

中国贵州省木生大型担子菌编目

赵恒^{1,2#}, 陈芊^{3#}, 张欣¹, 罗凯月¹, 李彪¹, 员瑗¹, 吴芳¹, 何双辉¹,
曾广宇^{1,4}, 庄磊^{1,5}, 戴玉成^{1*}, 邓春英^{6*}

- 1 北京林业大学生态与自然保护学院, 北京 100083
- 2 中国科学院沈阳应用生态研究所 森林生态与保育重点实验室, 辽宁 沈阳 110016
- 3 重庆交通大学建筑与城市规划学院, 重庆 400074
- 4 广西壮族自治区林业科学研究院, 广西 南宁 530002
- 5 哈尔滨市农业科学院, 黑龙江 哈尔滨 150028
- 6 贵州科学院贵州省生物研究所, 贵州 贵阳 550009

摘要: 贵州省位于云贵高原东部, 地形复杂、气候温暖湿润, 具有丰富的真菌多样性潜力, 但其木生大型担子菌资源长期缺乏系统梳理。本研究基于 4 个研究团队的数据, 特别是近年在贵州省采集标本的深入研究, 并结合发表的文献资料, 对贵州省木生大型担子菌多样性进行了系统整理与统计。结果表明, 贵州省木生大型担子菌共计 738 种, 隶属于担子菌门 3 纲 16 目 74 科 253 属, 其中担子菌纲为绝对优势类群, 占总物种数的 97.15%。在目级水平上, 多孔菌目、蘑菇目和锈革孔菌目为优势目, 共包含 601 种, 占总物种数的 81.44%。科级水平上, 10 个优势科共包含 391 种, 占总物种数的 52.98%; 属级水平上, 11 个优势属共计 202 种, 占总物种数的 27.37%。此外, 共有 48 种以贵州省作为模式或副模式产地。本研究在省域尺度系统揭示了贵州省木生大型担子菌的物种组成和多样性格局。

关键词: 木生真菌; 大型真菌; 真菌区系; 特种多样性

[引用本文]

赵恒, 陈芊, 张欣, 罗凯月, 李彪, 员瑗, 吴芳, 何双辉, 曾广宇, 庄磊, 戴玉成, 邓春英, 2026. 中国贵州省木生大型担子菌编目. 菌物学报, 45(4): 250358

Zhao H, Chen Q, Zhang X, Luo KY, Li B, Yuan Y, Wu F, He SH, Zeng GY, Zhuang L, Dai YC, Deng CY, 2026. A checklist of lignicolous macro-basidiomycetes in Guizhou Province, southwest China. *Mycosystema*, 45(4): 250358

资助项目: 国家自然科学基金(32360008)

This work was supported by the National Natural Sciences Foundation of China (32360008).

*Corresponding authors. E-mails: DAI Yucheng, yuchengdai@bjfu.edu.cn; DENG Chunying, 171934233@qq.com

#Co-first author

ORCID: ZHAO Heng (0000-0003-2938-5613)

Received: 2025-12-15; Accepted: 2026-01-05

A checklist of lignicolous macro-basidiomycetes in Guizhou Province, southwest China

ZHAO Heng^{1,2#}, CHEN Qian^{3#}, ZHANG Xin¹, LUO Kaiyue¹, LI Biao¹, YUAN Yuan¹, WU Fang¹, HE Shuanghui¹, ZENG Guangyu^{1,4}, ZHUANG Lei^{1,5}, DAI Yucheng^{1*}, DENG Chunying^{6*}

1 School of Ecology and Nature Conservation, Beijing Forestry University, Beijing 100083, China

2 CAS Key Laboratory of Forest Ecology and Silviculture, Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang 110016, Liaoning, China

3 College of Architecture and Urban Planning, Chongqing Jiaotong University, Chongqing 400074, China

4 Guangxi Forestry Science Research Institute, Nanning 530002, Guangxi, China

5 Harbin Academy of Agricultural Sciences, Harbin 150028, Heilongjiang, China

6 Guizhou Institute of Biology, Guizhou Academy of Sciences, Guiyang 550009, Guizhou, China

Abstract: Guizhou Province, located in the eastern Yunnan-Guizhou Plateau, has complex topography and a warm, humid climate, providing high potential for fungal diversity. However, lignicolous macro-basidiomycetes in this region lacked systematic assessment for a long time. A comprehensive compilation of lignicolous macro-basidiomycetes in Guizhou was conducted based on specimen records of four investigation teams and recently published literature. A total of 738 species were recorded, belonging to 3 classes, 16 orders, 74 families, and 253 genera within Basidiomycota. The dominant class is Agaricomycetes, with the sum of species accounting for 97.15% of all known lignicolous macro-basidiomycetes species in Guizhou. The dominant orders are Polyporales, Agaricales, and Hymenochaetales, and the sum of species accounts for 81.44% (601 species) of all lignicolous macro-basidiomycetes in Guizhou. The ten dominant families include 391 species, accounting for 52.98% of total known species. The eleven dominant genera consist of 202 species, accounting for 27.37% of the total known species. Additionally, 48 species are described on the basis of holotype or paratype collected from Guizhou. This is the first province-level systematic overview of lignicolous macro-basidiomycetes in Guizhou Province.

Keywords: wood-inhabiting fungi; macrofungi; funga; species diversity

木生大型担子菌是指在森林生态系统中以森林生态系统为主要生境,以木材(包括活立木或枯木)主要成分作为主要营养来源的一类隶属于担子菌门的大型真菌。该类群能够在木质纤维素基质上生长、定殖、产生生物酶,从而引起木材腐朽,部分物种还可与活树形成寄生或共生关系,在森林生态系统的更新过程以及碳、氮等生物地球化学循环中发挥着不可替代的重要作用(司静等 2011; Wang *et al.* 2013; 戴玉成等 2021; Spirin *et al.* 2024; Zhao *et al.* 2024)。在生态功能上,木生大型担子菌的主要类群是木材腐朽真菌,根据其对木材细胞壁主要成分的降解能力不同,可主要被划分为白腐真菌(white rot)和褐腐真菌(brown rot) (Krah *et al.* 2018)。此外,部分木生大型担子菌是树木的重

要病原菌,能够侵染活立木并引发心材腐朽、根腐病和干腐病等多种森林病害,对森林健康与木材资源造成显著影响(Yuan *et al.* 2021, 2023; Wu *et al.* 2022)。与此同时,木生大型担子菌还是重要的食用和药用真菌资源之一,具有悠久的利用历史,例如黑木耳 *Auricularia heimuer*、杨树桑黄 *Sanghuangporus vaninii* 和灵芝 *Ganoderma lingzhi* 等,在食品安全、医药开发和生物产业中具有重要价值(Si *et al.* 2019; Wu *et al.* 2019; 吴声华和戴玉成 2020)。

近年来,中国学者围绕木生大型真菌多样性开展了大量系统的资源调查与区系特征研究,研究尺度涵盖单一省份、山脉、自然保护区乃至全国范围,显著推进了中国木生真菌分类学与生物地理学研究(Dai 2012; 董军红等

2023; Dong *et al.* 2024; 王科等 2024; 朱安红等 2024; 马玉硕等 2025; Xu *et al.* 2025)。例如, 袁海生等(2009)在黑龙江小兴安岭东部地区报道木生真菌 124 种, 其中包括 105 种多孔菌和 19 种革菌; Ma *et al.* (2022)报道了海南木生真菌 702 种; 边禄森等(2023)在太行山地区鉴定出隶属于 2 门 4 纲 12 目 49 科 147 属, 共 306 种木生真菌; 周林江等(2023)在山东省共记录木材腐朽真菌隶属于 2 门 6 纲 15 目 54 科 131 属和 227 种。这些研究为认识中国木生真菌的物种多样性和区系格局奠定了重要基础。

贵州省位于中国西南地区, 地处长江与珠江上游水系交汇地带, 属于云贵高原东部的典型内陆山地省份。该区域地形复杂、气候温暖湿润, 属亚热带季风气候类型, 孕育了高度异质的森林生态系统。其中, 梵净山等区域被认为是中国西南部生物多样性热点之一, 是开展森林生态学、真菌多样性及生态保护研究的重要区域。贵州省在大型真菌多样性研究方面已取得一定进展。例如, 《中国真菌总汇》记录的 6 737 个物种中分布在贵州省的担子菌门真菌约 180 种(戴芳澜 1979); 姚刘斌等(2018)在正安县记录菌根真菌 30 种, 隶属于 15 科 19 属; 王晶等(2024)在武陵山区西部优先保护区报道大型真菌隶属于 2 门 13 纲 26 目 91 科 304 属和 1 148 种; 杨云深等(2025)在湄潭自然保护区调查发现大型真菌隶属于 5 纲 26 目 70 科 152 属和 392 种。这些研究结果表明, 贵州省具有极为丰富的大型真菌物种多样性。

然而, 迄今为止, 贵州省木生大型担子菌多样性的本底资源调查仍显不足。现有关于该类群的研究多以个别区域或特定类群为对象, 相关物种记录零散分布于不同文献之中, 尚缺乏全省尺度的系统整理与综合总结(姚刘斌等 2018; 邓春英等 2022, 2025; Wu *et al.* 2022; 王晶等 2024; Liu *et al.* 2025a, 2025b; Qin *et al.* 2025; 杨云深等 2025; Zhao *et al.* 2025)。这一现状在一定程度上制约了贵州省木生真菌资源的科学认识及其在林业、食药菌和相关生物产业中的合理开发与利用。因此, 系统厘清贵州省

木生大型担子菌的物种多样性具有重要意义。

本研究基于我国 4 个研究团队的协同合作下, 系统整合北京林业大学微生物研究所标本馆(Herbarium of the Institute of Microbiology, Beijing Forestry University, BJFC)和中国科学院沈阳应用生态研究所东北生物标本馆(Herbarium of Northeast China, Institute of Applied Ecology, Chinese Academy of Sciences, IFP)馆藏数据, 鉴定了作者近年在贵州省采集的标本, 结合近年来发表的相关文献记录, 对贵州省木生大型担子菌多样性进行了全面梳理与总结。研究共确认贵州省木生大型担子菌 738 种, 其中以贵州省作为模式产地的物种共有 48 种, 为深入认识该区域木生大型担子菌多样性和资源潜力奠定了坚实基础。

1 数据的基本信息

本研究数据的名称为中国贵州省木生大型担子菌编目。数据的作者是赵恒, 陈芊, 张欣, 罗凯月, 李彪, 员瑗, 吴芳, 何双辉, 曾广宇, 庄磊, 戴玉成, 邓春英。数据产生的时间是 2025 年 12 月 10 日。数据量是 738 种贵州省木生大型担子菌物种名录。数据格式为 word 形式, 数据提交至科学数据银行(Science Data Bank)期刊社区(<https://scidb.cn/jwxb>), CSTR 编号: 31253.11.sciencedb.36968, DOI 编号: 10.57760/sciencedb.36968。

2 数据采集与处理方法

2.1 数据研究区域概括

研究区域覆盖贵州省全境。贵州省位于中国西南部、云贵高原东部, 行政区总面积约为 17.6 万 km², 地理坐标范围为 103°36′–109°35′E、24°37′–29°13′N。省内地势起伏显著, 海拔高度介于 147.8–2 900 m 之间, 地形以高原、山地和丘陵为主。贵州省东邻湖南省, 南接广西壮族自治区, 西与云南省相连, 北与四川省及重庆市相毗邻, 共同构成中国西南地区重要的生态单元。

