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Notes on polypores from Gansu and Qinghai Province, Northwest China

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Abstract – *Antrodiella thujae* is described and illustrated from Qinghai Province, Northwest China. The new species is characterized by a perennial habit, allantoid basidiospores, fusoid cystidioles, and growing on *Thuja przewalskii*. *Antrodia hippophaës* is newly recorded from China. Ninety-nine additional species of poroid wood-inhabiting fungi were also identified in 5 forested areas of Gansu and Qinghai Provinces. A checklist of the polypores is provided, and the host of each species is listed.

***Antrodiella* / Basidiomycota / checklist / taxonomy**

INTRODUCTION

China encompasses many biogeographical and climate zones. Northwestern China has an arid to semiarid climate, with subsequent poor vegetation. Nevertheless, some forests are scattered in some mountain areas, of which the Qilian Mts. is the most important in the Gansu and Qinghai Provinces. Pilát (1940) made a pioneer study on Basidiomycetes in western China, but since then, reports on wood-inhabiting fungi in the area were very scanty, and only 28 poroid species are known from these two Provinces (Teng, 1996; Zhao, 1998; Zhao & Zhang, 1989, 1992).

During August of 2003 and 2005, two field trips were made in Gansu and Qinghai, and a total of 557 specimens of wood-inhabiting fungi were collected from 5 forested area (Fig. 1). Ninety-nine species of poroid Aphyllophorales were identified from about 70% collected samples (the other specimens mostly belong to the Corticiaceae, and will be published separately). During the study of these collections, some specimens of an *Antrodiella* species growing on *Thuja przewalskii* were analyzed but no name could be found for them. It is described below as *Antrodiella thujae* sp. nov. In the present paper we report the species identified so far from our own collections.

MATERIALS AND METHODS

Most of specimens were collected from the Qilian Mountains (1, 2, 3 in Fig. 1), which lies mostly in Qinghai and Gansu Province, roughly between 36°43'-39°42'N, 99°24'-103°46'E. The most important coniferous trees in Qilian

