

Fungi Associated with Principal Decays in Wood Products in the United States

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FUNGI ASSOCIATED WITH PRINCIPAL DECAYS IN WOOD PRODUCTS IN THE UNITED STATES

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INTRODUCTION

The purpose of this report is to present summary data on the associations between Basidiomycetes and decay in various wood products. Basidiomycetous fungi are predominant among the micro-organisms adapted to completely subsist upon wood. The Forest Products Laboratory, Madison, Wis., and the Forest Disease Laboratory, Beltsville, Md., have been accumulating the data over a period of nearly 30 years. The data indicate the associations between type of decay, the host species of wood and product, its preservative content if any, the geographic area where the decayed product was found, and the decay fungus. Such knowledge will permit intelligent selection of fungi for pure culture experimentation and will facilitate sound interpretation of observations and analysis of data in decay research.

Because of the economic importance of the damage caused to wood products by Basidiomycetes, numerous investigations have been conducted in the United States on the nature of decay, the associations between the fungi and decay, and the identification and physiology of the fungi. A complete bibliography relating to the role of this group of fungi in decay is too extensive for inclusion in this report. Notable among the surveys dealing with the decay in special groups of products are those on houses and buildings (*1, 12, 14, 15, 16, 18, 19, 20, 21*),¹ in aircraft and boats made during World War II (*2, 8, 11*), and railroad ties (*13, 17*). In 1957 Cowling compiled, from the literature of the United States, a partial list of the fungal species associated with products decay (*5*).

Infection

Decay fungi may infect wood at many places and times. Some Basidiomycetous species in the forest attack and decay the heartwood and sapwood of living trees, while others attack pri-

marily slash. Products fungi make their primary attack on the wood at some stage after it has been removed from the tree. In reviewing the accumulated data, an attempt was made to distinguish between the fungi that infect mainly slash in the forest and those that significantly infect the wood after it has left the forest.

Few of the heartrot fungi in standing trees cause serious decay in wood products. They generally seem unable to continue their development in logs or converted timber. After a tree is felled, the primary products such as logs, poles, piling, pulpwood, etc., become liable to infection by other fungi, some of which are on slash in the forest.

After wood becomes "dry" (usually a log never dries completely), it is not permanently immune to decay. Unless naturally durable or sufficiently preservative-treated, wood is vulnerable to infection in any damp situation in which its moisture content rises above the fiber saturation level for any extended period of time.

Spores or mycelial fragments, readily airborne, are a means of infecting wood exposed under a variety of conditions. Soil, which is prevalently damp and abounds with micro-organisms in its uppermost layers, is also a ready source of infection for any wood placed in contact with it.

Identification of the Fungi

The staffs of the Forest Products Laboratory and the Forest Disease Laboratory received and examined 1,920 decayed wood items. Of this number, the decay fungi have been identified to the species name for 1,464 specimens, and to the generic name for 143 specimens. For 71 specimens of unknown species that have readily recognizable cultural characters, letters or other designations were assigned. The fungi associated with the remaining 242 products specimens have not been identified and were not included in this report.

The fungi were identified by an associated sporophore, if one was present, or by the cultural

¹ Italic numbers in parentheses refer to Literature Cited, pp. 14-15.

characters of the vegetative mycelium after isolation from the decayed wood. Sporophores are not commonly found on wood products because decayed wood is usually discarded before the fungus has formed a fruiting body. When they are present, such sporophores are often so atypical or deformed that they defy positive identification.

Nearly 70 percent of the fungi have been identified through study of cultures isolated from the decayed products. Durbin's techniques (10) for the observation and isolation of soil microorganisms adequately cover most of the methods used by various personnel through the years.

Cultural identification methods used at the Forest Disease Laboratory involve comparative study of the macroscopic and microscopic characters of the unknown isolate with those of one or more named species from the Reference Culture Collections at the laboratory. The Bavendamm method as modified by Davidson et al. (7) is used to test for the oxidase reaction. As a further aid to positive identification, haploid isolates, secured from fruiting in an unknown isolate, are paired with haploid isolates of known species when necessary and when the haploids are available.

Cultures of the species of the Polyporaceae, many of which have large and conspicuous sporophores and are readily secured in pure culture, have been studied more adequately than have those of species of the Agaricaceae, the Hydnaceae, and the Thelephoraceae. Many species of the latter families, which may well

be products fungi, have never been secured in culture, and their sporophores are difficult to identify. Many of the presently unidentified cultures from products probably will be found to be species in these three families.

Limitations of the Observations

It should be recognized that there are potential sources of error in summaries of data from any survey or collection such as this. For example:

1. The association of the fungus with decay is not proof that the fungus initiated or caused any or all of the decay.

2. Fungi which produce durable and conspicuous fruiting structures are more likely to have been reported than those producing inconspicuous fructifications or rarely producing any.

3. A summary includes surveys which place emphasis on certain products.

4. Separate studies have been restricted to particular geographic regions, so that the data are not representative of the country as a whole.

5. The relative number of products associated with fungi does not necessarily provide the best index of its prevalence. The number of isolations from different sites, from different woods, etc., must be taken into account.

6. The number of fungi that can be identified in culture is dependent on the number of reliably named species available in culture and the number of species adequately characterized in culture.

TAXONOMIC GROUPING OF THE FUNGI

Essentially all of the fungi were found to be members of 4 families in the order Agaricales (table 1), and of 6 to 10 genera in each family. The Polyporaceae, with 71 species, was associated with more than 60 percent of the products, the Thelephoraceae and Agaricaceae with 17 and 13 percent, respectively, and the Hydnaceae with less than 3 percent. It is interesting to note that although 152 species were associated with wood products, over 70 percent occurred in five genera: *Coniophora*, *Lentinus*, *Lenzites*, *Polyporus*, and *Poria*. The genus *Poria* was two to three times as frequent as any of the other four.

TABLE 1.—Prevalence of families and genera of *Basidiomycetes* associated with products

Order and family	Genus	Number of species	Number of collections
Tremellales			
Tremellaceae	Guepinia	2	5
Agaricales			
Thelephoraceae	Asterostroma	2	4
	Coniophora	5	162
	Corticium	11	35
	Peniophora	10	43
	Stereum	11	43
	Vararia	3	6
		42	293

TABLE 1.—Prevalence of families and genera of *Basidiomycetes* associated with products—Con.

Order and family	Genus	Number of species	Number of collections
Hydnaceae	Hericium	1	1
	Hydnum	1	1
	Irpex	2	3
	Odontia	5	33
	Oxydonta	1	6
	Porogramme	1	1
	Radulum	1	1
		12	46
Polyporaceae	Deedaka	3	32
	Fomes	10	64
	Ganoderma	1	1
	Lenzites	3	231
	Merulius	5	57
	Polyporus	21	127
	Poria	22	494
	Ptychogaster	2	13
	Trametes	4	28
		71	1,047
Agaricaceae	Armillaria	1	1
	Coprinus	1	6
	Gymnopilus	1	1
	Hypholoma	1	5
	Lentinus	3	163
	Naematoloma	1	2
	Paxillus	1	21
	Pholiota	3	3
	Pleurotus	1	4
	Schizophyllum	1	20
		14	216
(Unknown)		11	71
Total	5	33	1,078

No single fungus species represented more than 10 percent of the total collection (table 2). However, *Lentinus lepideus* Fr. was associated with 9 percent of the products, *Lenzites trabea* Pers. ex Fr. with 8 percent, *Poria incrassata* (Berk. & Curt.) Burt with 7 percent, and *P. monticola* Murr. with 6 percent of the products. Four more were each associated with 3 to 6 percent of the collection: *Coniophora arida* (Fr.) Karst., *L. saepiaria* (Wulf. ex Fr.), *P. vaillantii* (Fr.) Cke., and *P. xantha* (Fr.) Cke. Fifteen were represented as the decay fungus in 1 to 3 percent of the products: *C. puteana* (Schum. ex Fr.) Karst., *Fomes cajanderi* Karst., *Merulius lacrymans* Wulf.

ex Fr., *Paxillus panuoides* Fr., *Peniophora gigantea* (Fr.) Mass., *Polyporus palustris* Berk. & Curt., *P. versicolor* L. ex Fr., *Poria carbonica* Overh., *P. cocos* (Schw.) Wolf, *P. nigrescens* Bres. complex², *P. oleracea* Davidson & Lombard, *P. radiculosa* (Pk.) Sacc., *Schizophyllum commune* Fr., *Trametes serialis* Fr., and Unknown J. The remaining 128 species occurred in less than 1 percent of the products.

² Includes the following species that have not been clearly defined taxonomically: *Polyporus rigidus* Lévl., *P. zonalis* Berk., *Poria nigrescens* Bres., *P. sanguinolenta* (Alb. & Schw.) Cke., and *P. undata* (Pers.) Bres.

TABLE 2.—Associations of Basidiomycetous fungi with kind of wood, decay type, and geographical location

Fungus	Host wood			Type of decay ²	Location ¹				
	Angiosperm (hardwood)	Gymnosperm (softwood)	Unknown		North-eastern U.S.	South-ern U.S.	West-ern U.S.	Central U.S.	Un-known or outside U.S.
Tremellales									
Tremellaceae									
<i>Guepinia spathularia</i> (Schw.) Fr.		2				2		1	
<i>Guepinia</i> spp.	1	2				2			
Agaricales									
Thelephoraceae									
<i>Asterostroma cervicolor</i> (Berk. & Curt.) Mass		1		White*		1			
<i>Asterostroma</i> spp.	1	1							1
<i>Coniophora arida</i> (Fr.) Karst.	7	62	2	Brown	1	6	20	44	2
<i>C. olivacea</i> (Fr. ex Pers.) Karst.		6	1	do					2
<i>C. puteana</i> (Schum. ex Fr.) Karst.	4	43	1	do	8	14	12	14	
<i>Coniophora</i> B		12		do		10	1	1	
<i>Coniophora</i> spp.	1	21	2	do	3	5	4	12	
<i>Corticium alutaceum</i> (Schrad.) Bres.			2	Brown*				2	
<i>C. atrovirens</i> Fr. ²		5		White*		2		3	
<i>C. fuscostratum</i> Burt.		1		***			1		
<i>C. galactinum</i> (Fr.) Burt.	1	5	1	White	2	1		4	
<i>C. roseum</i> Pers.	1	1				1			
<i>C. subseriale</i> Bourd. & Galz. ²		2		Brown*				2	
<i>C. suecicum</i> Litsch.	1			White*					
<i>Corticium</i> A		7		do		1			
<i>Corticium</i> B		3		**				1	
<i>Corticium</i> C		1		**		3			
<i>Corticium</i> spp.	1	2	2		1	4			
<i>Peniophora affinis</i> Burt.		1		White*				1	
<i>P. dryina</i> (Berk. & Curt.) Rogers & Jacks.	2	1		Brown*	1	2			
<i>P. gigantea</i> (Fr.) Mass.		19	1	Brown	2	10	1	4	3
<i>P. mollis</i> (Bres.) Bourd. & Galz. ²		4		Brown*				1	3
<i>Peniophora</i> A		5		White		5			
<i>Peniophora</i> B		1		White*		1			
<i>Peniophora</i> C	1			**		1			
<i>Peniophora</i> D		1		White*		1			
<i>Peniophora</i> E			1	do					1
<i>Peniophora</i> spp.	2	2	2		1	3		2	
<i>Stereum complicatum</i> (Fr.) Fr.	8			White		6		2	
<i>S. frustulatum</i> (Pers. ex Fr.) Fekl.	15	1		White pocket.	1	8		4	3
<i>S. gausapatum</i> (Fr.) Fr.	1	1		White	1	1			
<i>S. murraili</i> (Berk. & Curt.) Burt.	1			do	1				
<i>S. purpureum</i> (Pers. ex Fr.) Fr.	6			do					6
<i>S. sanguinolentum</i> (Alb. & Schw. ex Fr.) Fr.		3		do	1			2	
<i>S. subpileatum</i> Berk. & Curt.	1			White pocket.				1	
<i>Stereum</i> A	2			**					2
<i>Stereum</i> B	1			**			1		
<i>Stereum</i> C		1		White*		1			
<i>Stereum</i> sp.		1						1	
<i>Vararia effusata</i> (Cke. & Ell.) Rogers and Jacks.			1	White*					1
<i>V. pallescens</i> (Schw.) Rogers & Jacks.		1		do		1			
<i>Vararia</i> A	1	3		do		1		3	
Hydnaceae									
<i>Hericium erinaceus</i> (Fr.) Pers.	1			White					1
<i>Hydnum</i> sp.						1			
<i>Irpex mollis</i> Berk. & Curt.	1			White		1			
<i>Irpex</i> spp.		2					1	1	
<i>Odontia bicolor</i> (Fr.) Bres.		13		White		2	1	1	9
<i>O. queletii</i> Bourd. & Galz.		1		White*		1			
<i>O. spathulata</i> (Fr.) Litsch.	1	7	3	**	1	7	3		
<i>Odontia</i> A	2			White*		2			
<i>Odontia</i> spp.	1	5			1	4		1	
<i>Oxydonia chrysothiza</i> (Torr.) Rogers & Martin		6		White*		6			
<i>Porogramme fuligo</i> (Berk. & Br.) Pat.	1			do				1	
<i>Radulum</i> sp.		1						1	