2.2 研究材料和数据来源

研究材料来源于北京林业大学、中国科学

院沈阳应用生态研究所、重庆交通大学和贵州科学院贵州省生物研究所 4 个研究团队从 2000 年开始对贵州省的多次大型真菌资源野外采集，主要的调查点包括：安顺市西秀区甘堡村场、安顺市西秀区老落坡林场、安顺市黄果树瀑布、八舟河国家湿地公园、百花湖森林公园、毕节市白马山林场、毕节市百里杜鹃风景区、毕节市拱拢坪国家森林公园、毕节市赫章县赫章国家森林公园、毕节市赫章县水塘林场、毕节市威宁县小海镇、毕节市织金县织金洞门口、赤水市桫欏自然保护区、贵阳阿哈湖国家湿地公园、贵阳喀斯特公园、贵阳市扁坡林场、贵阳市贵州师范大学校内、贵阳市贵州植物园、贵阳市河滨公园、贵阳市黔灵山公园、贵阳市森林公园、贵阳市桃源河景区、贵阳市西望山、贵州省农业科学院、贵州省植物园、江口县亚木沟风景区、雷公山国家森林公园、黎平国家森林公园、荔波县观音坡、荔波县茂兰国家自然保护区、荔波县小七孔景区、六盘水市水城县苟米乡玉舍国家森林公园、六盘水市玉舍国家森林公园、龙架山国家森林公园、鹿冲关森林公园、麻江县坝茫乡老蛇冲自然保护区、茂兰喀斯特森林、梅兰山公园、南明区森林公园、盘龙山森林公园、骑龙山人文生态纪念园、黔南布依族苗族自治州斗篷山国家自然保护区、黔西南州普晴林场、清镇市九龙山、榕江县沙坪沟护林站、施秉县云台山、顺海公园、绥阳县宽阔水自然保护区、太平山森林公园、铜仁市江口县梵净山保护区、望谟县望谟自然保护区、威宁彝族回族苗族自治县草海国家自然保护区、乌江白果坨国家湿地公园、习水县习水国家自然保护区、仙女潭保护区、兴义市丰都林场、兴义市马岭河、印江县梵净山风景区、长坡岭国家森林公园等地区共计收集标本 3 000 余份。此外，本研究同时汇总最新文献报道(Zhang & Yao 2019; 戴玉成等 2021; Li *et al.* 2021, 2022a, 2022b; Li *et al.* 2025; 邓春英等 2022, 2025; Deng *et al.* 2024, 2025; Zhu *et al.* 2024; Liu *et al.* 2025a, 2025b; Qin *et al.* 2025; Wang *et al.* 2025; Xu *et*

al. 2025; 杨云深等 2025; Zhao *et al.* 2025)。

2.3 统计分析

本研究中基于形态学和分子生物学对采集的标本进行鉴定，同时使用 Index Fungorum 数据库(<http://www.indexfungorum.org/Names/Names.asp>)和 MycoBank 数据库(<https://www.mycobank.org/Simple%20names%20search>)对所有物种名称进行校对整理，排除错误物种名称和同物异名，得到中国贵州省木生大型担子菌物种名录。此外，基于该物种名录，并参考已有的研究方法(王妍等 2021; 孙渤洋等 2023)，统计分析优势目(物种数量大于等于 50 种)、优势科(物种数量大于等于 20 种)和优势属(物种数量大于等于 10 种)。

2.4 中国贵州省木生大型担子菌目录

本研究共收集并整理贵州省木生大型担子菌 738 种，其中 48 种以贵州省作为其模式产地(holotype)或副模式产地(paratype)，并以“*”号加以标识，部分物种生境新鲜子实体见图 1。物种名录按照属的拉丁学名首字母顺序进行排列，具体如下。

1. *Abortiporus biennis* (Bull.) Singer
2. *Abundisporus pubertatis* (Lloyd) Parmasto
3. *Agrocybe parasitica* G. Stev.
4. *Alboefibula gracilis* C.C. Chen & Sheng H. Wu
5. *Aleurocystidiellum tsugae* (Yasuda) S.H. He & Y.C. Dai
6. *Aleurodiscus botryosus* Burt
7. *Aleurodiscus cerussatus* (Bres.) Höhn. & Litsch.
8. *Aleurodiscus rimulosus* Núñez & Ryvarden
9. *Aleurodiscus subroseus* S.H. He & Y.C. Dai
10. *Aleurodiscus wakefieldiae* Boidin & Beller
11. *Alloexidiopsis calcea* (Pers.) L.W. Zhou & S.L. Liu
12. *Alloexidiopsis grandinea* J.H. Dong & C.L. Zhao
13. *Alloexidiopsis sinensis* J.H. Dong & C.L. Zhao
14. *Allophlebia formosana* (Sheng H. Wu) S.H. He *et al.*
15. *Amaropostia stiptica* (Pers.) B.K. Cui *et al.*
16. *Antella americana* (Ryvarden & Gilb.) Ryvarden
17. *Antrodia albida* (Fr.) Donk
18. *Antrodia macrospora* Bernicchia & De Dominicis
19. *Antrodia sinuosa* (Fr.) P. Karst.
20. *Antrodiella lactea* H.S. Yuan
21. *Antrodiella onychoides* (Egeland) Niemelä
22. *Antrodiella parasitica* Vampola
23. *Antrodiella semisupina* (Berk. & M.A. Curtis) Ryvarden
24. *Armillaria amygdalispora* H.C. Wang *et al.* *
25. *Armillaria cepistipes* Velen.
26. *Armillaria gallica* Marxm. & Romagn.
27. *Armillaria mellea* (Vahl) P. Kumm.
28. *Asterostroma cervicolor* (Berk. & M.A. Curtis) Masee
29. *Asterostroma muscicola* (Berk. & M.A. Curtis) Masee
30. *Asterostroma rhizomorpha* H.M. Zhou & C.L. Zhao *

31. *Athelia acrospora* Jülich
32. *Aurantiporus transformatus* (Núñez & Ryvarden) Spirin & Zmitr.
33. *Auricularia cornea* Ehrenb.
34. *Auricularia delicata* (Mont. ex Fr.) Henn.
35. *Auricularia fibrillifera* Kobayasi
36. *Auricularia fuscusuccinea* (Mont.) Henn.
37. *Auricularia heimuer* F. Wu *et al.*
38. *Auricularia nigricans* (Sw.) Birkebak *et al.*
39. *Auricularia sinodelicata* Y.C. Dai & F. Wu
40. *Auricularia villosula* Malysheva
41. *Auriporia aurulenta* A. David *et al.*
42. *Auriscalpium vulgare* Gray
43. *Bjerkandera adusta* (Willd.) P. Karst.
44. *Bjerkandera fumosa* (Pers.) P. Karst.
45. *Boidinia donkii* (S.S. Rattan) Sheng H. Wu & P.K. Buchanan
46. *Boreostereum vibrans* (Berk. & M.A. Curtis) Davydkina & Bondartseva
47. *Botrybasidium coniferarum* S.L. Liu & L.W. Zhou *
48. *Botrybasidium indicum* (P.N. Singh & S.K. Singh) R. Kirschner & G. Langer
49. *Butyrea japonica* (Núñez & Ryvarden) Miettinen & Ryvarden
50. *Byssomerulius corium* (Pers.) Parmasto
51. *Cabalodontia albofibrillosa* (Hjortstam & Ryvarden) Westphalen
52. *Calocera cornea* (Batsch) Fr.
53. *Calocera viscosa* (Pers.) Bory
54. *Callistosporium luteo-olivaceum* (Berk. & M.A. Curtis) Singer
55. *Campanella buettneri* Henn.
56. *Campanella junghuhnii* (Mont.) Singer
57. *Candolleomyces candolleanus* (Fr.) D. Wächt. & A. Melzer
58. *Candolleomyces parvipileus* Javaid & Naseer
59. *Ceriporus scutellatus* (Schwein.) Zmitr.
60. *Ceriporus subtropicus* (B.K. Cui *et al.*) Zmitr.
61. *Ceriporus varius* (Pers.) Zmitr. & Kovalenko
62. *Ceriporia aurantiocarlescens* (Henn.) M. Pieri & B. Rivoire
63. *Ceriporia excelsa* Parmasto
64. *Ceriporia mellita* (Bourdot & Galzin) Bondartsev & Singer
65. *Ceriporia occidentalis* Spirin & Vlasák
66. *Ceriporia subbadia* (Murrill) Y.C. Dai *et al.*
67. *Ceriporia viridans* (Berk. & Broome) Donk
68. *Ceriporiopsis mucida* (Pers.) Gilb. & Ryvarden
69. *Ceriporiopsis subvermispota* (Pilát) Gilb. & Ryvarden
70. *Cerrena albocinnamomea* (Y.C. Dai & Niemelä) H.S. Yuan
71. *Cerrena unicolor* (Bull.) Murrill
72. *Cerrena zonata* (Berk.) H.S. Yuan
73. *Chaetocalathus craterellus* (Durieu & Lév.) Singer
74. *Chaetocalathus galeatus* (Berk. & M.A. Curtis) Singer
75. *Cheimonophyllum haedinum* (Berk. & M.A. Curtis) Valade & P.-A. Moreau
76. *Chondrostereum purpureum* (Pers.) Pouzar
77. *Cinereomyces lindbladii* (Berk.) Jülich
78. *Clitocybe nebularis* (Batsch) P. Kumm.
79. *Collybia nivea* (Mont.) Dennis
80. *Collybiopsis bififormis* (Peck) R.H. Petersen
81. *Collybiopsis confluens* (Pers.) R.H. Petersen
82. *Collybiopsis dichroa* (Berk. & M.A. Curtis) R.H. Petersen
83. *Collybiopsis foliiphila* (A.K. Dutta *et al.*) R.H. Petersen
84. *Collybiopsis luxurians* (Peck) R.H. Petersen
85. *Collybiopsis menehune* (Desjardin *et al.*) R.H. Petersen
86. *Collybiopsis nonnulla* (Corner) R.H. Petersen
87. *Collybiopsis peronata* (Bolton) R.H. Petersen
88. *Collybiopsis polygramma* (Mont.) R.H. Petersen
89. *Collybiopsis ramealis* (Bull.) Millsp.
90. *Collybiopsis stenophylla* (Mont.) R.H. Petersen
91. *Collybiopsis subnuda* (Ellis ex Peck) R.H. Petersen
92. *Coltricia baoshanensis* (Y.C. Dai & B.K. Cui) Y.C. Dai & F. Wu
93. *Coltricia cinnamomea* (Jacq.) Murrill
94. *Coltricia crassa* Y.C. Dai
95. *Coltricia minima* L.S. Bian & Y.C. Dai
96. *Coltricia perennis* (L.) Murrill
97. *Coltricia pusilla* Imazeki & Kobayasi
98. *Coltricia spina* Y.C. Dai
99. *Coltricia subperennis* (Z.S. Bi & G.Y. Zheng) G.Y. Zheng & Z.S. Bi
100. *Coltricia subpicta* (Lloyd) Imazeki & Kobayasi
101. *Coltricia strigosipes* Corner
102. *Coltricia subpicta* (Lloyd) Imazeki & Kobayasi
103. *Coltricia subverrucata* L.S. Bian & Y.C. Dai *
104. *Coltricia tsugicola* Y.C. Dai & B.K. Cui
105. *Coltricia verrucata* Aime *et al.*
106. *Coltricia weii* Y.C. Dai
107. *Coprinopsis rhombisporoides* Voto & Deschuyteneer
108. *Cotylidia aurantiaca* (Pat.) A.L. Welden
109. *Cotylidia diaphana* (Cooke) Lentz
110. *Crepidotus applanatus* (Pers.) P. Kumm.
111. *Crepidotus crocophyllus* (Berk.) Sacc.
112. *Crepidotus dentatus* T. Bau & Y.P. Ge
113. *Crepidotus mollis* (Schaeff.) Staude
114. *Crepidotus parietalis* E. Horak
115. *Crepidotus stenocystis* Pouzar
116. *Crepidotus subverrucisporus* Pilát
117. *Crepidotus sulphurinus* Imazeki & Toki
118. *Crepidotus variabilis* (Pers.) P. Kumm.
119. *Crucibulum laeve* (Huds.) Kambly
120. *Crustomyces isabellinus* (Berk. & Broome) Yue Li *et al.*
121. *Cryptoporus sinensis* Sheng H. Wu & M. Zang
122. *Cubamyces lactineus* (Berk.) Lücking
123. *Cyanosporus alni* (Niemelä & Vampola) B.K. Cui *et al.*
124. *Cyanosporus caesius* (Schrad.) McGinty
125. *Cyanosporus coeruleivirens* (Corner) B.K. Cui *et al.*
126. *Cyanosporus fusiformis* B.K. Cui *et al.* *
127. *Cyanosporus glaucus* (Spirin & Miettinen) B.K. Cui & Shun Liu
128. *Cyanosporus simulans* (P. Karst.) B.K. Cui & Shun Liu
129. *Cyanosporus subhirsutus* B.K. Cui *et al.* *
130. *Cyanosporus tabuliformis* Y.C. Dai *et al.*
131. *Cyanosporus tricolor* B.K. Cui *et al.*
132. *Cyanotrampa rimosa* (Murrill) Ghob.-Nejh. & Y.C. Dai
133. *Cyathus striatus* Willd.
134. *Cylindrobasidium laeve* (Pers.) Chamuris
135. *Dacrymyces capitatus* Schwein.
136. *Dacrymyces chrysospermus* Berk. & M.A. Curtis
137. *Dacrymyces spathularia* (Schwein.) Alvarenga
138. *Dacrymyces stillatus* Nees
139. *Dacryobolus karstenii* (Bres.) Oberw. ex Parmasto
140. *Dacryobolus montanus* X.Z. Wan & H.S. Yuan

