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NOTE

***COLTRICIELLA DEPENDENS* (BERK. & M.A. CURTIS) MURRILL, A NEW ADDITION TO WOOD-ROTTING FUNGI OF INDIA**

Ayangla S. Pongen, Kuno Chuzho, N.S.K. Harsh, M.S. Dkhar & Manoj Kumar

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**COLTRICIELLA DEPENDENS
(BERK. & M.A. CURTIS) MURRILL, A NEW
ADDITION TO WOOD-ROTTING FUNGI OF INDIA**

**Ayangla S. Pongen¹, Kuno Chuzho², N.S.K. Harsh³,
M.S. Dkhar⁴ & Manoj Kumar⁵**

¹ Lower PWD Colony, Church Road, Kohima, Nagaland 797001, India
^{1,3,5} Forest Pathology Division, Forest Research Institute, Mason Road,
Dehradun, Uttarakhand 248006, India

^{2,4} Microbial Ecology Laboratory, Centre for Advanced Studies in
Botany, North-Eastern Hill University, Umshing Mawkyntroh, Shillong,
Meghalaya 793022, India

¹yonglpnr@gmail.com, ²kunochuzho@gmail.com,

³nirmalharsh57@gmail.com, ⁴msdkhar@hotmail.com,

⁵mnoj23@gmail.com (corresponding author)

Northeastern India is home to a diverse group of wood-rotting fungi but studies related to them started only a decade ago. Very few studies have been conducted so far in this highly species-rich region. The last few studies have resulted in new records (Sailo 2010; Lyngdoh & Dkhar 2014a,b; Lyngdoh 2014). In the present study too, a new record *Coltriciella dependens* (Berk. & M.A. Curtis) Murrill is being reported from Meghalaya, India. This is the first record of genus *Coltriciella* as well. *Coltriciella* Murrill which was typified as *C. dependens* is a small genus of poroid Hymenochaetaceae with about 10 species accepted till 2012 (Corner 1991; Aime et al. 2003; Ryvarden 2004; Dai 2010; Dai & Li 2012; Valenzuela et al. 2012). Later three more species were added to the list in subsequent years: *C. baoshanensis* Y.C. Dai & B.K. Cui (Dai et al. 2014) and *C. globosa* L.S. Bian & Y.C. Dai, along with *C. pseudodependens* L.S. Bian & Y.C. Dai (Bian & Dai 2015). Very recently one more species *C. minuscula* Susan, Retnowati & Sukarno (Susan et al. 2018) has been added to the list making it to 14 species till now. *C. dependens* differs from other closely related genera *Coltricia* Gray mainly by the ornamented basidiospores (Ryvarden 1991, 2004; Dai 2010).

Fruit-bodies were collected from the campus of North Eastern Hill University, Shillong (Meghalaya) India on the partially burnt base of *Pinus kesiya* Royle ex Gordon. Specimens were deposited at the herbarium of Centre for Advanced Studies in Botany, North-Eastern Hill University, Shillong (Meghalaya) and Fungarium of

Forest Pathology Division, Forest Research Institute, Dehradun (Uttarakhand). The sections were observed in 2% and 5% KOH and lacto-phenol cotton blue and Phloxine using Leica Phase Contrast Microscope. Microphotographs were taken using a Motic DMWB Digital Microscope. Monographs consulted for identification were Ryvarden & Johansen (1980), Corner (1991) and Nunez & Ryvarden (2000).

***Coltriciella dependens*
(Image 1 & Fig. 1)**

(Berk.& M.A. Curtis) Murrill, Bull. Torrey bot. Club 31(6): 348 (1904).

=*Coltricia dependens* (Berk. & M.A. Curtis) Imazeki, Bull. Tokyo Sci. Mus. 6: 109 (1943)

Fruit-bodies very small pendant (geotropism)

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positive), solitary or fused, forms a distinct stipe, sometimes with a contracted base; new fruit body arises from older pore surface. Pilear surface fawn to rusty brown, usually circular, 0.5–1 cm wide, 1–1.5 cm long, tomentose, soft bristles can be easily seen with a hand lens, later become agglutinated, wither on maturity leaving striations on margin, fruit body fragile when dry, light in weight; Stipe concolorous with the pilear surface, 2–3 x 0.5–0.7 mm long, descending, simple, expanding gradually or abruptly into the central or excentric pileus, never lateral, base abrupt, thinly tomentose, weathering smooth. Pore surface rusty brown, applanate, pores angular, 1–2 per mm, tubes up to 5mm long, dissepiments thick; context rusty brown, soft, 0.5mm thick.