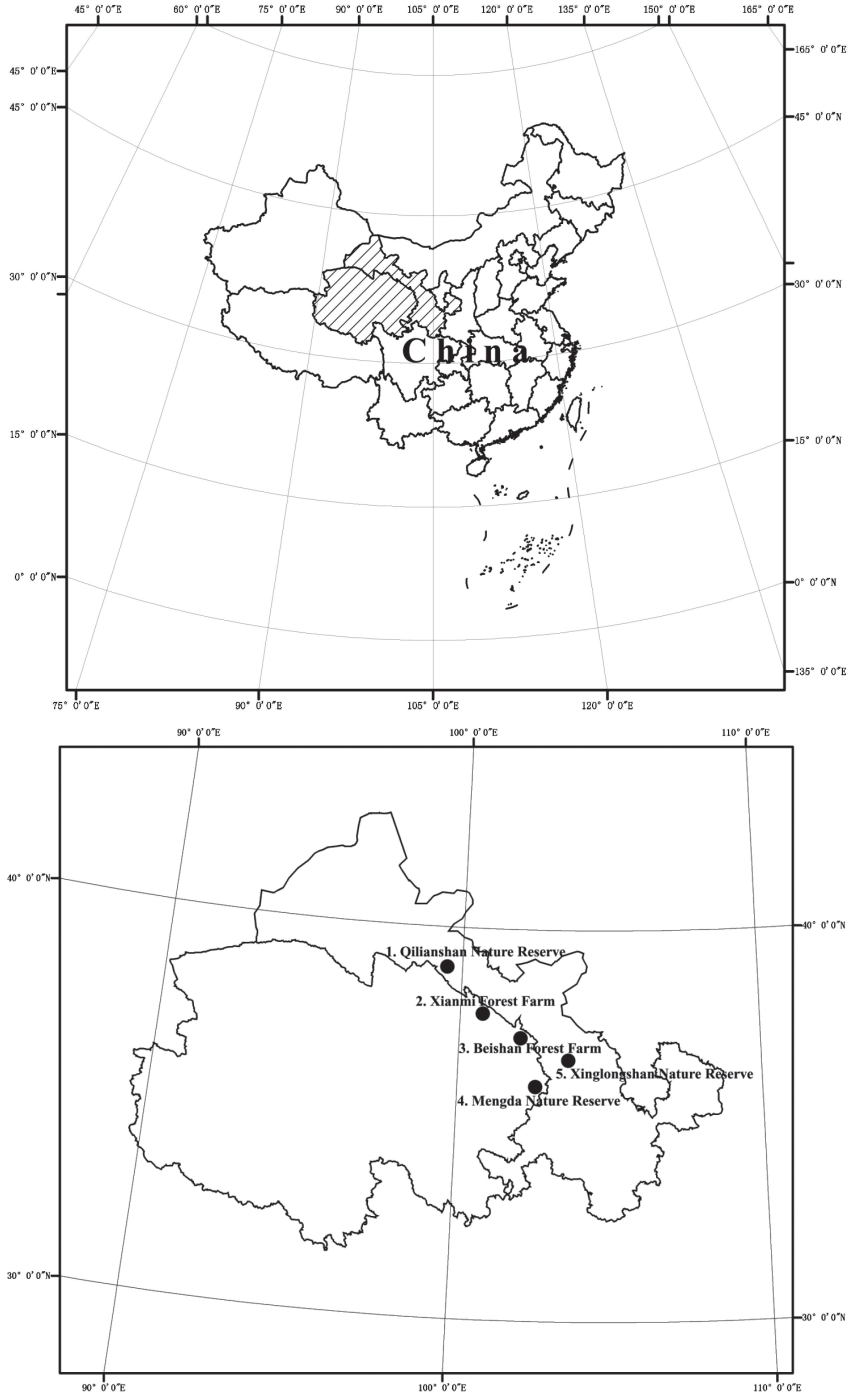

Fig. 1. The locations of the research area.

Mts. are *Pinus tubaeliformis*, *Picea crassifolia* and *Thuja przewalskii,* and the common deciduous trees are *Betula albo-sinensis, Populus dividiana*, *Hippophae rhamnoides*, *Lonicera hispida*, and several species of *Salix*. Other two studied areas (4, 5 in Fig. 1) have the similar vegetation as in the Qilian Mountains, but more human activities, and almost no virgin forest exists in these two areas.

The study is based on the collections by the authors from the two provinces during 2003 and 2005. The specimens are deposited at the herbarium of Institute of Applied Ecology, Chinese Academy of Sciences (IFP), and some duplicates of specimens are preserved at both the herbarium of Institute of Microbiology, Chinese Academy of Sciences (HMAS), China, and the Botanical Museum, University of Helsinki (H), Finland.

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 of each specimen), n = the number of spores measured from given number of specimens. In presenting the variation in the size of spores, 5% of the measurements were excluded from each end of the range, and are given in parentheses; IKI stands for Melzer's reagent and KOH for 5% potassium hydroxide, and CB is the abbreviation of Cotton Blue. CB+ means cyanophilous and CB– acyanophilous; IKI– means both inamyloid and indextrinoid. Special colour terms are from Petersen (1996). An alphabetical list (according to genera) of polypores is given, authors names follow the second edition of Authors of Fungal Names (http://www.indexfungorum.org/AuthorsOfFungalNames.htm). Substrate and collecting data are provided after the name of each species. The hosts are listed alphabetically, and in the case of the same host tree, they were arranged by order: living tree, dead tree, fallen branch, fallen trunk, rotten wood, stump, and root. The concept of polypores circumscribed here is in a wide sense, including the Polyporaceae, Ganodermataceae, and poroid species in the Hymenochaetaceae and Corticiaceae.

TAXONOMY

Antrodiella thujae Y.C. Dai & H.S.Yuan *sp. nov.* Fig. 2

Carpophorum perenne, resupinatum vel effuso-reflexum, raro pileatum, contextum melleum. Facies pororum cremea vel bubalinea; pori rotundi vel angulati, 5-7 per mm. Systema hypharum dimiticum, hyphae generatoriae fibulatae, hyphae skeletales contexti 1.8–3 µm in diam. Sporae pallidae, allantoideae, IKI–, CB–, 4.2-5 × 1.2-1.5 *µm.*

Type: **China**. Qinghai Prov., Menyuan County, Xianmi Forest Farm, on stump of *Thuja przewalskii*, 2–IX–2003, *Y.C. Dai 5065* (holotype in IFP, isotype in H and HMAS).

Etymology. — Thuja (Lat.): referring to the host tree genus *Thuja*.

Basidiomes perennial, resupinate to effused-reflexed, rarely pileate, resupinate part 10 cm or more in longest dimension, 6 cm wide, pileus projecting up to 0.5 cm, 2 cm wide, and 0.5 mm thick, the all basidiomes with an elastic tough consistency when fresh, corky when dry, without odour or taste; *pileus*