141. *Dacryobolus sudans* (Alb. & Schwein.) Fr.
142. *Dacryopinax sphenocarpa* Shirouzu & Tokum.
143. *Daedalea xantha* (Fr.) A. Roy & A.B. De
144. *Daedaleopsis confragosa* (Bolton) J. Schröt.
145. *Daedaleopsis nipponica* Imazeki
146. *Daedaleopsis tricolor* (Bull.) Bondartsev & Singer
147. *Datronia perstrata* (Corner) T. Hatt. & Sotome
148. *Dentipellis longiuscula* L.L. Shen & Min Wang
149. *Desarmillaria tabescens* (Scop.) R.A. Koch & Aime
150. *Diplomitoporus flavescens* (Bres.) Domański
151. *Ditiola peziziformis* (Lév.) D.A. Reid
152. *Duportella tristicula* (Berk. & Broome) Reinking
153. *Earliella scabrosa* (Pers.) Gilb. & Ryvarden
154. *Echinochaete russiceps* (Berk. & Broome) D.A. Reid
155. *Eichleriella discolor* (Berk. & Broome) S.H. He & Nakasone
156. *Eichleriella shearii* (Burt) Spirin & Malysheva
157. *Eichleriella sinensis* (Teng) S.H. He & Nakasone
158. *Eichleriella tenuicula* (Lév.) Spirin & Malysheva
159. *Eichleriella xipingensis* C.L. Zhao
160. *Elmerina caryae* (Schwein.) D.A. Reid
161. *Exidia glandulosa* (Bull.) Fr.
162. *Exidia punctata* Lu Wang & C.L. Zhao
163. *Exidia uvapassa* Lloyd
164. *Fabisporus sanguineus* (L.) Zmitr.
165. *Favolaschia nipponica* Kobayasi
166. *Favolaschia sprucei* (Berk.) Singer
167. *Favolaschia tonkinensis* (Pat.) Kuntze
168. *Favolus gramocephalus* (Berk.) Imazeki
169. *Favolus tenuiculus* P. Beauv.
170. *Fibroporia radiculosa* (Peck) Parmasto
171. *Fistulina hepatica* (Schaeff.) With.
172. *Flammulina filiformis* (Z.W. Ge *et al.*) P.M. Wang *et al.*
173. *Flavodon flavus* (Klotzsch) Ryvarden
174. *Flammula alnicola* (Fr.) P. Kumm.
175. *Fomitiporella sinica* Y.C. Dai *et al.*
176. *Fomitiporia punctata* (P. Karst.) Murrill
177. *Fomitiporia torreyae* Y.C. Dai & B.K. Cui
178. *Fomitopsis betulina* (Bull.) B.K. Cui *et al.*
179. *Fomitopsis malicola* (Berk. & M.A. Curtis) Spirin
180. *Fomitopsis modesta* (Kuntze ex Fr.) Vlasák & Spirin
181. *Fomitopsis nigra* (Berk.) Spirin & Miettinen
182. *Fomitopsis nivosa* (Berk.) Gilb. & Ryvarden
183. *Fomitopsis palustris* (Berk. & M.A. Curtis) Gilb. & Ryvarden
184. *Fomitopsis pinicola* (Sw.) P. Karst.
185. *Fomitopsis pulvina* (Pers.) V. Spirin & J. Vlasák
186. *Fomitopsis pulvinascens* (Pilát) T. Niemelä & O. Miettinen
187. *Foraminispora concentrica* (J. Song *et al.*) Y.F. Sun & B.K. Cui
188. *Fragiliporia fragilis* Y.C. Dai *et al.*
189. *Fulvifomes inermis* (Ellis & Everh.) Y.C. Dai
190. *Fulvifomes merrillii* (Murrill) Baltazar & Gibertoni
191. *Fulvoderma australe* L.W. Zhou & Y.C. Dai
192. *Fulvoderma scaurum* (Lloyd) L.W. Zhou & Y.C. Dai
193. *Funalia hispida* (Bagl.) M.M. Chen
194. *Funalia leonina* (Klotzsch) Pat.
195. *Funalia sanguinaria* (Klotzsch) Zmitr. & Malysheva
196. *Fuscoporia chinensis* Q. Chen *et al.*
197. *Fuscoporia contigua* (Pers.) G. Cunn.
198. *Fuscoporia ferrea* (Pers.) G. Cunn.
199. *Fuscoporia gilva* (Schwein.) T. Wagner & M. Fisch.
200. *Fuscoporia karsteniana* Q. Chen *et al.*
201. *Fuscoporia monticola* Y.C. Dai *et al.*
202. *Fuscoporia rhabarbarina* (Berk.) Groposo *et al.*
203. *Fuscoporia subferrea* Q. Chen bis & Yuan Yuan
204. *Fuscopostia fragilis* (Fr.) B.K. Cui *et al.*
205. *Fuscopostia leucomallella* (Murrill) B.K. Cui *et al.*
206. *Ganoderma applanatum* (Pers.) Pat.
207. *Ganoderma australe* (Fr.) Pat.
208. *Ganoderma duropora* Lloyd
209. *Ganoderma flexipes* Pat.
210. *Ganoderma gibbosum* (Blume & T. Nees) Pat.
211. *Ganoderma lingzhi* Sheng H. Wu *et al.*
212. *Ganoderma lucidum* (Curtis) P. Karst.
213. *Ganoderma orbiforme* (Fr.) Ryvarden
214. *Ganoderma ovisporum* H.D. Yang & T.C. Wen *
215. *Ganoderma sanduense* Hapuar. *et al.* *
216. *Ganoderma sichuanense* J.D. Zhao & X.Q. Zhang
217. *Ganoderma sinense* J.D. Zhao *et al.*
218. *Ganoderma tsugae* Murrill
219. *Gerronema kuruvense* K.P.D. Latha & Manim.
220. *Gerronema strombodes* (Berk. & Mont.) Singer
221. *Gerronema subclavatum* (Peck) Singer ex Redhead
222. *Gloeocystidiellum porosum* (Berk. & M.A. Curtis) Donk
223. *Gloeocystidiopsis heimii* (Boidin) Jülich
224. *Gloeophyllum sepiarium* (Wulfen) P. Karst.
225. *Gloeophyllum striatum* (Fr.) Murrill
226. *Gloeosoma mirabile* (Berk. & M.A. Curtis) Rajchenb. *et al.*
227. *Grifola huishuhua* X.J. Xie *et al.*
228. *Guepinia helvelloides* (DC.) Fr.
229. *Guepiniopsis buccina* (Pers.) L.L. Kenn.
230. *Gymnopilus aurantiacus* Hesler
231. *Gymnopilus dryophilus* Murrill
232. *Gymnopilus junonius* (Fr.) P.D. Orton
233. *Gymnopilus liquiritiae* (Pers.) P. Karst.
234. *Gymnopilus penetrans* (Fr.) Murrill
235. *Gymnopilus terrestris* Hesler
236. *Gymnopus androsaceus* (L.) Della Magg. & Trassin.
237. *Gymnopus efibulatus* J.P. Li *et al.* *
238. *Gymnopus erythropus* (Pers.) Antonín *et al.*
239. *Gymnopus fuscopurpureus* (Pers.) Antonín *et al.*
240. *Gymnopus omphalinooides* J.P. Li *
241. *Gymnopus pallipes* J.P. Li & Chun Y. Deng *
242. *Gymnopus pseudoandrosaceus* Chun Y. Deng *et al.* *
243. *Gymnopus strigosipes* J.P. Li *et al.* *
244. *Hadowia longipes* (Lév.) Steyaert
245. *Hapalopilus rutilans* (Pers.) Murrill
246. *Haploporus alabamiae* (Berk. & Cooke) Y.C. Dai & Niemelä
247. *Haploporus latisporus* Juan Li & Y.C. Dai
248. *Haploporus papyraceus* (Cooke) Y.C. Dai & Niemelä
249. *Haploporus subtrameteus* (Pilát) Y.C. Dai & Niemelä
250. *Hemimycena oregonensis* (A.H. Sm.) Singer
251. *Hericium erinaceus* (Bull.) Pers.
252. *Heterobasidion insulare* (Murrill) Ryvarden
253. *Heterochaete falcato-sporifera* Y.B. Peng & X.W. Hu
254. *Heterochaete roseola* Pat.
255. *Heterochaete sinensis* Teng
256. *Heterocorticium bambusicola* S.H. He *et al.*
257. *Heteroradulum labyrinthinum* (H.S. Yuan & Decock) L.W. Zhou
258. *Heteroradulum maolanense* S.H. He *et al.* *
259. *Hirschioporus abietinus* (Pers. ex J.F. Gmel.) Donk