Hyphal system monomitic, generative hyphae simple-septate, 4–8 μm wide, tissue darkens in 4% KOH like other hymenochaetaceae members, contextual and tramal hyphae hyaline to pale yellow, thick-walled, hyaline and narrower in the sub-hymenium, moderately dichotomously branched; cystidia and cystidioles absent, basidia not seen; basidiospores ellipsoid to slightly oblong ellipsoid, yellowish, thick walled, finely verruculose, 7–9 x 4–6 μm .

Specimen examined: FPD 8734 (FRI, Dehradun), 07.iii.2016, on partially burnt *P. kesiya* from Shilong located at an elevation of 1,404m, 25.60°N & 91.89°E, coll. Ayangla S. Pongen & Kuno Chuzho (Image 2).

C. dependens is subject to neglect because of its small size. *C. dependens* is often associated with burnt

woody debris (Nunez & Ryvarden 2000), mostly on pine (Murrill 1919; Ryvarden & Johansen 1980) but have also been reported to occur on dead oak and poplar wood (Murrill 1919). Beside this, it has been reported on living roots (Corner 1991) or living tree trunks (Aime et al. 2003) but it might be just a physical support (Bian & Dai 2015). It forms anatomically conspicuous ectomycorrhiza with several host plants. Bian & Dai (2015) in their study found that all fruit bodies collected from the decayed log were associated with abundant ectomycorrhizae of pine. In molecular studies, *Coltricia* and *Coltriciella (dependens)* were found to possess similar ectomycorrhizal associations with host plants. Tedersoo et al. (2007a, 2007b) also demonstrated that four species of *Coltricia* and *Coltriciella (dependens)* form ectomycorrhizae associations with angiosperm trees of various families (Caesalpiniaceae, Dipterocarpaceae, and Myrtaceae) based on sequence data from the rDNA internal transcribed spacer (ITS) and large subunit (LSU) regions of both ectomycorrhizae root tips and fruit bodies. This tiny fungus is a pan-tropical species and reported from the subtropical regions of China (Dai & Li 2012), Japan, North Thailand, Singapore and New Zealand (Corner 1991), North and South America (Nunez & Ryvarden 2000), Seychelles (Tedersoo et al. 2007b) and Australia (Hubregtse 2017; Bougher 2017). *C. dependens* is very similar to *C. pseudodependens* and differs in larger pores and smaller basidiospores (Bian & Dai 2015).

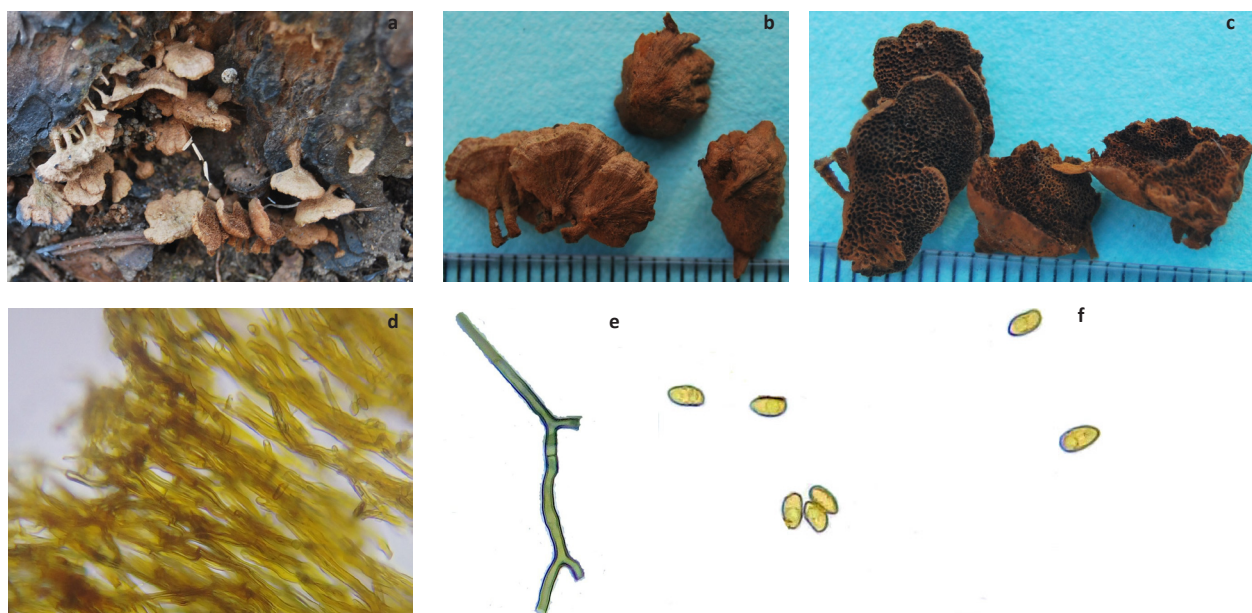


Image 1. *Coltriciella dependens*

a - on host; b - Pilear surface; c - pore surface; d - monomictichyphae; e - simple septate hypha; f - Basidiospores.

