

Outlineoffungi.org – Note 1547 *Perenniporia*

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Perenniporia Murrill.

Perenniporia Murrill (*Polyporales*, *Basidiomycetes*) is typified by *P. medulla-panis* (Jacq.) Donk and it is one of the species-rich genera of *Polyporales*. Traditionally, it is characterised by annual to perennial, resupinate, effused-reflexed to pileate basidiomata with a varied coloured pore surface when fresh, a dimitic to trimitic hyphal system with generative hyphae bearing clamp connections, variably dextrinoid and cyanophilous skeletal hyphae, ellipsoid, broadly ellipsoid to subglobose, mostly thick-walled and truncate variably dextrinoid, cyanophilous basidiospores and causing a white rot in dead angiosperm and gymnosperm woods (Ryvarden and Gilbertson 1994, Decock and Ryvarden 1999, Zhao et al. 2013, Cui et al. 2019, Ji et al. 2023, Wang et al. 2024).

Perenniporia was established by Murrill in 1942 just with two species, *P. unita* (Pers.) Murrill (Basionym: *Polyporus unitus* Pers.) and *P. nigrescens* (Bres.) Murrill (Basionym: *Poria nigrescens* Bres.), none of which was regarded as the type species (Murrill 1942). Then *P. unita* was combined into different genera by other mycologists, viz. *Fibuloporia unita* (Pers.) Bondartsev, *Fomes unitus* (Pers.) J. Lowe and *Fomitopsis unita* (Pers.) Bondartsev (Bondartsev 1953, Lowe 1955), as well as being designated the lectotype of *Perenniporia* by Cooke (1953). Decock and Stalpers (2006) re-discussed the relationship and status of *Polyporus unitus* and *Boletus medulla-panis* Jacq., though they are synonymous and the latter has been normally regarded as the type species of *Perenniporia* in previous studies (Donk 1960, Ryvarden 1972, Gilbertson and Ryvarden 1987, Ryvarden and Gilbertson 1994). In addition, they demonstrated *Pol. unitus* is not a synonym of *B. medulla-panis*, the latter of which was selected as the type of *Perenniporia* (Decock and Stalpers 2006). For now, *Poria nigrescens* as a synonym of *Physisporinus crocatus* (Pat.) F. Wu, Jia J. Chen & Y.C. Dai was described from Hungary and it has a perennial basidiomata, erubescens pores (white when fresh, then “carneo-violaceis”, finally black), but no basidiospores data (Bresadola 1897, Wang et al. 2024).

Previous studies have shown that *Perenniporia* is a polyphyletic genus (Zhao et al. 2013, Cui et al. 2019, Ji et al. 2023). Species in *Perenniporia sensu lato* form seven independent clades, based on phylogenetic analysis with typical characteristics (Zhao et al. 2013). *Hornodermoporus* Teixeira, *Perenniporiella* Decock & Ryvarden, *Truncospora* Pilát, *Vanderbylia* D.A. Reid etc. were derived from *Perenniporia sensu lato*. Specially, Ji et al. (2023) proposed 15 new genera previously addressed in *Perenniporia sensu lato* based on phylogenetic and morphological analyses. *Perenniporia* s.s. contains three species, viz. *P. hainaniana* B.K. Cui & C.L. Zhao, *P. medulla-panis* and *P. substraminea* B.K. Cui & C.L. Zhao (Ji et al. 2023). Up to now, more than 120 taxa were found in *Perenniporia sensu lato* (Ji et al. 2017, Liu et al. 2017, Shen et al. 2018, Cui et al. 2019, Zhao and Ma 2019, Ji et al. 2023, Wang et al. 2024). In addition, some species in *Perenniporia sensu lato* could produce laccase (such as *P. tephropora* (Mont.) Ryvarden and *Poriella subacida* (Peck) C.L. Zhao) and carotenoid (such as *Vanderbylia fraxinea* (Bull.) D.A. Reid) applied in both biomedical engineering and biodegradation (Si et al. 2011, Churapa and Lerluck 2016, Kim and Lee 2020, Wang et al. 2024).

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