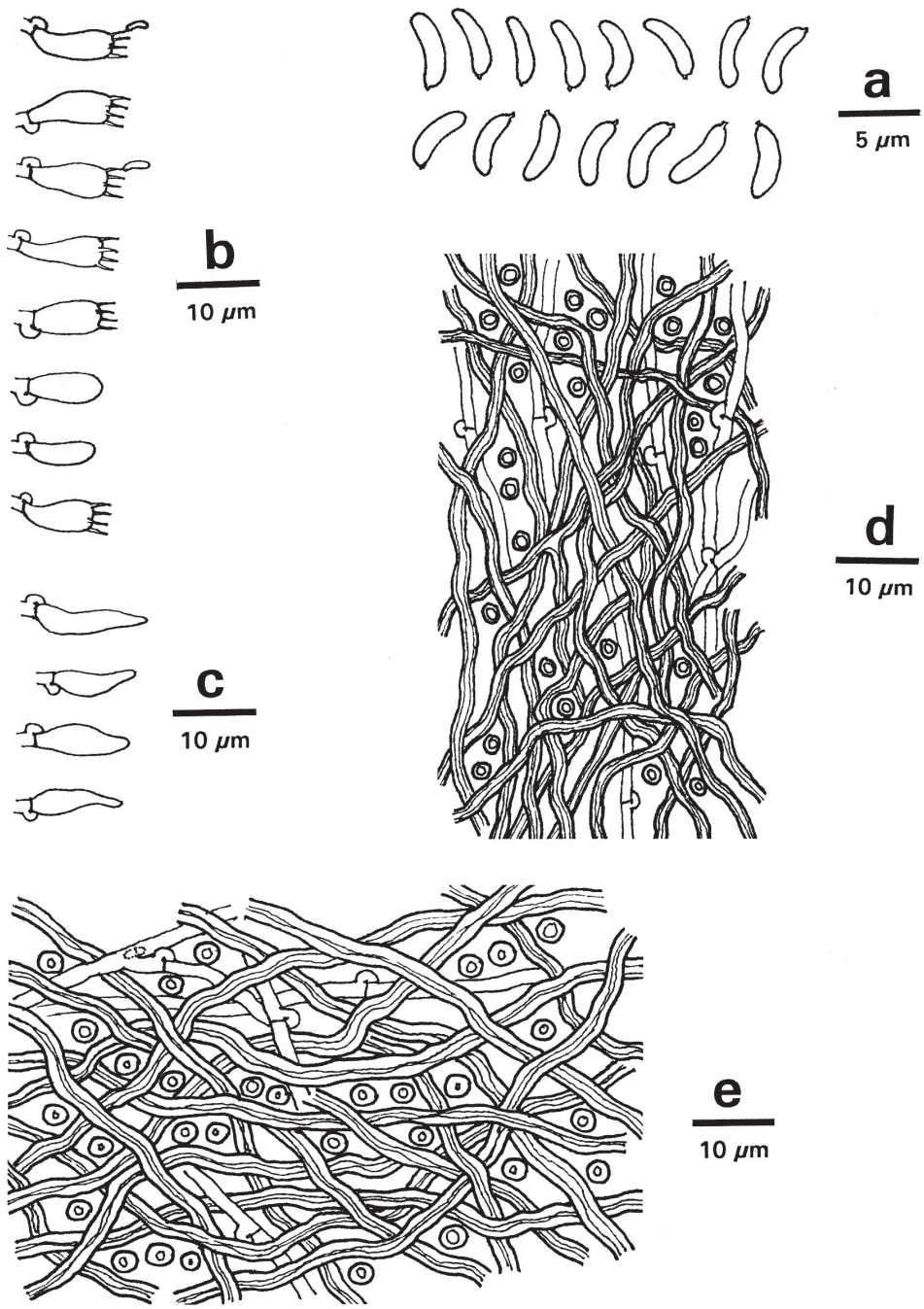

Fig. 2. Anatomical details of *Antrodiella thujae* Y.C. Dai & H.S. Yuan (drawn from the holotype). — a: Basidiospores. — b: Basidia and basidioles. — c: Cystidioles. — d: Hyphae from trama. — e: Hyphae from subiculum.

surface grayish brown, azonate, smooth to tuberculate; *margin* acute, buff yellow; *pore surface* white to cream when fresh, becoming buff and cracked upon drying, glancing; margin cottony, cream to buff, up to 1 mm wide; *pores* circular to angular, 5-7 per mm; *dissepiments* thin, entire; *context* honey yellow, azonate, ca. 0.2 mm thick, with a corky consistency; *hymenophoral trama* up to 0.3 mm long, cream to pale buff, with a corky consistency; *tube layers* indistinct; *hyphal system* dimitic both in the context and hymenophoral trama; *generative hyphae* hyaline, thin-walled, frequently bearing clamp connections, occasionally branched, 1.8-2.5 μm in diam. in the context, 1.2-1.8 μm in diam. in the hymenohoral trama; *skeletal hyphae* dominant in all parts, thick-walled to subsolid in the context, usually with a lumen in the hymenophoral trama, seldom branched, interwoven, 1.8-3 μm in diam. in the context and 1.3-2.2 μm in diam. in the hymenophoral trama, IKI–, strongly CB+ ; all hyphae unchanged in KOH; *cystidia* absent; fusoid *cystidioles* present, 10-13 × 3-4 μm; *basidia* clavate, bearing four sterigmata and a basal clamp, 7-10 × 3.5-4.5 μm; *basidioles* similar in shape, but slightly smaller. *Basidiospores* allantoid, hyaline, thin-walled, smooth, IKI–, CB–, (4.1–) 4.2-5(–5.1) × (1.1–)1.2-1.5(–1.6) μm, L = 4.51 μm, W = 1.31 μm, Q = 3.43–3.48 (n = 90/3).

Paratypes: **China**. Qinghai Province, Huzhu County, Beishan Forest Farm, on rotten wood of *Thuja przewalskii*, 31–VIII–2003 *Y.C. Dai 4967& 4970*; on root of of *Thuja przewalskii*, 31–VIII–2003, *Y.C. Dai 4971* (in IFP).