260. *Hirschioporus fuscoviolaceus* (Ehrenb.) Donk
 261. *Hohenbuehelia grisea* (Peck) Singer
 262. *Hohenbuehelia petaloides* (Bull.) Schulzer
 263. *Hydnochaete japonica* Lloyd
 264. *Hydnophlebia acanthocystis* (Gilb. & Nakasone) C.L. Zhao
 265. *Hydnoporia conifera* S.H. He *et al.* *
 266. *Hydnoporia corrugata* (Fr.) K.H. Larss. & Spirin
 267. *Hydnoporia subrigidula* (S.H. He & Hai J. Li) Miettinen & K.H. Larss.
 268. *Hydnoporia tabacinoides* (Yasuda) Miettinen & K.H. Larss.
 269. *Hydnoporia yasudae* (Imazeki) Spirin & Miettinen
 270. *Hymenochaete anomala* Burt
 271. *Hymenochaete austrosinensis* S.H. He *et al.* *
 272. *Hymenochaete cinnamomea* (Pers.) Bres.
 273. *Hymenochaete coffeana* J.C. Léger & Lanq.
 274. *Hymenochaete cruenta* (Pers.) Donk
 275. *Hymenochaete flava* S.H. He *et al.* *
 276. *Hymenochaete floridae* Berk. & Broome
 277. *Hymenochaete hydroides* T. Wagner & M. Fisch.
 278. *Hymenochaete innexa* G. Cunn.
 279. *Hymenochaete luteomarginata* S.H. He *et al.* *
 280. *Hymenochaete microcycla* (Zipp. ex Lév.) Spirin & Miettinen
 281. *Hymenochaete minor* S.H. He & Y.C. Dai
 282. *Hymenochaete minuscula* G. Cunn.
 283. *Hymenochaete moniliformis* S.H. He *et al.*
 284. *Hymenochaete mougeotii* (Fr.) Cooke
 285. *Hymenochaete muroiana* I. Hino & Katum.
 286. *Hymenochaete nanospora* J.C. Léger
 287. *Hymenochaete ochromarginata* P.H.B. Talbot
 288. *Hymenochaete parmastoi* S.H. He & Hai J. Li
 289. *Hymenochaete ramicola* S.H. He *et al.* *
 290. *Hymenochaete rheicolor* (Mont.) Lév.
 291. *Hymenochaete rubiginosa* (Dicks.) Lév.
 292. *Hymenochaete separabilis* J.C. Léger
 293. *Hymenochaete setulohypha* S.H. He *et al.* *
 294. *Hymenochaete sphaeritcola* Lloyd
 295. *Hymenochaete subfissurata* S.H. He *et al.* *
 296. *Hymenochaete xerantica* (Berk.) S.H. He & Y.C. Dai
 297. *Hymenochaete villosa* (Lév.) Bres.
 298. *Hyphoderma ayresii* (Berk. ex Cooke) Boidin & Gilles
 299. *Hyphoderma crystallinum* C.L. Zhao & Q.X. Guan
 300. *Hyphoderma nudicephalum* Gilb. & M. Blackw.
 301. *Hyphoderma pinicola* Yurchenko & Sheng H. Wu
 302. *Hyphoderma setigerum* (Fr.) Donk
 303. *Hyphoderma subsetigerum* Sheng H. Wu
 304. *Hyphoderma tenuissimum* C.L. Zhao & Q.X. Guan
 305. *Hyphodermella laevigata* Yue Li & S.H. He *
 306. *Hyphodermella rosae* (Bres.) Nakasone
 307. *Hyphodontia pallidula* (Bres.) J. Erikss.
 308. *Hypholoma fasciculare* (Huds.) P. Kumm.
 309. *Hypholoma lateritium* (Schaeff.) P. Kumm.
 310. *Inocutis mikadoi* (Lloyd) Y.C. Dai & F. Wu
 311. *Inocutis rheades* (Pers.) Fiasson & Niemelä
 312. *Inonotus griseus* L.W. Zhou
 313. *Inonotus tenuicontextus* L.W. Zhou & W.M. Qin *
 314. *Irpex alboflavescens* Yue Li *et al.* *
 315. *Irpex consors* Berk.
 316. *Irpex laceratus* (N. Maek. *et al.*) C.C. Chen & Sheng H. Wu
 317. *Irpex lacteus* (Fr.) Fr.
 318. *Irpex rosettiformis* C.C. Chen & Sheng H. Wu
 319. *Irpex subulatus* (Ryvarden) Z.B. Liu & Y.C. Dai
 320. *Junghuhnia crustacea* (Jungh.) Ryvarden
 321. *Junghuhnia nitida* (Pers.) Ryvarden
 322. *Junghuhnia pseudominuta* H.S. Yuan & Y.C. Dai
 323. *Kneiffiella abdita* Riebesehl & Langer
 324. *Kneiffiella serpentiformis* (Langer) Riebesehl & Langer
 325. *Kuehneromyces mutabilis* (Schaeff.) Singer & A.H. Sm.
 326. *Laetiporus cremeiporus* Y. Ota & T. Hatt.
 327. *Laetiporus versisporus* (Lloyd) Imazeki
 328. *Laxitextum bicolor* (Pers.) Lentz
 329. *Lentinula edodes* (Berk.) Pegler
 330. *Lentinus arcularius* (Batsch) Zmitr.
 331. *Lentinus brumalis* (Pers.) Zmitr.
 332. *Lentinus connatus* Berk.
 333. *Lentinus fuscus* Lloyd
 334. *Lentinus squarrosulus* Mont.
 335. *Lentinus tigrinus* (Bull.) Fr.
 336. *Lenzites vespereus* (Pers.) Ryvarden
 337. *Leptoporus mollis* (Pers.) Quéf.
 338. *Leucoinocybe auricoma* (Har. Takah.) Matheny
 339. *Lopharia cinerascens* (Schwein.) G. Cunn.
 340. *Lopharia mirabilis* (Berk. & Broome) Pat.
 341. *Luteoporia tenuissima* K.Y. Luo *et al.* *
 342. *Lyomyces bambusinus* C.L. Zhao
 343. *Lyomyces cremeus* C.L. Zhao
 344. *Lyomyces crustosus* (Pers.) P. Karst.
 345. *Lyomyces dawuishanensis* J.H. Dong & C.L. Zhao
 346. *Lyomyces mascarensis* Riebesehl *et al.*
 347. *Lyomyces microfasciculatus* (Yurchenko & Sheng H. Wu) Riebesehl & Langer
 348. *Lyomyces ochraceoalbus* C.L. Zhao
 349. *Lyomyces orientalis* Riebesehl, Yurch. & Langer
 350. *Lyomyces punctatmarginatus* Qi Li & C.L. Zhao
 351. *Lyomyces vietnamensis* (Yurchenko & Sheng H. Wu) Riebesehl & Langer
 352. *Lyomyces yunnanensis* C.L. Zhao
 353. *Macrosporia nanlingensis* (B.K. Cui & C.L. Zhao) B.K. Cui & Xing Ji
 354. *Marasmiellus albofuscus* (Berk. & M.A. Curtis) Singer
 355. *Marasmiellus alneus* Singer
 356. *Marasmiellus candidus* (Fr.) Singer
 357. *Marasmiellus corticum* Singer
 358. *Marasmiellus dendroegrus* Singer
 359. *Marasmiellus nivovus* (Berk.) Singer
 360. *Marasmiellus sprucei* (Berk.) Singer
 361. *Marasmius albstipitatus* Chun Y. Deng & T.H. Li
 362. *Marasmius aurantiacus* I. Hino
 363. *Marasmius aurantioferrugineus* Hongo
 364. *Marasmius bambusiniformis* Singer
 365. *Marasmius bambusinus* Fr.
 366. *Marasmius bellus* Berk.
 367. *Marasmius berteroi* (Lév.) Murrill
 368. *Marasmius brunneoaurantiacus* Antonín & Buyck
 369. *Marasmius chordalis* Fr.
 370. *Marasmius cohaerens* (Pers.) Cooke & Quéf.
 371. *Marasmius coklatus* Desjardin, Retn. & E. Horak
 372. *Marasmius epiphyllus* (Pers.) Fr.
 373. *Marasmius ferrugineus* Berk. & Broome
 374. *Marasmius floriceps* Berk. & M.A. Curtis
 375. *Marasmius graminicola* Speg.
 376. *Marasmius grandiviridis* Wannathes *et al.*
 377. *Marasmius haematocephalus* (Mont.) Fr.

378. *Marasmius hinnuleus* Berk. & M.A. Curtis
379. *Marasmius hymeniicephalus* (Sacc.) Singer
380. *Marasmius jinshohanensis* Chun Y. Deng & Gafforov
381. *Marasmius maximus* Hongo
382. *Marasmius nigrobrunneus* (Pat.) Sacc.
383. *Marasmius nigrodiscus* (Peck) Halling
384. *Marasmius occultatiformis* Antonin *et al.*
385. *Marasmius pellucidus* Berk. & Broome
386. *Marasmius plicatulus* Peck
387. *Marasmius pulcherripes* Peck
388. *Marasmius purpureostriatus* Hongo
389. *Marasmius rotalis* Berk. & Broome
390. *Marasmius ruber* Singer
391. *Marasmius ruforotula* Singer
392. *Marasmius siccus* (Schwein.) Fr.
393. *Marasmius subabundans* Chun Y. Deng & T.H. Li
394. *Marasmius suthepensis* Wannathes *et al.*
395. *Marasmius wisteriae* Antonin *et al.*
396. *Mariorajchenbergia subcavernulosa* (Y.C. Dai & Sheng H. Wu) Gibertoni & C.R.S. Lira
397. *Megacollybia platyphylla* (Pers.) Kotl. & Pouzar
398. *Megasporoporia bannaensis* B.K. Cui & Hai J. Li
399. *Megasporoporia setulosa* (Henn.) Rajchenb.
400. *Mensularia rhododendri* F. Wu *et al.* *
401. *Meripilus eminens* (Y.C. Dai) Rajchenb. & Westph.
402. *Meripilus giganteus* (Pers.) P. Karst.
403. *Meripilus lineatus* (Pers.) Westph. & Rajchenb.
404. *Meripilus pouzarii* (Vampola & Vlasák) Westph. & Rajchenb.
405. *Meripilus rhododendri* (Y.C. Dai *et al.*) Westph. & Rajchenb. *
406. *Meripilus vitreus* (Pers.) Rajchenb. & Westph
407. *Meruliopsis leptocystidiata* C.C. Chen & Sheng H. Wu
408. *Meruliopsis rhizomorpha* Y.C. Dai *et al.* *
409. *Metuloidea fragrans* (A. David & Tortič) Miettinen
410. *Metuloidea murashkinskyi* (Burt) Miettinen & Spirin
411. *Microporus affinis* (Blume & T. Nees) Kuntze
412. *Microporus xanthopus* (Fr.) Kuntze
413. *Mucidula mucida* (Schrad.) Pat.
414. *Mycena abramsii* (Murrill) Murrill
415. *Mycena acicula* (Schaeff.) P. Kumm.
416. *Mycena adnexa* T. Bau & Q. Na
417. *Mycena albiceps* (Peck) Gilliam
418. *Mycena alcalina* (Fr.) P. Kumm.
419. *Mycena alphaltophora* (Berk.) Sacc.
420. *Mycena aurantiomarginata* (Fr.) Quél.
421. *Mycena capillaripes* Peck
422. *Mycena citricolor* (Berk. & M.A. Curtis) Sacc.
423. *Mycena corynephora* Maas Geest.
424. *Mycena epipterygia* (Scop.) Gray
425. *Mycena filopes* (Bull.) P. Kumm.
426. *Mycena galericulata* (Scop.) Gray
427. *Mycena galopus* (Pers.) P. Kumm.
428. *Mycena haematopus* (Pers.) P. Kumm.
429. *Mycena laevigata* Gillet
430. *Mycena leaiana* (Berk.) Sacc.
431. *Mycena leptocephala* (Pers.) Gillet
432. *Mycena maculata* P. Karst.
433. *Mycena metata* (Fr.) P. Kumm.
434. *Mycena pearsoniana* Dennis ex Singer
435. *Mycena polygramma* (Bull.) Gray,
436. *Mycena pura* (Pers.) P. Kumm.
437. *Mycena robusta* (A.H. Sm.) Maas Geest.
438. *Mycena rosea* Gramberg
439. *Mycena rosella* (Fr.) P. Kumm.
440. *Mycena seminau* A.L.C. Chew & Desjardin
441. *Mycena semivestipes* (Peck) A.H. Sm.
442. *Mycena stylobates* (Pers.) P. Kumm.
443. *Mycena zephirus* (Fr.) P. Kumm.
444. *Mycetinis salalis* (Desjardin & Redhead) Redhead
445. *Mycocacia livida* (Pers.) Zmitr.
446. *Mycocacia neotuberculata* S.H. He *et al.*
447. *Mycocaciella bispora* (Stalpers) J. Erikss. & Ryvardeen
448. *Myxarium cinnamomescens* (Raitv.) Raitv.
449. *Myxomphalia maura* (Fr.) Hora
450. *Naematelia aurantialba* (Bandoni & M. Zang) Millanes & Wedin
451. *Naematoloma gracile* Hongo
452. *Neoantrodiaella gypsea* (Yasuda) Y.C. Dai *et al.*
453. *Neodatronia sinensis* B.K. Cui *et al.*
454. *Neofavolus alveolaris* (DC.) Sotome & T. Hatt.
455. *Neofavolus mikawae* (Lloyd) Sotome & T. Hatt.
456. *Neofomitella guangxiensis* B.K. Cui & Xing Ji
457. *Neolentinus lepideus* (Fr.) Redhead & Ginns
458. *Neomensularia kanehirae* (Yasuda) F. Wu *et al.*
459. *Nidula niveotomentosa* (Henn.) Lloyd
460. *Nigroporus vinosus* (Berk.) Murrill
461. *Obba rivulosa* (Berk. & M.A. Curtis) Miettinen & Rajchenb.
462. *Osmoporus mexicanus* (Mont.) Y.C. Dai & S.H. He
463. *Pallidohirschioporus bififormis* (Fr.) Y.C. Dai *et al.*
464. *Pallidohirschioporus brastagii* (Corner) Y.C. Dai *et al.*
465. *Panellus bambusicola* Q.Y. Zhang & Y.C. Dai
466. *Panellus microspermus* Q.Y. Zhang *et al.* *
467. *Panellus pubescens* Z.S. Bi
468. *Panellus pusillus* (Pers. ex Lév.) Burds. & O.K. Mill.
469. *Panellus stipticus* (Bull.) P. Karst.
470. *Panellus yunnanensis* Q.Y. Zhang & Y.C. Dai
471. *Panus conchatus* (Bull.) Fr.
472. *Panus neostrigosus* Drechsler-Santos & Wartchow
473. *Panus rudis* Fr.
474. *Peniophora bicornis* Hjortstam & Ryvardeen
475. *Peniophora crassitunicata* Boidin, Lanq. & Gilles
476. *Peniophora major* Y.L. Xu *et al.* *
477. *Peniophora manshurica* Parmasto
478. *Peniophora ovalispora* Boidin, Lanq. & Gilles
479. *Peniophora versiformis* (Berk. & M.A. Curtis) Bourdot & Galzin
480. *Peniophorella crystallifera* Yurchenko *et al.*
481. *Peniophorella praetermissa* (P. Karst.) K.H. Larss.
482. *Peniophorella rude* (Bres.) K.H. Larss.
483. *Perenniporia fergusii* Gilb. & Ryvardeen
484. *Perenniporia medulla-panis* (Jacq.) Donk
485. *Perenniporia prunicola* Y.C. Dai *et al.* *
486. *Perenniporiopsis minutissima* (Yasuda) C.L. Zhao
487. *Phaeophlebiopsis himalayensis* (Dhingra) Zmitr.
488. *Phallus dongsun* T.H. Li *et al.* *
489. *Phanerochaete calotricha* (P. Karst.) J. Erikss. & Ryvardeen
490. *Phanerochaete concrescens* Spirin & Volobuev
491. *Phanerochaete leptocystidiata* Y.L. Xu & S.H. He
492. *Phanerochaete rhizomorpha* C.C. Chen *et al.*
493. *Phanerochaete sanguineocarnosa* Floudas & Hibbett
494. *Phanerochaete sordida* (P. Karst.) J. Erikss. & Ryvardeen
495. *Phanerochaete stereoides* Sheng H. Wu
496. *Phanerochaetella formosana* C.C. Chen & Sheng H. Wu