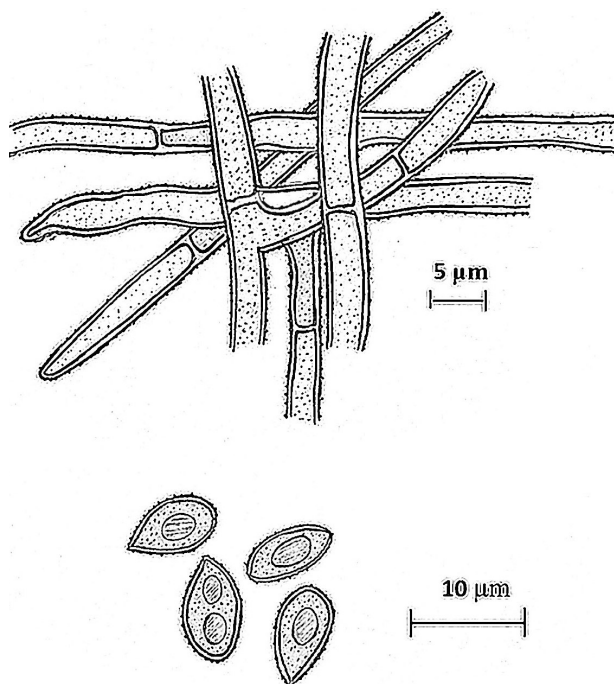


Figure 1. a - Hyphae from tramal region; b - Basidiospores

C. dependens is the sixth wood-rotting fungus from Meghalaya that is being reported as new. Before this, high wood-rotting fungal diversity has been reported from different forest stands and sacred groves of Meghalaya, northeastern India. New records of other wood-rotting fungi, viz., *Microporus quarrie* (Beeli) D.A. Reid was reported by Sailo (2010) and *Cyclomyces fuscus* Kunze ex Fr., *Heterobasidion perplexum* (Ryvarden) Stalpers, *Humphreya coffeata* (Berk.) Steyaert and *Bondarzewia berkeleyi* (Fr.) Bondartsev & Singer (from northeastern region) were reported by Lyngdoh and Dkhar (2014a, 2014b), Kumar & Harsh (2014). The fungus is easy to recognize because of the small, rusty brown, pendant fruiting body and microscopically by the finely verruculose (ornamented) basidiospores (Ryvarden & Johansen 1980).

Further studies of wood-rotting fungi in this region will enable us to unveil more interesting and rare wood-rotting fungal species as many forests of India, particularly in the north eastern parts still remain unexplored.

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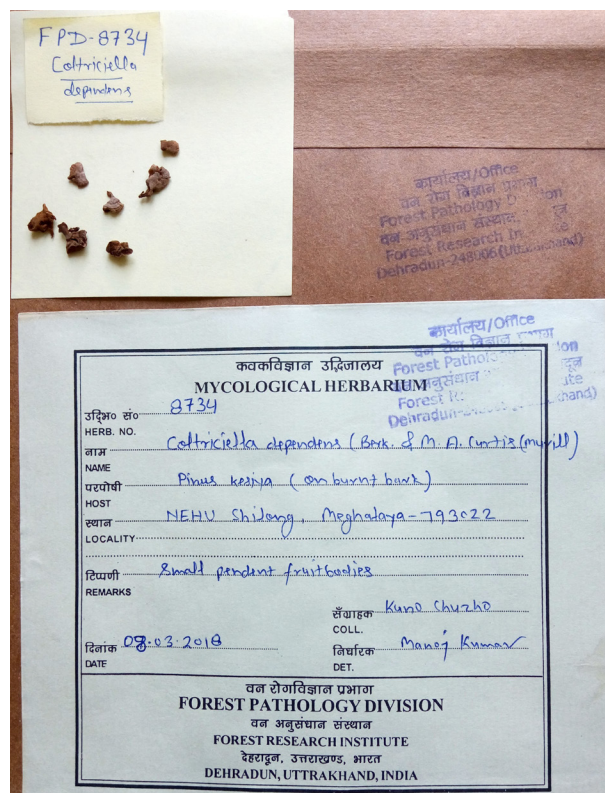


Image 2. Herbarium sheet of *Coltriciella dependens* (FPD 8734)

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Corrigendum

Nandikar, M.D., P.T. Giranje & D.C. Jadhav (2018). Floristic enumeration of Torna Fort (Western Ghats, India): a storehouse of endemic plants. *Journal of Threatened Taxa* 10(7): 11895–11915; <http://doi.org/10.11609/jott.3705.10.7.11895-11915>

In the image 5, H - *Smithia hirsuta* should be read as *Smithia bigemina*.



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