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Two new species of fungi

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ABSTRACT : In the present paper, two new species, *Ohleria phyllanthicolla* and *Parapericonia indica,* recorded on *Bambusa arundinaceae* and *Butea monosperma* respectively are described, illustrated and compared with allied species.

Keywords : New fungal species, *Ohleria, phyllanthicolla, Parapericonia indica*

The South Shahdol forest division lies between latitudes 22" 88' and 23" 24' north and longitudes 81" 11' and 82" 12' east in Madhya Pradesh, India. The entire division lies in the catchment of many principal rivers like Narmada, Johilla and Sone. It has a vast array of vegetation nurtured under diverse sets of conditions. The high humidity alongwith optimum temperature of this region is quite ideal for the colonisation and growth of many saprophytic fungi. The mycoflora of the region is still unexplored and an extensive and periodical survey of forests of this region yielded many interesting fungi (Rajak *et al.,* 1993). In this paper, two new saprophytic fungi are described and illustrated.

MATERIALS AND METHODS

The standard techniques were used to collect and maintain the fungal herbarum specimens (Ellis, 1960; Agarwal and Hasija, 1986). The colour terminology used in the text are as per desculed by Rayner (1970). The specimens have been deposited in the herbarium of Department of Biological Science, Rani Durgavati University, Jabalpur and Herbarium Cryptogamiae Indiae Orientalis, IARI, New Delhi as indicated in the text by HDBJ and HCIO numbers respectively.

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RESULTS AND DISCUSSION

***Ohleria phyllanthicolla* : Patel, Pandey and Rajak sp. nov. Fig. 1.** Mycelium superficialis ad immersum, ex hyphis ramosis, septatis, pallide bruneae, laevis, 4-8 µm latis compositum. Perithecia superficialia, immersa in subicula, subglobosa, dispersa, gregaria, nigricans, ostiolata, 320-480 × 329-480 µm. Ostiolum centralis, non latum, papillata. Parietes circa 40 µm crassum, extermnus parietes atrobureneum 4-7 stratobus crassum, textura angularis; internus parietes subhyalinae, 6-7 stratobus crassum, textura oblita. Asci clavati, longae stipitati, e textura ascogena basale exorientes, unitunicati, persistentes, octospori, paraphysatae, 180-240 × 12-16 µm. Ascosporae allantoidae, ellipsoideae, curvusae, brunneae, triseptatae, uni ad tri guttulatae in guoque cellula, laeves, ad altimum singularise cellula separare, biseriatae, 30-40 × 4-5.5 µm; singularis cellula 7-9 × 4-5.5 µm. Paraphyses filiformes, simplicia, aseptata, aramosa, 1.5-2.5 µm crassa.

Ad mortuus stipitis *Bambusa arundinaceae* Willd (Graminae), Ghunghuti forest, Shahdol, Oct., 1991, Leg *U.S. Patel,* HDBJ USP/218 holotypus HCIO 41 517 isotypus.

