

***Basauxia* and *Ashtaangam* of Hyphorhycetes from Southeast Asia.**

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ABSTRACT: Two interesting new hyphomycetes collected on rachis of an unidentified palm (Palmae) from Malayasia are described and their taxonomy is discussed in this paper. One of them is unique in producing basauxic conidiophores from conidiophore mother cells that are sessile, simple, cylindrical or cupulate, and solitary, gangliar, acrogenous, dry phragmoconidia. It is classified in a new genus *Basauxia*, as a new species, *B. pulchra*. The other hyphomycete is also unique in producing characteristic solitary, eight-celled, eight-armed gangliar conidia on simple conidiophores. A new genus, *Ashtaangam* is proposed for it in which it is placed as a new species, *A. sundaram*.

KEYWORDS: *Basauxia*, *Ashtaangam*, basauxic, hyphomycete, taxonomy.

As part of the author's continuing studies of Hyphomycetes from Southeast Asia, two interesting hyphomycetes were collected on rachis of an unidentified palm in Malaysia. They are described and discussed in this paper which is dedicated to the KOREAN SOCIETY OF MYCOLOGY on its twentieth anniversary.

BASAUXIA PULCHRA (Fig. 1-3)

A rather interesting hyphomycete turned up in a collection made on dead rachis of unidentified palm (Palmae) from Malaysia, along with other interesting taxa. A description of the hyphomycete is given below.

The mycelium is scanty but composed of subhyaline sparse hyphae apparently colonizing moribund conidiophores of an unidentifiable dematiaceous fungus. The conidiophores are gregarious, simple, non-septate, subhyaline to hyaline, of variable length, mostly 10-15 μm long, 3-4 μm wide, narrower below, becoming wider above and producing a gangliar conidium acrogenously. Close scrutiny shows the conidiophores arise from conidiophore mother cells and are basauxic as seen from their emergence from conidiophore mother cells and their very variable length. The conidiogenous cell is integrated and apical. The conidia

are solitary, gangliar, acrogenous, when mature dark brown, short-clavate, thick-walled, usually 3- or up to 5-euseptate, conspicuously tuberculate, dry, 22-38 μm long, 13-21 μm wide. The conidiophore mother cells are simple, sessile, subhyaline, solitary, scattered, cylindrical, often appearing cupulate, 6.0-7.5 μm tall, 7.5-10.5 μm wide.

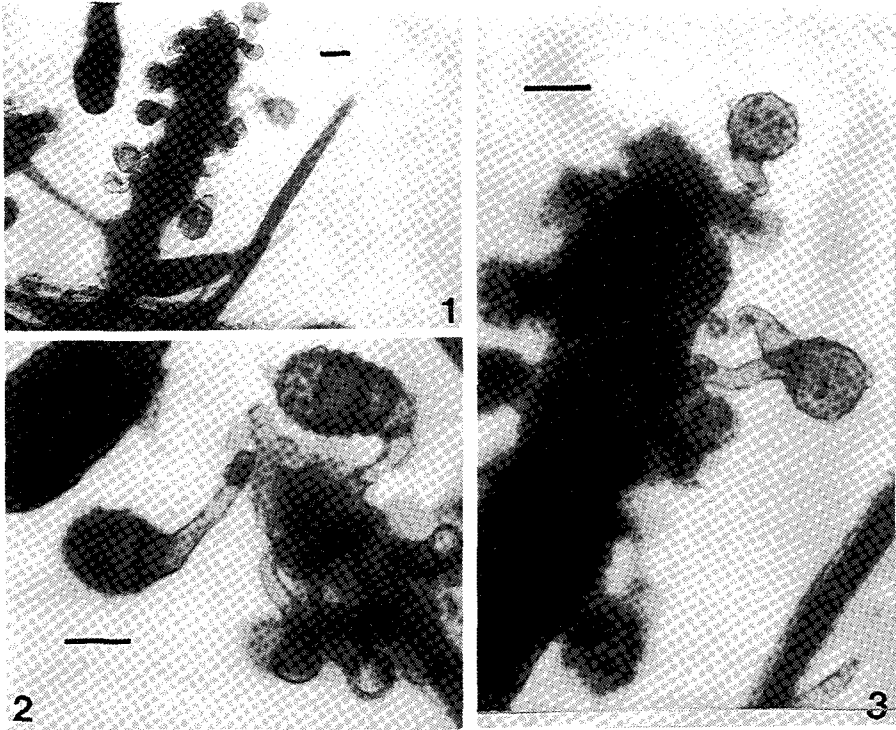
The unique features of this fungus are its simple basauxic conidiophores and the solitary acrogenous obclavate tuberculate phragmoconidia. I know of no genus with basauxic conidiophores that combines these features (see Subramanian 1990 for a Key to species of dematiaceous hyphomycetes with basauxic conidiophores). Accordingly, this fungus is accommodated in a new genus *Basauxia* as a new species, *B. pulchra*.