Specimens of additional species studied — *Antrodiella duracina* (*Leptoporus duracinus* Pat.). **Guadeloupe**. "Sur une branche d'un *Cecropia peltata* pourri, Bois du Grand-Etang, Patouillard 958" (FH, lectotype by Lowe 1975:53); "on *Cecropia peltata*, Guadeloupe, coll. Rev. Fr. A. Duss" (BPI 207785). **Cuba**, III.1905 *Ames* (BPI 225593). — *Antrodiella gypsea.* **China**. Jilin Prov., Antu County, Changbaishan Nat. Res., 1993 *Dai 835, 1017*, *1033 & 1048*; 1995 *Dai 2034 & 2126*. **Russia**. Primorye Terr., Ternei Distr., *Parmasto* (TAA 108874, 150896, 150910 & 151239). — *Antrodiella fissiliformis.* **USA**. Michigan, Ann Arbor, on *Tilia,* 17.X. 1949 *Smith 34275* (H). **Czech Republic**. Moravia, Velký Špičák, on fallen trunk of *Fagus*, 5.VIII.1989 *Vampola* (H). — *Antrodiella versicutis* (*Polyporus versicutis* Berk. & M.A. Curtis). **Cuba**. *Wright 215* (BPI 225598, type).

Remarks. Antrodiella thujae is distinguished from other *Antrodiella* by the combination of perennial basidiomes, allantoid basidiospores, fusoid cystidioles, and growing (so far exclusively) on *Thuja przewalskii.* Its skeletal hyphae are strongly cyanophilous, almost alike the skeletal hyphae of *Perenniporia* Murrill. The dimitic hyphal system, the allantoid basidiospores, and the fusoid cystidioles remind of *Skeletocutis* Kotl. & Pouzar. However, the skeletal hyphae in the latter genus are acyanophilous and the hyphae in the dissepiments are commonly finely incrusted encrusted by sharp crystals (Niemelä, 1998).

Antrodiella gypsea (Yasuda) T. Hatt. & Ryvarden resembles *A. thujae*, both species sharing a perennial, resupinate to effused-reflexed or pileate basidiomes, and an occurrence mainly on gymnosperms; *Antrodiella gypsea* differs by having subulate cystidia, and distinctly oblong ellipsoid and smaller basidiospores, (2.5–)2.6-3(–3.1) × 1.2-1.7(–1.8) μm, L = 2.90 μm, W = 1.37 μm, Q = 2.11 (Dai, 2004).

Antrodiella duracina (Pat.) Ryvarden, *A. versicutis* (Berk. & M.A. Curtis) Gilb. & Ryvarden, and *Antrodiella fissiliformis* (Pilát) Gilb. & Ryvarden all have allantoid basidiospores (Ryvarden & Meijer, 2002; Gilbertson & Ryvarden, 1986), similar to those seen in *A. thujae*. *Antrodiella duracina* and *A. versicutis* are very similar, and were first treated as a single species (Gilbertson & Ryvarden, 1986). *Antrodiella duracina* differs from *A. thujae* in having an almost monomitic

context, dominated by generative hyphae, with sparse skeletal hyphae, the reason why the species was first placed in as *Tyromyces* Karst. (Lowe, 1975; Ryvarden, l983). *Antrodiella versicutis* differs from *A. thujae* in having distinctly sessile to dimidiate basidiomes and a reddish brown pileus surface with a thin cuticle. Microscopically *A. versicutis* has a monomitic context and a dimitic hymenophoral trama, and lacks cystidioles. In addition, it is known so far only from tropical America (Gilbertson & Ryvarden, 1986). *Antrodiella fissiliformis* differs from *A. thujae* in having an orange to apricot colored pileus and a very juicy consistency when fresh, and its pores are brown when dry, and slightly smaller basidiospores (3.3-3.9 × 1.6-1.8 μm).

Antrodiella brasiliensis Ryvarden & de Meijer and *A. luteocontexta* Ryvarden & de Meijer were recently described from tropical America, and they both have allantoid basidiospores (Ryvarden & Meijer, 2002). However, these two species are different from *A. thujae* in having distinctly pileate basidiomes, larger pores (1-2 per mm), and wider basidiospores (4.5-5.5 × 1.8-2.2 μm in *A. brasiliensis,* 3-3.5 × 1.4-2 μm in *A. luteocontexta,* Ryvarden & Meijer, 2002).

Checklist of polypores from Gansu and Qinghai

Anomoporia myceliosa (Peck) Pouzar, rotten wood of *Picea, Dai 5062*

Albatrellus cf. *syringae* (Parmasto) Pouzar, ground in forest of *Picea, Cui 2183*

Antrodia heteromorpha (Fr.:Fr.) Donk, fallen trunk of *Picea, Cui 2073, 2090, 2125 & 2154;* rotten wood of *Picea, Cui 2069 & 2185;* stump of *Picea, Cui 2142 & 2171*

Antrodia hingganensis Y.C. Dai & Penttilä, fallen trunk of *Picea, Cui 2144, 2189 & 2192;* rotten wood of *Picea, Cui 2153*

