

Polypores (Basidiomycetes) from Henan Province in central China

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Nearly 700 specimens of polypores were collected in three nature reserves of Henan Province, central China. Out of which, 55 genera and 130 species were identified and 105 species were new to the area. *Inonotus henanensis* Juan Li & Y.C. Dai is described and illustrated as new.

Keywords: Basidiomycota, polypores, *Inonotus henanensis*, China, taxonomy

Introduction

Henan Province is situated in central China between 31° 23'–36° 22' N and 110° 21'–116° 39' E. Most of the province is farmland, however, some forests occur in the mountains in south and southwest of the province. Several nature reserves were established in these mountains during 80's of last century. Wood-inhabiting fungi were poorly known in Henan Province, and only 30 species of polypores were recorded previously (Teng 1996, Zhao 1998, Mao 2000, Zhang & Dai 2005). Two field trips were made in Baotianman, Shirensan and Jigongshan nature reserves (Fig. 1) in Henan Province during 2005 and 2006, and almost 700 specimens of polypores were collected during these trips, among them, 130 species and 55 genera were identified. The results are given in the following together with an illustrated description of a new species.

The vegetations of the studied area are warm temperate forests. The main gymnosperm trees are *Pinus massoniana* (Pinaceae) and *Cunninghamia lanceolata* (Taxodiaceae), while the common angiosperm genera are *Quercus* (Fagaceae), *Acer* (Aceraceae), *Populus* (Salicaceae), *Juglans* (Juglandaceae), *Betula* (Betulaceae), *Platycarya* (Juglandaceae), *Liquidambar* (Hamamelidaceae) etc.

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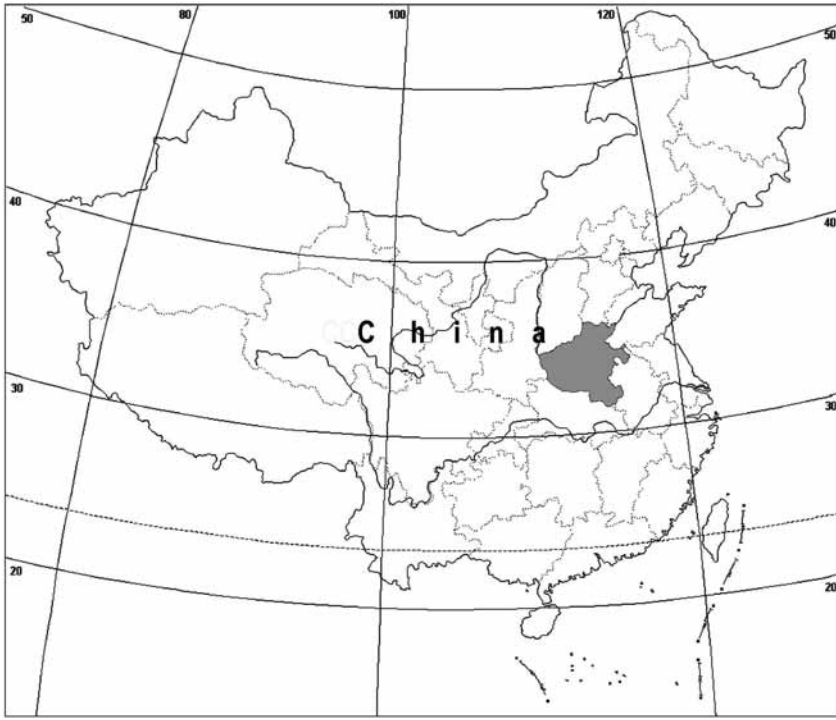


Fig.1. Locations of the research area

Materials and Methods

The present study is based on materials collected by the authors, and the specimens are deposited at the herbarium of Institute of Applied Ecology, Chinese Academy of Sciences (IFP). Some duplicates are preserved at the mycological herbarium of the Chinese Academy of Sciences (HMAS).

The microscopic routine used in the study is as presented by Dai and Niemelä (1997). In the text, IKI = Melzer's reagent, KOH = 5 % potassium hydroxide, CB = Cotton Blue, CB = acyanophilous, IKI = inamyloid and indextrinoid. In presenting the variation in the size of the spores, 5 % of the measurements were excluded from each end of the range, and are given in parentheses. In the text the following abbreviations are used: L = mean spore length (arithmetical mean of all spores), W = mean spore width (arithmetical mean of all spores), Q = variation in the L/W ratios between the specimens studied (quotient of the mean spore length and the mean spore width), n = number of spores measured from given number of specimens. The width of a seta was measured at the thickest part. Sections were studied at magnification up to $\times 1000$ by using a Nikon Eclipse

E600 microscope and phase contrast illumination. Drawings were made with the aid of a drawing tube. Special colour terms are from Petersen (1996) and Anonymous (1969).

