

Two New Hyphomycetes

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Accepted for publication : 3 January 2002

Abstract

Two new species of hyphomycetous fungi, *Annellophora eugeniae* sp. nov. and *Endocalyx amarkantakensis* sp. nov. growing saprophytically are reported from Shahdol forest (MP).

Key words: New species, saprophyte, shahdol, forest

During periodic surveys of tropical, moist and mixed forests of Shahdol, Madhya Pradesh, India, the authors collected a new species each of *Annellophora* Hughes and *Endocalyx* Berk. & Broom. Extensive survey of the literature (Subramanian, 1965; Kapoor and Munjal, 1966; Ellis, 1971; Chowdhry, 1982) clearly indicates that these species differs significantly from the earlier reported species, therefore, these are described here as a new species.

Material and Methods

The standard techniques were used to collect and maintain fungi (Ellis, 1960; Agarwal and Hasija, 1986). The color terminology used in the text are as per Kornerup and Wanscher (1978). The type specimens have been deposited at Herbarium, Department of Biological Science, Rani Durgavati University, Jabalpur; Herbarium Cryptogamae Indiae Orientalis, Indian Agricultural Research Institute, New Delhi, India, and C.A.B. International Mycological Institute, Kew, Surrey, England, as indicate in the text by HDBJ, HCIO and IMI respectively.

Results and Discussion

Annellophora eugeniae sp. nov.

Colonies effusae brunnae. Mycelium immersum, ex hyphis ramosis, septatis, pallide, leavibus, 2 - 4 µm crassi compositum. Stromata erumpentia, vene evoluta, pulvinata, pseudoparenchymatica, fusca, 120 - 220 µm diam. Setae et hyphopodia desunt. Conidiphora macronematosa, mononematosa, fasciculosa, recta vel flexuosa, simplicia, 15 - 20 septata, leavia atrobrunea, 300 - 400 µm longa, ad basim 9 - 12 µm crassa. Cellulae conidiogenae in conidiophoris incorporatae, terminalis, monoblasticae, cylindricae, determinatae, cum mono prominens cicatrix ad apicem; tunica de

inferius parties de conidium supersesse in apices der conidiogenae cellulae formare mono poculum, diende conidia produco e poculum, quae quoque relinquo eorum tunicae de inferius parties quasi pocula intra primus, quandoque hic poculum similis texture separare e conidiogenae cellulae ferre hilum. Conidia solitaria, acrogena, sicca, obelavata, rostrata, pseudoseptata, septa 11 - 20, continuus; 6 - 12 µm sejunctum; pallide brunnea, obtuse ad apicem et conicotruncata ad basim cum prominens hilum, laevia, ad apicem 3 - 4 µm crassa, ad basim 4 - 6 µm crassa, ad amplus parties 14 - 16 µm crassa, 120 - 160 µm longa (120 - 160 x 14 - 16 µm), frequenter germino *in situ* cum usque ad 3 proliferationibus, succivis in quisque de quod minoribus conidia epigenus solitaria.

Colonies effuse, brown. Mycelium immersed in the substratum, composed of branched, septate, pale, smooth, 2 - 4 µm thick hyphae. Stroma erumpent, pulvinate, pseudoparenchymatous, brown, 120 - 220 µm in diam. Setae and hyphopodia absent. Conidiophores macronematous, mononematous, fasciculate, straight, flexuous, unbranched, 15 - 20 septate, smooth, dark brown, 300 - 400 x 9 - 12 µm. Conidiogenous cells integrated, terminal monoblastic, cylindrical, determinate, with a prominent scar at the apex; the wall of the lower part of conidium remains attached to the apex of the conidiogenous cell forming a cup, further conidia are proliferated through the cup which also leave their wall of lower part as cups inside the earlier one; the cup like structure when separate from the conidiogenous cell leaves scar. Conidia solitary, acrogenous, obelavate, rostrate, pseudoseptate, septa 11 - 20, continuous, 6 - 12 µm apart; pale-brown, obtuse at the apex and conicotruncate at the base with prominent scar, 3 - 5 µm at the apex, 4 - 6 µm at the base, 14 - 16 µm at the broadest part, 120 - 160 µm long (120 - 160 x 14 - 16 µm), often

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germinate *in situ* up to 3 successive proliferations, on each of which smaller conidia are borne singly.