See footnotes at end of table.

TABLE 2.—Associations of Basidiomycetous fungi with kind of wood, decay type, and geographical location
—Continued

Fungus	Host wood			Type of decay ²	Location ¹				
	Angiosperm (hardwood)	Gymnosperm (softwood)	Unknown		North-eastern U.S.	South-ern U.S.	West-ern U.S.	Central U.S.	Un-known or outside U.S.
Agaricales—Continued									
Polyporaceae									
<i>Daedalea berkeleyi</i> Sacc.		10		Brown		10			
<i>D. juniperina</i> Murr.		11		do		11			
<i>D. quercina</i> L. ex Fr.	9	2		Brown	5	3			3
<i>Fomes annuus</i> (Fr.) Karst.		1		White		1			
<i>F. cajanderi</i> Karst.		23	1	Brown		9	4	10	1
<i>F. igniarius</i> (L. ex Fr.) Kickx.	3			White	1			2	
<i>F. igniarius</i> var. <i>laevigatus</i> (Fr.) Overh.	1			do		1			
<i>F. igniarius</i> var. <i>populinus</i> (Neuman) Campbell	1			do				1	
<i>F. officinalis</i> (Vill. ex Fr.) Faull.		6		Brown	1	1	3		1
<i>F. pini</i> (Fr.) Karst.		16		White	1	3	6	4	2
<i>F. pnicata</i> (Swartz ex Fr.) Cke.		1		Brown			1		
<i>F. robiniae</i> (Murr.) Sacc. & D. Sacc.	1			Yellow spongy.					1
<i>F. roseus</i> (Alb. & Schw. ex Fr.) Karst.		9	1	Brown	1	2		5	2
<i>Ganoderma appianatum</i> (Pers. ex Wallr.) Pat.	1			White				1	
<i>Lenzites betulina</i> (L. ex Fr.) Fr.	2			do			1	1	
<i>L. saepiaria</i> (Wulf. ex Fr.) Fr.	3	81	8	Brown	4	49	4	28	7
<i>L. trabea</i> Pers. ex Fr.	41	92	4	do	15	46	4	67	5
<i>Merulius himantoides</i> Fr.	3	9		do		4	7	1	
<i>M. lacrymans</i> Wulf. ex Fr.	3	17	4	do	11	3	6	4	
<i>M. pinastri</i> (Fr.) Burt.		7		**				7	
<i>M. tremellosus</i> Schrad.	2	7	1	White	1	6	1	2	
<i>Merulius</i> spp.		1	3			3			1
<i>Polyporus abietinus</i> Dicks. ex Fr.		2		White pocket.	1			1	
<i>P. adustus</i> Willd. ex Fr.	6			White				6	
<i>P. amarus</i> Hedgc.		2		Brown			2		
<i>P. anceps</i> Pk.		3		White pocket.					3
<i>P. arcularius</i> Batsch ex Fr.		1		White				1	
<i>P. balsameus</i> Pk.		10		Brown	1	2		7	
<i>P. croceus</i> Pers. ex Fr.	1			White		1			
<i>P. dichrous</i> Fr.		1	1	Brown*		2			
<i>P. fragilis</i> Fr.		1		Brown					1
<i>P. glaucus</i> (Schw.) Fr.		1		White				1	
<i>P. hirsutus</i> Wulf. ex Fr.	4	1		do	1	1		3	
<i>P. palustris</i> Berk. & Curt.	10	9		Brown	1	17			1
<i>P. pargamensis</i> Fr.	1			White					1
<i>P. schweinitzii</i> Fr.		8		Brown	1	7			
<i>P. spraguei</i> Berk. & Curt.	1			do		1			
<i>P. sulphureus</i> Bull. ex Fr.	2			do				2	
<i>P. tulipiferae</i> (Schw.) Overh.	1		1	White	2				
<i>P. versatilis</i> (Berk.) Rom.		4		White*		4		9	
<i>P. versicolor</i> L. ex Fr.	33	9	3	White	6	14	8	9	8
<i>Polyporus</i> A.	3	4		Brown		3		3	1
<i>Polyporus</i> spp.	2	2			1		1	1	1
<i>Poria ambigua</i> Bres.			2	White		2			
<i>P. carbonica</i> Overh.		27	1	Brown	3	3	19		3
<i>P. cinerascens</i> Bres. complex ⁴		9		White	1		8		
<i>P. cocos</i> (Schw.) Wolf.	4	16	2	Brown		11	10		
<i>P. ferruginosa</i> (Schrad. ex Fr.) Karst.	1			White		1			
<i>P. incrassata</i> (Berk. & Curt.) Burt.	19	74	16	Brown	15	69	9	16	
<i>P. mappa</i> Overh. & Lowe		1		**	1				
<i>P. monticola</i> Murr.	8	81	11	Brown	17	30	28	21	4
<i>P. nigra</i> (Berk.) Cke.	2			do				2	
<i>P. nigrescens</i> Bres. complex ⁴	5	12	1	White		15		1	2
<i>P. oleracea</i> Davidson & Lombard	20	6		Brown	7	13		7	
<i>P. pannocincta</i> (Rom.) Lowe	1			Brown*		1			
<i>P. radiculosa</i> (Pk.) Sacc.	1	34		Brown		31	1	3	
<i>P. subambigua</i> Bres.		1		**		1			
<i>P. tenuis</i> (Schw.) Cke.	3			White	1			2	
<i>P. unita</i> (Pers.) Cke.	3			do					
<i>P. vaillantii</i> (Fr.) Cke.	3	47	5	Brown	13	15	3	24	
<i>P. zantha</i> (Fr.) Cke.	3	44	3	do	13	20	15	5	2
<i>Poria</i> A.		2		**		3	6		
<i>Poria</i> B.		2		Brown*				2	
<i>Poria</i> C.		3		do	1	5	1	1	
<i>Poria</i> spp.	1	7	1		1	3		1	
<i>Psychogaster rubescens</i> Boud.		9	2	Brown	3	6		2	
<i>Psychogaster</i> A.	1	1		Brown*		2			
<i>Trametes hispida</i> Bagl.		1		White		1			
<i>T. odorata</i> (Wulf. ex Fr.) Fr.		1		Brown	1				
<i>T. septum</i> Berk.	2	2	3	do		3	1	2	1
<i>T. seriatis</i> Fr.	1	18		do	3	5	6	5	
Agaricaceae									
<i>Armillaria mellea</i> (Fr.) Quel.	1			White		1			
<i>Coprinus radicans</i> (Desm.) Fr.	5		1	**		2		3	1
<i>Gymnopilus</i> sp.		1				1			
<i>Hypoholoma</i> spp.		5				5			
<i>Lenzites kuyfmanii</i> A. H. Smith		2		Brown			2		
<i>L. lepideus</i> Fr.	1	143	5	do	8	50	60	27	4
<i>L. tigrinus</i> Bull. ex Fr.	2			White		2			
<i>Nematoloma sublateralitum</i> (Fr.) Karst.		2		White*		1		1	
<i>Paxillus panuoides</i> Fr.		12	9	Brown*	5	10	1	4	1
<i>Phollota adipsa</i> (Fr.) Quel.		1		White					1
<i>P. flammea</i> (Fr.) Kumm.		1						1	
<i>Phollota</i> sp.	1							1	
<i>Pleurotus ostreatus</i> (Jsecq. ex Fr.) Kumm.	3		1	White				4	
<i>Schizophyllum commune</i> Fr.	12	7	1	do	2	5	1	9	3

See footnotes at end of table.

TABLE 2.—Associations of Basidiomycetous fungi with kind of wood, decay type, and geographical location
—Continued

Fungus	Host wood			Type of decay ²	Location ¹				
	Angiosperm (hardwood)	Gymnosperm (softwood)	Unknown		North-eastern U.S.	South-ern U.S.	West-ern U.S.	Central U.S.	Un-known or outside U.S.
Unknown groups									
Chain-chlamydospore		2		Brown*				1	1
Colorado yellow		2		White			2		
Garlic odor	1	4		Brown*	2	1	1	1	
White spiral		2		White*				2	
Unknown A		13		Brown*				5	8
Unknown B		8		White*		3		5	
Unknown F	5	2		do		1		6	
Unknown J		21		Brown*			21		
Unknown K		4		White*		1		3	
Unknown L		3		do		3			
Unknown N		4		do		3		1	

¹ Northeastern United States: Connecticut (13), Maine (8), Massachusetts (18), New Hampshire (0), New Jersey (24), New York (64), Pennsylvania (49), Rhode Island (5), and Vermont (0). Southern United States: Alabama (5), Arkansas (2), Delaware (3), Florida (110), Georgia (24), Kentucky (2), Louisiana (37), Maryland (121), Mississippi (152), North Carolina (14), Oklahoma (1), South Carolina (29), Tennessee (19), Texas (24), Virginia (106), and West Virginia (2). Western United States: Arizona (3), California (35), Colorado (42), Idaho (2), Montana (34), Nevada (0), New Mexico (12), Oregon (124), Utah (1), Washington (26), and Wyoming (6). Central United States: Iowa (2), Illinois (42), Indiana (9), Kansas (8), Michigan (28), Minnesota (14), Missouri (15), Nebraska (4), North Dakota (17), Ohio (40), South Dakota (13), and Wisconsin (181).

² Based on appearance of wood or the Bavendamm oxidase reaction as modified by Davidson, et al. (7). Determinations by the Bavendamm reaction are indicated by asterisks as follows: (*) conclusive reaction, (**) doubtful reaction of either staining negative or weak positive, (***) negative reaction on gallic and positive reaction on tannic acid media.