497. *Phanerodontia chrysosporium* (Burds.) Hjortstam & Ryvarden
 498. *Phellinus igniarius* (L.) Quél.
 499. *Phellinus monticola* L.W. Zhou & Y.C. Dai
 500. *Phellinus piceicola* B.K. Cui & Y.C. Dai
 501. *Phlebia acerina* Peck
 502. *Phlebia lilascens* (Bourdot) J. Erikss. & Hjortstam
 503. *Phlebia radiata* Fr.
 504. *Phlebia tremellosa* (Schrad.) Nakasone & Burds.
 505. *Phlebiopsis alba* (Sang H. Lin & Z.C. Chen) C.C. Chen & Sheng H. Wu
 506. *Phlebiopsis castanea* (Lloyd) Miettinen & Spirin
 507. *Phlebiopsis crassa* (Lév.) Floudas & Hibbett
 508. *Phlebiopsis gigantea* (Fr.) Jülich
 509. *Phlebiopsis odontoidea* C.C. Chen & Sheng H. Wu
 510. *Phlebioporia bubalina* Jia J. Chen *et al.*
 511. *Pholiota abietis* A.H. Sm. & Hesler
 512. *Pholiota adiposa* (Batsch) P. Kumm.
 513. *Pholiota flammans* (Batsch) P. Kumm.
 514. *Pholiota fusa* (Batsch) Singer
 515. *Pholiota limonella* (Peck) Sacc.
 516. *Pholiota multicingulata* E. Horak
 517. *Pholiota spumosa* (Fr.) Singer
 518. *Pholiota squarrosa* (Vahl) P. Kumm.
 519. *Phylloporia nandinae* L.W. Zhou & Y.C. Dai
 520. *Phylloporia radiata* L.W. Zhou *
 521. *Phylloporia tiliae* L.W. Zhou
 522. *Phylloporus rubiginosus* M.A. Neves & Halling
 523. *Physalacria bambusae* Höhn.
 524. *Picipes ailaoshanensis* B.K. Cui *et al.*
 525. *Picipes badius* (Pers.) Zmitr. & Kovalenko
 526. *Picipes dictyopus* (Mont.) B.K. Cui *et al.*
 527. *Pleurotus citrinopileatus* Singer
 528. *Pleurotus cornucopiae* (Paulet) Quél.
 529. *Pleurotus djamor* (Rumph. ex Fr.) Boedijn
 530. *Pleurotus eryngii* (DC.) Quél.
 531. *Pleurotus floridanus* Singer
 532. *Pleurotus ostreatus* (Jacq.) P. Kumm.
 533. *Pleurotus pulmonarius* (Fr.) Quél.
 534. *Plicaturopsis crispa* (Pers.) D.A. Reid
 535. *Pluteus albidus* Beeli
 536. *Pluteus atricapillus* (Batsch) Fayod
 537. *Pluteus cervinus* (Schaeff.) P. Kumm.
 538. *Pluteus chrysaegis* (Berk. & Broome) Petch
 539. *Pluteus chrysophlebius* (Berk. & M.A. Curtis) Sacc.
 540. *Pluteus cinereofuscus* J.E. Lange
 541. *Pluteus eos* Justo & E.F. Malysheva
 542. *Pluteus griseodiscus* Jiang Xu & T.H. Li
 543. *Pluteus leoninus* (Schaeff.) P. Kumm.
 544. *Pluteus longistriatus* (Peck) Peck
 545. *Pluteus luteus* (Redhead & B. Liu) Redhead
 546. *Pluteus nanus* (Pers.) P. Kumm.
 547. *Pluteus pouzarianus* Singer
 548. *Pluteus purpureofuscus* Jiang Xu *et al.*
 549. *Pluteus semibulbosus* (Lasch) Quél.
 550. *Pluteus umbrosus* (Pers.) P. Kumm.
 551. *Podofomes mollis* (Sommerf.) Gorjón
 552. *Podoscypha fulvonitens* (Berk.) D.A. Reid
 553. *Polyporus brevibasidiosus* H. Lee *et al.*
 554. *Polyporus gracilisporus* (H. Lee *et al.*) Bernicchia & Gorjón
 555. *Polyporus leprieurii* Mont.
 556. *Polyporus mori* (Pollini) Fr.
 557. *Polyporus rugulosus* Lév.
 558. *Polyporus tuberaster* (Jacq. ex Pers.) Fr.
 559. *Poriella subacida* (Peck) C.L. Zhao
 560. *Porogramme albocincta* (Cooke & Masee) Gibbertoni
 561. *Porogramme epimiltina* (Berk. & Broome) Y.C. Dai *et al.*
 562. *Porothelium fimbriatum* (Pers.) Fr.
 563. *Postia hirsuta* L.L. Shen & B.K. Cui
 564. *Postia tephroleuca* (Fr.) Jülich
 565. *Prunulus diosmus* (Krieglst. & Schwöbel) C. Hahn
 566. *Psathyrella conica* T. Bau & J.Q. Yan
 567. *Psathyrella oboensis* Desjardin & B.A. Perry
 568. *Pseudofavolus tenuis* (Fr.) G. Cunn.
 569. *Pseudohydnum brunneiceps* Y.L. Chen *et al.*
 570. *Pseudohydnum gelatinosum* (Scop.) P. Karst.
 571. *Pseudolagarobasidium subvinosum* (Berk. & Broome) Sheng H. Wu
 572. *Pseudomarasmius pallidocephalus* (Gilliam) R.H. Petersen
 573. *Pseudomerulius aureus* (Fr.) Jülich
 574. *Pseudomerulius curtisii* (Berk.) Redhead & Ginns
 575. *Pusillomyces asetosus* (Antonín *et al.*) J.S. Oliveira
 576. *Radulomyces confluens* (Fr.) M.P. Christ.
 577. *Sidera lenis* (Pat.) Hjortstam & Spooner
 578. *Radulomyces hydnoides* J.H. Dong & C.L. Zhao
 579. *Ramaria botrytis* (Pers.) Bourdot
 580. *Ramaria gracilis* (Pers.) Quél.
 581. *Rectipilus fasciculatus* (Pers.) Agerer
 582. *Resinicium bicolor* (Alb. & Schwein.) Parmasto
 583. *Resinomyces mirabilis* (Singer) Redhead & Nagas.
 584. *Resupinatus alboniger* (Pat.) Singer
 585. *Resupinatus applicatus* (Batsch) Gray
 586. *Resupinatus trichotis* (Pers.) Singer
 587. *Rhizochaete radicata* (Henn.) Gresl. *et al.*
 588. *Rhizochaete subradicata* Yue Li & S.H. He
 589. *Rhizochaete variegata* Q.Y. Zhang *et al.* *
 590. *Rhizomarasmius cunninghamietorum* Chun Y. Deng *et al.* *
 591. *Rhodofomes subfeeii* (B.K. Cui & M.L. Han) B.K. Cui *et al.*
 592. *Rigidoporus cirratus* (Hjortstam & Ryvarden) L.W. Zhou
 593. *Rigidoporus crocatus* (Pat.) Ryvarden
 594. *Rigidoporus cuneatus* (Murrill) F. Wu *et al.*
 595. *Rigidoporus ginkgonis* (Y.C. Dai) F. Wu *et al.*
 596. *Rigidoporus lineatus* (Pers.) Ryvarden
 597. *Rigidoporus microporus* (Sw.) Overeem
 598. *Rigidoporus populinus* (Schumach.) Pouzar
 599. *Rigidoporus pouzarii* Vampola & Vlasák
 600. *Roridomyces roridus* (Fr.) Rexer
 601. *Ryvardenia campyla* (Berk.) Rajchenb.
 602. *Sanguangporus baumii* (Pilát) L.W. Zhou & Y.C. Dai
 603. *Sanguangporus quercicola* Lin Zhu & B.K. Cui
 604. *Sanguangporus sanghuang* (Sheng H. Wu *et al.*) Sheng H. Wu *et al.*
 605. *Sanguangporus weigela* (T. Hatt. & Sheng H. Wu) Sheng H. Wu *et al.*
 606. *Sanguinoderma rude* (Berk.) Y.F. Sun *et al.*
 607. *Sanguinoderma rugosum* (Blume & T. Nees) Y.F. Sun *et al.*
 608. *Sarcoporia longitubulata* Vlasák & Spirin
 609. *Schizophyllum commune* Fr.
 610. *Scopuloides ellipsoidea* S.H. He *et al.*