Collections examined: Bark of *Eugenia jambolana* Lam. (Myrtaceae), Amlai, Shahdol, March 1991, Leg. U.S. Patel, HDBJ USP/193 Holotype; HCIO 41513 and IMI 354058 Isotype.

On comparison with other known species of the genus *Anellophora* G.C.Hughes (Subramanian, 1956; Ellis, 1971; Chowdhry, 1982) the present collection shows some superficial similarities with *A. arundinaria* (Chowdhry, 1982) in conidial shape but clearly differs from it in having well developed stromata, and larger conidiophores and conidia against 30 – 75 x 3.5 – 5.5 and 45 – 75 x 13 – 18 µm respectively in *A. arundinaria*. Therefore, the present collection is described here as new species, *A. eugeniae*. The specific epithet was given after the name of the host plant.

***Endocalyx amarkantakenis* sp. nov.** Mycelium immersum ex hyphis hyaliniae ad pallide, ramosis, 2 – 3 µm crassi compositum. Sporodochia calyciformis, concava, tenuise, erumpente, secussus, brunnea, vel melano, stromatica juxta basim, aparletes, usque ad 500 µm lata, 200 – 280 µm lata ad basim, patulus conidiogenae regio 400 – 450 µm lata. Stromata vene evoluta, immersa, brunnea, laxus in med, 200 – 280 x 200 – 280 µm. Conidiophora exillis, continous cellulae de stromatica, macronematosa, mononematosa, compaginata facta sporodochia, basiastica, pallide vel pallidobrunnea, laevia, ramose, flexuosa, septata, ad basim 2 – 3 µm crassa, ad superne partio 4 – 6 µm crassa, et 80 – 120 µm longa. Cellulae conidiogenae in conidiophoris incorporatae, terminalis et intercalare, determinatae, polyblasticae, denticulatae; denticulis cylindricae, acro et lateralise, 3 – 4 x 2 – 3 µm. Conidia solitaria, sicca, acrop;eurogena, simplicia, oblongo – elliptica, fenrformis, obovata, O – septata, laevia, pallide brunnea, eguttulata, tenuitunicata, frequenter cum mono longitudinalis germinis fissura, 5 – 10 x 4 – 5 µm.

Mycelium immersed, composed of hyaline to pale, branched hyphae, 2–3 µm thick. Sporodochia cup shaped, concave, shallow, erumpent, separate, brown to black, stromatic at the base, without distinct wall of its own, up to 500 µm high, 200 – 280 µm wide at the base and 400 – 450 µm wide at the expanded conidiogenous region. Stroma well developed, immersed, brown, loose in the middle, measuring 200 – 280 x 200 – 280 µm. Conidiophores thin, continuous with cells of stroma

macronematous, mononematous, densely packed together forming sporodochia, basauxic, pale to pale-brown, smooth, branched, straight, flexuous, septate, 2–3 µm thick at the base, 4–6 µm thick at the upper part and 80–120 µm long. Conidiogenous cells integrated, terminal and intercalary, determinate, polyblastic, denticulate; denticles cylindrical, apical and lateral, 3–4 x 2–3 µm. Conidia solitary, dry, acrop;eurogenous, simple, ablong–elliptical, thin walled, often with an elongated germ slit, 5–10 x 4–5 µm.

Collection examined: Dead twigs of *Shorea robusta* Gaertn, Shambhudhara, Amarkantak, March, 1991, Leg. U.S. Patel, HDBJ USP/210, Holotype, HCIO 41514 and IMI 354059 Isotype.

The present collection when compared with earlier described species of the genus *Endocalyx* Brek. & Broom. (Kapoor and Munjal, 1966; Ellis, 1971) does not match with any of the species in most of the morphological characteristics of taxonomic significance. Therefore, it is described here as a new species *E. amarkantakenis*. The specific epithet was given after the place of collection.

Acknowledgements

Authors are thankful to the Head, Department of Biological Sciences, Rani Durgavati University, Jabalpur, for providing laboratory facilities and Madhya Pradesh Council of Science and Technology for financial assistance. One of us (USP) is also thankful to the Principal and Head of the Department, NES Science College Jabalpur for encouragement.

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