³ Question mark following species name indicates a tentative identification.

⁴ Includes the following species that are difficult to separate culturally: *Poria cinerascens* Bres., *P. rivulosa* (Berk. & Curt.) Cke. (*P. albipellucida* Baxter), and *P. subvermispora* Filát.

⁵ Includes the following species that have not been clearly defined taxonomically: *Polyporus rigidus* Lév., *P. zonalis* Berk., *Poria nigrescens* Bres., *P. sanguinolenta* (Alb. & Schw.) Cke., and *P. undata* (Pers.) Bres.

RELATIVE PREVALENCE OF BROWN AND WHITE ROT

The Basidiomycetes cause two general types of decay—brown and white rot. These two types are distinguishable partly by the color of the decayed wood (brown vs. "white"); however, the color distinction is sometimes obscured by contaminating organisms or by the stage of decay at the time of observation. The metabolism of brown-rot and white-rot fungi in attacking wood differs considerably. The brown color has been attributed to the lignin-rich residue left by the brown-rot fungi as a result of preferential utilization of the wood carbohydrates. The lighter color caused by the white-rot fungi has been attributed to the change of certain chromogenic materials in the wood. Other characteristics that separate the brown- and white-rot fungi by their enzymatic action on wood have been reviewed by Cowling (6).

The Bavendamm oxidase reaction is a valuable diagnostic test, being about 95 percent accurate in separating the brown- and white-rot fungi (7). In this test, fungi that secrete an extracellular polyphenol oxidase of the laccase type form a colored zone in nutrient agar containing a polyphenolic material. White-rot fungi secrete this enzyme and produce a colored diffusion zone; brown-rot fungi do not possess this enzyme and give a negative reaction. Some confusing reactions occur and, as a result, a small proportion of fungi can be classed as neither brown nor white rotters by this method.

Information is not available on the type of decay or oxidase reaction produced by 30 of the

collected species but, where known, 67 of the species caused white rot and 55 caused brown rot. However, 76 percent of the products were decayed by brown-rot fungi compared with 18 percent by white-rot fungi.

The survey indicates that both brown- and white-rot fungi attack products of gymnospermous wood (softwoods) more frequently than those of angiospermous wood (hardwoods) (tables 2 and 3). White-rot fungi actually seem to be associated more often with angiospermous than gymnospermous woods used above ground. This apparent host preference in nature was also indicated in a survey of mycological literature (5). Laboratory studies by Duncan (9) have shown a greater capacity of several white-rot fungi to cause decay in nondurable angiospermous than in nondurable gymnospermous woods. With respect to wood in ground contact, however, white-rot fungi were observed as often and in some cases more frequently on softwoods than brown-rot fungi in a like situation. In stake tests made by Zabel and Moore (22), using gymnospermous wood, white-rot fungi were more prevalent than brown-rot species.

In considering the prevalence and distribution of brown and white rot in the collection data, it should be recognized that approximately four times more softwood than hardwood products were available for study. It is also significant that more than half of the products were in contact with the soil.

TABLE 3.—Prevalence of white and brown rots in angiospermous and gymnospermous products¹

Number of species by type of decay ²	Number of collections from indicated types of host woods			
	Angio-sperm	Gymno-sperm	Unknown	Total
White: 43.....	121	101	11	233
White*: 24.....	11	57	2	70
	132	158	13	303
Brown: 41.....	157	973	83	1,213
Brown*: 14.....	5	58	3	66
	162	1,031	86	1,279
Inconclusive	10	27	6	43
Inconclusive result	0	1	0	1
Unknown:	12	31	9	52
	22	59	15	96
Tota	316	1,248	114	1,678

GEOGRAPHIC DISTRIBUTION OF THE FUNGI

Table 2 includes the associations of all species in the collection with the location. The geographic areas having the higher numbers of collections are the Eastern, Southern, and Central States, where concentrated efforts to collect have been made. States principally represented in these areas are New York, Pennsylvania, Maryland, Virginia, Florida, Mississippi, and Wisconsin. However, it is probable that many of the fungal species are equally well represented in other areas.

Thus, the data in table 2 do not indicate conclusively that any fungus or group of fungi are markedly more prevalent than others in a given area with a variety and abundance of wood products. However, general observations or studies of collections by others point to a few definite regional prevalences. For example, *Poria incrassata* normally inhabits the southern and coastal regions of relatively mild climates. *Merulius lacrymans*, on the other hand, prefers a

cool climate and will not fully develop in areas where warm temperatures prevail. These distribution responses to temperature probably would be conspicuous if a large-scale study were made. Occurrence of these two fungi in regions generally unfavorable to them usually can be attributed to transportation of infected lumber and its placement under conditions of favorable temperatures. Such distribution is artificial, and thus the associated decay problem tends to be small. *Daedalea berkeleyi*, limited to the South probably by its temperature requirements, is another species that might show regional predilections upon more comprehensive sampling.

The local climate, site, and availability of favorable host species are probably the dominant distribution factors for the majority of the fungi. Additional information on the geographic distribution of the fungi can be found in the literature on the taxonomy of wood-rotting Basidiomycetes.

PREVALENT SPECIES ON ANGIOSPERMOUS AND GYMNOSPERMOUS WOODS

Table 4 shows the more prevalent of the fungal species associated with wood in the angiospermous and gymnospermous groups by various levels of decay resistance. Approximately 40 percent (78) of the species were associated with angiospermous

woods, which represented 19 percent of the collection; but only about 7 percent occurred more than 5 times and 3 percent more than 10 times. These more prevalent species were about equally associated with nonresistant and moderately

resistant hardwoods, but as might be expected, they were considerably less on those hardwoods considered most durable. Of the 6 fungi occurring more than 10 times, *Lenzites trabea*, *Poria incrassata*, and *P. oleracea* are brown-rot species whereas *Polyporus versicolor*, *Schizophyllum commune*, and *Stereum frustulatum* (Pers. ex Fr.) Fckl. are white-rot species.

One-half of the fungi occurring most frequently on hardwoods also occurred on softwoods: *Conio-*

phora arida, *Lenzites trabea*, *Poria incrassata*, *P. monticola*, *P. oleracea*, *P. xantha*, and *Polyporus versicolor*. The first six of these are brown-rot fungi and except for *Poria oleracea* were more prominently associated with softwoods than hardwoods. *Polyporus versicolor*, a white-rot fungus, and *Poria oleracea*, a brown-rot fungus, were found more frequently on hardwoods than on softwoods.

TABLE 4.—Occurrence of the more common fungi on gymnospermous and angiospermous woods (softwoods and hardwoods)

Fungus	Collection total	Frequency of collections from wood having various levels of decay resistance			Fungus	Collection total	Frequency of collections from wood having various levels of decay resistance		
		Non-resistant	Moderately resistant	Resistant or very resistant			Non-resistant	Moderately resistant	Resistant or very resistant
GYMNOSPERMOUS WOODS ¹					GYMNOSPERMOUS WOODS —Con.				
Species occurring more than 5 times:	No.	No.	No.	No.	Species occurring more than 5 times	No.	No.	No.	No.
<i>Lenzites trabea</i> ¹	143	125	18	25	<i>M. tremellosus</i>	7	6	1	—
<i>L. saepiaria</i>	81	75	5	1	<i>Poria C.</i>	7	7	—	—
<i>Poria monticola</i> ²	81	45	34	2	<i>Schizophyllum commune</i>	7	3	1	3
<i>P. incrassata</i> ²	74	64	9	1	<i>Poria A.</i>	7	5	2	—
<i>Coniophora arida</i> ²	62	55	7	—	<i>Coniophora olivacea</i>	6	6	—	—
<i>Poria vaillantii</i>	47	38	9	—	<i>Oryzonia chrysorhiza</i>	6	6	—	—
<i>P. xantha</i> ²	44	27	17	—	<i>Fomes officinalis</i>	6	1	5	—
<i>Coniophora puteana</i>	43	31	6	6	<i>Poria oleracea</i> ²	6	3	—	3
<i>Poria radiculosa</i>	34	33	1	—	Total (46)	1,113	854	174	85
<i>P. carbonica</i>	27	5	22	—	Species (67) occurring less than 5 times	140	114	8	18
<i>Fomes cajanderi</i>	23	18	1	4	ANGIOSPERMOUS WOODS ²				
<i>Coniophora spp.</i>	21	21	—	—	Species occurring more than 5 times:	No.	No.	No.	No.
Unknown J.	21	21	—	—	<i>Lenzites trabea</i> ²	41	34	6	1
<i>Pentophora gigantea</i>	19	19	—	—	<i>Polyporus versicolor</i> ²	33	21	9	3
<i>Merulius lacrymans</i>	17	13	2	2	<i>Poria oleracea</i> ²	20	—	15	5
<i>Trametes serialis</i>	18	7	11	—	<i>P. incrassata</i> ²	19	5	14	—
<i>Fomes pini</i>	16	10	5	1	<i>Stereum frustulatum</i>	15	—	11	4
<i>Poria cocos</i>	15	14	1	—	<i>Schizophyllum commune</i>	12	8	3	1
<i>Odontia bicolor</i>	13	18	—	—	<i>Polyporus palustris</i>	10	5	3	2
Unknown A.	13	8	—	5	<i>Daedalea quercina</i>	9	—	7	2
<i>Coniophora B.</i>	12	12	—	—	<i>Poria xantha</i> ²	8	2	6	—
<i>Poria nigrescens</i>	12	—	12	—	<i>P. monticola</i> ²	8	—	6	2
<i>Paxillus panuoides</i>	12	10	2	—	<i>Stereum complicatum</i>	8	1	7	—
<i>Daedalea juniperina</i>	11	—	11	—	<i>Coniophora arida</i> ²	7	7	—	—
<i>D. berkeleyi</i>	10	10	—	—	<i>Stereum purpureum</i>	6	6	—	—
<i>Polyporus balsameus</i>	10	10	—	—	<i>Polyporus adustus</i>	6	3	3	—
<i>Fomes roseus</i>	9	7	1	1	Total (14)	202	92	90	20
<i>Merulius himantiooides</i>	9	5	3	1	Species (64) occurring less than 5 times	114	52	38	24
<i>Polyporus palustris</i>	9	7	2	—					
<i>P. versicolor</i> ²	9	7	—	2					
<i>Poria cinerascens</i>	9	8	1	—					
<i>Ptychogaster rubescens</i>	8	7	—	1					
<i>Polyporus schweinitzii</i>	8	8	—	—					
Unknown E.	8	8	—	—					
<i>Corticium A.</i>	7	7	—	—					
<i>Odontia spatulata</i>	7	7	—	—					
<i>Merulius pinastri</i>	7	5	2	—					

¹ Resistant: Incense-cedar, redwood, cypress, cedar, and yew. Moderately resistant: Larch and Douglas-fir. Non-resistant: Fir, spruce, pine, hemlock.

² Occurred on both angiospermous and gymnospermous woods.

³ Resistant: Chestnut, white oak, and locust. Moderately resistant: Sweetgum, oak (except white), and mahogany. Non-resistant: Maple, alder, madrone, birch, hickory, yugruma, beech, ash, poplar, tanoak, sweetbay, panarium, willow, basswood, elm.