Results

Checklist

An alphabetical list (according to genera) of polypores found in this investigation is given below. The authors of scientific names are according to the second edition of Authors of Fungal Names (<http://www.indexfungorum.org/AuthorsOfFungalNames.htm>). Substrate and collecting data are supplied after the name of each species. The concept of polypores circumscribed here is in a wide sense, including the Polyporaceae, Ganodermataceae and poroid species in the Hymenochaetales and Corticiales.

Species printed in bold face are new to Henan Province; the name marked with an asterisk (*) is new to science.

Albatrellus cristatus (Schaeff.) Kotl. & Pouzar, ground in angiosperm forest, *Li* 890 & 998

Albatrellus ovinus (Schaeff.) Kotl. & Pouzar, ground in mixed forest, *Li* 958

Antrodia albida (Fr.:Fr.) Donk, fallen angiosperm trunk, *Li* 993; fallen angiosperm branch, *Li* 138, 183, 392 & 820; fallen angiosperm twig, *Li* 146; living tree of *Quercus*, *Li* 909; fallen trunk of *Quercus*, *Li* 1049

Antrodia gossypium (Speg.) Ryvarde, fallen trunk of *Pinus*, *Li* 404; rotten wood of *Pinus*, *Li* 384; stump of *Pinus*, *Li* 388, 390 & 395

Antrodia hingganensis Y.C. Dai & Penttilä, fallen twig of *Pinus*, *Li* 1140

Antrodia leucaena Y.C. Dai & Niemelä, rotten angiosperm wood, *Li* 838

Antrodia malicola (Berk. & M.A. Curtis) Donk, dead angiosperm tree, *Li* 318 & 453; fallen angiosperm trunk, *Li* 81, 156, 356, 844, 1051 & 1120; fallen angiosperm branch, *Li* 268, 270, 403, 406, 470, 852 & 1173; fallen angiosperm twig, *Li* 58 & 272; rotten angiosperm wood, *Li* 841; angiosperm stump, *Li* 368 & 1003

Antrodia pulvinascens (Pilát) Niemelä, fallen angiosperm trunk, *Li* 1175b

Antrodia serialis (Fr.) Donk, rotten wood, *Li* 1148

Antrodia vaillantii (DC.:Fr.) Ryvarde, fallen angiosperm branch, *Li* 897

- Antrodiella albocinnamomea*** Y.C. Dai & Niemelä, fallen angiosperm branch, *Li* 118; rotten angiosperm wood, *Li* 1118; fallen trunk of *Pterocarya*, *Li* 158
- Antrodiella brunneimontana*** (Corner) T. Hatt., rotten angiosperm wood, *Li* 900
- Antrodiella romellii*** (Donk) Niemelä *sensu lato*, fallen angiosperm branch, *Li* 955; rotten angiosperm wood, *Li* 1048
- Antrodiella semisupina*** (Berk. & M.A. Curtis) Ryvar den *sensu lato*, fallen angiosperm branch, *Li* 894 & 949
- Antrodiella zonata*** (Berk.) Ryvar den, fallen angiosperm trunk, *Li* 228 & 964; fallen angiosperm branch, *Li* 5; angiosperm stump, *Li* 261
- Aurantiporus fissilis*** (Berk. & M.A. Curtis) H. Jahn, living tree of *Quercus*, *Li* 896
- Bjerkandera adusta*** (Willd.:Fr.) P. Karst., fallen angiosperm branch, *Li* 159 & 913; rotten angiosperm wood, *Li* 962; angiosperm stump, *Li* 1114
- Bjerkandera fumosa*** (Pers.:Fr.) P. Karst., fallen angiosperm trunk, *Li* 209; fallen angiosperm branch, *Li* 204
- Bondarzewia berkeleyi*** (Fr.) Bondartsev & Singer, root of *Quercus*, *Li* 1097 & 1108
- Ceriporia reticulata*** (Hoffm.) Domański, fallen angiosperm trunk, *Li* 1045
- Ceriporia viridans*** (Berk. & Broome) Donk, fallen angiosperm trunk, *Li* 941, 991, 1010, 1013, 1046 & 1115; fallen angiosperm branch, *Li* 139 & 947; rotten angiosperm wood, *Li* 996, 1011 & 1047; rotten wood of *Pinus*, *Li* 1001 & 1054; rotten wood of *Quercus*, *Li* 968
- Ceriporiopsis gilvescens*** (Bres.) Domański, fallen angiosperm branch, *Li* 987
- Cerrena unicolor*** (Bull.:Fr.) Murrill, dead tree of *Acer*, *Li* 830; fallen angiosperm branch, *Li* 433
- Coltricia cinnamomea*** (Jack.) Murrill, ground in mixed forest, *Li* 412, 840, 957 & 959
- Corioloopsis strumosa*** (Fr.:Fr.) Ryvar den, fallen angiosperm trunk, *Li* 73 & 88; fallen angiosperm branch, *Li* 293 & 316; angiosperm stump, *Li* 373 & 427; rotten angiosperm wood, *Li* 31; fallen trunk of *Quercus*, *Li* 59; living tree of *Ziziphus*, *Li* 1174
- Cyclomyces xeranticus*** (Berk.) Y.C. Dai & Niemelä, fallen angiosperm trunk, *Li* 155; angiosperm stump, *Li* 323; living tree of *Quercus*, *Li* 822; stump of *Quercus*, *Li* 965
- Daedalea dickinsii*** Yasuda, fallen angiosperm trunk, *Li* 843, 974 & 1012; living tree of *Quercus*, *Li* 854
- Daedaleopsis confragosa*** (Bolton:Fr.) J. Schröt., fallen angiosperm trunk, *Li* 108; root of living angiosperm tree, *Li* 1138