Self attested
U.S. Patel

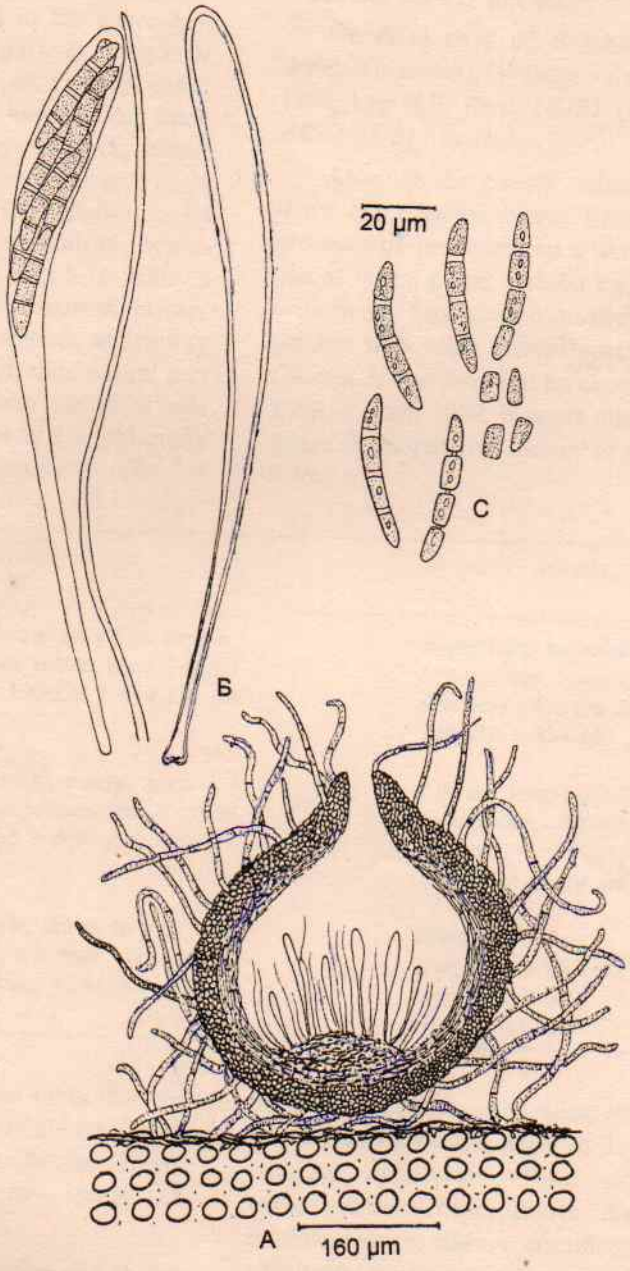

Fig. 1. *Ohleria phyllanthicolla*
(A) Perithecia, (B) Asci and paraphyses, (C) Ascospores.

Mycelium superficial to immersed, branched, septate, pale-brown, smooth, 4-8 µm thick. Perithecia superficial embedded in the subiculum, subglobose, scattered, gregarious, blackish, ostiolate, 320-480 × 329-480 µm. Ostiole central, papillate, not collapsing. Wall about 40 µm thick, outer wall dark brown, 4-7 layered thick, textura angularis, inner wall subhyaline, 6-7 layered thick, textura oblita. Asci clavate, long stalked, arise from the basal bulbous tissue, unitunicate, persistent, paraphysate, 180-240 × 12-16 µm. Ascospores allantoid, elliptical and curved, brown, 3-septate, 1-3 guttule per cell, smooth, at maturity cells are connected by narrow hyaline central part of the septa before separation, later individual cells separate from each other, more/less obliquely biseriate, 30-40 × 4-5.5 µm, individual cells 7-9 × 4-5.5 µm. Paraphyses simple, aseptate, unbranched, 1.5-2.5 µm thick.

On dead stem of *Bambusa arundinaceae* Willd, (Graminae), Ghunghuti forest, Shahdol, Oct. 1991, Leg U.S. Patel, HDBJ USP/218 holotype, HCIO 41 517 isotype.

Although the present collection shows similarity with *Chaetasphaeria* Tulasne, owing to the presence of perithecia on a subiculum, yet it is placed in the genus *Ohleria* Fuckel due to spore cells finally separating from each other. On comparison with other known species of the genus *Ohleria,* it was found to be close to *O. phyllanthi* Tilak & Kale, 1970, in some morphological characters. A comparative account of these two is given below :-

Fungal structure	*O. phyllanthi*	*O. phyllanthicolla*
Perithecia	Superficial on a thin stroma, hairy or setose, hairs 7-8 µm thick, 190-228 × 114-152 µm	Superficial, embedded in a subiculum, hyphae of subiculum 4-6 µm thick, 320-480 × 329-480 µm
Asci	Cylindrical, sessile, paraphysate, unitunicate, 8-spored, 128-133 × 8-10 µm	Clavate, long stalked, paraphysate, unitunicate, 8-spored, 180-240 × 12-16 µm
Ascospores	Elliptical, brown to dark brown, 3-septate, spore cells separating, 41-45 × 5-6 µm	Elliptical, brown, 3-septate, spore cells separating finally, 30-40 × 4-6 µm

It is evident from the above table that the perithecia and asci are quite larger while ascospores are slightly smaller in the present collection. Therefore, it is described here as a new species *O. phyllanthicolla.*

***Parapericonia indica* : Patel, Pandey and Rajak sp. nov. Fig., 2.** Sporodochia, epiphylla, discreta, punctiformia, pulvinata, nigricans. Mycelium internum ex hyphis ramosis, septatis, laevis, subhyalinis pallide, 2-3 µm crassi compositum. Stromata semi-immersa, subhyalina ad pallidobrunea, pseudoparenchymatica, utque ad 230 µm diam., ex cellulae angularum, 4-12 µm diametrum compositum. Conidiophora macronematosa, mononematosa, nascor conidiophorum mother cellulaebus de stromatica, separare catervatim, parce ramosa, flexuosa, laevia ad sterilis apicem partis uncinatum, pallide vel brunea, usque ad 325 µm longa, ad basim 3-4 µm crassa, ad spices 4-6 µm crassa. Cellulae conidiogenae ordinatum a lateris in