About 60 percent (113) of the species were associated with gymnospermous woods, which represented 81 percent of the collection. Of these species, 24 percent occurred more than 5 times and 13 percent more than 10 times. The 10 most prevalent fungi on softwoods were *Coniophora arida*, *C. puteana*, *Lenzites lepideus*, *Lenzites saepiaria*, *L. trabea*, *Poria incrassata*, *P. monticola*, *P. radiculosa*, *P. vaillantii*, and *P. xantha*. Five of these also occurred on hardwoods.

The occurrence of the species attacking soft-

woods was in inverse order to the decay-resistance of the wood. In the case of the species attacking hardwoods, there was, with some exceptions, a similar but less pronounced relationship to decay-resistance. As exceptions, about one-fourth of the softwood products attacked by *Lenzites trabea* possessed considerable, natural resistance. In addition, *Daedalea juniperina* Murr. and *Poria nigrescens* complex were also notably tolerant of naturally resistant gymnospermous wood products.

FUNGI ASSOCIATED WITH VARIOUS PRODUCTS

The associations of the different species of fungi with various kinds of products are shown in table 5. The species most prevalently associated with each of the major product groups are:

Unseasoned raw products
Poria incrassata (Berk. & Curt.) Burt (15)³
Polyporus versicolor L. ex Fr. (12)

³ Number in parentheses refers to number of times the species was observed.

Fomes pini (Fr.) Karst. (9) (originating in the tree as heartrot)

Peniophora gigantea (Fr.) Mass. (8)
Poria cinerascens Bres. complex⁴ (8)
Lenzites saepiaria (Wulf. ex Fr.) Fr. (6)
L. trabea Pers. ex Fr. (6)
Stereum purpureum (Pers. ex Fr.) Fr. (6)

⁴ Includes the following species that are difficult to separate culturally: *Poria cinerascens* Bres., *P. rivulosa* (Berk. & Curt.) Cke. (*P. albipellucida* Baxter), and *P. subvermispora* Pilát.

TABLE 5.—*Basidiomycetes associated with various types of wood products*¹

Fungus	Unseasoned raw products	Posts, poles, piling, ties	Transportation items	Buildings	Miscellaneous	Experimental material	
						Above ground	Below ground
<i>Tramellaceae</i>							
<i>Guepinia spathularia</i> <i>Guepinia</i> spp.			Boat batten (1) Boat (1)	Porch step (1)	Greenhouse bench (1)		Stake (1)
<i>Thelephoraceae</i>							
<i>Asterostroma cervicolor</i> <i>Asterostroma</i> spp.				Insulating board (1); porch step (1).	Greenhouse board (1). Unknown (1).		
<i>Coniophora arida</i> <i>C. olivacea</i> <i>C. puteana</i>		Pole (1) Poles (2)	Tugboat (1)	Houses (2) Sill (1)			Stakes (69) Stakes (5)
<i>Coniophora B.</i> <i>Coniophora</i> spp.	Lumber (1); pulplog (1).			Joist and sills (7); timbers (3); flooring (2).	Cold storage room (1); beer vat support (1); cellar bin (1); root cellar (1).	Post rail (1).	Stakes (25)
<i>Corticium alutaceum</i>				Flooring (4); Stored boards (1); joist (1).			Stakes (12) Stakes (16)
<i>C. atroviens</i> ? ² <i>C. fuscostratum</i> <i>C. galactinum</i> <i>C. roseum</i>	Lumber (1)				Icebox (1); wood fiber product (1).		Stakes (5)
<i>C. subseriale</i> ? ² <i>C. suecicum</i>	Old lumber pile (1).			Joist (1); houses (3)			Stakes (3)
<i>Corticium A.</i> <i>Corticium B.</i> <i>Corticium C.</i> <i>Corticium</i> spp.		Railroad tie (1).					Stakes (2)
<i>Coniophora affinis</i> <i>P. dryina</i> <i>P. gigantea</i>				Window frame (1). Siding (3).	Wheelbarrow handle (1).		Stakes (7)
<i>P. mollis</i> ? ² <i>Peniophora A.</i> <i>Peniophora B.</i> <i>Peniophora C.</i>				Sill and joist (1); flooring (1).			Stakes (2)
<i>Peniophora D.</i> <i>Peniophora E.</i> <i>Peniophora</i> spp.				House (1); cabins (2). Beams and trusses (2).	Magazine igloo (1).		Stake (1)
<i>Stereum complicatum</i>	Pulpwood (6); log in cabin (1); lumber (1).	Railroad tie (1); poles (5); posts (2); piling (1).					
<i>S. frustulatum</i>					Cooling towers (4)		Stakes (3) Stake (1)
<i>S. gausapatum</i> <i>S. murrayi</i> <i>S. purpureum</i> <i>S. sanguinolentum</i> <i>S. subpileatum</i> <i>Stereum A.</i>							Stake (1)
<i>Stereum B.</i> <i>Stereum C.</i> <i>Stereum</i> sp. <i>Vararia effusata</i>	Stored log (1). Lumber (2).	Railroad tie (1); post (1).		Sills (2)			
		Posts (2)	Boat (1); corner posts (3); launch fender (1).				Stake (1)
		Post (1); railroad ties (5).	Tugboat frames (2); boats (2); tugboat railing (1); tugboat planking (1); tugboat (1); boat timber (1); ferryboat rail (1); barge cushion deck (1).				
	Lumber (1). Pulpwood (6). Pulplogs (3).				Pier (1)	Post rail (1)	
	Stored logs (2).		Plank (1).				Stake (1) Do. Do.
					Crate (1)		

TABLE 5.—Basidiomycetes associated with various types of wood products ¹—Continued

Fungus	Unseasoned raw products	Posts, poles, piling, ties	Transportation items	Buildings	Miscellaneous	Experimental material	
						Above ground	Below ground
Thelephoraceae—Continued							
<i>V. pallescens</i>					Greenhouse board (1).		Stakes (4)
<i>Varuria</i> A.							
Hydnaceae							
<i>Hericium erinaceus</i>			Ferryboat frame (1)				
<i>Hydnium</i> sp.		Arbor post (1).					
<i>Irpex mollis</i>		Grapevine post (1).					
<i>Irpex</i> spp.				Floor (1); shingle(1)			
<i>Odontia bicolor</i>					Cold storage door (1)	Ammunition boxes (9).	Stakes (3)
<i>O. queletii</i>				Sill (1)			
<i>O. spatulata</i>				Step (1); houses (3)			Stakes (7)
<i>Odontia</i> A.					Cooling towers (2)		
<i>Odontia</i> spp.		Pole (1)	Boat(1); motor launch (1).	House timbers (2); porch (1).			Stakes (6)
<i>Oxydonia chrysothiza</i>							
<i>Porogramme fuligo</i>	Lumber (1)						
<i>Radium</i> sp.				Shingle (1)			
Polyporaceae							
<i>Daedalea berkeleyi</i>	Lumber (1)	Railroad ties (6).		Stringer block (1)			Stakes (2)
<i>D. juniperina</i>		Fence posts (3).					Stakes (8)
<i>D. quercina</i>		Piling (1)	Cruiser chime (1); cruiser knee (1); yacht butt blocks (2); barge cushion deck (1); barge hatch coaming (1); rowboat oar lock (1); cruiser planking (1); tugboat decking (1).		Pier to swinging bridge (1).		
<i>Fomes annosus</i>	Cabin log (1).						
<i>F. cajanderi</i>	Lumber (1); pulpwood (1).	Railway ties (2); poles (3); fence rails (2).	Hull (1); planking (1).	Floor (1)	Unknown (1)		Stakes (11)
<i>F. igniarius</i>	Lumber (1)	Post (1)				Plywood panel (1).	
<i>F. igniarius</i> var. <i>laev.</i>	do						
<i>F. igniarius</i> var. <i>pop.</i>	Pulpwood (1).						
<i>F. officinalis</i>	Lumber (5)		Boat (1)				
<i>F. pint.</i>	Pulplog (1); lumber (8).	Railway tie (1); post (1).		Floor (1); house (1)	Mine timber (1); Unknown (1).	Plywood panel (1).	
<i>F. pinicola</i>		Pole (1)					
<i>F. robiniae</i>		Post (1)					
<i>F. roseus</i>	Pulplog (1); pulpwood (1); lumber (2).		Sill (1); furring strip (1).	House (1)	Cold storage room (1); tank (1).		Stake (1)
<i>Ganoderma applanatum</i>			Boat (1)				
<i>Lenzites betulina</i>	Lumber (1)	Railway tie (1).					
<i>L. suepilaria</i>	Fence log (1); pulplog (1); lumber (4).	Railway tie (1); poles (8).	Baggage car (1); barge hull (1); beam (1); cruiser roof (1); carrier decks (4); barge deck planking (2); barge (1); schooner deck (1); scow (1).	Joist (1); window frame (1); garage door (1); garage siding (1); shed roof (1).	Cold storage door (1); tower top (1); tower brace (1); bridge timber (1); beach chair (1); test platform (1); gate brace (1); boat dock (1).	Test boxes (7); rail posts (6).	Stakes (38)
<i>L. trabea</i>	Lumber (5); Pulplog (1).	Fence posts (2); poles (12); railway ties (6).	Auto bodies (13); baggage cars (2); cart (1); motor launch forepeak (1); fillers (1); whale boat forepeak (1); thwart (1); boat rib (1); motor launch decks (2); motor launch locker seats (11); motor launch oars (2); boats (11); sailboat cabins (2); steamer seat (1); boat deck (1); cruiser (1); gun whale (1); schooner deck (1).	Flooring (2); porches (4); window frames or shutters (23); siding (8); shingles (2); balcony (1); doors (4); roof (1); building (1).	Cooling tower (1); lawn chairs (2); machinery (1); telephone booth (1); boat vehicle track (1); outdoor theatre seat (1).	Plywood panel (1).	Stakes (8)
<i>Merulius himantoides</i>		Pole (1)		Boards (2)			Stakes (9)
<i>M. lacrymans</i>	Lumber (5)			Foundation (1); beams (2); flooring (4); lath (1); houses (4); siding (1).	Mine timbers (3); pier (1); coal bin (1).		Stake (1)
<i>M. pinastri</i>						Boxes (2)	Stakes (5)
<i>M. tremellosus</i>		Vineyard post (1); fence posts (2); poles (4).	Cruiser (1)				Stakes (2)

See footnotes at end of table.

