

**Outlineoffungi.org – Note 1554 *Xylodon* (Pers.) Gray**

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***Xylodon* (Pers.) Gray**

*Xylodon* (Pers.) Gray is a large genus of corticioid fungi, having a cosmopolitan distribution (Bernicchia and Gorjón 2010, Guan et al. 2023, Yurchenko et al. 2024, Zhang et al. 2024). Species of *Xylodon* inhabit dead wood of various sizes, from twigs several millimetres in diameter to large fallen trunks and cause white rot (Greslebin and Rajchenberg 2000, Kotiranta and Saarenoksa 2000, Girometta et al. 2020, Guan et al. 2023). Sometimes basidiomata of *Xylodon* species appear on living parts of trees (Yurchenko 2008), and non-woody plant remains, for example, fern rachises (Kotiranta and Saarenoksa 2000), herb stems and fallen leaves (Viner et al. 2018), and dead polypore basidiomata (Viner et al. 2023). The genus is known from almost all types of world biomes where wooden plant debris occurs, from humid to semi-arid and from seashore to the upper limit of wooden vegetation in altitudinal gradients (Yurchenko et al. 2024). This genus is typified by *X. quercinus* (Pers.) Gray (Bernicchia and Gorjón 2010) and characterised by the resupinate or effuse basidiomata with a smooth, tuberculate, grandinoid, odontoid, coralloid, irpicoid or poroid hymenophore; a monomitic or dimitic hyphal system with clamped generative hyphae; the presence of different types of cystidia; utriform or suburniform basidia; and cylindrical to ellipsoid to globose basidiospores (Gray 1821, Bernicchia and Gorjón 2010, Zhang et al. 2024). Based on MycoBank (<http://www.mycobank.org>) and Index Fungorum (<http://www.indexfungorum.org>), *Xylodon* has been registered with 234 specific and infraspecific names and the actual number of the species has reached 109 species (Chevallier 1826, Kuntze 1898, Wu 1990, 2000, 2001, 2006, Hjortstam and Ryvarden 2007, 2009, Xiong et al. 2009, 2010, Bernicchia and Gorjón 2010, Tura et al. 2011, Dai 2012, Lee and Langer 2012, Yurchenko et al. 2013, Yurchenko and Wu 2014a, 2014b, Zhao et al. 2014, Chen et al. 2016, Kan et al. 2017a, 2017b, Riehl and Langer 2017, Wang and Chen 2017, Viner et al. 2018, Viner and Miettinen 2022, Riebesehl et al. 2019, Shi et al. 2019, Dai et al. 2021, Luo et al. 2021, 2022, Qu and Zhao 2022, Qu et al. 2022, Guan et al. 2023, Wang and Zhou 2024, Yurchenko et al. 2024, Zhang et al. 2024).

Classification of taxa in the kingdom *Fungi* has been updated continuously, based on the frequent inclusion of data from DNA sequences in many phylogenetic studies (Yurchenko et al. 2020). For the past few years, the genus *Xylodon* was generally studied by molecular systematics and it was included in the *Hyphodontia sensu lato* (Hjortstam and Ryvarden 2009, Yurchenko and Wu 2016, Riebesehl and Langer 2017, Wang and Chen 2017, Riebesehl et al. 2019, Qu et al. 2022, Guan et al. 2023). *Hyphodontia sensu lato* was shown to be a polyphyletic genus and a broad concept employed by some mycologists due to a lack of rDNA sequences for many taxa, in which *Xylodon* and *Kneiffiella* P. Karst included rich species (Hjortstam and Ryvarden 2009, Riebesehl and Langer 2017, Riebesehl et al. 2019, Luo et al. 2022, Zhang et al. 2024). Based on the molecular systematics research, two clades, the *Xylodon-Lyomyces-Rogersella* and the *Xylodon-Schizopora-Palifer* clades were described and the related species of *Lyomyces* P. Karst., *Palifer* Stalpers & P.K. Buchanan, *Rogersella* Liberta & A.J. Navas *Schizopora* Velen. and *Xylodon*, within both clades were suggested to be mixed (Yurchenko et al. 2013). The research comprised the representative sequences and taxa of *Hyphodontia sensu lato* such as *Lyomyces*, *Palifer*, *Rogersella*, *Schizopora* and *Xylodon*, in which the result demonstrated that it was hard to distinguish the two genera *Xylodon* and *Schizopora* on the basis of the morphological and

phylogenetic information; therefore, the authors proposed that the related species of *Schizopora* should be united into the genus *Xylodon* (Riebesehl and Langer 2017). For the phylogenetic relationship of *Xylodon* species, it was confirmed that the two genera *Lagarobasidium* Jülich and *Xylodon* should be synonymous, based on the molecular data from the ITS and nLSU regions, in which the three species *X. pumilius* (Gresl. & Rajchenb.) K.H. Larss., *X. magnificus* (Gresl. & Rajchenb.) K.H. Larss. and *X. rickii* (Gresl. & Rajchenb.) K.H. Larss. were combined into *Xylodon* (Viner et al. 2018). All the taxa of the genera *Odontopsis* Hjortstam & Ryvar den and *Palifer* were placed in the genus *Xylodon*, based on the molecular analyses of 28S and ITS data, in which they proposed four new species of *Xylodon* as *X. exilis* Yurchenko, Riebesehl & Langer, *X. filicinus* Yurchenko & Riebesehl, *X. follis* Riebesehl, Yurchenko & Langer and *X. pseudolanatus* Nakasone, Yurchenko & Riebesehl (Riebesehl et al. 2019). Based on the multiple loci in *Hyphodontia sensu lato*, *Fasciodontia* Yurchenko & Riebesehl, *Hastodontia* (Parmasto) Hjortstam & Ryvar den, *Hyphodontia* J. Erikss., *Lyomyces*, *Kneiffiella* and *Xylodon* in *Hymenochaetales*, they were divided into four clades and three new taxa were found from China, in which *X. gossypinus* C.L. Zhao & K.Y. Luo and *X. brevisetus* (P. Karst.) Hjortstam & Ryvar den grouped together (Luo et al. 2021). Based on the morphological descriptions and molecular analyses, three new species, namely *X. angustisporus* Viner & Ryvar den, *X. dissiliens* Viner & Ryvar den and *X. laxiusculus* Viner & Ryvar den, were described in Africa and placed in the genus *Xylodon* (Viner et al. 2021). A phylogenetic and taxonomic study focusing on the genus *Xylodon* (Hymenochaetales) newly described one species of this genus from southern China and this research enriched the fungal diversity worldwide (Zhang et al. 2024). Since the 1810s, a total of 234 species have been proposed for the genus *Xylodon* (<http://www.indexfungorum.org/Names/Names.asp?pg=1>). (Luo et al. 2022, Qu et al. 2022, Guan et al. 2023, Zhao et al. 2024, Yurchenko et al. 2024, Zhang et al. 2024).

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