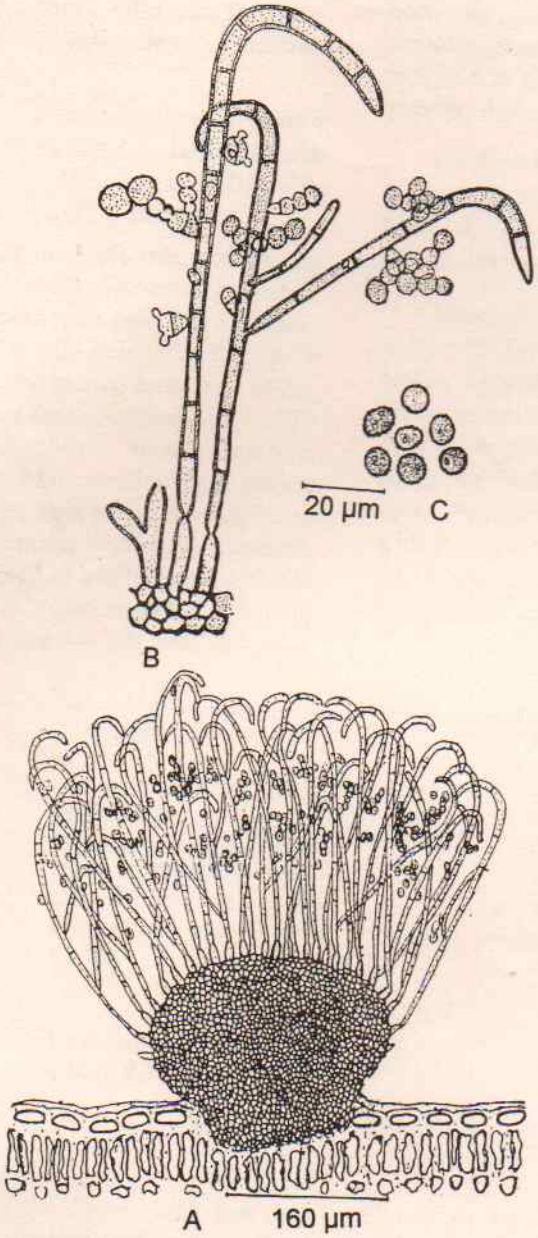

Fig. 2. *Parapericonia indica*
(A) Conidiophores with stroma, conidiogenous cells and conidia
(B) Part of A
(C) Conidia.

conidiophora et ramusi, discretae, subsphericusae, pyriformis, polyblasticae, pallide brunneae, 1 septatascentes, laevis, 5-8 × 4-6 µm. Conidia acropleurogena, sicca, catenata, sphericusa, 0-septata, brunnea vel strobrunea, poris germinus structura praesentes, 4-6 µm diam.

Ad mortuus foliis *Butea monosperma* (Lam.) Taubert, (Leguminosae), Umaria tank, Umaria Shahdol, Oct. 1991, Leg U.S. Patel, HDBJ USP/ 216 holotypus, HCIO 41, 515, isotypus.

Sporodochia, epihyllous, discrete, punctiform, pulvinate, blackish. Mycelium immersed, branched, septate, smooth, subhyaline to pale, 2-3 µm thick. Stromata semi-immersed, subhyaline to pale brown, pseudo parenchymatous, composed of angular cells of 4-12 µm diam. scattered, up to 230 µm in diam. Conidiophores macronematous, mononematous, arise from conidiophores mother cell like cells of stroma, from which conidiophores separate in group, septate, sparingly branched, flexuous, smooth, curved or uncinate at the sterile apical part, pale to mid brown, upto 325 µm long, 3-4 µm thick at base and 4-5 µm near the apex. Conidiogenous cells discrete, arranged laterally on conidiophores and branches, subspherical, pyriform, polyblastic, solitary, catenate, pale-brown, becoming 1-septate, smooth, 5-8 × 4-6 µm. Conidia acroplerogenous, dry, catenate, spherical, O-septate, mid to dark brown, germ pore like structure present, 4-6 µm in diam.

On dead leaves of *Butea monosperma* (Lam.) Taubert, (Leguminosae), Umaria tank, Umaria, Shahdol, Oct. 1991, Leg U.S. Patel; HDBJ USP/ 216 holotype, HCIO 41, 515 isotype.

Although the present collection shows similarity with *Periconia* Tode, but differs from it in having 1-septate conidiogenous cells and conidiophores separate from conidiophore mother cell like cells of stroma. When the present collection was compared with earlier described species of the genus *Parapericonia* Ellis, superficially resembled with *P. angusii* (Ellis, 1976) in some morphological characteristics of taxonomic significance. A comparative account of these two is given below

Fungal structure	*P. angusii*	*P. indica*
Sporodochia	Epiphyllous	Hypophyllous
Conidiophores	Sparingly branched, smooth, upper sterile part curved, upto 250 µm long, 2-3 µm thick at base and 4-7 µm at the apex.	Sparingly branched, smooth, upper sterile part curved, 250-325 µm long, 3.7 - 4 µm thick at the base and 4-6 µm at the apex
Conidia	Spherical, dark brown, verruculose, 8-12 µm diam	Spherical, mid to dark brown, smooth, verruculose, 4-6 µm diam

It is evident from the above table that the present collection is quite different from the earlier described species in the position of sporodochia which are hypophyllous in the present collection while epiphyllous in the former species. Conidiophores are smaller and conidia are larger in the earlier described species while conidiophores are larger and conidia are smaller in the present collection. Therefore, it is proposed to describe it as a new species *P. indica.*

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