Antrodia hippophaës (Bres.) Ryvarden, fallen trunk of *Hippophae, Dai 5040 & 5043*

Antrodia malicola (Berk. & M.A. Curtis) Donk, living angiosperm tree, *Cui 2223*

Antrodia pulvinascens (Pilát) Niemelä, living tree of *Salix, Cui 2439*

Antrodia serialis (Fr.) Donk, fallen trunk of *Picea, Cui 2079, 2081, 2099, 2100, 2102, 2109, 2119, 2121, 2123, 2141, 2162, 2173 & 2199;* rotten wood of *Picea, Cui 2104 & 2163, Dai 4963;* stump of *Picea, Cui 2143*

Antrodia sinuosa (Romell) P. Karst., fallen trunk of *Picea, Cui 2136, 2159 & 2187*

Antrodia vaillantii (DC.:Fr.) Ryvarden, fallen trunk of *Picea, Cui 2088*

Antrodia variiformis (Peck) Donk, fallen branch of *Picea, Cui 2070;* stump of *Picea, Cui 2157*

Antrodia xantha (Fr.:Fr.) Ryvarden, rotten gymnosperm wood, *Cui 2442*; dead tree of *Picea, Cui 2300;* fallen branch of *Picea, Cui 2427;* fallen trunk of *Picea, Cui 2346;* rotten wood of *Picea, Cui 2186 & 2321;* stump of *Picea, Cui 2140, 2146 & 2167;* fallen trunk of *Populus, Dai 4976;* living tree of *Salix*, *Cui 2262*

Antrodiella albocinnamomea Y.C. Dai & Niemelä, fallen trunk of *Betula, Cui 2326;* rotten wood of *Betula, Cui 2296 & 2374;* stump of *Betula*, *Cui 2398;* stump of *Populus*, *Cui 2303 & 2400*

Antrodiella thujae Y.C. Dai & H.S.Yuan, rotten wood of *Thuja, Dai 4967 & 4970;* stump of *Thuja, Dai 5065,* root of *Thuja, Dai 4971*

Bjerkandera adusta (Willd.:Fr.) P. Karst., angiosperm stump, *Cui 2373*; stump of *Populus*, *Cui 2284*, *Dai 4929*

Bjerkandera fumosa (Pers.:Fr.) P. Karst., angiosperm stump, *Cui 2351*; living tree of *Salix, Cui 2390 & 2465*; stump of *Salix, Cui 2255*
Bondarzewia berkeleyi (Fr.) Bondartsev & Singer, ground in angiosperm forest, *Cui 2216 & 2416*
Bondarzewia montana (Quél.) Singer, ground in forest of *Picea*, *Dai 5004*
Ceriporia purpurea (Fr.) Donk, fallen trunk of *Picea, Cui 2066, 2120, 2122, 2161, 2168 & 2190;* rotten wood of *Picea, Cui 2103, 2116 & 2194*
Ceriporia viridans (Berk. & Broome) Donk, fallen trunk of *Populus, Cui 2344*
Ceriporiopsis mucida (Pers.:Fr.) Gilb. & Ryvarden, angiosperm stump, *Cui 2397*
Cerrena unicolor (Bull.:Fr.) Murrill, dead tree of *Betula, Cui 2270 & 2281;* stump of *Betula, Cui 2340;* fallen trunk of *Hippophae, Dai 5036;* stump of *Populus*, *Dai 4931*
Cyclomyces xeranticus (Berk.) Y.C. Dai & Niemelä, living tree of *Quercus, Cui 2226 & 2235*
Daedaleopsis confragosa (Bolton:Fr.) J. Schroet., angiosperm stump, *Cui 2387;* fallen trunk of *Betula, Cui 2307 & 2409;* fallen trunk of *Populus, Dai 4998;* living tree of *Salix, Cui 2268 & 2277, Dai 4946 & 5011*
Daedaleopsis sinensis (Lloyd) Y.C. Dai, fallen trunk of *Betula, Dai 5045*
Daedaleopsis tricolor (Bull.:Mérat) Bondartsev & Singer, living angiosperm tree, *Cui 2380;* living tree of *Quercus, Cui 2228*
Datronia stereoides (Fr.) Ryvarden, angiosperm tree root*, Dai 5046;* fallen trunk of *Populus, Dai 5051*
Diplomitoporus crustulinus (Bres.) Domański, fallen branch of *Picea, Cui 2076, 2107 & 2381;* fallen trunk of *Picea, Cui 2124, 2139 & 2160*
Fomes fomentarius (L.:Fr.) Fr., stump of *Betula, Dai 4969*
Fomitiporia hippophaëicola (H. Jahn) Fiasson & Niemelä, living tree of *Hippophae, Cui 2064, 2273, 2280 & 2282, Dai 4965, 4981 & 5055*; dead tree of *Hippophae, Cui 2341;* fallen trunk of *Hippophae, Dai 4983 & 4991;* stump of *Hippophae, Cui 2285, 2322, 2324 & 2407, Dai 4944*
Funalia trogii (Berk.) Bondartsev & Singer, fallen trunk of *Populus, Cui 2287;* stump of *Populus*, *Cui 2061 & 2302, Dai 4936*; living tree of *Salix, Cui 2202;* fallen trunk of *Salix, Cui 2320, Dai 5037*
Ganoderma lipsiense (Batsch) G.F. Atk., stump of *Betula*, *Cui 2310;* stump of *Populus, Cui 2276 & 2292;* living tree of *Salix, Dai 4947*
Gelatoporia pannocincta (Romell) Niemelä, rotten wood of *Betula*, *Dai 4938*
Gloeophyllum abietinum (Bull.:Fr.) P. Karst., fallen trunk of *Picea, Cui 2071, 2145 & 2193;* stump of *Picea, Cui 2198*
Gloeophyllum odoratum (Wulfen:Fr.) Imazeki, rotten wood of *Picea, Cui 2112*
Gloeophyllum protractum (Fr.) Imazeki, fallen trunk of *Picea, Cui 2098, 2105, 2114 & 2118*
Gloeophyllum sepiarium (Wulfen:Fr.) P. Karst., fallen gymnosperm trunk, *Cui 2274 & 2357;* fallen branch of *Picea, Cui 2078, 2429 &2459;* fallen trunk of *Picea, Cui 2063 & 2095, Dai 5031*
Gloeophyllum trabeum (Pers.:Fr.) Murrill, fallen trunk of *Populus, Dai 5059*
Heterobasidion parviporum Niemelä & Korhonen, living angiosperm tree root, *Cui 2230 & 2234*
Inocutis rheades (Pers.:Fr.) Fiasson & Niemelä, dead tree of *Populus, Cui 2203, 2210 & 2227, Dai 5032*
Inonotus radiatus (Sowerby:Fr.) P. Karst., fallen trunk of *Betula, Cui 2312 & 2329, Dai 5056;* stump of *Betula, Cui 2474*
Ischnoderma benzoinum (Wahlenb.:Fr.) P. Karst., stump of *Picea, Cui 2209*
Junghuhnia luteoalba (P. Karst.) Ryvarden, fallen trunk of *Betula, Dai 5041*