611. *Scopuloides hydroides* (Cooke & Masee) Hjortstam & Ryvarden
 612. *Scytinostroma acystidiatum* Q.Y. Zhang *et al.* *
 613. *Scytinostroma renisporum* Boidin *et al.*
 614. *Scytinostroma duriusculum* (Berk. & Broome) Donk
 615. *Scytinostroma macrospermum* Q.Y. Zhang *et al.*
 616. *Scytinostroma odoratum* (Fr.) Donk
 617. *Scytinostroma renisporum* Boidin *et al.*
 618. *Scytinostroma subduriusculum* Yue Li *et al.*
 619. *Scytinostroma subrenisporum* Yue Li *et al.* *
 620. *Sidera tibetica* Z.B. Liu *et al.*
 621. *Sidera vulgaris* (Fr.) Miettinen
 622. *Strobasidium magnum* Boedijn
 623. *Sistotrema brinkmannii* (Bres.) J. Erikss.
 624. *Skeletocutis albocrema* A. David
 625. *Skeletocutis alutacea* (J. Lowe) Jean Keller
 626. *Skeletocutis amorpha* (Fr.) Kotl. & Pouzar
 627. *Skeletocutis biguttulata* (Romell) Niemelä
 628. *Skeletocutis chrysellia* Niemelä
 629. *Skeletocutis diluta* (Rajchenb.) A. David & Rajchenb.
 630. *Skeletocutis futilis* Miettinen & A. Korhonen
 631. *Skeletocutis kuehneri* A. David
 632. *Skeletocutis lepida* A. Korhonen & Miettinen
 633. *Skeletocutis liangdongii* Z.B. Liu *et al.* *
 634. *Skeletocutis mopanshanensis* C.L. Zhao
 635. *Skeletocutis nivea* (Jungh.) Jean Keller
 636. *Skeletocutis pseudo-odora* L.F. Fan & Jing Si *
 637. *Skeletocutis semipileata* (Peck) Miettinen & A. Korhonen
 638. *Skeletocutis sinica* Z.B. Liu *et al.* *
 639. *Sparassis crispa* (Wulfen) Fr.
 640. *Steccherinum aurantilaetum* (Corner) Bernicchia & Gorjón
 641. *Steccherinum fimbriatum* (Pers.) J. Erikss.
 642. *Steccherinum helvolum* (Zipp. ex Lév.) S. Ito
 643. *Steccherinum ochraceum* (Pers. ex J.F. Gmel.) Gray
 644. *Steccherinum tenuissimum* C.L. Zhao & Y.X. Wu
 645. *Stereum gausapatum* (Fr.) Fr.
 646. *Stereum hirsutum* (Willd.) Pers.
 647. *Stereum lithocarpi* Y.C. Dai
 648. *Stereum ostrea* (Blume & T. Nees) Fr.
 649. *Stereum rugosum* Pers.
 650. *Stereum sanguinolentum* (Alb. & Schwein.) Fr.
 651. *Stereum subtomentosum* Pouzar
 652. *Stropharia lignicola* E.J. Tian
 653. *Subulicystidium acerorum* S.H. He & S.L. Liu *
 654. *Tapinella atrotomentosa* (Batsch) Šutara
 655. *Terana coerulea* (Lam.) Kuntze
 656. *Tetrapyrgos alba* (Berk. & M.A. Curtis) E. Horak
 657. *Tetrapyrgos nigripes* (Fr.) E. Horak
 658. *Tetrapyrgos subcinerea* (Berk. & Broome) E. Horak
 659. *Tomentella bryophila* (Pers.) M.J. Larsen
 660. *Tomentella casiae* H.S. Yuan & Y.Q. Zhu*
 661. *Tomentella ellisii* (Sacc.) Jülich & Stalpers
 662. *Tomentella fuscocinerea* (Pers.) Donk
 663. *Tomentella guiyangensis* H.S. Yuan & Y.Q. Zhu*
 664. *Tomentella olivaceomarginata* H.S. Yuan & Y.Q. Zhu*
 665. *Tomentella rotundata* H.S. Yuan & Y.Q. Zhu*
 666. *Tomentella stuposa* (Link) Stalpers
 667. *Trachydermella tsunodae* (Yasuda ex Lloyd) B.K. Cui & Y.F. Sun
 668. *Trametes betulina* (L.) Pilát
 669. *Trametes cinnabarina* (Jacq.) Fr.
 670. *Trametes coccinea* (Fr.) Hai J. Li & S.H. He
 671. *Trametes elegans* (Spreng.) Fr.
 672. *Trametes gibbosa* (Pers.) Fr.
 673. *Trametes hirsuta* (Wulfen) Lloyd
 674. *Trametes lacerata* Lloyd
 675. *Trametes manilaensis* (Lloyd) Teng
 676. *Trametes membranacea* (Sw.) Kreisel
 677. *Trametes ochracea* (Pers.) Gilb. & Ryvarden
 678. *Trametes orientalis* (Yasuda) Imazeki
 679. *Trametes pubescens* (Schumach.) Pilát
 680. *Trametes strumosa* (Fr.) Zmitr., Wasser & Ezhov
 681. *Trametes suaveolens* (L.) Fr.
 682. *Trametes trogii* Berk.
 683. *Trametes vernicipes* (Berk.) Zmitr., Wasser & Ezhov
 684. *Trametes villosa* (Sw.) Kreisel
 685. *Trametopsis cervina* (Schwein.) Tomšovský
 686. *Trechispora candidissima* (Schwein.) Bondartsev & Singer
 687. *Trechispora constricta* S.L. Liu *et al.*
 688. *Trechispora gracilis* S.L. Liu & L.W. Zhou
 689. *Trechispora larssonii* S.L. Liu *et al.* *
 690. *Trechispora latihypha* S.L. Liu *et al.*
 691. *Trechispora longiramosa* S.L. Liu *et al.* *
 692. *Trechispora nivea* (Pers.) K.H. Larss.
 693. *Trechispora odontioidea* (L.) Lloyd
 694. *Trechispora sinensis* S.L. Liu *et al.* *
 695. *Trechispora wenshanensis* K.Y. Luo & C.L. Zhao
 696. *Tremella cerebriformis* Chee J. Chen
 697. *Tremella cinnabarina* Bull.
 698. *Tremella flava* Chee J. Chen
 699. *Tremella foliacea* Pers.
 700. *Tremella fuciformis* Berk.
 701. *Tremella mesenterica* (Schaeff.) Pers.
 702. *Tremella samoensis* Lloyd
 703. *Trichaptum byssogenum* (Jungh.) Ryvarden
 704. *Trichaptum pergamenum* (Fr.) G. Cunn.
 705. *Truncospora ochroleuca* (Berk.) Pilát
 706. *Truncospora tephropora* (Mont.) Zmitr.
 707. *Tubaria punicea* (A.H. Sm. & Hesler) Ammirati *et al.*
 708. *Tubulicium bambusicola* S.H. He & S.L. Liu
 709. *Tyromyces chioneus* (Fr.) P. Karst.
 710. *Tyromyces galactinus* (Berk.) J. Lowe
 711. *Tyromyces lacteus* (Fr.) Murrill
 712. *Tyromyces kmetii* (Bres.) Bondartsev & Singer
 713. *Vanderbylia fraxinea* (Bull.) D.A. Reid
 714. *Vanderbylia robiniphila* (Murrill) B.K. Cui & Y.C. Dai
 715. *Vararia amphithallica* Boidin *et al.*
 716. *Vararia athabascensis* Gilb.
 717. *Veluticeps fasciculata* Jiao Yang & S.H. He
 718. *Vizzinia nigripes* (Angelini *et al.*) Ševčíková & Kolařík
 719. *Vitreoporus dichrous* (Fr.) Zmitr.
 720. *Xenasmatella ardosiacae* (Bourdot & Galzin) Stalpers
 721. *Xeromphalina brevipes* T. Bau & L.N. Liu
 722. *Xeromphalina campanella* (Batsch) Kühner & Maire
 723. *Xeromphalina kauffmanii* A.H. Sm.
 724. *Xeromphalina tenuipes* (Schwein.) A.H. Sm.
 725. *Xanthoperenniporia maackiae* (Bondartsev & Ljub.) B.K. Cui & Xing Ji
 726. *Xanthoperenniporia tenuis* (Schwein.) B.K. Cui & Xing Ji
 727. *Xylobolus princeps* (Jungh.) Boidin
 728. *Xylobolus spectabilis* (Klotzsch) Boidin
 729. *Xylobolus subpileatus* (Berk. & M.A. Curtis) Boidin
 730. *Xylodon exilis* Yurchenko *et al.*

731. *Xylodon flaviporus* (Berk. & M.A. Curtis ex Cooke) Riebesehl & Langer
 732. *Xylodon nesporii* (Bres.) Hjortstam & Ryvarde
 733. *Xylodon niemelaii* (Sheng H. Wu) Hjortstam & Ryvarde
 734. *Xylodon nongravis* (Lloyd) Che C. Chen & Sheng H. Wu
 735. *Xylodon ovisporus* (Corner) Riebesehl & Langer
 736. *Xylodon paradoxus* (Schrad.) Chevall
 737. *Xylodon reticulatus* (Che C. Chen & Sheng H. Wu) Che C. Chen & Sheng H. Wu
 738. *Xylodon taiwanianus* (Sheng H. Wu) Hjortstam & Ryvarde

2.5 贵州省木生大型担子菌优势类群分析

本研究共记录贵州省木生大型担子菌 738 种，隶属于担子菌门的 3 纲 16 目 74 科 253 属。其中，3 个纲分别为担子菌纲 Agaricomycetes、花耳纲 Dacrymycetes 和银耳纲 Tremellomycetes。担子菌纲为贵州省木生大型担子菌的绝对优势类群，共包含 14 目 71 科 244 属 717 种，占总物种数的 97.15%。相比之下，花耳纲仅包括 1 目 1 科 6 属 12 种，占总物种数的 1.63%；银耳纲包括 1 目 2 科 3 属 9 种，占总物种数的

1.22%，二者在物种数量上均处于绝对次要地位。

在目级水平上，贵州省木生大型担子菌的优势目主要为多孔菌目 Polyporales、蘑菇目 Agaricales 和锈革孔菌目 Hymenochaetales。这 3 个目共计包含 50 科 194 属 601 种，分别占总科数的 67.57%、总属数的 76.68% 和总物种数的 81.44% (图 2)。其中，多孔菌目的物种多样性最为丰富，包含 22 科 100 属 253 种，占总物种数的 34.28%；其次为蘑菇目，共记录 19 科 63 属 218 种，占比为 29.54%；锈革孔菌目包括 11 科 31 属 130 种，占比为 17.62%。其余 13 个目合计包含 24 科 59 属 137 种，物种占比为 18.56%。在这 13 个目中，物种数量相对较多的为红菇目 Russulales 和木耳目 Auriculariales，分别记录有 47 种和 30 种。

在科级水平上，贵州省木生大型担子菌中共有 10 个优势科(图 3)，分别为多孔菌科 Polyporaceae (36 属 92 种)、锈革孔菌科 Hymenochaetaeaceae



图 1 贵州省木生大型担子菌新鲜子实体

Fig. 1 Some lignicolous macro-basidiomycetes from Guizhou Province. A: *Auricularia delicata*; B: *Bjerkandera adusta*; C: *Cryptoporus sinensis*; D: *Daedaleopsis confragosa*; E: *Exidia uvapassa*; F: *Fomitopsis pinicola*; G: *Ganoderma sinense*; H: *Lentinus arcularius*; I: *Marasmius maximus*; J: *Nigroporus vinosus*; K: *Pluteus leoninus*; L: *Schizophyllum commune*; M: *Stereum sanguinolentum*; N: *Trametes cinnabarina*; O: *Tyromyces kmetii*; P: *Xylobolus spectabilis*.

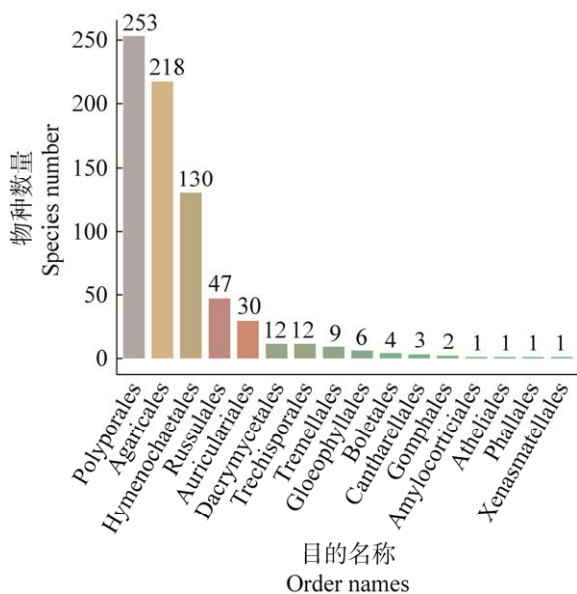


图 2 贵州省木生大型担子菌在 16 个目级分类单元的物种数量
Fig. 2 The species number of 16 orders of lignicolous macro-basidiomycetes from Guizhou Province.

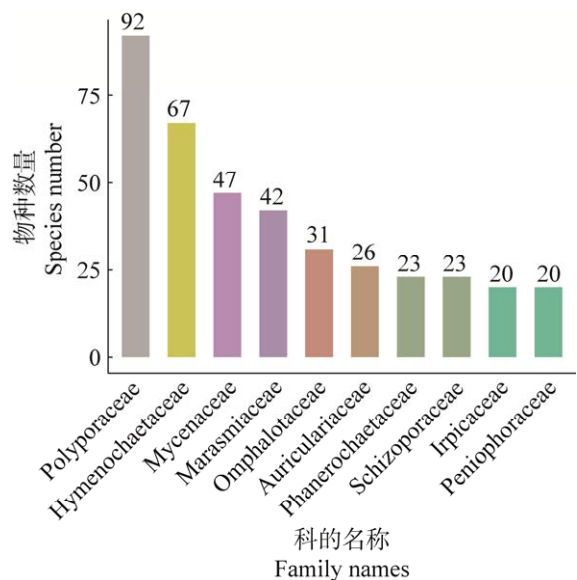


图 3 贵州省木生大型担子菌优势科的物种数量
Fig. 3 The species number in the dominant families of lignicolous macro-basidiomycetes from Guizhou Province.