- Daedaleopsis tricolor* (Bull.:Mérat) Bondartsev & Singer, dead angiosperm tree, *Li* 826; fallen angiosperm branch, *Li* 295 & 1004; fallen branch of *Cerasus*, *Li* 32; dead tree of *Salix*, *Li* 70
- Datronia mollis* (Sommerf.) Donk, dead tree of *Acer*, *Li* 56; dead angiosperm tree, *Li* 823; fallen angiosperm branch, *Li* 176
- Datronia stereoides*** (Fr.) Ryvarden, fallen angiosperm branch, *Li* 137 & 263
- Diplomitoporus flavescens*** (Bres.) Domański, dead branch of living *Pinus*, *Li* 411
- Diplomitoporus lindbladii*** (Berk.) Gilb. & Ryvarden, fallen angiosperm branch, *Li* 160; rotten gymnosperm wood, *Li* 111 & 912; fallen trunk of *Pinus*, *Li* 8, 42 & 901; rotten wood of *Pinus*, *Li* 110 & 883
- Fomes fomentarius* (L.:Fr.) Fr., angiosperm stump, *Li* 1062; dead tree of *Pinus*, *Li* 828
- Fomitiporia punctata*** (P. Karst.) Murrill, dead angiosperm tree, *Li* 65 & 80; fallen angiosperm trunk, *Li* 72; angiosperm stump, *Li* 256; living tree of *Quercus*, *Li* 375; stump of *Quercus*, *Li* 1168; living tree of *Robinia*, *Li* 27 & 136
- Fomitopsis feei*** (Fr.) Kreisel, fallen angiosperm trunk, *Li* 999 & 1065; rotten angiosperm wood, *Li* 946
- Fomitopsis rosea*** (Alb. & Schwein.:Fr.) P. Karst., stump of *Cunninghamia*, *Li* 69
- Funalia cervina*** (Schwein.) Y.C. Dai, fallen angiosperm trunk, *Li* 188; fallen angiosperm branch, *Li* 951; angiosperm stump, *Li* 67
- Funalia trogii*** (Berk.) Bondartsev & Singer, fallen angiosperm trunk, *Li* 200 & 255
- Ganoderma lipsiense* (Batsch) G.F. Atk., dead angiosperm tree, *Li* 116; fallen angiosperm trunk, *Li* 64 & 415; fallen angiosperm branch, *Li* 24 & 362; angiosperm stump, *Li* 117; fallen trunk of *Pinus*, *Li* 878; stump of *Quercus*, *Li* 304
- Ganoderma lucidum* (W. Curtis.:Fr.) P. Karst., ground in angiosperm forest, *Li* 100 & 245
- Gloeoporus dichrous*** (Fr.:Fr.) Bres., dead angiosperm tree, *Li* 74 & 78; fallen angiosperm twig, *Li* 1052; rotten angiosperm wood, *Li* 324; angiosperm stump, *Li* 450; fallen trunk of *Pinus*, *Li* 51
- Hapalopilus rutilans*** (Pers.:Fr.) P. Karst., fallen angiosperm branch, *Li* 945 & 1103; dead branch of living *Quercus*, *Li* 889
- Haploporus latisporus*** Juan Li & Y.C. Dai, fallen branch of *Pinus*, *Li* 120; fallen twig of *Pinus*, *Li* 131
- Haploporus odorus*** (Sommerf.) Bondartsev & Singer, dead angiosperm tree, *Li* 994
- Haploporus papyraceus*** (Schwein.) Y.C. Dai & Niemelä, fallen angiosperm twig, *Li* 126