BASAUXIA Subramanian anamorph *gen. nov.*

Dematiaceous hyphomycete producing conidia on basauxic conidiophores. Conidiophore mother cells sessile, simple, cylindrical or cupulate, short. Conidiophores simple, non-septate, with integrated apical conidiogenous cell. Conidia gangliar, solitary, acrogenous, euseptate, tuberculate, dry.

Type species: *Basauxia pulchra* Subramanian

Hyphomycete dematiacea conidiophora basauxica producentes. Cellula conidiophori matriciali sessilia, simp-



Figs. 1-3. *Basauxia pulchra* ex TYPE [No. S113(h)]. 1, Habit; 2,3, basauxic conidiophores and conidia in various stages of development. Note emergence of conidiophore from conidiophore mother cell (CMC), the break at the apex of the CMC in Figs. 2 and 3.

licia, cylindrica vel cupulata. conidiophora simplicia, non-septata; cellula conidiogena integrata, apicalia. Conidia ganglica, solitaria, acrogena, euseptata, tuberculata, sicca.

Species typica: *Basauxia pulchra* Subramanian

Basauxia pulchra Subramanian anamorph sp. nov.

Mycelium sparse, composed of subhyaline hyphae on moribound conidiophores of unidentifiable fungus. Conidiophores gregarious, simple, non-septate, subhyaline to hyaline, of variable length, mostly 10-15 μm long, 3-4 μm wide, narrower below, becoming wider above, basauxic, arising from conidiophore mother cells. Conidiophore mother cells simple, sessile, solitary, scattered, subhyaline, cylindrical, often appearing cupulate, 6.0-7.5 μm tall, 7.5-10.5 μm wide. Conidia acrogenous, gangliar, solitary, shortclavate, dark brown, 3-5-euseptate, conspicuously tuberculate, dry, 22-38 μm

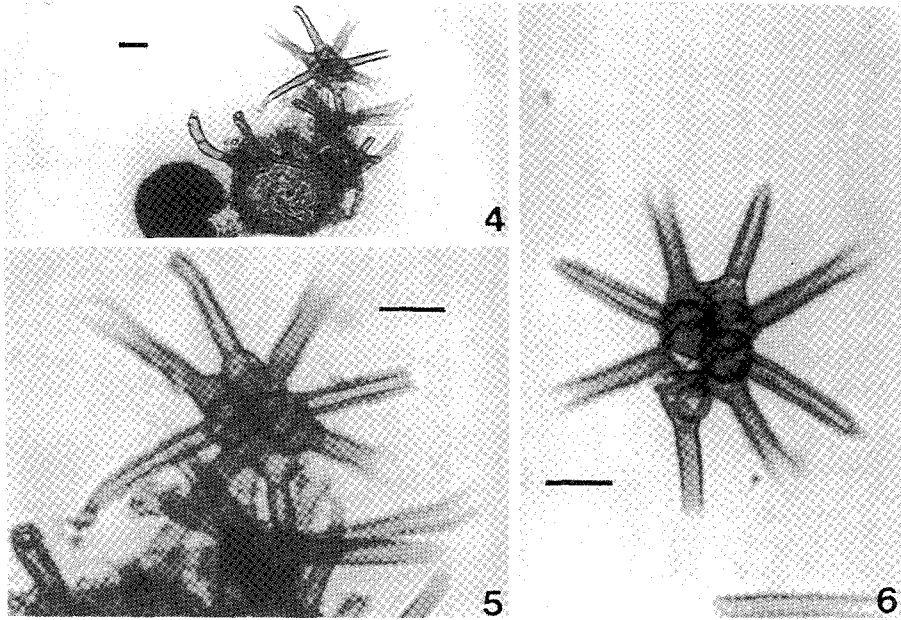
long, 13-21 μm wide.

Type: on rachis of unidentified palm (Palmae), Cameroon Highlands, Malaysia, Coll. CV Subramanian, 7 May 1987, No. 113 (h).

Basauxia pulchra Subramanian anamorph sp. nov.

Mycelium sparsum ex hyphis subhyalinis compositum. Conidiophora gragaria, simplicia, non-septata, subhyaline vel hyalina, variabilia in longitudinem, 10-15 μm longa, 3-4 μm lata, angustata infra, crassa supra, basauxia, ex cellula conidiophori matricali oriunda. Cellula conidiophori matricali simplicia, sessilia, solitaria, dispersa, subhyalina, cylindrica, saepe cupulata, 6.0-7.5 μm alta, 7.5-10.5 μm lata. Conidia acrogena, ganglica, solitaria, breviclavata, atrobrunnea, 3-5-euseptata, manifeste tuberculata, sicca, 22-38 μm longa, 13-21 μm lata.

Typus: ad rachidis emortuis emortuis palmarum ignotum, Cameroon Highlands, Malaysia, leg. CVS, 7 May 1987, subnumero 113 (h).



Figs. 4-6. *Ashtaangam sundaram* ex TYPE [No. S113 (c)] 4, Habit; 5, a mature conidium perched on a conidiophore; 6, a mature conidium. Bar represents 10 μm .

ASHTAANGAM SUNDARAM (Fig. 4-6)

Yet another interesting hyphomycete turned up in the same collection on dead rachis of unidentified palm (Palmae). A description of the same is given below.