(16 属 67 种)、小菇科 Mycenaceae (8 属 47 种)、小皮伞科 Marasmiaceae (4 属 42 种)、类脐菇科 Omphalotaceae (7 属 31 种)、木耳科 Auriculariaceae (8 属 26 种)、原毛平革菌科 Phanerochaetaceae (9 属 23 种)、裂孔菌科 Schizoporaceae (4 属 23 种)、囊耙齿菌科 Irpicaceae (9 属 20 种)以及隔孢伏革

菌科 Peniophoraceae (5 属 20 种)。上述 10 个优势科共计包含 106 属 391 种，分别占总属数和总物种数的 41.90%和 52.98%。其余 64 个科共包含 126 属 324 种，分别占总属数的 49.80%和总物种数的 43.90%。此外，还有 21 属 23 种尚未被明确归入已知科级分类单元，分别占总属数和总物种数的 8.30%和 3.12%。

在属级层面，共识别出 11 个优势属(图 4)，分别为小皮伞属 *Marasmius* (35 种)、小菇属 *Mycena* (30 种)、刺革菌属 *Hymenochaete* (28 种)、栓孔菌属 *Trametes* (17 种)、光柄菇属 *Pluteus* (16 种)、集毛孔菌属 *Coltricia* (15 种)、干皮孔菌属 *Skeletocutis* (15 种)、灵芝属 *Ganoderma* (13 种)、金钱菌属 *Collybiopsis* (12 种)、疏革菌属 *Lyomyces* (11 种)和糙孢孔菌属 *Trechispora* (10 种)。上述 11 个优势属共计包含 202 种，占总物种数的 27.37%；其余 242 个属共包含 536 种，占总物种数的 72.63%。

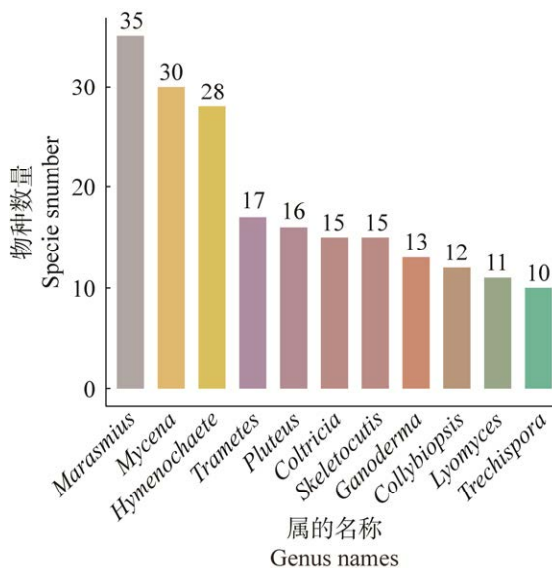


图 4 贵州省木生大型担子菌优势属的物种数量
Fig. 4 The species number in the dominant genera of lignicolous macro-basidiomycetes from Guizhou Province.

此外，在本研究确认的 738 种贵州省木生大型担子菌中，有 48 个物种以贵州省作为其模式产地或副模式产地，占总物种数的 6.50%，进一步彰显了贵州省在木生大型担子菌分类学和物种形成研究方面的重要地位。

3 结论

真菌作为生物圈中第二大生物类群，具有极其丰富的物种多样性以及复杂多样的形态特征和演化历程。目前，全球已知真菌物种数已超过 20 万种(<https://nmdc.cn/fungalnames/>，获取时间：2025 年 12 月 1 日)。其中，木生大型担子菌形态类型复杂多样，涵盖多孔菌、齿菌、革菌、伞菌和珊瑚菌等多个形态类型(Dong *et al.* 2024; Spirin *et al.* 2024; Zhao *et al.* 2025)，具有非常丰富的物种多样性。

近年来，随着生物多样性保护意识的不断增强以及系统分类学方法的广泛应用，我国真菌多样性研究取得了一系列重要进展(戴玉成和庄剑云 2010; 王科等 2021)。然而，由于研究区域、研究方法和研究类群侧重点的不同，不同地区及不同类群间的研究仍存在明显不均衡现象。其中，贵州省作为中国西南地区的重要生态区域，其木生大型担子菌多样性研究相对滞后。尽管已有研究者对贵州省部分区域的大型真菌多样性开展了探索性调查，如仁怀市大型真菌初步研究(赵本学等 2023)及湄潭自然保护区的相关调查(杨云深等 2025)，但总体而言，尚缺乏针对全省尺度的系统梳理与综合总结。现有关于贵州省木生大型担子菌的研究多零散分布于多篇文献之中，缺乏整合性的物种多样性框架(戴玉成等 2021; 赵本学等 2023; Li *et al.* 2025; Liu *et al.* 2025a, 2025b; Xu *et al.* 2025; 杨云深等 2025)。此外，贵州省地处云贵高原腹地，其地形、气候和植被类型高度多样，与真菌多样性研究基础较为成熟的云南省相比，仍具有巨大的研究潜力。

本研究首次对贵州省木生大型担子菌进行了系统整理与统计，明确其共计隶属于担子菌门 3 纲 16 目 74 科 253 属 738 种。该成果显著丰富了贵州省的真菌物种多样性认知，并为今后开展系统分类、生态功能及资源利用等相关研究提供了重要的基础数据。值得注意的是，在本研究中发现，蘑菇目作为贵州省木生大型担子菌的优势目之一，其物种多样性超过了传统

认为占优势地位的锈革孔菌目；在优势科与优势属层面，同样有多个主要类群隶属于蘑菇目的类群，如小菇科 *Mycenaceae*、小菇属 *Mycena* 以及小皮伞科 *Marasmiaceae* 和小皮伞属 *Marasmius* 等。近期研究表明，蘑菇目中包含大量以木材为基质的真菌类群，其生态功能和演化意义长期以来可能被低估(Dong *et al.* 2025)，相关问题仍有待在未来研究中进一步深入探讨。

此外，本研究特别关注了以贵州省作为模式产地的木生大型担子菌物种。戴玉成等(2021)在研究中国森林大型真菌多样性与系统学时，仅记录贵州省拥有 8 个模式物种，显著低于其邻近地区，如云南省(314 个)和广西壮族自治区(41 个)。经过近 4 年的系统研究，该数字已大幅提升至 48 个。一方面，这表明贵州省蕴藏着尚未充分揭示的真菌多样性潜力；另一方面，也展示了近年来对贵州省真菌资源的调查与系统分类研究正快速推进。

总体而言，本研究系统补全了贵州省木生大型担子菌多样性的基础资料，明确了其主要优势类群，为后续的资源挖掘、开发与相关生态研究提供了重要的数据支撑。

4 数据可用性声明

本数据集已存储至科学数据银行(ScienceDB)期刊数据平台 <https://scidb.cn/jwxb>，可被所有用户公开访问，按照 CC BY-NC-ND 4.0 协议共享和使用。

[数据引用格式]

赵恒, 陈芊, 张欣, 罗凯月, 李彪, 员媛, 吴芳, 何双辉, 曾广宇, 庄磊, 戴玉成, 邓春英. 中国贵州省木生大型担子菌编目[DS/OL]. V1. Science Data Bank, 2026[2026-03-16]. <https://cstr.cn/31253.11.sciencedb.36968>. CSTR:31253.11.sciencedb.36968. 赵恒, 陈芊, 张欣, 罗凯月, 李彪, 员媛, 吴芳, 何双辉, 曾广宇, 庄磊, 戴玉成, 邓春英. 中国贵州省木生大型担子菌编目[DS/OL]. V1. Science Data Bank, 2026[2026-03-16]. <https://doi.org/10.57760/sciencedb.36968>. DOI:10.57760/sciencedb.36968.

致谢

感谢袁海生研究员(中国科学院沈阳应用生态研究所)提供数据支撑。

作者贡献

赵恒, 陈芊: 调查研究, 数据管理, 初稿写作; 张欣, 罗凯月, 李彪, 员瑗, 吴芳, 何双辉, 曾广宇, 庄磊: 调查研究; 戴玉成, 邓春英: 调查研究, 总体构思, 审核与编辑写作。

利益冲突声明

本研究不存在任何潜在利益冲突的商业或财务关系。

[REFERENCES]

- Bian LS, An Q, Wang XH, Chen L, Han ML, 2023. Diversity of wood-inhabiting macrofungi in the Taihang Mountains, Northern China. *Mycosystema*, 42(11): 2188-2202 (in Chinese)
- Dai YC, 2012. Polypore diversity in China with an annotated checklist of Chinese polypores. *Mycoscience*, 53: 49-80
- Dai YC, Yang ZL, Cui BK, Wu G, Yuan HS, Zhou LW, He SH, Ge ZW, Wu F, Wei YL, Yuan Y, Si J, 2021. Diversity and systematics of the important macrofungi in Chinese forests. *Mycosystema*, 40: 770-805 (in Chinese)
- Dai YC, Zhuang JY, 2010. Numbers of fungal species hitherto known in China. *Mycosystema*, 29: 625-628 (in Chinese)
- Deng CY, Gafforov Y, Chen X, 2024. Additions to *Tetrapyrgos* (Marasmiaceae, Agaricales) in China. *Nova Hedwigia*, 119(1-2): 157-172
- Deng CY, Kang C, Wang J, 2022. Macrofungi of Doupenshan Mountain in China. Guizhou Science & Technology Press, Guiyang. 1-140 (in Chinese)
- Deng CY, Wang J, Wang WK, Xiang Z, Shang K, 2025. Atlas of Fanjingshan's macrofungal resources. Guizhou Science & Technology Press, Guiyang. 1-313 (in Chinese)
- Deng CY, Wang WK, Li JP, Antonín V, 2025. Morphology and phylogeny reveal *Gymnopus pseudoandrosaceus* sp. nov. (Agaricales, Basidiomycota) from southwest China. *Phytotaxa*, 683(3): 218-228
- Dong JH, Chen ML, Chen M, Li Q, Zhu YJ, Zhang XC, Zhou CQ, Li W, Akmal M, Zhou HM, Jabeen S, Zhao CL, 2025. Notes, outline, taxonomy and phylogeny of wood-inhabiting Agaricales. *Mycosphere*, 16(1): 2599-2711
- Dong JH, Gu JY, Zhao CL, 2023. Diversity of wood-decaying fungi in Wenshan Area, Yunnan Province, China. *Mycosystema*, 42(3): 638-662 (in Chinese)
- Dong JH, Li Q, Yuan Q, Luo YX, Zhang XC, Dai YF, Zhou Q, Liu XF, Deng YL, Zhou HM, Akmal M, Zhao CL, 2024. Species diversity, taxonomy, molecular systematics and divergence time of wood-inhabiting fungi in Yunnan-Guizhou Plateau, Asia. *Mycosphere*, 15(1): 1110-1293
- Krah F, Bässler C, Heibl C, Soghigian J, Schaefer H, Hibbett DS, 2018. Evolutionary dynamics of host specialization in wood-decay fungi. *BMC Evolutionary Biology*, 18: 119
- Li JP, Antonín V, Gates G, Jiang L, Li TH, Li Y, Song B, Deng CY, 2022a. Emending *Gymnopus* sect. *Gymnopus* (Agaricales, Omphalotaceae) by including two new species from Southern China. *MycoKeys*, 87: 183-204
- Li JP, Pan MC, Li Y, Deng CY, Wang XM, Zhang BX, Li CT, Li Y, 2022b. Morpho-molecular evidence reveals four novel species of *Gymnopus* (Agaricales, Omphalotaceae) from China. *Journal of Fungi*, 8(4): 398
- Li JP, Song B, Feng Z, Wang J, Deng CY, Yang YH, 2021. A new species of *Gymnopus* sect. *Androsacei* (Omphalotaceae, Agaricales) from China. *Phytotaxa*, 521(1): 1-14
- Li Y, Cao YF, Nakssone K, Liu SL, Huang MR, He SH, 2025. Species diversity, taxonomy, multi-gene phylogeny, and divergence times of Meruliaceae (Polyporales, Basidiomycota). *Mycology*, 16(2): 1-42
- Liu ZB, Liu HG, Vlasák J, Gates GM, Dai YC, Yuan Y, 2025a. Global diversity and phylogeny of Incrustoporiaceae (Polyporales, Basidiomycota) with an emphasis on *Skeletocutis*. *Mycology*, 16(3): 1083-1140
- Liu ZB, Yuan Y, Dai YC, Liu HG, Vlasák J, Zeng GY, He SH, Wu F, 2025b. Global diversity and systematics of Hymenochaetaceae with non-poroid hymenophore. *Fungal Diversity*, 131: 1-97
- Ma HX, Si J, Dai YC, Zhu AH, Cui BK, Fan YG, Yuan Y, He SH, 2022. Diversity of wood-inhabiting macrofungi in Hainan Province, South China. *Mycosystema*, 41: 695-712
- Ma YS, Zhang LR, Chai HX, Xu LH, Hu WJ, Wu F, 2025. Diversity of macrofungi in Shitai County, Anhui Province, Eastern China. *Mycosystema*, 44(11): 250137 (in Chinese)
- Qin GF, Qin WM, Wang HC, Zhao J, Korhonen K, Chen J, Dai YC, Yuan Y, 2025. Phylogeny and species diversity of *Armillaria* in China based on morphological, mating test, and GCPSR criteria. *Mycology*, 16(2): 777-811
- Si J, Li W, Cui BK, Dai YC, 2011. Advances of research on characteristic, molecular biology and applications of laccase from fungi. *Biotechnology Bulletin*, 223: 48-55 (in Chinese)
- Si J, Meng G, Wu Y, Ma HF, Cui BK, Dai YC, 2019. Medium composition optimization, structural characterization, and antioxidant activity of exopolysaccharides from the medicinal mushroom *Ganoderma lingzhi*. *International Journal of Biological Macromolecules*, 124: 1186-1196
- Spirin V, Runnel K, Vlasák J, Viner I, Barrett MD, Ryvarden L, Bernicchia A, Rivoire B, Ainsworth AM, Grebenc T,