- Heterobasidion insulare** (Murrill) Ryvarden *sensu lato*, stump of *Pinus*, *Li* 191, 225 & 234
- Hyphodontia latitans** (Bourdot & Galzin) Ginns & M.N.L. Lefebvre, fallen angiosperm branch, *Li* 167; rotten angiosperm wood, *Li* 125, 143 & 211; living tree of *Cunninghamia*, *Li* 114; fallen trunk of *Pinus*, *Li* 1135
- Inonotus cuticularis** (Bull.: Fr.) P. Karst., angiosperm stump, *Li* 247; stump of *Quercus*, *Li* 1134 & 1163
- * **Inonotus henanensis** Juan Li & Y.C. Dai, dead angiosperm tree, *Li* 345; living tree of *Quercus*, *Li* 364 & 452; fallen branch of *Quercus*, *Li* 246 & 303
- Inonotus radiatus** (Sowerby:Fr.) P. Karst., angiosperm stump, *Li* 258; living tree of *Quercus*, *Li* 349
- Irpex lacteus** (Fr.:Fr.) Fr. *sensu lato*, living tree of *Amygdalus*, *Li* 149; fallen angiosperm trunk, *Li* 224; fallen angiosperm branch, *Li* 151, 291, 446, 908 & 1037; fallen angiosperm twig, *Li* 105; living tree of *Cerasus* *Li* 178; twig of *Cerasus*, *Li* 22; fallen branch of *Pinus*, *Li* 1044; fallen twig of *Pterocarya*, *Li* 148; living tree of *Robinia*, *Li* 222
- Junghuhnia collabens** (Fr.) Ryvarden, rotten wood, *Li* 986
- Junghuhnia nitida** (Pers.:Fr.) Ryvarden, rotten angiosperm wood, *Li* 1100, 1107 & 1110
- Laetiporus sulphureus** (Bull.:Fr.) Murrill, living tree of *Quercus*, *Li* 1131; fallen trunk of *Quercus*, *Li* 978
- Lenzites betulinus** (L.:Fr.) Fr., fallen angiosperm trunk, *Li* 12 & 271; fallen angiosperm branch, *Li* 396 & 409; angiosperm stump, *Li* 97 & 1014; stump of *Quercus*, *Li* 354 & 432
- Leucophellinus irpicoides** (Pilát) Bondartsev & Singer, fallen angiosperm trunk, *Li* 899
- Megasporoporia subcavernulosa** Y.C. Dai & Sheng H. Wu, fallen angiosperm branch, *Li* 893; fallen angiosperm twig, *Li* 434
- Microporus vernicipes** (Berk.) Kuntze, fallen angiosperm branch, *Li* 1113
- Nigroporus vinosus** (Berk.) Murrill, stump of *Pinus*, *Li* 232
- Oligoporus obductus** (Berk.) Gilb. & Ryvarden, fallen angiosperm trunk, *Li* 153
- Oxyporus corticola** (Fr.) Ryvarden, fallen angiosperm trunk, *Li* 377, 858 & 1106; rotten angiosperm wood, *Li* 361; dead tree of *Quercus*, *Li* 839
- Oxyporus latemarginatus** (Dur. & Mont. ex Mont.) Donk, stump of *Quercus*, *Li* 1171
- Oxyporus populinus** (Schumach.:Fr.) Donk, living tree of *Acer*, *Li* 847 & 1069; dead angiosperm tree, *Li* 903; fallen angiosperm trunk, *Li* 966, 982, 983 & 1005; root of *Firmiana*, *Li* 135; living tree of *Pterocarya*, *Li* 145; dead tree of *Quercus*, *Li* 457 & 985

- Oxyporus subulatus** Ryvarden, stump of *Quercus*, Li 283, 289 & 300
- Perenniporia cf. corticola** (Corner) C. Decock, fallen angiosperm trunk, Li 447; fallen angiosperm branch, Li 418 & 963; angiosperm stump, Li 413
- Perenniporia fraxinea** (Bull.:Fr) Ryvarden, angiosperm stump, Li 128; root of *Pterocarya*, Li 201; root of *Robinia*, Li 130 & 134
- Perenniporia minutissima** (Yasuda) T. Hatt. & Ryvarden, angiosperm stump, Li 378 & 1147; angiosperm root, Li 61 & 193
- Perenniporia medulla-panis** (Jacq.:Fr.) Donk, fallen angiosperm branch, Li 152; dead bamboo, Li 127
- Perenniporia narymica** (Pilát) Pouzar, fallen angiosperm trunk, Li 195; fallen trunk of *Pinus*, Li 192; rotten wood of *Pinus*, Li 1039, 1064 & 1070; dead tree of *Quercus*, Li 1061; fallen trunk of *Quercus*, Li 45; rotten wood, Li 1057
- Perenniporia ochroleuca** (Berk.) Ryvarden, fallen angiosperm trunk, Li 441; angiosperm stump, Li 154; dead branch of living *Quercus*, Li 1041
- Perenniporia subacida* (Peck) Donk, fallen angiosperm trunk, Li 990; angiosperm stump, Li 1040; fallen trunk of *Pinus*, Li 196; fallen trunk of *Quercus*, Li 357
- Perenniporia tenuis** (Schw.) Ryvarden var. **tenuis**, fallen angiosperm trunk, Li 911; rotten angiosperm wood, Li 1056; angiosperm stump, Li 203; living tree of *Quercus*, Li 366
- Phellinus chinensis** Pilát, living angiosperm tree, Li 824; fallen angiosperm trunk, Li 1104; fallen angiosperm branch, Li 1098; angiosperm stump, Li 410
- Phellinus conchatus* (Pers.:Fr.) Quél., dead angiosperm tree, Li 851 & 914; fallen angiosperm trunk, Li 1055; dead tree of *Quercus*, Li 979
- Phellinus contiguus** (Pers.:Fr.) Pat., angiosperm root, Li 210
- Phellinus ferreus** (Pers.) Bourdot & Galzin, fallen angiosperm trunk, Li 1060
- Phellinus gilvus* (Schwein.:Fr.) Pat., living tree of *Amygdalus*, Li 30; dead angiosperm tree, Li 36 & 40; fallen angiosperm trunk, Li 94, 221 & 408; fallen angiosperm branch, Li 169, 239, 243, 317, 383, 419, 971, 972, 1101 & 1101; angiosperm stump, Li 428; living tree of *Quercus*, Li 855; fallen trunk of *Quercus*, Li 359
- Phellinus inermis** (Ellis & Everhart) G. Cunn., fallen angiosperm branch, Li 166
- Phellinus laevigatus** (P. Karst.) Bourdot & Galzin, dead angiosperm tree, Li 864
- Phellinus pini** (Brot.:Fr.) A. Ames, living tree of *Pinus*, Li 836
- Phellinus tuberculatus** (Baumg.) Niemelä, dead angiosperm tree, Li 389