Junghuhnia nitida (Pers.:Fr.) Ryvarden, fallen angiosperm branch, *Cui 2449;* fallen angiosperm trunk, *Cui 2388;* rotten wood of *Betula, Dai 4987;* fallen trunk of *Populus, Dai 5054;* living tree of *Salix, Cui 2368;* fallen trunk of *Salix, Cui 2318*

Laetiporus sulphureus (Bull.:Fr.) Murrill, fallen trunk of *Picea, Cui 2080;* living tree of *Quercus, Cui 2233*

Lenzites betulinus (L.:Fr.) Fr., stump of *Betula, Cui 2370 & 2411, Dai 5020;* stump of *Populus*, *Dai 4934*

Leptoporus mollis (Pers.:Fr.) Quél., fallen trunk of *Picea, Cui 2074*

Lindtneria trachyspora (Bourdot & Galzin) Pilát, rotten angiosperm wood, *Cui 2460*

Oligoporus balsameus (Peck) Gilb. & Ryvarden, rotten wood of *Picea, Cui 2464*

Oligoporus floriformis (Quél. ex Bres.) Gilb. & Ryvarden, living tree of *Salix, Cui 2331*; fallen trunk of *Picea, Cui 2188*

Oligoporus rennyi (Berk. & Broome) Donk, fallen trunk of *Picea, Cui 2089*

Oligoporus sericeomollis (Romell) Bondartseva, rotten wood of *Picea, Cui 2086*

Onnia tomentosa (Fr.) P. Karst., living tree of *Picea, Cui 2248 & 2316*

Oxyporus corticola (Fr.) Ryvarden, fallen trunk of *Betula, Dai 4943;* living tree of *Picea, Cui 2252;* dead tree of *Picea, Cui 2430 & 2437*; fallen trunk of *Salix, Dai 4985*

Oxyporus obducens (Pers.:Fr.) Donk, fallen angiosperm trunk, *Cui 2401 & 2420*; angiosperm stump, *Cui 2406;* living tree of *Populus, Cui 2365, 2372, 2379 & 2392;* fallen trunk of *Populus, Cui 2294, 2304, 2311, 2317 & 2389;* stump of *Populus, Cui 2417*

Oxyporus populinus (Schumach.:Fr.) Donk, dead tree of *Salix, Cui 2421*

Phellinidium weirii (Murrill) Y.C. Dai, root of *Thuja, Dai 5067*

Phellinus chinensis Pilát, stump of *Populus, Cui 2207*

Phellinus conchatus (Pers.:Fr.) Quél., living angiosperm tree, *Cui 2435 & 2438*; dead angiosperm branch, *Cui 2412*; fallen angiosperm trunk, *Cui 2402, 2433 & 2473*; angiosperm stump, *Cui 2405 & 2463*; rotten angiosperm wood, *Cui 2476;* fallen trunk of *Betula, Cui 2345;* living tree of *Lonicerna, Dai 4989 & 4990;* dead tree of *Lonicerna, Dai 5013;* living tree of *Salix, Cui 2248, 2275, 2319, 2358, 2376 & 2441;* stump of *Salix*, *Cui 2266*

