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Validation of the names of three fossil fungal species from Late Pliocene-Early Pleistocene sediments of Arunachal Pradesh, Eastern Himalaya, India

Ramesh K. Saxena[1*] and Paul M. Kirk[2]

[1*]Birbal Sahni Institute of Palaeosciences, 53 University Road, Lucknow–226007, India.
E-mail: rksaxena2207@yahoo.com
[2]Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3DS, U.K.
E-mail: p.kirk@kew.org
*Corresponding author

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ABSTRACT

Saxena R.K. & Kirk P.M. 2023. Validation of the names of three fossil fungal species from Late Pliocene-Early Pleistocene sediments of Arunachal Pradesh, Eastern Himalaya, India. Geophytology 53(2): 177–179.

The objective of the present paper is to validate names of three species of fossil fungi recorded from Plio-Pleistocene sediments of Arunachal Pradesh, Eastern Himalaya, India. These names were not validly published by their original authors because they were not registered with any recognized nomenclatural repository and, therefore, lacked citation of the registration identifier, which is a mandatory requirement for valid publication of a fungal name (Article F.5.1, Turland et al. 2018). In order to validate these names, the first author registered the names with Index Fungorum and obtained a unique Registration Identifier for each of them and these are cited with each species. The names of species validated here are: *Phomites neogenicus* Vishnu, M.A. Khan & S. Bera ex R.K. Saxena & P.M. Kirk, *Phomites siwalicus* Vishnu, M.A. Khan & S. Bera ex R.K. Saxena & P.M. Kirk and *Meliolinites neogenicus* M.A. Khan, M. Bera & S. Bera ex R.K. Saxena & P.M. Kirk.

Keywords: Fossil fungi, validation of names, *Meliolinites*, *Phomites*, Early Pliocene-Pleistocene, Arunachal Pradesh, India.

INTRODUCTION

Occurrence of dispersed fungal remains is a common phenomenon in palynological preparations. During the literature survey of the Indian fossil fungi, the first author came across names of three new species, proposed by Khan et al. (2019) and Vishnu et al. (2019), that were not validly published because the authors did not register them with any of the recognized nomenclatural repositories, which is a mandatory requirement for valid publication of fungal names (Art. F.5.1, Turland et al. 2018). Article *F.5.1.* of the International Code of Nomenclature for algae, fungi, and plant (ICNafp; Turland et al. 2018) clearly states, as one of the essential conditions for valid publication of the name of a fungus, that "In order to be validly published, nomenclatural novelties (Art. 6 Note 4) applied to organisms treated as fungi under this *Code* (Pre. 8; including fossil fungi and lichen-forming fungi) and published on or after 1 January 2013 must, in the protologue, include citation of the identifier issued for the name by a recognized repository (Art. F.5.3)."

Vishnu, Khan and Bera in Vishnu et al. (2019) described two new species of *Phomites* (e.g. *P. siwalikus* and *P. neogenicus*) from the Early Pliocene-Pleistocene sediments of Arunachal sub-Himalaya. Khan et al. (2019) described a new *Meliola*-like foliicolous fungus in the genus *Meliolinites* Selkirk 1975, named as *Meliolinites neogenicus*, from the Early Pliocene-Pleistocene sediments of Arunachal Pradesh, eastern Himalaya. These species are based on sound morphological features and are well recognizable and, therefore, were correctly designated as new species. These species names are validly published below, by citing Index Fungorum Registration Identifier and a reference to the original description and illustrations. The holotype, with reference to its illustration, slide number and repository, is also provided for each species name. The holotype of each species name is the same as designated by the original authors.

VALIDATION OF TAXON NAMES

Phylum: *Ascomycota* Caval.-Sm.

Subphylum: *Pezizomycotina* O.E. Erikss. & Winka

Class: *Dothideomycetes* O.E. Erikss. & Winka

Subclass: *Pleosporomycetidae* C.L. Schoch, Spatafora, Crous & Shoemaker

Order: *Pleosporales* Luttr. ex M.E. Barr.

Family: *Didymellaceae* Gruyter, Aveskamp & Verkley

Genus: *Phomites* Fritel 1910 (Index Fungorum Registration Identifier: 21242).

Type species: *Phomites myricae* Fritel 1910.

1. ***Phomites neogenicus*** Vishnu, M.A. Khan & S. Bera ex R.K. Saxena & P.M. Kirk, **sp. nov.**

Index Fungorum Registration Identifier: IF 559698.

Validating description and illustration: In: Vishnu et al., Fungal Biology 123: 22–23, figure 4–7. 2019.

Holotype: Figures 4, 6, 7, Specimen number: CUH/PPL/IB7/5/PH_1; Herbarium and Museum of the Department of Botany, University of Calcutta (CUH).

Type Locality, Horizon and Age: Road cuttings along the Itanagar-Banderdewa road in Papumpare District, Arunachal Pradesh, India; upper part of the Siwalik Group (Kimin Formation); Late Pliocene to Early Pleistocene).

Etymology: The specific epithet refers to the age (Neogene) of the stratigraphic sequence from where the fruiting bodies of *Phomites* were collected.

2. ***Phomites siwalicus*** Vishnu, M.A. Khan & S. Bera ex R.K. Saxena & P.M. Kirk, **sp. nov.**

Index Fungorum Registration Identifier: IF 559285.

Validating description and illustration: In: Vishnu et al., Fungal Biology 123: 21–22, figure 3. 2019.

Holotype: Figure 3, Specimen number: CUH/PPL/IB7/17/PH_1; Herbarium and Museum of the Department of Botany, University of Calcutta, Kolkata (CUH).

Type Locality, Horizon and Age: Road cuttings along the Itanagar-Banderdewa Road in Papumpare District, Arunachal Pradesh, India; upper part of the Siwalik Group (Kimin Formation); Late Pliocene to Early Pleistocene.

Etymology: The specific epithet '*siwalicus*' refers to the Siwalik deposits from where fossil leaves with fruiting body remains of *Phomites* were recovered.

Subclass: *Meliolomycetidae* P.M. Kirk & K.D. Hyde

Order: *Meliolales* Gäum ex Hawksw. & Erikss.

Family: *Meliolaceae* Martin ex Hansford

Genus: *Meliolinites* Selkirk 1975 (Index Fungorum Registration Identifier: 21162).

Type species: *Meliolinites spinksii* (Dilcher) Selkirk 1975

3. ***Meliolinites neogenicus*** M.A. Khan, M. Bera & S. Bera ex R.K. Saxena & P.M. Kirk, **sp. nov.**

Index Fungorum Registration Identifier: IF 558658.

Validating description and illustration: In: Khan

et al., Review of Palaeobotany and Palynology 268: 55–64, Figure 2, Plates I, II, III. 2019.

Holotype: Figure 2, Plates I, II, III; Specimen number: CUH/PPL/IB7/36/AS_1, Herbarium and Museum, Department of Botany, University of Calcutta, India (CUH).

Type Locality, Horizon and Age: Road cutting section along the Itanagar-Banderdewa road in Papumpare District, Arunachal Pradesh, India; upper part of the Siwalik Group (Kimin Formation); Late Pliocene to Early Pleistocene.

Etymology: The specific epithet refers to the age (Neogene) of the stratigraphic sequence from where the fruiting bodies of *Meliolinites* were collected.

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