- Phellinus vaninii** Ljub., living angiosperm tree, *Li* 417; fallen angiosperm trunk, *Li* 244, 269, 445, 454 & 1139; dead angiosperm tree, *Li* 1149
- Phylloporia ribis** (Schumach.:Fr.) Ryvarden, living tree of *Fontanesia*, *Li* 194 & 199
- Physisporinus xylostromatoides** (Bres.) Y.C. Dai, fallen angiosperm branch, *Li* 1170
- Piptoporus soloniensis** (Dubois:Fr.) Pilát, angiosperm stump, *Li* 129, 235 & 1137; angiosperm root, *Li* 372; root of *Quercus*, *Li* 1132
- Polyporus admirabilis** Peck, fallen angiosperm branch, *Li* 281
- Polyporus arcularius* Batsch:Fr., fallen angiosperm branch, *Li* 17 & 1111
- Polyporus leprieurii** Mont., fallen angiosperm trunk, *Li* 846 & 942; fallen angiosperm branch, *Li* 967 & 1002
- Polyporus melanopus* (Pers.:Fr.) Fr., fallen angiosperm branch, *Li* 1007
- Polyporus mori* (Pollini:Fr.) Fr., living angiosperm tree, *Li* 850; fallen angiosperm branch, *Li* 119, 253, 351, 398, 448 & 1116; angiosperm twig, *Li* 77, 175, 306 & 437; fallen branch of *Quercus*, *Li* 956
- Polyporus tenuiculus** (Beauv.) Fr., fallen angiosperm branch, *Li* 1008
- Polyporus varius** Pers.: Fr., living angiosperm tree, *Li* 240; fallen angiosperm trunk, *Li* 907; fallen angiosperm branch, *Li* 347 & 423
- Postia alni** Niemelä & Vampola, fallen angiosperm trunk, *Li* 216, 876, 910 & 954; angiosperm twig, *Li* 83 & 302; rotten angiosperm wood, *Li* 21 & 819; dead shrub, *Li* 33
- Postia caesia** (Schrad.:Fr.) P. Karst., fallen branch of *Pinus*, *Li* 421
- Postia ceriflua** (Berk. & M.A. Curtis) Jülich, fallen angiosperm trunk, *Li* 944; fallen angiosperm branch, *Li* 465
- Postia lactea** (Fr.:Fr.) P. Karst., fallen angiosperm trunk, *Li* 1006; fallen branch of *Pinus*, *Li* 439
- Postia leucomallella** (Murrill) Jülich, dead angiosperm tree, *Li* 842; fallen angiosperm trunk, *Li* 1058
- Postia tephroleuca** (Fr.) Jülich, living angiosperm tree, *Li* 827; dead angiosperm tree, *Li* 238; fallen angiosperm trunk, *Li* 89, 109 & 995; fallen angiosperm branch, *Li* 124; fallen gymnosperm trunk, *Li* 236; fallen branch of *Larix*, *Li* 918; fallen trunk of *Padus*, *Li* 79; dead tree of *Pinus*, *Li* 16; fallen trunk of *Quercus*, *Li* 871
- Protomerulius caryae** (Schwein.) Ryvarden, dead tree of *Acer*, *Li* 950 & 961; rotten angiosperm wood, *Li* 104 & 866
- Pycnoporus sanguineus* (L.:Fr.) Murrill, fallen angiosperm branch, *Li* 90 & 198; fallen angiosperm twig, *Li* 248; fallen trunk of *Pinus*, *Li* 71; fallen trunk of *Quercus*, *Li* 1105
- Pyrrhoderma scaura** (Lloyd) Ryvarden, rotten angiosperm wood, *Li* 466; angiosperm stump, *Li* 1036; stump of *Quercus*, *Li* 1133