TABLE 5.—*Basidiomycetes associated with various types of wood products* ¹—Continued

Fungus	Unseasoned raw products	Posts, poles, piling, ties	Transportation items	Buildings	Miscellaneous	Experimental material	
						Above ground	Below ground
Polyporaceae—Con. <i>Merulius</i> spp.	Woodpile (1); pulpwood (1).	Post (1)			Picnic table (1)		
<i>Polyporus abietinus</i> .		Pilings (2)					
<i>P. adustus</i>	Stored logs (2); pulpwood (1); lumber(1).	Tie (1)			Machinery foundation (1).		
<i>P. amarus</i>	Lumber (2)						
<i>P. anceps</i>	Pulplogs (2)	Railway tie (1).					
<i>P. arcularius</i>					Outdoor seat (1)		
<i>P. balsameus</i>	Lumber (1)						Stakes (9)
<i>P. croceus</i>	do.						
<i>P. dichrous</i>	Log in cabin (1).				Root cellar (1)		
<i>P. fragilis</i>				Porch (1)			
<i>P. gilvus</i>							Stake (1)
<i>P. hirsutus</i>		Railway ties (3); pole (1).				Plywood panel (1).	
<i>P. palustris</i>	Pulpwood (1).	Post (1); railway ties (2); pole (1).	Trolley car (1); boat bit (1); schooner deck (1); warship bridge (1); motor launch (1); boat decks (2); boat fender (1); boats (3). Boat plank (1)		Flume (1); dyehouse roof (1); millroof (1).		
<i>P. purgamentus</i>							Stakes (7)
<i>P. schweinitzii</i>	Lumber (1)						
<i>P. spraguei</i>		Pole (1)					
<i>P. sulphureus</i>	Lumber (1)		Ferryboat fender (1)				
<i>P. tulipiferae</i>					Mine structure (1); porch chair (1).		
<i>P. versatilis</i>		Poles (2); post (1).	Boat support (1)				
<i>P. versicolor</i>	Stored log (1); pulpwood (7); pulp chip (1); lumber (3).	Poles (2); railway tie (1).	Wagon body (1); chime (1); gusset (1); batten (1); floor (1); motor launch locker seats (2); barge deck (1); planks (2); cruiser catwalk (1); boat (1).		Cooling tower (1); mine timber (1); lawn chairs (2); ladder (1); stove (1).	Laminated piece (1).	Stakes (8)
<i>Polyporus</i> A		Pole (1)	Motor launch locker seats (3).		Cooling towers (2)		Stake (1)
<i>Polyporus</i> spp.	Lumber (1)	do.			Lawn chair (1); park bench (1).		
<i>Poria ambigua</i>			Boat frames (2)				
<i>P. carbonica</i>		Piling (1); poles (13).	Plank (1); scow (1); tug and carrier decks (2); mast (1); hatch (1).	Ceilings (2); floor (1)	Anchor post (1)		Stakes (4)
<i>P. cinerascens</i> complex.	Board (1); wood chips (7).			Flooring (1)			
<i>P. cocos</i>	Lumber (2)	Fence posts (2).		Floor (1); wall (1)			Stakes (15)
<i>P. ferruginosa</i>			Window sill (1)				
<i>P. incrassata</i>	Lumber (15)			Flooring (56); joists and sills (6); roof (1); houses (6); siding (1); baseboards (2); doors (2); studs (2); wallboard (3); stairs (2); columns (2).	Bridge (1)		Stakes (7)
<i>P. mappa</i>							
<i>P. monticola</i>	Lumber (5)	Poles (10)	Cruiser knee (1); hulls and planking (10); beams (2); chimies (2); stringers (2); compartments (2); transom (1); ceilings (2); rising (1); stud (1); boats (14); raft (1); deck (1); covering boards (2).	Flooring (4); houses (2); doors (3); sills (3).	Bridge hand rail (1); Oil well shafts (2); wooden bridges (2); window shade picket (1).	Post rail (1)	Stakes (25)
<i>P. nigra</i>		Pole (1)	Boat (1)				
<i>P. nigrescens</i> complex.		Vineyard posts (5).	do.		Cooling towers (11); stove (1).		
<i>P. oleracea</i>		Railway tie (1).	Motor launch transom (1); chime (1); cruiser knees (2); earling (1); bit post (1); timbers (6); stern (1); decking (1); planking (2).	House (1); porch step (1).	Cooling towers (3); insulator pin (1).		Stakes (4)
<i>P. pannocincta</i>	Log in cabin (1).						
<i>P. radiculosa</i>	Lumber (1)	Poles (8)		Joist (1)	Greenhouse bench (1)		Stakes (25)
<i>P. subambigua</i>			Wagon body (1)		Outdoor seats (2)		
<i>P. tenuis</i>							
<i>P. unita</i>		Post (1)	Cabin (1)	Porch step (1)			

See footnotes at end of table.

TABLE 5.—*Basidiomycetes associated with various types of wood products*¹—Continued

Fungus	Unseasoned raw products	Posts, poles, piling, ties	Transportation items	Buildings	Miscellaneous	Experimental material	
						Above ground	Below ground
Polyporaceae—Con. <i>P. vaillantii</i>		Poles (4).....		Sills (4); girder (1); flooring (1); sheathing (1); houses (10); porch (1).	Double tree (1); barrel (1).		Stakes (31)
<i>P. xantha</i>	Boards on ground (2); log in cabin (1); lumber (1).	Poles (6).....	Upright (1); floor support (1); butt block (1); transoms (3); planks (6); knees (1); decks (4); barges (3); mast (1); boats (2); bulwark (1); sailboat timber (1); aircraft carrier (1).	Sills (2); beams (2).....	Pile driver (1); unknown (1); dry deck wall (1).		Stakes (12)
<i>Poria</i> A.....		do.....					Stakes (3)
<i>Poria</i> B.....			Deck (1).....	Floor (1).....		Box (1).....	Stake (1)
<i>Poria</i> C.....				Floors (3); joist (1).			Stakes (5)
<i>Poria</i> spp.....		Pole (1).....		Sills and joists (3); houses (4).	Greenhouse bench (1).		Stake (1)
<i>Ptychogaster rubescens</i>		Poles (2).....					
<i>Ptychogaster</i> A.....	Pulp chips (2).						
<i>Trametes hispida</i>		Post (1).....			Guard rail (1).....		
<i>T. odorata</i>							
<i>T. septium</i>	Pulpwood (1)	Posts (2).....		House (1); step (1); building (1).		Plywood panel (1).	
<i>T. serialis</i>	Lumber (4).....	Poles (3); piling (1); railway tie (1).	Mast (1).....	Flooring (3); roof (1); doors (2); sheathing (1); beam (1); structural timber (1).			
Agaricaceae							
<i>Armillaria mellea</i>	Lumber (1)						
<i>Coprinus radians</i>	Log disk (1); lumber (1).		Auto body (1); glider (1).	Flooring (1); lath (1).....			
<i>Gymnopilus</i> sp.....		Fence post (1).					
<i>Hypoloma</i> spp.....							Stakes (5)
<i>Lenzites kauffmanii</i>	Boards (2)						
<i>L. lepideus</i>	Lumber (4).....	Piling (1); railway ties (5); poles (94); posts (3).	Barge hull (1); deck beams (1).				Stakes (40)
<i>L. tigrinus</i>	Wood chip (1).	Railway tie (1).					
<i>Naematoloma sublat-eritium</i>		Pole (1).....					Stake (1)
<i>Paxillus panuoides</i>		do.....	Scow (1).....	Sills and joists (11); houses (5); floors (2); header (1); church (1).			
<i>Phollota adiposa</i>	Lumber (1).....						
<i>P. flammans</i>				Shingle (1).....			
<i>Phollota</i> sp.....	Lumber (1).....						
<i>Pleurotus ostreatus</i>		Fence posts (3).		Flooring (1).....	Insulator pin (1).....		
<i>Schizophyllum commune</i>	Lumber (1); plywood (1).	Piling (1); posts (6); railway tie (1).	Auto top (1); boat (1); steamer seat (1).		Cooling tower (1); stadium seat (1); lawn chair (1); keg (1); signboard (1); crate (1).		
Unclassified							
Chain-chlamydospore		Pole (1).....					Stake (1)
Colorado yellow							Stakes (2)
Garlic-odor			Scow (1); planking (1); schooner but-tock (1).	House (1).....			Stake (1)
White spiral							
Unknown A.....					Cooling tower sup-ports (5).	Boxes (8).....	Stakes (2)
Unknown E.....							Stakes (8)
Unknown F.....							Stakes (7)
Unknown J.....		Poles (21).....					Stakes (4)
Unknown K.....							Stakes (4)
Unknown L.....							Stakes (3)
Unknown N.....							Stakes (4)

¹ Figures in parentheses show the number of times the association was observed.
² Question mark following species name indicates a tentative identification.

Poles, posts, ties, etc.

- Lenzites lepideus* Fr. (103)
- Unknown J (21)
- Lenzites trabea* Pers. ex Fr. (20)
- Poria carbonica* Overh. (14)
- P. monticola* Murr. (10)
- Lenzites saepiaria* (Wulf. ex Fr.) Fr. (9)

- Peniophora gigantea* (Fr.) Mass. (9)
- Poria radiculosa* (Pk.) Sacc. (8)
- Schizophyllum commune* Fr. (8)
- Fomes cajanderi* Karst. (7)
- Merulius tremellosus* Schrad. (7)
- Daedalea berkeleyi* Sacc. (6)
- Poria xantha* (Fr.) Cke. (6)

- Poria* A (6)
Stereum frustulatum (Pers. ex Fr.) Fckl. (6)
- Smaller wood items in ground contact (largely experimental stakes)
- Coniophora arida* (Fr.) Karst. (69)
Lentinus lepideus Fr. (40)
Lenzites saepiaria (Wulf. ex Fr.) Fr. (38)
Poria vaillantii (Fr.) Cke. (31)
C. puteana (Schum. ex Fr.) Karst. (25)
P. monticola Murr. (25)
P. radiculosa (Pk.) Sacc. (25)
P. cocos (Schw.) Wolf (15)
Coniophora B (12)
Poria xantha (Fr.) Cke. (12)
Fomes cajanderi Karst. (11)
Merulius himantioides Fr. (9)
Polyporus balsameus Pk. (9)
Daedalea juniperina Murr. (8)
Lenzites trabea Pers. ex Fr. (8)
Polyporus versicolor L. ex Fr. (8)
Unknown E (8)
Odontia spathulata (Fr.) Litsch. (7)
Polyporus schweinitzii Fr. (7)
Poria incrassata (Berk. & Curt.) Burt (7)
Corticium A (7)
Unknown F (7)
Oxydontia chrysorhiza (Torr.) Rogers & Martin (6)
- Transportation items
- Lenzites trabea* Pers. ex Fr. (53)
Poria monticola Murr. (42)
P. xantha (Fr.) Cke. (26)
P. oleracea Davidson & Lombard (16)
Lenzites saepiaria (Wulf. ex Fr.) Fr. (13)
Polyporus versicolor L. ex Fr. (12)
P. palustris Berk. & Curt. (11)
Daedalea quercina L. ex Fr. (9)
Stereum frustulatum (Pers. ex Fr.) Fckl. (8)
Poria carbonica Overh. (6)
- Wood Buildings
- Poria incrassata* (Berk. & Curt.) Burt (83)
Lenzites trabea Pers. ex Fr. (44)
Paxillus panuoides Fr. (18)
Poria vaillantii (Fr.) Cke. (18)
Coniophora puteana (Schum. ex Fr.) Karst. (13)
Merulius lacrymans Wulf. ex Fr. (13)
Poria monticola Murr. (12)
Trametes serialis Fr. (9)
- Special structures (cooling towers)
- Poria nigrescens* Bres. complex (11)
- Miscellaneous wood items situated above ground
- Lenzites saepiaria* (Wulf. ex Fr.) Fr. (13)
Odontia bicolor (Fr.) Bres. (9)
Unknown A (8)
- In the several surveys of the fungi responsible for the decay of buildings in the United States (1, 12, 14, 15, 16, 20), *Poria incrassata* is indicated

to be by far the most important building-decay fungus. This, though supported by the data in this paper, is misleading: *P. incrassata* is not prevalent outside the South, but has received more individual attention than other building fungi because of the spectacular and rapid decay that it causes. Therefore, more cases of this building-decay fungus have been brought to the attention of our laboratories. *Fomes roseus* (Alb. & Schw. ex Fr.) Karst. and *Lenzites saepiaria*, mentioned by earlier workers, are considered important fungi in building decay but were not prevalent in buildings represented in the present summary. Cartwright and Findlay (3, 4) consider *C. puteana*, *Merulius lacrymans*, *Paxillus panuoides*, and *Poria vaillantii* to be important building-decay species in England. In the present survey these fungi were found also to be frequent associates of decay in buildings in the United States. Richards (16) also notes that *M. lacrymans* is very destructive to buildings in northern United States and Canada. It is rare in the South, undoubtedly because it does not tolerate the higher temperatures there.

