On the taxonomic identity of a fungal morph used in traditional medicine in Kerala State, India

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Abstract

A hypogaeal fungus, referred to in the local Malayalam language as nilamanga (meaning hypogaeal mango) is often used by traditional healers and tribal people in Kerala State, India as a cure for an assortment of ailments. Taxonomic identity of this fungal morph has long intrigued mycologists starting from M. J. Berkeley who provisionally named it as *Sclerotium stipitatum* Berk. & Curr. in 1860. Its unique morphology and total lack of spores of any kind defied proper identification. Morphological examinations revealed that a nilamanga specimen that we obtained recently from Kerala was indistinguishable from Berkeley’s *Sclerotium stipitatum* currently preserved at Kew herbarium. Molecular phylogenetic methods unequivocally proved that the nilamanga specimen was *Xylaria acuminatilongissima*, a termite associated species first reported from Taiwan. The hypogaeal origin of nilamanga specimens indicate that they could very well be growing on abandoned subterranean termite nests. The sterile structure can be considered as a morphologically variable, multihyphal aggregated sclerotial stage of the fungus that can remain dormant or quiescent when the environment is unfavourable.

Key words: medicinal mushroom, *Xylaria*, traditional medicine, nilamanga, *Sclerotium stipitatum*

Introduction

A very interesting hypogaeal fungus, referred to in the local Malayalam language as nilamanga (meaning hypogaeal mango) and in Tamil as puttumanga (meaning mango of the termitorium) is often used by traditional healers and tribal people in Kerala State, India as a cure for an assortment of ailments especially stomach ailments (Shortt 1867, Balakrishnan & Kumar 2001). It is obtained by chance while digging soil for some other purposes and remarkably, is often obtained from the foundations of old houses when they are dismantled and this feature further added to the mystery surrounding this fungus. The identity of this remarkable medicinal fungus has long intrigued mycologists starting from Berkeley (1860) who examined the material transmitted to him from the former Travancore (southern Kerala) and provisionally named it as *Sclerotium stipitatum* Berk. & Curr. (1860: 93). Currey & Hanbury (1860) and Rogers et al. (2005) indicated that it could be *Xylaria* acuminatilongissima, a termite associated species first reported from Taiwan. The hypogaeal origin of nilamanga specimens indicate that they could very well be growing on abandoned subterranean termite nests. The sterile structure can be considered as a morphologically variable, multihyphal aggregated sclerotial stage of the fungus that can remain dormant or quiescent when the environment is unfavourable.

Recently, we obtained specimens of this material from a local healer and also Berkeley’s (1860) material (*Sclerotium stipitatum*, holotype: K(M) 125991) on loan from Kew Herbarium. The results of our studies on these materials are presented here.
phylogenetic methods unequivocally prove that the recently collected nilamanga specimen is *X. acuminatilongissima* (Xylariaceae, Xylariales, Ascomycota, Fungi), a termite associated species.

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