- Rigidoporus microporus** (Fr.) Overeem, angiosperm stump, *Li* 393; stump of *Quercus*, *Li* 1146 & 1179
- Schizopora flavipora** (Cooke) Ryvardeen, living tree of *Amygdalus*, *Li* 121; living angiosperm tree, *Li* 18, 39, 174, 184, 186, 190 & 443; dead angiosperm tree, *Li* 68, 214 & 259; fallen angiosperm trunk, *Li* 6, 60, 189, 207, 322, 332, 335, 336, 370, 464 & 431; fallen angiosperm branch, *Li* 3, 4, 14, 99, 168, 172, 177, 181, 241, 264, 266, 278, 279, 296, 310, 333, 369, 376, 425, 456, 463, 831 & 977; angiosperm root, *Li* 19; fallen angiosperm twig, *Li* 20, 115, 147, 284 & 338; rotten angiosperm wood, *Li* 35 & 829; living tree of *Castanea*, *Li* 37 & 44; dead tree of *Castanea*, *Li* 53; stump of *Pinus*, *Li* 185; dead tree of *Pterocarya*, *Li* 171; fallen branch of *Pterocarya*, *Li* 162; living tree of *Quercus*, *Li* 367; fallen branch of *Quercus*, *Li* 328 & 444; living tree of *Robinia*, *Li* 19
- Schizopora paradoxa** (Schrad.:Fr.) Donk, stump of *Quercus*, *Li* 96 & 1172
- Schizopora radula** (Pers.:Fr.) Hallenb., fallen angiosperm trunk, *Li* 218; fallen angiosperm branch, *Li* 297 & 997; angiosperm stump, *Li* 436; dead tree of *Pinus*, *Li* 48
- Skeletocutis carneogrisea** A. David, fallen trunk of *Pinus*, *Li* 231 & 233; fallen branch of *Pinus*, *Li* 84 & 101
- Skeletocutis chrysellia** Niemelä, fallen trunk of *Pinus*, *Li* 230c; rotten wood of *Pinus*, *Li* 1136
- Skeletocutis kuehneri** A. David, fallen gymnosperm trunk, *Li* 85; fallen trunk of *Pinus*, *Li* 208, 203b & 414
- Skeletocutis lenis** (P. Karst.) Niemelä, rotten wood of *Pinus*, *Li* 891 & 1145
- Skeletocutis nivea** (Jungh.) Jean Keller, fallen angiosperm trunk, *Li* 92 & 875; fallen angiosperm branch, *Li* 57, 440, 948 & 1102; fallen angiosperm twig, *Li* 160, 305, 468 & 953; angiosperm stump, *Li* 348 & 1119; fallen branch of *Padus*, *Li* 107; fallen branch of *Quercus*, *Li* 1177
- Skeletocutis vulgaris** (Fr.) Niemelä & Y.C. Dai, fallen trunk of *Pinus*, *Li* 230a; fallen branch of *Pinus*, *Li* 202; rotten wood of *Pinus*, *Li* 50, 892 & 952; rotten wood, *Li* 43
- Spongipellis spumeus** (Sowerby:Fr.) Pat., living tree of *Quercus*, *Li* 350, 1142 & 1176; dead tree of *Quercus*, *Li* 106; stump of *Quercus*, *Li* 1164
- Stromatoscypha fimbriata** (Pers.:Fr.) Donk, fallen angiosperm trunk, *Li* 980; fallen angiosperm branch, *Li* 1000; rotten angiosperm wood, *Li* 252, 287, 1099 & 1099; rotten wood of *Quercus*, *Li* 352
- Trametes gibbosa** (Pers.:Fr.) Fr., fallen angiosperm trunk, *Li* 62, 257, 265, 848 & 1066; fallen angiosperm branch, *Li* 337; fallen trunk of *Quercus*, *Li* 969; stump of *Quercus*, *Li* 1130