- Cartabia M, Niemelä T, Larsson KH, Miettinen O, 2024. The genus *Fomitopsis* (Polyporales, Basidiomycota) reconsidered. *Studies in Mycology*, 107: 149-249
- Sun BY, Wu YD, Yuan Y, 2023. Species diversity and floral characteristics of wood-inhabiting macrofungi growing on *Quercus mongolica* in northeast China. *Mycosystema*, 42(1): 278-289 (in Chinese)
- Tai FL, 1979. *Sylloge fungorum sinicorum*. Science Press, Beijing. 1-1527 (in Chinese)
- Wang CG, Wu YD, Zhang X, Dai YC, Li ZH, Yuan Y, 2025. Studies in phylogeny and divergence times of Irpicaceae and Meripilaceae (Polyporales, Basidiomycota), with an emphasis on *Ceriporia* and *Meripilus* including ten new species. *IMA Fungus*, 16: e161336
- Wang J, Liu DM, Zhang J, Wang M, Deng CY, Wen TC, 2024. Macrofungal diversity and its characteristics in the western priority area of Wuling Mountains. *Mycosystema*, 43(3): 230262 (in Chinese)
- Wang K, Chen SL, Dai YC, Jia ZF, Li TH, Liu TZ, Phurbu D, Mamut R, Sun GY, Bau T, Wei SL, Yang ZL, Yuan HS, Zhang XG, Cai L, 2021. Overview of China's nomenclature novelties of fungi in the new century (2000–2020). *Mycosystema*, 40: 822-833 (in Chinese)
- Wang K, Du Z, Guo YB, Liu TZ, Xie ML, Zhao MJ, Liu DM, Li GJ, Wei TZ, 2024. Diversity of macrofungi in Taihang Mountains of Beijing and Hebei, North China. *Mycosystema*, 43(3): 230311 (in Chinese)
- Wang W, Yuan TQ, Cui BK, Dai YC, 2013. Investigating lignin and hemicellulose in white rot fungus-pretreated wood that affect enzymatic hydrolysis. *Bioresource Technology*, 134: 381-385
- Wang Y, Liu S, Ji X, Sun YF, Song CG, Liu DM, Cui BK, 2021. Species diversity and floristic composition of polypores in the southern parts of Hengduan Mountains. *Mycosystema*, 40(10): 2599-2619 (in Chinese)
- Wu F, Zhou LW, Vlasák J, Dai YC, 2022. Global diversity and systematics of Hymenochaetaceae with poroid hymenophore. *Fungal Diversity*, 113: 1-192
- Wu F, Zhou LW, Yang ZL, Bau T, Li TH, Dai YC, 2019. Resource diversity of Chinese macrofungi: edible, medicinal and poisonous species. *Fungal Diversity*, 98: 1-76
- Wu SH, Dai YC, 2020. Species clarification of the medicinal fungus *Sanguang*. *Mycosystema*, 39(5): 781-794 (in Chinese)
- Xu TM, Wu DM, Gao N, Liu S, Sun YF, Cui BK, 2025. Species diversity, taxonomic classification and ecological habits of polypore fungi in China. *Mycology*, 16(2): 419-544
- Yang YS, Wang WK, Deng CY, Han YF, 2025. Diversity of macrofungi in Guizhou Fuyan Nature Reserve. *Mycosystema*, 44(1): 240151 (in Chinese)
- Yao LB, Luo LH, Jiang L, 2018. Morphological identification and molecular identification of ectomycorrhizal fungi in the *Chimonobambusa utilis* forest. *Journal of Guizhou University (Natural Sciences)*, 35(2): 41-47 (in Chinese)
- Yuan HS, Wei YL, Qin WM, Zhou LW, 2009. Lignicolous fungi of eastern Lesser Hinggan Mts. of Heilongjiang Province. *Mycosystema*, 28(1): 36-43 (in Chinese)
- Yuan Y, Bian LS, Wu YD, Chen JJ, Wu F, Liu HG, Zeng GY, Dai YC, 2023. Species diversity of pathogenic wood-rotting fungi (Agaricomycetes, Basidiomycota) in China. *Mycology*, 14(3): 204-226
- Yuan Y, Chen JJ, Korhonen K, Martin F, Dai YC, 2021. An updated global species diversity and phylogeny in the forest pathogenic genus *Heterobasidion* (Basidiomycota, Russulales). *Frontiers in Microbiology*, 11: 596393
- Zhang WQ, Yao QZ, 2019. Morpho-anatomical characterization and phylogenetic analysis of five *Tomentella* ectomycorrhizae from Leigong Mountain, Guizhou. *International Journal of Agriculture and Biology*, 21(4): 853-858
- Zhao BX, Yang YS, Han YF, Bai XM, Zou X, Wang ZJ, Dong CB, 2023. Preliminary investigation of large fungal resources in Renhuai City. *Journal of Mountain Agriculture and Biology*, 42(6): 72-79 (in Chinese)
- Zhao H, Cui YJ, Guan QX, Wang K, Zhuang L, Zeng GY, Wei YL, Wu F, Yuan HS, 2025. Global species diversity and distribution patterns within the order Hymenochaetales (Agaricomycetes, Basidiomycota). *Mycosphere*, 16(1): 3257-3280
- Zhao H, Wu YD, Yang ZR, Liu HG, Wu F, Dai YC, 2024. Polypore funga and species diversity in tropical forest ecosystems of Africa, America and Asia, and a comparison with temperate and boreal regions of the Northern Hemisphere. *Forest Ecosystems*, 11: 100200
- Zhou LJ, Geng BB, Zhang GL, Zhang YH, Tian XM, 2023. Diversity and resources of wood-rotting fungi in Shandong Province. *Mycosystema*, 42(12): 2331-2355 (in Chinese)
- Zhu AH, Zhang QY, Luo KY, He SH, Ma HX, 2024. Diversity of wood-inhabiting macrofungi in tropical areas of Yunnan Province, China. *Mycosystema*, 43(3): 230265 (in Chinese)
- Zhu YQ, Li XL, Zhao DX, Wei YL, Yuan HS, 2024. Four new species of *Tomentella* (Thelephorales, Basidiomycota) from subtropical forests in southwestern China. *Journal of Fungi*, 10: 440

[附中文参考文献]

- 边禄森, 安琪, 王兴红, 陈淋, 韩美玲, 2023. 太行山木生大型真菌多样性. *菌物学报*, 42(11): 2188-2202
- 戴芳澜, 1979. *中国真菌总汇*. 北京: 科学出版社. 1-1527
- 戴玉成, 杨祝良, 崔宝凯, 吴刚, 袁海生, 周丽伟, 何双辉, 葛再伟, 吴芳, 魏玉莲, 员瑗, 司静, 2021. 中

- 国森林大型真菌重要类群多样性和系统学研究. 菌物学报, 40: 770-805
- 戴玉成, 庄剑云, 2010. 中国菌物已知种数. 菌物学报, 29: 625-628
- 邓春英, 康超, 王晶, 2022. 中国斗篷山大型真菌. 贵阳: 贵州科技出版社. 1-140
- 邓春英, 王晶, 王万坤, 向准, 尚空, 2025. 梵净山大型真菌图鉴. 贵阳: 贵州科技出版社. 1-313
- 董军红, 顾金莹, 赵长林, 2023. 云南省文山地区木腐菌真菌资源多样性研究. 菌物学报, 42(3): 638-662
- 马玉硕, 张丽荣, 柴慧霞, 徐立宏, 胡文静, 吴芳, 2025. 安徽省石台县大型真菌多样性. 菌物学报, 44(11): 250137
- 司静, 李伟, 崔宝凯, 戴玉成, 2011. 真菌漆酶性质、分子生物学及其应用研究进展. 生物技术通报, 223: 48-55
- 孙渤洋, 武英达, 员瑗, 2023. 东北地区蒙古栎木生大型真菌物种多样性和区系特征. 菌物学报, 42(1): 278-289
- 王晶, 刘冬梅, 张菁, 王敏, 邓春英, 文庭池, 2024. 武陵山西部优先区大型真菌多样性及其特点. 菌物学报, 43(3): 230262
- 王科, 陈双林, 戴玉成, 贾泽峰, 李泰辉, 刘铁志, 普布多吉, 热衣木·马木提, 孙广宇, 图力古尔, 魏生龙, 杨祝良, 袁海生, 张修国, 蔡磊, 2021. 新世纪中国菌物新名称发表概况(2000-2020). 菌物学报, 40: 822-833
- 王科, 杜卓, 郭耀宾, 刘铁志, 谢孟乐, 赵明君, 刘冬梅, 李国杰, 魏铁铮, 2024. 京冀太行山区大型真菌资源多样性. 菌物学报, 43(3): 230311
- 王妍, 刘顺, 冀星, 孙一翡, 宋长阁, 刘冬梅, 崔宝凯, 2021. 横断山区南段多孔菌的多样性与区系成分分析. 菌物学报, 40(10): 2599-2619
- 吴声华, 戴玉成, 2020. 药用真菌桑黄的种类解析. 菌物学报, 39(5): 781-794
- 杨云深, 王万坤, 邓春英, 韩燕峰, 2025. 贵州湄潭自然保护区大型真菌物种多样性. 菌物学报, 44(1): 240151
- 姚刘斌, 骆礼华, 江龙, 2018. 金佛山方竹林下大型真菌的鉴定. 贵州大学学报(自然科学版), 35(2): 41-47
- 袁海生, 魏玉莲, 秦问敏, 周丽伟, 2009. 黑龙江小兴安岭东部的木生真菌. 菌物学报, 28(1): 36-43
- 赵本学, 杨云深, 韩燕峰, 白旭明, 邹晓, 王志杰, 董醇波, 2023. 仁怀市大型真菌初步调查. 山地农业生物学报, 42(6): 72-79
- 周林江, 耿彬彬, 张国利, 张英昊, 田雪梅, 2023. 山东省木材腐朽真菌多样性和资源. 菌物学报, 42(12): 2331-2355
- 朱安红, 张秋月, 罗凯月, 何双辉, 马海霞, 2024. 中国云南省热带地区大型木生真菌多样性. 菌物学报, 43(3): 230265