Phellinus contiguus (Pers.:Fr.) Pat., dead angiosperm tree, *Cui 2461, 2467, 2470 & 2478*; fallen angiosperm trunk, *Dai 4988;* angiosperm stump, *Cui 2457*

Phellinus himalayensis Y.C. Dai, living tree of *Picea, Cui 2091, 2096 & 2166;* dead tree of *Picea, Cui 2094;* fallen trunk of *Picea, Cui 2172*

Phellinus igniarius (L.:Fr.) Quél. *sensu lato*, living tree of *Betula, Dai 4949;* living tree of *Salix*, *Cui 2278, 2332 & 2452*

Phellinus mcgregori (Bres.) Ryvarden, living angiosperm tree, *Cui 2456 & 2480*; angiosperm stump, *Cui 2469*; living tree of *Lonicera, Dai 4980 & 5057*

Phellinus tremulae (Bondartsev) Bondartsev & Borisov, angiosperm stump, *Cui 2215*; living tree of *Populus, Cui 2217 & 2239, Dai 5002 & 5021*

Phellinus tuberculosus (Baumg.) Niemelä, living angiosperm tree, *Cui 2224, 2246 & 2356;* dead angiosperm tree, *Cui 2471;* dead angiosperm branch, *Cui 2206 & 2213;* angiosperm stump, *Cui 2257 & 2414*

Phylloporia ribis (Schumach.:Fr.) Ryvarden, angiosperm stump, *Cui 2211, 2218, 2219, 2241 & 2243*

Polyporus arcularius Batsch:Fr., fallen angiosperm branch, *Cui 2408;* fallen branch of *Betula, Cui 2481*

Polyporus brumalis Pers.:Fr., fallen angiosperm branch, *Dai 4992;* fallen branch of *Betula, Cui 2413, Dai 4966;* fallen trunk of *Betula, Cui 2343;* fallen trunk of *Populus, Cui 2335*

Polyporus ciliatus Fr.:Fr., fallen angiosperm branch, *Cui 2475;* fallen branch of *Betula, Dai 4996 & 5042;* fallen trunk of *Betula, Cui 2348*

Polyporus elegans Bull.:Fr., fallen angiosperm trunk, *Cui 2354;* fallen branch of *Betula, Dai 4941;* stump of *Populus, Cui 2286*

Polyporus melanopus (Pers.:Fr.) Fr., ground in forest of angiosperm, *Cui 2367 & 2385*, *Dai 4997 & 5015*

Polyporus mongolicus (Pilát) Y.C. Dai, fallen trunk of *Betula, Cui 2291;* fallen trunk of *Populus, Dai 4977*

Polyporus mori (Pollini:Fr.) Fr., fallen angiosperm branch, *Cui 2245;* fallen trunk of *Populus, Dai 5044*; living tree of *Quercus, Cui 2229*

Polyporus squamosus (Huds.:Fr.) Fr., living angiosperm tree, *Cui 2419*

Polyporus varius Pers.:Fr., fallen trunk of *Betula, Cui 2403;* fallen trunk of *Populus, Dai 4978;* dead tree of *Salix, Cui 2479*

Postia alni Niemelä & Vampola, rotten angiosperm wood, *Cui 2272;* fallen trunk of *Betula, Cui 2290, 2330*; rotten wood of *Betula, Dai 5006;* stump of *Betula, Cui 2288, 2298 & 2301;* fallen trunk of *Populus, Cui 2314 & 2325, Dai 4960*; rotten wood of *Populus, Dai 4956 & 4967a;* stump of *Populus, Cui 2299, Dai 4995;* fallen trunk of *Salix, Dai 4948*

Postia caesia (Schrad.:Fr.) P. Karst., fallen gymnosperm trunk, *Cui 2386;* living tree of *Picea, Cui 2283;* dead tree of *Picea, Cui 2165*; fallen trunk of *Picea*, *Cui 2084, 2155, 2337, 2342 & 2446*, *Dai 5030*; rotten wood of *Picea, Cui 2352, Dai 5007;* stump of *Picea, Cui 2271, 2350, 2366 & 2378, Dai 5028;* fallen trunk of *Thuja, Dai 5039*

Postia cf. *simanii* (Pilát) Jülich, fallen trunk of *Populus, Cui 2289*

Postia tephroleuca (Fr.) Jülich, fallen branch of *Pinus, Dai 5025*

Postia undosa (Peck) Jülich, fallen trunk of *Picea*, *Cui 2184, 2191 & 2195*

Pycnoporus cinnabarius (Jacq.:Fr.) P. Karst., fallen trunk of *Betula, Cui 2295, Dai 5048*

Sarcoporia polyspora P. Karst., stump of *Picea, Cui 2164*

Sistotrema musicola (Pers.) S. Lundell, fallen trunk of *Picea, Cui 2072*

Skeletocutis alutacea (J. Lowe) Jean Keller, rotten angiosperm wood, *Cui 2424*; fallen trunk of *Picea, Cui 2426*