- Trametes hirsuta* (Wulfen:Fr.) Pilát, fallen angiosperm trunk, *Li* 113 & 360; fallen angiosperm branch, *Li* 82, 123, 213, 277, 290, 325, 885 & 1109; fallen angiosperm twig, *Li* 312; dead tree of *Quercus*, *Li* 353; dead branch of living *Quercus*, *Li* 52
- Trametes lactinea* (Berk.) Sacc., angiosperm stump, *Li* 1162; fallen trunk of *Quercus*, *Li* 1063
- Trametes Ijubarskyi* Pilát, fallen angiosperm branch, *Li* 286
- Trametes ochracea* (Pers.) Gilb. & Ryvarden, fallen angiosperm trunk, *Li* 346; fallen angiosperm branch, *Li* 344
- Trametes pubescens* (Schumach.:Fr.) Pilát, fallen angiosperm branch, *Li* 197 & 358
- Trametes suaveolens* (Fr.:Fr.) Fr., fallen angiosperm branch, *Li* 340
- Trametes versicolor* (L.:Fr.) Pilát, living angiosperm tree, *Li* 55; dead angiosperm tree, *Li* 849; fallen angiosperm trunk, *Li* 294 & 430a; fallen angiosperm branch, *Li* 2, 825 & 1015; rotten angiosperm wood, *Li* 1067
- Trichaptum abietinum* (Pers.:Fr.) Ryvarden, fallen branch of *Larix*, *Li* 34; fallen trunk of *Pinus*, *Li* 387 & 835
- Trichaptum byssogenum* (Jungh.) Ryvarden, fallen angiosperm trunk, *Li* 455; fallen angiosperm branch, *Li* 250; fallen trunk of *Quercus*, *Li* 76 & 407
- Trichaptum pargamenum* (Fr.) G. Cunn., dead angiosperm tree, *Li* 7; fallen angiosperm branch, *Li* 1 & 327
- Tyromyces chioneus* (Fr.) P. Karst., fallen angiosperm trunk, *Li* 988 & 1059; fallen angiosperm branch, *Li* 205 & 821
- Tyromyces kmetii* (Bres.) Bondartsev & Singer, fallen angiosperm trunk, *Li* 970, 984, 992 & 1112; fallen angiosperm branch, *Li* 355; fallen angiosperm twig, *Li* 386; fallen branch of *Quercus*, *Li* 1178
- Wrightoporia gillesii* A. David & Rajchenb., fallen angiosperm trunk, *Li* 416; fallen angiosperm branch, *Li* 451; fallen angiosperm twig, *Li* 1141; rotten angiosperm wood, *Li* 254 & 458; angiosperm stump, *Li* 251; stump of *Quercus*, *Li* 1151
- Wrightoporia luteola* B.K. Cui & Y.C. Dai, dead angiosperm tree, *Li* 405; fallen angiosperm branch, *Li* 321 & 1144; rotten angiosperm wood, *Li* 329, 363 & 460; fallen trunk of *Quercus*, *Li* 267; fallen branch of *Quercus*, *Li* 330

Taxonomy

Inonotus henanensis Juan Li & Y.C. Dai **sp. nov.** (Fig. 2)

Carpophorum annuum, resupinatum. Facies pororum ravidè umbrina, aurata vel brunnea; pori angulati, 6–7 per mm. Systema hypharum monomiticum, hyphae septatae, setae adsunt in trama vel hymenio. Sporae subglobosae, pallidae, CB–, IKI–, 5.5–6.5 × 4.5–5.7 µm.

Holotype – China, Henan Prov., Nanyang, Baotianman Nature Reserve, on fallen branch of *Quercus*, 28 Aug 2005, *Li 246* (Holotype in IFP, isotypes in H and HMAS).

Basidiocarps annual, resupinate, adnate, inseparable, without odour or taste, when fresh corky, becoming woody hard upon drying, up to 15 cm long, 7 cm wide and 0.7 cm thick. Pores surface grayish brown or yellowish brown when fresh, more or less shiny, color almost unchanged when dry, margin very narrow to almost lacking, yellowish brown; pores angular, 6–7 per mm; dissepiments thin, entire. Subiculum yellowish brown, corky, very thin, not exceeding 0.5 mm. Tubes yellowish brown, woody hard, up to 0.7 cm long.

Hyphal structure – Hyphal system monomitic; all septa without clamp connections; tissues darkening but otherwise unchanged in KOH.

Subiculum – Subicular hyphae hyaline to yellowish brown, fairly thick- to distinctly thick-walled with a wide lumen, occasionally branched, flexuous, loosely interwoven, 2–5 μm in diam.

Tubes – Tramal hyphae varying from hyaline and thin-walled at dissepimental edges to yellowish and slightly thick-walled toward inner trama, occasionally branched, parallel along the tubes, 2.5–4.5 μm in diam.

Hymenial setae infrequent to abundant, subulate, sharp-pointed, rust brown, thick-walled, 16–22 \times 6.5–8 μm ; hyphoid setae prominent, thick-walled with a narrow lumen, apex acute, up to several hundreds of μm long, 8–13 μm in diam. Cystidioles frequent, ventricose, hyaline, thin-walled, 10–15 \times 5–7 μm .

Basidia broadly clavate to subglobose with four sterigmata and a simple septum at the base, 10–12 \times 7–9 μm ; basidioles similar to basidia in shape, but slightly smaller.

Basidiospores subglobose, hyaline, thin-walled, smooth, CB–, IKI–, (5–) 5.5–6.5 (–7) \times 4.5–5.7 (–6) μm , L = 5.9 μm , W = 5.15 μm , Q = 1.131.16 (n = 60/2).

Etymology – *Henanensis* (Lat.): referring to the province name Henan.

Habitat – On living tree or fallen wood of *Quercus*.

Distribution – Known only from the type locality.

Additional specimens examined (paratypes) – China, Henan Prov., Nanyang, Baotianman Nature Reserve, on fallen branch of *Quercus*, 28 Aug 2005, *Li 303*; on dead tree of *Quercus*, 29 Aug 2005, *Li 345*; on living tree of *Quercus*, 31 Aug 2005, *Li 452* (IFP).

