

RESEARCH NOTE

Taxonomic Status of *Xylodon* in Korea and Proposal of Korean Names

Yoonhee Cho and Young Woon Lim*

School of Biological Sciences and Institute of Microbiology, Seoul National University, Seoul 08826, Korea

*Corresponding author: ywlim@snu.ac.kr

ABSTRACT

Following the taxonomic reassignment of *Schizopora* and some *Hyphodontia* species into *Xylodon*, we confirmed nine Korean species of *Xylodon* in a previous study. In the present study, we propose Korean names for these *Xylodon* species according to the Principles of the Mycological Terminology Review Committee of The Korean Society of Mycology.

Keywords: Hymenochaetaceae, *Hyphodontia*, *Schizopora*, Schizoporaceae

Xylodon (Pers.) Fr., typed *Xylodon quercinus* (Pers.) Gray (1821), is a genus of wood-decay fungus belonging to the family Schizoporaceae Jülich of the order Hymenochaetales. *Xylodon* species are found worldwide and cause white rot in angiosperms and gymnosperms [1,2]. They are characterized by resupinate basidiomes, numerous types of hymenophores and cystidia, basidia with four sterigmata, and globose to ellipsoid basidiospores [3]. Owing to mutual morphological characteristics shared with other resupinate fungi, several *Xylodon* species have been placed in other genera, such as *Hyphodontia* [4]. Based on morphological and molecular data, several species from genera, such as *Lagarobasidium* and *Schizopora*, have been transferred to *Xylodon*, which, as the oldest genus in the family, had priority over others [5,6].

In a previous study, we proposed a taxonomic revision of *Xylodon* in Korea based on genetic and morphological data, resulting in nine species [7]: *X. asperus*, *X. flaviporus*, *X. kunmingensis*, *X. nespori*, *X. niemelaei*, *X. ovisporus*, *X. serpentiformis*, *X. spathulatus*, and *X. subflaviporus*. Species formerly placed in *Hyphodontia* and *Schizopora* were reclassified. *Xylodon paradoxus* (\equiv *Schizopora paradoxa*), which, based on morphology, had previously been frequently reported in Korea, was revealed to be absent in the country [7]. In addition, we included a revision of the internal transcribed spacer (ITS) and nuclear large subunit ribosomal RNA (nrLSU) GenBank sequences corresponding to the nine *Xylodon* species in Korea, highlighting the importance of validating the sequences before using them as a reference.

The Republic of Korea is among the few nations to conduct research on *Xylodon* for possible applications in biotechnology or medicine. *Xylodon flaviporus*, the most common species in Korea, has



OPEN ACCESS

pISSN : 0253-651X
eISSN : 2383-5249

Kor. J. Mycol. 2022 December, 50(4): 343-345
<https://doi.org/10.4489/KJM.20220036>

Received: April 27, 2022

Revised: July 07, 2022

Accepted: July 22, 2022

© 2022 THE KOREAN SOCIETY OF MYCOLOGY.



This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

been investigated in some studies, which have revealed its potential for bioremediation [8] and inhibition of osteoclastogenesis [9]. Here, we propose Korean names for each *Xylodon* species present in Korea (Table 1) according to the Principles of the Mycological Terminology Review Committee of The Korean Society of Mycology (2012). The basidiomes of the nine species are presented in Fig. 1 for an easier understanding of their etymologies. The proposal of new Korean names and revisions of previous names reflect the current taxonomic status of *Xylodon*. The Korean names will facilitate easier identification of *Xylodon* species and improve further research on these species in Korea.

Table 1. Proposal of Korean names for *Xylodon* species.

Scientific name	Korean name	Etymology (Korean)
<i>X. asperus</i> (Fr.) Hjortstam & Ryvar den	돌기좁구멍버섯 (신칭)	Preservation of the prefix for <i>Hyphodontia aspera</i> (syn.) 돌기고약버섯
<i>X. flaviporus</i> (Berk. & M.A. Curtis ex Cooke) Riebesehl & E. Langer	크림좁구멍버섯	Name preserved from <i>Schizopora flavipora</i> (syn.) 크림좁구멍버섯
<i>X. kunmingensis</i> L.W. Zhou & C.L. Zhao	날알좁구멍버섯 (신칭)	Named after grain-like aculei in the hymenophore
<i>X. nespori</i> (Bres.) Hjortstam & Ryvar den	크림돌기좁구멍버섯 (신칭)	Preservation of the prefix for <i>Hyphodontia nespori</i> (syn.) 크림돌기고약버섯
<i>X. niemelaei</i> (Sheng H. Wu) Hjortstam & Ryvar den	그물좁구멍버섯 (신칭)	Named after reticulate or net-like dissepiments in the hymenophore
<i>X. ovisporus</i> (Comer) Riebesehl & E. Langer	작은좁구멍버섯 (신칭)	Describes the small and compact pores in the hymenophore
<i>X. serpentiniformis</i> (Langer) Hjortstam & Ryvar den	좁쌀좁구멍버섯 (신칭)	Describes the minute aculei in the hymenophore
<i>X. spathulatus</i> (Schrad.) Kuntze	허들기좁구멍버섯 (신칭)	Preservation of the prefix for <i>Hyphodontia spathulata</i> (syn.) 허들기고약버섯
<i>X. subflaviporus</i> C.C. Chen & Sheng H. Wu	크림좁구멍버섯아재비 (신칭)	Describes the similarity to <i>X. flaviporus</i>