Silverborg (18, 19) made an extensive survey of wood buildings in New York State and found 25 percent of his collections to be *Odontia spathulata* and *Lenzites saepiaria*. He also found the following species in considerable number: *Coniophora puteana*, *Corticium scutellare* Berk. & Curt., *Grandinia farinacea* (Pers. ex Fr.) Bourd. & Galz., *Lenzites trabea*, *Peniophora pubera* (Fr.) Sacc., *Poria ferruginosa* (Schrad. ex Fr.) Karst., *P. vaillantii*, *P. xantha*, and *Schizophyllum commune*.

The present summary includes the survey by Davidson et al. (8) in which *Lenzites saepiaria*, *Poria carbonica*, *P. monticola*, and *P. xantha* were reported as the most important causes of decay of softwoods in boats and *Daedalea quercina*, *P. oleracea*, and *Stereum frustulatum* the most important causes of decay in boat hardwoods. Although the present survey includes additional collections from boats, the relative importance of these fungi as decay agents in boats and other transportation products on land has not changed.

In the present survey *Lenzites trabea* was found to be the most common fungus damaging transportation items on land.

Richards (17) lists many fungi as important in decay of ties made of various wood species. This survey showed several of these fungi to be occasionally associated with ties, poles, etc., but only six appear to be frequent associates: *Fomes cajanderi*, *Lentinus lepideus*, *Lenzites saepiaria*, *L. trabea*, *Peniophora gigantea*, and *Schizophyllum commune*. Probably *S. commune* is more commonly observed than the others in the group because its presence is readily apparent by its sporophores, which are produced early.

FUNGIOUS ASSOCIATIONS WITH WOOD PRESERVATIVES

Laboratory tests have shown that certain fungi are much more tolerant of some chemicals than others. Limited isolations from treated wood in service have indicated that the effectiveness of a particular wood preservative may be determined considerably by the species of decay fungi with which it comes in contact. Such evidence has been meager—nosystematic attempts have been made to isolate fungi from wood of known treatment in the initial stages of decay, and isolation from decayed wood long in service is difficult and of doubtful significance because of contaminating organisms or secondary wood destroyers.

An attempt is being made to secure information about the fungi that attack and cause failure of treated wood. It is hoped that specific associations between fungi and preservatives, in different environments, can be found. Such information would help determine whether soil-inhabiting decay fungi differ enough from locality to locality, or even within the same locality, to variably influence the performance of preservative treatments. Fungus variation in reactions to preservatives, soil type, or ground-cover, individually or in combination, would be a matter for consideration in determining whether there is need for a wider replication of field tests in different places or for more attention to these factors in predicting preservative requirements.

To provide the needed data on fungi and treated wood in these respects, pine sapwood stakes, sawed in half lengthwise from 2- by 4- by 18-inch

boards pressure treated with known retentions of common and some new preservatives, have been set at Madison, Wis., Gulfport, Miss., and Corvallis, Oreg. At each of these locations, the stakes are exposed on two sites that differ in soil and ground-cover environment. With respect to number and kind of treatment in each case, the stakes on the six sites are essentially alike. As soon as decay becomes apparent in the stakes, isolations of the causal fungi are made and an identification attempted.

The information obtained so far from these treated stakes is insufficient to answer questions or to warrant drawing conclusions. However, the fungi obtained and identified from early harvesting of stakes treated with 15 different preservatives and set in 3 locations and 6 sites are given in table 6. A few associations are perhaps evident, based on the fungal species presently identified for this study. To date *Coniophora arida* has been the predominant species isolated from stakes set in the Madison woods and Corvallis Douglas-fir woods plots. This species, not ordinarily used as a laboratory test fungus, has been found with 13 of the 15 test preservatives. *Poria vaillantii* has been associated with seven and *Coniophora B* with six of the preservatives in the test. Other fungi identified so far have been limited to no more than four of the preservatives. At present, we have no information from laboratory tests on the tolerance limits of *C. arida*.

TABLE 6.—Fungi¹ associated with early decay of preservative-treated pine sapwood test stakes in three geographic areas

Preservative ²	Madison, Wis., area		Gulfport, Miss., area		Corvallis, Oreg., area		Collections in all sites
	Open prairie	Oak woods	Hardwood forest	Pine forest	Douglas-fir woods	Open field	
Acid-copper-chromate...	<i>Polyporus balsameus</i> (1).	<i>Coniophora arida</i> (1). <i>Coniophora</i> spp. (3). <i>Polyporus balsameus</i> (1).		<i>Coniophora B</i> (1).	<i>Coniophora arida</i> (3). <i>Coniophora</i> sp. (1). <i>Poria xantha</i> (1).		12
Chromated copper zinc arsenate.	Unknown N (1)...	<i>Poria incrassata</i> (1)...	<i>Poria vaillantii</i> (1)...				3
Chromated zinc chloride.		<i>Coniophora arida</i> (1). <i>Polyporus balsameus</i> (3).	<i>Polyporus balsameus</i> (1).		<i>Coniophora arida</i> (2). <i>Polyporus schweinitzii</i> (1).		8
Copperized chromated zinc chloride.		<i>Poria vaillantii</i> (1). <i>Coniophora arida</i> (1). <i>Polyporus balsameus</i> (1).					4
Copper naphthenate.		<i>Guepinia</i> sp. (1). <i>Poria monticola</i> (1). <i>Poria radiculosa</i> (1).	<i>Poria incrassata</i> (1). <i>Peniophora D</i> (1). Unknown K (1).	<i>Poria monticola</i> (2). <i>Coniophora B</i> (1).	"Colorado yellow" (1).		9
Cresosote.		<i>Peniophora affinis</i> (1). <i>Poria monticola</i> (1). <i>Poria xantha</i> (1). <i>Coniophora arida</i> (1).			<i>Coniophora arida</i> (1).		5
Drop liquor.	<i>Coniophora B</i> (1). <i>Poria vaillantii</i> (1).	<i>Coniophora arida</i> (3). <i>Poria monticola</i> (1). <i>Corticium atroviridense</i> ? (2). <i>Poria xantha</i> (1). <i>Coniophora arida</i> (1).	<i>Oxydonia chrysothiza</i> (1).	Unknown L (1). <i>Coniophora B</i> (1).	<i>Fomes cajanderi</i> (1). <i>Coniophora arida</i> (2).	<i>Coniophora puteana</i> (1). "Colorado yellow" (1).	11
Fluor-chrom-dinitrophenol-rock salt.	<i>Poria oleracea</i> (1). <i>Poria vaillantii</i> (1). <i>Corticium atroviridense</i> ? (2). <i>Poria xantha</i> (1). <i>Coniophora arida</i> (1).	<i>Coniophora arida</i> (3). <i>Poria monticola</i> (1). <i>Corticium atroviridense</i> ? (1). <i>Lenzites trabea</i> (1). <i>Polyporus A</i> (1).	<i>Poria monticola</i> (1).	<i>Poria C</i> (1). <i>Poria monticola</i> (2).	<i>Coniophora arida</i> (2). <i>Odonia bicolor</i> (1). Unknown D (1).	"Colorado yellow" (1).	22
Oleoresin.	<i>Poria oleracea</i> (1). <i>Coniophora puteana</i> (1).	<i>Coniophora arida</i> (2).	<i>Poria C</i> (1). <i>Oxydonia chrysothiza</i> (1).	<i>Lenzites suspiciaria</i> (1).	<i>Odonia spathulata</i> (1).		8

See footnotes at end of table.

TABLE 6.—Fungi¹ associated with early decay of preservative-treated pine sapwood test stakes in three geographic areas—Continued

Preservative ²	Madison, Wis., area		Gulfport, Miss., area		Corvallis, Oreg., area		Collections in all sites
	Open prairie	Oak woods	Hardwood forest	Pine forest	Douglas-fir woods	Open field	
Pentachlorophenol.....	<i>Coniophora arida</i> (1). <i>Coniophora</i> sp. (1). <i>Lenzites saepiaria</i> (1). <i>Polyporus balsameus</i> (1).	<i>Coniophora arida</i> (5). <i>Lenzites saepiaria</i> (2). <i>Polyporus versicolor</i> (1). <i>Corticium galactinum</i> (2). "White spiral" fungus (2). <i>Polyporus gilvus</i> (1).	Unknown E (2)..... <i>Oxydantia chryso-rhiza</i> (1). <i>Schizophyllum commune</i> (1). <i>Lenzites saepiaria</i> (1). <i>Polyporus versicolor</i> (1).	Unknown E (1)..... <i>Corticium</i> A (1). Unknown L (1). <i>Coniophora arida</i> (1). <i>Oxydantia chryso-rhiza</i> (1). <i>Lenzites saepiaria</i> (2). <i>Polyporus versicolor</i> (1).	<i>Coniophora arida</i> (3). <i>Coniophora</i> sp. (1). <i>Polyporus versicolor</i> (1).	<i>Coniophora arida</i> (1). <i>Coniophora</i> B (1).	38
Petroleum.....	<i>Lenzites saepiaria</i> (1). <i>Poria vaillantii</i> (1).	<i>Coniophora arida</i> (2). <i>Fomes cajanderi</i> (1).	<i>Stereum</i> C (1)..... <i>Poria carbonica</i> (1).	<i>Coniophora</i> B (3).....	<i>Coniophora puteana</i> (1). <i>Coniophora arida</i> (2). <i>Fomes cajanderi</i> (1). <i>Coniophora</i> sp. (1). <i>Merulius tremellosus</i> (1).		15
Pyrosote.....	<i>Poria vaillantii</i> (1).	<i>Coniophora arida</i> (2).....				<i>Coniophora arida</i> (1).	5
Rosin oil.....	<i>Poria vaillantii</i> (1).	<i>Coniophora arida</i> (2).	<i>Corticium</i> A (1). <i>Coniophora arida</i> (1). <i>Polyporus schweinitzii</i> (1). Unknown L (1). Unknown N (1).	<i>Corticium</i> A (1).....	Unknown D (1).....		9
Rosinamine D pentachlorophenate.		<i>Coniophora arida</i> (2).....		<i>Poria</i> C (1). <i>Coniophora</i> B (1). <i>Poria</i> C (1).	<i>Coniophora arida</i> (1).		6
Rosinamine D copper acetate.		<i>Lenzites trabea</i> (1). <i>Coniophora arida</i> (1).	<i>Oxydantia chryso-rhiza</i> (2).			<i>Poria xantha</i> (1).	6
Untreated southern pine.	<i>Vararia</i> A (1). <i>Poria vaillantii</i> (1).	<i>Vararia</i> A (1)..... <i>Lenzites saepiaria</i> (2).	<i>Vararia</i> A (1). <i>Poria xantha</i> (1).	<i>Corticium</i> A (1). <i>Coniophora</i> B (1). <i>Fomes cajanderi</i> (1).	<i>Coniophora arida</i> (2).	<i>Coniophora puteana</i> (1).	13
TOTAL NUMBER OF FUNGI.....	22	58	26	28	33	7	174

¹ Figures in parentheses are the number of stakes from which the species was obtained.