Skeletocutis nivea (Jungh.) Jean Keller, fallen branch of *Betula, Dai 4942;* fallen trunk of *Betula, Cui 2422;* rotten wood of *Betula, Dai 4964;* fallen branch of *Populus, Dai 5019*

Spongipellis spumeus (Sowerby:Fr.) Pat., fallen trunk of *Populus, Dai 4939*

Stromatoscypha fimbriata (Pers.:Fr.) Donk, living tree of angiosperm, *Cui 2466*; root of *Thuja, Dai 4955*

Trametes hirsuta (Wulfen:Fr.) Pilát, fallen branch of *Betula, Cui 2375;* fallen trunk of *Betula, Cui 2309;* fallen trunk of *Salix, Dai 4945 & 4968*

Trametes ochracea (Pers.:Fr.) Gilb. & Ryvarden, living angiosperm tree, *Cui 2443;* stump of *Betula*, *Cui 2333*, *Dai 4930*

Trametes pubescens (Schumach.:Fr.) Pilát, living angiosperm tree, *Cui 2347*

Trametes suaveolens (Fr.:Fr.) Fr., living angiosperm tree, *Cui 2256;* fallen angiosperm trunk, *Cui 2323;* angiosperm stump, *Cui 2363*; fallen trunk of *Betula, Cui 2327;* living tree of *Populus, Cui 2232, Dai 4950;* dead tree of *Populus, Cui 2334;* fallen trunk of *Populus*, *Cui 2338*, *Dai 4932;* stump of *Populus, Cui 2293;* living tree of *Salix, Cui 2377 & 2383, Dai 4950 & 5018;* fallen trunk of *Salix, Cui 2369*

Trametes thujae J.D. Zhao, fallen trunk of *Thuja, Cui 2128, 2130 & 2134;* stump of *Thuja, Dai 4953, 4961, 4972, 4982, 5058 & 5064*

Trametes versicolor (L.:Fr.) Pilát, fallen trunk of *Picea, Dai 5029;* stump of *Populus*, *Cui 2391, Dai 4935;* dead tree of *Quercus, Cui 2244;* living tree of *Salix, Cui 2263 & 2264*

Trechispora mollusca (Pers.:Fr.) Liberta, rotten angiosperm wood, *Cui 2404 , 2415 & 2455*; rotten gymnosperm wood, *Cui 2404;* rotten wood of *Picea, Cui 2308 & 2477;* stump of *Picea, Cui 2336;* rotten wood of *Populus, Dai 4974 & 5053;* fallen trunk of *Salix, Cui 2297*

Trechispora candidissima (Schwein.) Bondartsev & Singer, dead tree of *Salix, Dai 5026*

Trichaptum abietinum (Pers.:Fr.) Ryvarden, fallen gymnosperm trunk, *Cui 2410*; dead tree of *Picea, Cui 2451*; fallen trunk of *Picea*, *Cui 2170, 2174, 2425 & 2436;* stump of *Picea, Cui 2083;* fallen trunk of *Pinus*, *Dai 4937*

Trichaptum fuscoviolaceum (Ehrenb.:Fr.) Ryvarden, fallen trunk of *Picea*, *Cui 2067 & 2082*

Trichaptum pargamenum (Fr.) G. Cunn., fallen trunk of *Betula, Dai 4994*

Tyromyces kemetii (Bres.) Bondartsev & Singer, fallen trunk of *Picea*, *Cui 2328;* fallen branch of *Populus, Dai 4975 & 5050*

DISCUSSION

Five hundreds and fifty-seven specimens of wood-inhabiting fungi were collected from the studied area, representing 99 species of polypores (other non-poroid Aphyllophorales are under investigation). Of the 99 species, *Antrodia serialis*, *A. xantha*, *Fomitiporia hippophaëicola*, *Oxyporus obducens, Phellinus conchatus*, *Postia alni*, *P. caesia* and *Trametes suaveolens* were the most common species.

In previous surveys of polypores from China, 213 polypores were recorded from the Changbaishan Nature Reserve, Changbai Mts., northeastern China (Dai, 1996) and 132 poroid Aphyllophorales in Sichuan Province, southwestern China (Dai *et al*., 2004). The number of species (99) is less in Northwest China. This could be related to the host tree diversity, with only 3 coniferous trees and 6 genera of broad-leaved tree occurring in Qilian Mountains, while, for instance, 6 species of gymnosperm and 16 species of angiosperms are found in Changbai Mts., northeastern China.

The vegetation in the studied area is temperate forest, and most fungi obtained during our survey are temperate species. Because the spruce (*Picea crassifolia*) is the main tree in the studied area, and the major forests are almost monospecific, 34 poroid Aphyllophorales were found on wood of the spruce. *Thuja przewalskii* is an endemic tree in Northwest China, and its wood may not be suitable for wood-inhabiting fungi; only 5 polypores were found growing on it. Aspen (*Populus dividiana*) and birch (*Betula albo-sinensis*) are the most common deciduous trees, 29 and 27 polypores were found on wood of aspen and birch respectively.

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