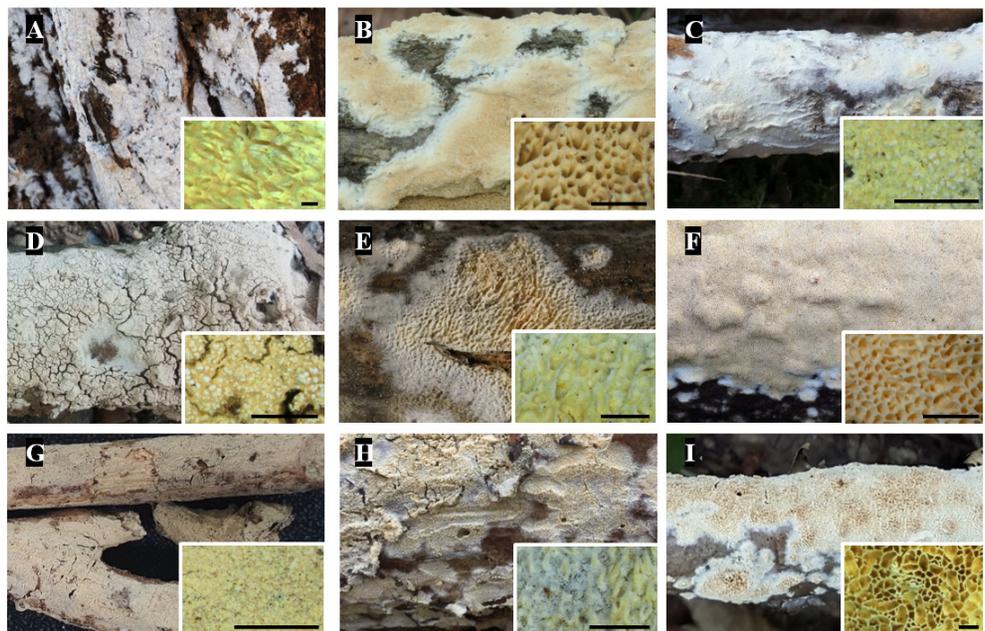


Fig. 1. Basidiomes of *Xylodon* species in Korea. All scale bars are 1 mm. A, *X. asperus*; B, *X. flaviporus*; C, *X. kunmingensis*; D, *X. nespori*; E, *X. niemelaei*; F, *X. ovisporus*; G, *X. serpentiniformis*; H, *X. spathulatus*; I, *X. subflaviporus*.

Xylodon (Pers.) Gray emend Riebesehl & E. Langer Mycological Progress 16(6):637 (2017)

Type species: *Xylodon quercinus* (Pers) Gray (1821)

Synonyms: ≡ *Schizopora* Velen., Ceske Houby 4-5: 638 (1922)

≡ *Lagarobasidium* Jülich, Persoonia 8 (1): 84 (1974)

≡ *Odontiopsis* Hjortstam & Ryvarden, Mycotaxon 12 (1): 180 (1980)

≡ *Palifer* Stalpers & P.K. Buchanan, New Zealand Journal of Botany 29: 339 (1991)

Korean name: 줌구멍버섯속

Etymology (Korean): Preservation of the name for *Schizopora* (줍구멍버섯).

CONFLICT OF INTERESTS

No conflict of interest was reported by the author(s).

ACKNOWLEDGMENTS

This work was supported by a grant from the National Institute of Biological Resources (NIBR) funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR202203112).

REFERENCES

1. Eriksson J, Ryvarden L. The Corticiaceae of North Europe, *Hyphodermella-Mycoacia*. Vol. 4. Oslo: Fungiflora; 1976. p. 549-886.
2. Wang XW, May TW, Liu SL, Zhou LW. Towards a natural classification of *Hyphodontia* sensu lato and the trait evolution of basidiocarps within Hymenochaetales (Basidiomycota). J Fungi 2021;7:478.
3. Hjortstam K, Ryvarden L. A checklist of names in *Hyphodontia* sensu stricto-sensu lato and *Schizopora* with new combinations in *Lagarobasidium*, *Lyomyces*, *Kneiffiella*, *Schizopora*, and *Xylodon*. Syn Fungorum 2009;26:33-55.
4. Riebesehl J, Yurchenko E, Nakasone KK, Langer E. Phylogenetic and morphological studies in *Xylodon* (Hymenochaetales, Basidiomycota) with the addition of four new species. MycoKeys 2019;47:97-137.
5. Viner I, Spirin V, Zibarová L, Larsson KH. Additions to the taxonomy of *Lagarobasidium* and *Xylodon* (Hymenochaetales, Basidiomycota). MycoKeys 2018;41:65-90.
6. Riebesehl J, Langer E. *Hyphodontia* sl (Hymenochaetales, Basidiomycota): 35 new combinations and new keys to all 120 current species. Mycol Prog 2017;16:637-66.
7. Cho Y, Kim JS, Dai YC, Gafforov Y, Lim YW. Taxonomic evaluation of *Xylodon* (Hymenochaetales, Basidiomycota) in Korea and sequence verification of the corresponding species in GenBank. PeerJ 2021;9:e12625.
8. Lee H, Jang Y, Choi YS, Kim MJ, Lee J, Lee H, Hong JH, Lee YM, Kim GH, Kim JJ. Biotechnological procedures to select white rot fungi for the degradation of PAHs. J Microbol Methods 2014;97:56-62.
9. Kwon J, Lee H, Ryu SM, Jang Y, Kwon HC, Guo Y, Kang JS, Kim JJ, Lee D. *Xylodon flaviporus*-derived drimane sesquiterpenoids that inhibit osteoclast differentiation. J Nat Prod 2019;82:2835-41.