrum of ethanol extract of *Sclerotium stipitatum* exhibited six major peaks at retention time 6.26, 14.76, 20.36, 26.25, 31.36, 35.37. But compounds at all peaks are not identified. Some compounds at retention time 11.91, 13.84, 24.23 are comparable with the results of library search. They show probability above 65%. At retention time 11.91 a compound is obtained. It shows 65.76% similarity with 6-(4- Chlorophenyl)-2,5,5- triphenyl-5,8- dihydro-6H- azeto [1,2-a][1,3] thiazolo[4,5-d] pyrimidine. The molecular mass of this compound is 503. The molecular mass of resultant may be 503.2. At retention time 13.84 a compound is obtained which shows 88.52% similarity with 5-methyl-2-phenyl-1,5-benzothiazepine-4(5H)-one. Molecular mass of this compound is 267 and the molecular mass of the resultant is 267.1. At retention time 24.23 compound showing similarity of 84.80% with, 3-Bis(4-chlorobenzyl)-5,6-dihydrobenzo(f)quinazoline is obtained. Its molecular mass is 430 and that of resultant is 431.3. At retention time 35.37 a compound is obtained which shows 65.42% with Docosenamide. Its molecular mass is 337 and that of resultant is 337.4. All these compounds are used in medicines as well as for other purposes. The difference of compounds from the library search results may be due to the presence or absence of any functional groups.

**CONTRIBUTION TO THE SOCIETY**

a. Chemical content of this species is efficiently utilized for different disease treatments such as HIV and Tumour.

b. Cytotoxicity studies prove that the conception of this plant material not toxic to animal cells.

c. This result support the ethanomedical conception of this fungus along with alcohol is curative effect on various diseases.