² The preservative in each case was present throughout the cross section of the stake so that an invading fungus was always exposed to the preservative.

³ Question mark following species name indicates a tentative identification.

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APPENDIX

To complete the record of observations, so that the data may be analyzed or used in other ways if desired, the individual collections and their

environmental and substrate associations are given in table 7.

TABLE 7.—*Basidiomycetes associated with decay of various woods, products, and preservative treated items*

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Tremellales					
Tremellaceae					
<i>Guepinia spathularia</i> (Schw.) Fr.	R-4	Douglas-fir		Boat batten	Virginia
<i>Guepinia</i> spp.	FP 86569-Sp	Pine		Porch step	Maryland
	ASR-390	Ash		Boat	Virginia
	FP 94292-Sp	Cypress		Greenhouse bench	Maryland
	MD-452	Pine, southern	Copperized chromated zinc chloride	Test stake	Wisconsin
Agaricales					
Thelephoraceae					
<i>Asterostroma cervicolor</i> (Berk. & Curt.) Mass.	FP 94308-S	Pine		Greenhouse board	Do.
<i>Asterostroma</i> spp.	FP 104369-Sp	Oak		Porch step	Do.
	4917	Pine, southern		Insulating board	Minnesota
<i>Coniophora arida</i> (Fr.) Karst.	Fr-Sp	Douglas-fir		Test stake	Wisconsin
	2-B, 3-B, 4-1, 6-B, 9-2, 12-2, 13-B				
	MS-26, MS-27, MS-28, MS-30, MS-34, MS-38, MS-41	Maple		do	Do.
	MD-92	Pine, southern		do	Oregon
	MS-29, MS-31, MS-32, MS-33, MS-37, MS-40, MS-44, MS-45	Spruce		do	Wisconsin
	H-499-R			House	Maine
	FP 103970-Sp			do	Maryland
	MD-90, MD-91, MD-385	Pine, southern	Acid copper chromate	Test stake	Oregon
	MD-34	do	do	do	Wisconsin
	MD-42, MD-43	do	do	do	Mississippi
	MD-252	do	do	Test post	Mississippi
	MD-249	do	Chromated copper arsenate	Test stake	Do.
	MD-396	do	Copperized chromated zinc chloride	do	Oregon
	MD-388	do	Creosote	do	Do.
	MD-523	do	do	do	Wisconsin
	MD-387, MD-397	do	Drop liquor	do	Oregon
	MD-94, MD-98	do	Fluor-chrome-dinitrophenol	do	Do.
	MD-824	do	do	do	Wisconsin
	MD-182, MD-236	do	Oleoresin	do	Do.
	MD-169, MD-237	do	Pentachlorophenolate	do	Do.

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood				
Name	Collection number	Species	Preservative treatment	Product	Exposure	
Agaricales—Continued Thelephoraceae—Con. <i>Coniophora arida</i> (Fr.) Karst.—Continued	MD-89, MD-99, MD-100, MD-384, MD-398.	Pine, southern	Pentachlorophenol	Test stake	Oregon	
	MD-164, MD-165, MD-168, MD-173, MD-225, MD-231.	do	do	do	Wisconsin	
	MD-266	do	do	do	Mississippi	
	MD-166, MD-220	do	Petroleum	do	Wisconsin	
	MD-167, MD-186	do	do	do	Oregon	
	MD-254	do	Phenyldichloroarsine	do	Mississippi	
	MD-323	do	Pyrosote	do	Oregon	
	MD-218, MD-219	do	do	do	Wisconsin	
	MD-151	do	Rosin oil	do	Mississippi	
	MD-181, MD-222	do	do	do	Wisconsin	
	MD-93, MD-386	do	Zinc chloride	do	Oregon	
	MD-235	do	do	do	Wisconsin	
	MD-352	Pine, lodgepole	do	do	Telephone pole	Michigan
	H-491	do	do	do	House sill	Indiana
	MD-359, MD-361, MD-366, MD-372, MD-374.	Pine, southern	Creosote	do	Test stake	Florida
	ME-57	Ash, white	do	do	Test post	Wisconsin
	H-470	Conifer	do	do	House timber	Pennsylvania
	H-473	do	do	do	House joists	Virginia
	H-493-A	do	do	do	do	Pennsylvania
	H-506-R	do	do	do	House subflooring & joists	Ohio
	H-523-R	do	do	do	House sill	Pennsylvania
	H-537, H-538-R	do	do	do	do	Ohio
	2174	Douglas-fir	do	do	Cellar bin	Nebraska
	4318	do	do	do	Flooring	Wisconsin
	608	Fir, balsam	do	do	Pulp log	Pennsylvania
1874	Hemlock	do	do	Lumber	Wisconsin	
1635	do	do	do	Flooring	Do	
3796	do	do	do	Cold storage room	Michigan	
MC-9, MC-10, MC-11, MC-12	Larch, western	do	do	Test stake	Montana	
615	Oak	do	do	Lumber	Wisconsin	
129	do	do	do	Tugboat	Ontario	
ME-55	Oak, bur	do	do	Test post	Wisconsin	
H-422	Pine	do	do	House timber	New Jersey	
FP-94359-R	do	do	do	Timber in crawl space	Do	
FP 104403-Sp	do	do	do	House window sill	Maryland	
5127	Redcedar, western	do	do	Test post	New Jersey	
MC-8, MC-14, MC-28	do	do	do	Test stake	Montana	
MD-382	Redwood	do	do	Test post	Wisconsin	
MD-435	do	do	do	Beer vat support	Do	
FP 103406-Sp	do	do	do	Board in root cellar	Maryland	
MC-13	Pine, lodgepole	do	do	Test stake	Montana	
MC-117	Pine, southern	do	do	do	Oregon	
MD-80	do	do	do	Post-rail	Mississippi	
MD-57, MD-70, MD-71, MD-72	do	do	Acid copper chromate	Test stake	Do	
MD-154	do	do	Creosote	Telephone pole	Connecticut	
MD-367, MD-371, MD-378	do	do	do	Test stake	Florida	
4700	do	do	do	do	Mississippi	
4732	do	do	do	Telephone pole	South Carolina	
MD-119	do	do	Drop liquor	Test stake	Oregon	
MD-520	do	do	Oleoresin	do	Wisconsin	
MD-1	do	do	Petroleum	do	Mississippi	
MD-115	do	do	do	do	Oregon	
MD-56	do	do	do	do	Wisconsin	
MD-33, MD-44	do	do	Acid copper chromate	do	Mississippi	
4706	do	do	do	Test post	Do	
MD-264	do	do	Copper naphthenate	Test stake	Do	
MD-274	do	do	Drop liquor	do	Do	
MD-189	do	do	do	do	Wisconsin	
MD-289	do	do	Pentachlorophenate	do	Mississippi	
MD-204	do	do	do	do	Oregon	
MD-35, MD-186, MD-189	do	do	Petroleum	do	Mississippi	
551	Fir	do	do	Pulp log	Pennsylvania	
MD 432	Oak, white	do	do	Test post	Georgia	
H-949-b	Pine	do	do	House subflooring	Pennsylvania	
FP-105124-S	do	do	do	Stored boards	Maryland	
H-508	do	do	do	House basement floor	Do	
601	do	do	do	Lumber	Wisconsin	
MD-339	do	do	do	Test stake	Florida	
1218	Pine, southern	do	do	Flooring	New Jersey	
MD-113	do	do	do	Test stake	Oregon	
H-448	do	do	do	Church floor joists	Ohio	
H-505-R	do	do	do	House subflooring	Do	
MD-162, MD-163, MD-221	Pine, southern	Acid copper chromate	do	Test stake	Wisconsin	
MD-321	do	do	do	do	Oregon	
MD-180	do	do	Copper naphthenate	do	Wisconsin	
MD-217	do	do	Drop liquor	do	Do	
MD-180, MD-172, MD-232	do	do	Fluor-chrome-rocksalt dinitro- phenol	do	Do	
MD-114	do	do	Pentachlorophenol	do	Oregon	

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Theleporaceae—Con.					
<i>Coniophora</i> spp.—Con.	MD-170	Pine, southern	Pentachlorophenol	Test stake	Wisconsin
	MD-203	do	Petroleum	do	Oregon
	5096-42	do	Zinc naphthenate	do	Wisconsin
<i>Corticium alutaceum</i> (Schrad.) Bres.	FS-1			Insulating board in ice house	Minnesota
	MD-492	Pine, southern	Chromated zinc arsenate	Wood fiber product	Do.
<i>Corticium atrovirens</i> Fr. ?	MD-417	do	Creosote	Test stake	Florida
	MD-440, MD-441, MD-513	do	Fluor-chrome-dinitrophenol	do	Do.
<i>Corticium fuscostratum</i> Burt.	ME-21	Pine, lodgepole		Lumber	Wisconsin
<i>Corticium galutinum</i> (Fr.) Burt.	H-488			House	Ohio
	H-485	Conifer		do	Michigan
	H-493-b	do		Wood under house	Pennsylvania
	H-498	do		House joists and header	Rhode Island
	MD-226, MD-227	Pine, southern	Pentachlorophenol	Test stake	Wisconsin
<i>Corticium roseum</i> Pers.	MD-223	Sweet bay	do	Test post	Mississippi
<i>Corticium subseriale</i> Bourd. and Galz. ?	1792	Sweet gum		Railroad tie	Georgia
<i>Corticium suecicum</i> Litsch.	MC-17, MC-37	Pine, lodgepole		Test stake	Wisconsin
<i>Corticium A</i>	FP 104976-Sp	Hardwood		Old lumber pile	Maryland
	MD-37	Pine, southern		Test stake	Mississippi
	MD-129, MD-131	do	Acid copper chromate	do	Do.
	MD-142	do	Pentachlorophenol	do	Do.
	5098-56	do	Petroleum	do	Do.
<i>Corticium B</i>	MD-45, MD-46	do	Rosin oil	do	Do.
	MS-53	Pine		Window frame	North Central U.S.
<i>Corticium C</i>	5114-2, 5114-3	Baldcypress		House siding	Louisiana
	H-453-R	do		do	Do.
<i>Corticium</i> spp.	FP 103172-Sp	Conifer		House sills & joists	Rhode Island
	FP 103868-Sp			Wheelbarrow handle	Maryland
	163-b	Oak		House flooring	Do.
	1	Pine, southern	Phenyl mercury oleate	Test stake	Louisiana
<i>Peniophora affinis</i> Burt.	MD-230	do	Creosote	do	Do.
<i>Peniophora dryina</i> (Berk. & Curt.) Rogers & Jacks.	FP 94368-S	Conifer		House	Wisconsin
	FP 104362-Sp	Hardwood		Board in cabin	Connecticut
	FP 104400-S				Maryland
<i>Peniophora gigantea</i> (Fr.) Mass.	FP 71881	Pine		Pulpwood	North Carolina
	ME-18 S	do		Post	Arkansas
	FP 94349-S	do		Pulpwood	Florida
	LP-11	Pine, lodgepole		do	Do.
	Lind. 1, Lind. 4	Pine, slash		do	Louisiana
	2552	Pine, Norway		Building beam	Pennsylvania
	686	Pine, southern		Telephone pole	Do.
	MRC-15	do		Post	Virginia
	2643	do		Piling	Illinois
	2779	do		Pulpwood	Louisiana
	2781	do		Telephone pole	Do.
	2805	do		Lumber	Pennsylvania
	2944	do		Telephone pole	Maryland
	2973	do		do	Wisconsin
	1845	do		Railroad tie	Colorado
	4532	do		Building truss	Wisconsin
	TP 360	do	Copper naphthenate	Magazine igloo	Illinois
<i>Peniophora mollis</i> (Bres.) Bourd. & Galz. ?	FP 90840-S	<i>Pinus virginiana</i>	Copper sulfate	Telephone pole	Do.
<i>Peniophora A</i>	ML 20, ML 21, ML 22	Redwood		Log in cabin	Maryland
	ML 26	do		Cooling tower	Do.
	MD-245, MD-247	Pine, red	Creosote	Test post	Kansas
	MD-192, MD-193	Pine, southern	do	Telephone pole	Mississippi
	4703	do	Petroleum	Test post	Louisiana
<i>Peniophora B</i>	3595	do	Phenyl mercury oleate	Test stake	Mississippi
<i>Peniophora C</i>	MS-59	Sweet gum		Test stake	Do.
<i>Peniophora D</i>	MD-140	Pine, southern	Copper naphthenate	Railroad tie	Georgia
<i>Peniophora E</i>	4924-1			Test stake	Mississippi
<i>Peniophora</i> spp.	H-588	Conifer		Stored logs	Do.
	H-546	do		House sills	Ohio
	FP 94432-Sp	do		House sills & joists	Maine
	1789	Locust, black		Post	Maryland
	FP 104267-Sp	Oak, white		Railroad tie	Illinois
	FP 104404-Sp	do		Stored used lumber	Maryland
<i>Stereum complicatum</i> (Fr.) Fr.	MD-433	Hickory		Lumber in log cabin	Do.
	R-5, R-6, R-7	Oak		Test stake	Georgia
	H-8	do		Boat corner post	Virginia
	BOP-31A, BOP-51B	Oak, black		Boat	Florida
	ASR-332	Oak, red		Fence post	Wisconsin
<i>Stereum frustulatum</i> (Pers. ex Fr.) Fekl.	875-2	Douglas-fir		Motor launch fender	Virginia
	R-2, R-2a	Oak		Railroad tie	Wisconsin
	115	do		Boat	Virginia
	116	do		Tugboat railing	Maryland
	124	do		Tugboat frame	Do.
	164	do		Tug frame	Ontario
	205	do		Tug planking	Do.
	218	do		Ferryboat rail	Ohio
	875-1	do		Barge cushion deck	Ontario
	3289	do		Railroad tie	Wisconsin
		do		Tugboat	Maryland