The mycelium of the fungus is composed of simple or feebly branched, subhyaline and thin-walled or dark-coloured and thick-walled, sparsely septate hyphae 1.5-4.0 μm wide that may often enwrap pollen grain or fungal bodies and, in consequence, may be distinctly curved. The conidiophores arise laterally from the hyphae and are simple, macronematous, mononematous, tubular and cylindrical or somewhat subulate, erect, straight or flexuous, mostly non-septate or 1-2-septate, 20-35 μm long, 1.5-4.0 μm wide. The conidiogenous cell is integrated, apical. The conidia are characteristic: the body of each conidium consists of eight nearly equal sized globose-conic to subglobose-conic, smooth cells, beautifully oriented to each other and the conical (outer) end of each cell has an appendage. The appendage is simple, robust, tubular, mostly non-septate, sometimes

1-2-septate, smooth, straight, blunt at the tip and radiate in a very symmetrical manner in eight different directions. The symmetry of these eight-celled, eight-armed conidia is remarkable. The body of the conidium is light to brown and the appendage is subhyaline to golden brown. The body of the conidium has a diameter of 12-18 μm , and the individual cells are 6.0-7.5 μm in diam. The appendages are 16-26 μm long, 3-4 μm wide.

Details of the sequences in the ontogeny of the conidia are not available, but the conidia are gangliar, solitary, acrogenous, dry, deciduous.

The eight-celled, eight-armed solitary, dry, gangliar conidia and the simple, determinate conidiophores are unique features of the fungus. I know of no genus in which this fungus can be accommodated. Accordingly, a new genus, *Ashtaangam* is proposed in which it is placed as a new species, *A. sundaram*.

The generic name and specific epithet are both derived from Sanskrit: *ashta* = eight; *angam* = arm, from the 8-celled, 8-armed conidium. The specific epithet *sundaram* = beautiful.

ASHTAANGAM Subramanian anamorph *gen.*

nov.

Dematiaceous hyphomycete producing gangliar conidia. Mycelium composed of simple, or branched, subhyaline, septate hyphae. Conidiophores simple, erect, with integrated apical conidiogenous cell. Conidia acrogenous, solitary, dry, golden brown, with eight symmetrical globose cells, each with an appendage; appendage simple, septate, radiating symmetrically.

Hyphomycete dematiacea conidia ganglica producentes. Mycelium ex hyphis simplicibus vel ramosis, subhyalinis, septatis compositum. Conidiophora simplicia, erecta, cum cellula conidiogena integrata apicalia. Conidia acrogena, solitaria, sicca, aureo-brunnea, octocellulae symmetricae composita, quisque cum una appendix; appendix simplicis, septati, radiati symmetrice.

Species typica: *Ashtaangam sundaram*

Ashtaangam sundaram Subramanian anamorph sp. nov.

Mycelium composed of simple or feebly branched, subhyaline and thin-walled, or dark coloured and thick-walled, smooth, septate hyphae 1.5-4.0 μ m wide that may often enwrap pollen grain or fungal bodies and so distinctly curved. Conidiophores simple, macronematous, mononematous, tubular and cylindrical or somewhat subulate, erect, straight or flexuous, mostly non-septate, rarely 1-2-septate, 20-35 μ m long, 1.5-4.0 μ m wide. Conidiogenous cell integrated, apical. Conidial body composed of eight nearly equalized, globose to subglobose, symmetrical, smooth cells, each with an appendage. Appendages simple, robust, tubular, non-septate or septate, smooth, straight, blunt at the tip, radiating in a symmetrical manner. Body of conidium pale to golden brown, 12-18 μ m in diameter; cells 6.0-7.5 μ m in diam. Ap-

pendages 16-26 μ m long, 3-4 μ m wide.

Type: on rachis of unidentified palm (Palmae), Cameroon Highlands, Malayasia, Coll. C.V. Subramanian, 7 May 1987, No. 113 (C).

Ashtaangam sundaram Subramanian anamorph sp. nov.

Mycelium ex hyphis non-ramosis vel parce ramosis, subhyalinis vel tenuitunicatis, vel fuscis vel crassitunicatis, laevis, septatis, 1.5-4.0 μ m latis compositum. Conidiophora simplicia, macronematosa, mononematosa, tubularis vel cylindrica vel leniter subulata, erecta, recta vel flexuosa, non-septata, 20-35 μ m longa, 1.5-4.0 μ m lata. Cellula conidiogena integrata, apicalia. Conidia octocellula: cellula equimagna, globosa vel subglobose, symmetrica, laevia, une appendix ornata. Appendix simplicis, robusti, tubulari, non-septati vel septati, laevi, recti, obtusi ad apicem, radiati symmetrice. Corpus conidii pallide vel aureobrunneum, 12-18 μ m in diametro; cellulae 6.0-7.5 μ m latae. Appendix 16-26 μ m longi, 3-4 μ m lati.

Typus lectus ad rachidis palmarum ignotum (Palmae), Cameroon Highlands, Malayasia, leg. C. V. Subramanian, 7 May 1987, subnumero 113 (c).

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