Inonotus henanensis is characterized by the woody hard, resupinate basidiocarps and the relatively small pores. Both hyphoid

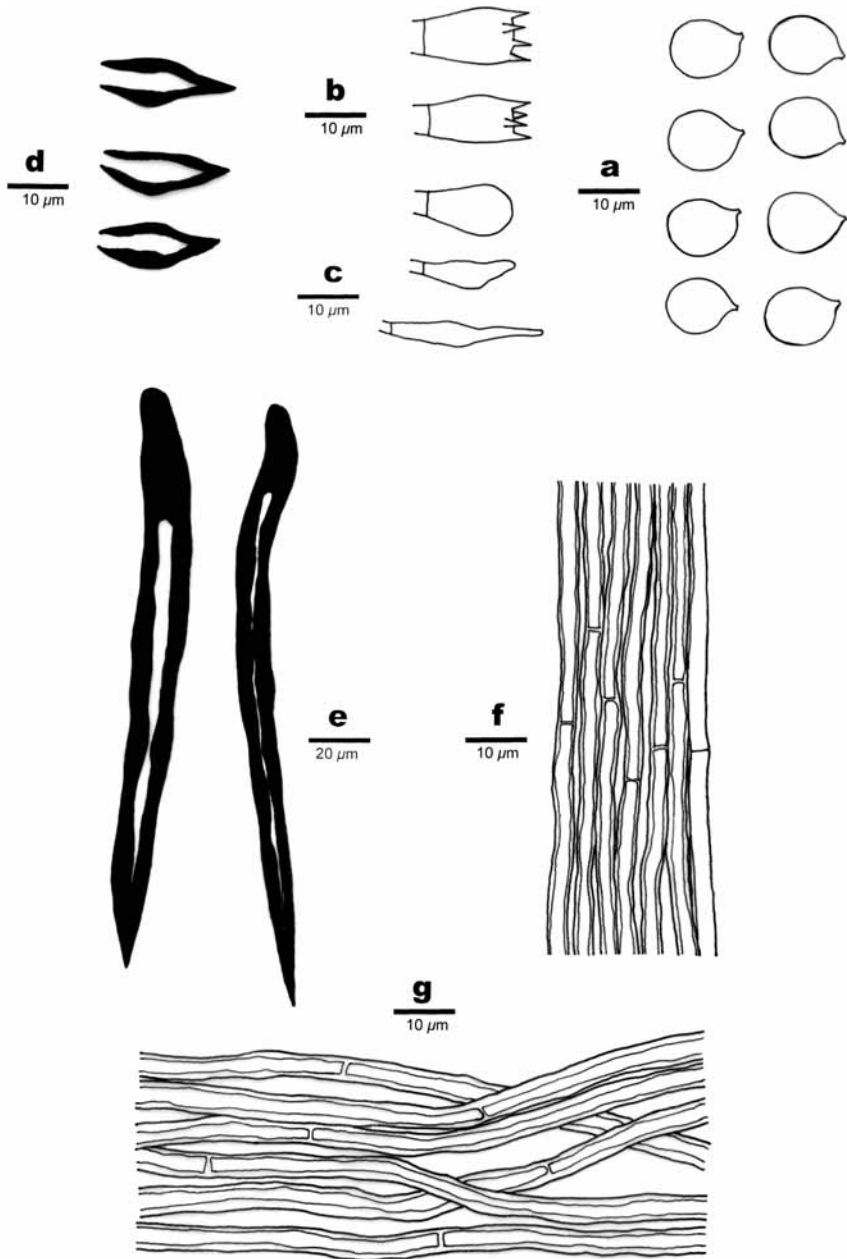


Fig. 2. Microscopic structures of *Inonotus henanensis* Juan Li & Y.C. Dai (drawn from the holotype). a: Basidiospores. b: Basidia and a basidiole. c: Cystidioles. d: Setae from hymenium. e: Hyphoid setae from trama. f: Hyphae from tube trama. g: Hyphae from subiculum.

setae and hymenial setae are present. Moreover, it has hyaline, subglobose spores. The new species was found only on *Quercus* so far.

The new species is closely related to *Inonotus pegleri* Ryvar den by having both hyphoid setae and hymenial setae, globose or subglobose basidiospores. One specimen of *I. pegleri* was examined. It has round and larger pores (4–5 per mm), especially its basidiospores are pale yellow (6–7 µm in diam). Moreover, *I. pegleri* occurs in tropical Africa (Ryvar den 2005), while *I. henanensis* is known from the warm temperate area in China so far.

Inonotus adnatus Ryvar den and *Inonotus marginatus* Ryvar den also have both hyphoid setae and hymenial setae, and their basidiospores are more or less globose or subglobose. *I. adnatus* differs from the new species by its thick-walled, coloured and larger basidiospores (7–8 µm in diam, Ryvar den 2005). *I. marginatus* is distinguished from *I. henanensis* by its smaller basidiospores (4.5–5 µm in diam, Ryvar den 2005).

Specimen examined. – *Inonotus pegleri* Ryvar den: Zimbabwe, Eastern Prov., Mutare Distr., 21 Feb 1986, Ryvar den 23863 (O).

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