See footnotes at end of table.

TABLE 7. —Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued Polyporaceae—Continued <i>Daedalea quercina</i> L. ex Fr.	FP 24098-S	Chestnut		Piers to swinging bridge	Maryland
	134b	Conifer		Yacht butt block	New York
	170	Mahogany		Cruiser planking	Do.
	113	Oak		Rowboat oarlock	Maryland
	134a	do		Yacht butt block	New York
	166	do		Tug decking	Ontario
	167	do		Barge hatch coaming	Do.
	169	do		Cruiser knee	New York
	217	Oak, white		Barge cushion deck	Ontario
	168	Pine, southern		Cruiser chime	New York
<i>Fomes annosus</i> (Fr.) Karst.	MD 101	Oak	Creosote	Piling	West Virginia
<i>Fomes cajanderi</i> Karst.	FP 90898-R	<i>Pinus virginiana</i>	Copper sulphate	Log in cabin	Maryland
	529	Larch, western		Lumber	
	Mad. LP-6	Pine, lodgepole		Pulpwood	
	ME-70	Pine, southern			Wisconsin
	A-2	do		Fence rail	Do.
	MD-63	do		Test stake	Mississippi
	701	Pine, hard		Fence rail	Wisconsin
	531	do		Railroad tie	Canada
	5425-1	do		do	Northwest
	MD-350	Redcedar, western		Telephone pole	Michigan
	4119	Whitecedar		Boat plank	Maryland
	FP 66234	Whitecedar, Atlantic		Boat hull planking	Do.
	ME-348			Subfloor	California
	MD-420	Pine, southern	Chromated copper arsenate	Test stake	Florida
	MD-421	do	Chromated copper zinc arsenate	do	Do.
	MD-422	do	Copper naphthenate	do	Do.
	MD-14	do	Creosote	Telephone pole	Ohio
	MD-356, MD-360	do	do	Test stake	Florida
	MD-184	do	Drop liquor	do	Oregon
	MD-206, 5096-39	do	Petroleum	do	Wisconsin
	MD-2	do	do	do	Mississippi
	MD-183	do	do	do	Oregon
	MD-349	do	Pentachlorophenol	do	Oregon
<i>Fomes igniarius</i> (L. ex Fr.) Kickx.	820	Redcedar, western		Telephone pole	Michigan
	4267	Birch		Flywood panel	Minnesota
	421	Maple		Lumber	New Jersey
	5005	Oak, white		Post	Wisconsin
		Birch		Lumber	District of Columbia
<i>Fomes igniarius</i> var. <i>laevigatus</i> (Fr.) Overh.					
<i>Fomes igniarius</i> var. <i>populivorus</i> (Neuman) Campbell.	7-E	Aspen		Pulpwood	Wisconsin
<i>Fomes officinalis</i> (Vill. ex Fr.) Faull.	YTB-3	Douglas-fir		Boat	California
	145	do		Lumber	British Columbia
	808	do		do	Oregon
	4784	do		do	California
	5062	do		do	Massachusetts
	4358	Pine, ponderosa		do	Louisiana
<i>Fomes pini</i> (Fr.) Karst.	847	Douglas-fir		Mine timber	Utah
	1155	do		Flooring	California
	3836	do		Lumber	Wisconsin
	3691, 4631	do		do	Oregon
	78	Fir		Pulp logs	Quebec
	3690	Hemlock, western		do	Do.
	696-2	Pine		House	Louisiana
	129	Pine, jack		Railroad tie	Alberta
	910	Pine, loblolly		Post	Louisiana
	915	Pine, northern		Lumber	Illinois
	1970	Pine, sugar		do	Michigan
	73	Pine, southern		do	New York
	310	Spruce		Flywood	Michigan
	4053	Spruce, Sitka		Lumber	Oregon
	1227	Whitecedar		Lumber	Kansas
<i>Fomes pinicola</i> (Swartz ex Fr.) Cke.	ME-49	Douglas-fir		Telephone pole	Oregon
<i>Fomes robiniae</i> (Murr.) Sacc. & D. Sacc.	696	Locust		Post	
<i>Fomes roseus</i> (Alb. & Schw. ex Fr.) Karst.	H-458	Conifer		House	District of Columbia
	4842	Cypress		Tank	North Dakota
	77	Fir		Pulp log	Quebec
	3773	Hemlock		Cold storage room	Michigan
	449	Larch		Lumber	Wisconsin
	1333	Pine, white		do	Do.
	4830	Spruce		Pulpwood	Ohio
	ME-15	do		Furring strip	Canada
	FP 104278-S	do		House sill	Maine
	5125b	Pine, southern	Pentachlorophenol	Test stake	Mississippi
	5014	Mahogany		Boat	Wisconsin
<i>Ganoderma applanatum</i> (Pers. ex Wallr.) Pat.	487	Sweetgum		Lumber	Do.
<i>Lenzites betulina</i> (L. ex Fr.) Fr.	5101-2	Tanoak		Railroad tie	Oregon
<i>Lenzites seepitaria</i> (Wulf. ex Fr.) Fr.	Op-42-26, 14N5; Op-42-26, 16N11; Op-8691	Conifer		Telephone pole	South Dakota
	FP 105488-Sp	Cypress		Fence log	Maryland
	FP 103789-S	Douglas-fir		12x12 beam on ground	Virginia

See footnotes at end of table.

TABLE 7. —Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Lenzites sapinaria</i> (Wulf. ex Fr.) Fr.—Continued	MC-43, MC-44, 4807	Douglas-fir		Aircraft carrier deck	
	ME-81	do.		Post-rail	Oregon
	168	Fir		Scow	Ontario
	ME-24a	do.		Garage siding	Ohio
	ME-77	do.		Post-rail	Wisconsin
	604	Hemlock		Pulp log	Do.
	MS-55, ME-79	Hemlock, western		Rail-post test	Oregon
	ME-72	do.		do.	Mississippi
	ME-71	Maple, sugar		Beach chair	New York
	163a	Oak		Stake	Mississippi
	MD-393	Oak, red		Test post	Wisconsin
	A-6	Pine		Boat dock	Do.
	537	do.		Railroad tie	Arkansas
	4806-1	do.		Cold storage door	Florida
	3432	Pine, southern		Tower top	Illinois
	3564	do.		Tower brace	Missouri
	5132	do.		Test stake	Wisconsin
	5083	Pine, white		Lumber	Connecticut
	MS-1, MS-2, MS-3, MS-4, MS-5, MS-6, MS-7	Pine, ponderosa		Test box	Wisconsin
	ME-78	do.		Test platform	Do.
	MS-56	Pine, southern		Rail-post test	Oregon
	MD-39, MD-207	do.		Test stake	Wisconsin
	MD-124, MD-126	do.		do.	Florida
	MD-209	do.		Baggage car	Midwest U.S.
	472	do.		Lumber	North Dakota
	1940	do.		Window frame	do.
	1981	do.		Garage door	Illinois
	119	Pine		Barge deck planking	Virginia
	172	do.		Barge	Louisiana
	182c	do.		Schooner deck	District of Columbia
	180	do.		Barge hull plank	Virginia
	224	do.		Barge deck plank	Louisiana
	H-450	do.		House joist	Tennessee
	FP 5707	do.		Lumber	Texas
	FP 39500	do.		Mill weaving shed roof	Massachusetts
	FP 97450-S	do.		Utility pole	North Carolina
	FP 103227-Sp	do.		Bridge timber	Florida
	FP 104090-Sp	do.		Test stake	do.
	165	do.		do.	Mississippi
	Mad. 4-B	do.		Aircraft carrier flight deck	do.
	208	do.		Cruiser roof	Pennsylvania
	FP 94450	do.		Lumber	Maryland
	FP 104083-Sp	do.		Test post	Mississippi
	Op. 257-B	Douglas-fir	Creosote	Telephone pole	South Dakota
	MD-475, MD-483	Pine, lodgepole	do.	do.	North Dakota
	MD-18	Pine, southern	Acid copper chromate	Test stake	Florida
	MD-248, MD-250, MD-253	do.	Chromated copper arsenate	Test post	Mississippi
	MD-28, MD-53	do.	Creosote	do.	Do.
	MD-355	do.	do.	Test stake	Florida
	2468	do.	do.	Telephone pole (top)	Georgia
	MD-52	do.	Oleoresin	Test stake	Mississippi
	MD-77	do.	Pentachlorophenol	do.	Louisiana
	MD-495, MD-499, MD-518, 5125a	do.	do.	do.	Mississippi
	MD-171, MD-187, MD-258	do.	do.	do.	Wisconsin
	FP 104089-Sp	do.	do.	Gate brace	Mississippi
	MD-4	do.	Petroleum	Test stake	Louisiana
	5096-32	do.	do.	do.	North Carolina
	4222, 4227, 5096-54, 5096-57, 5096-68	do.	do.	do.	Mississippi
	MD-509	do.	do.	do.	Wisconsin
	FP 104087-Sp	do.	Creosote	do.	Mississippi
	FP 104050-Sp	do.	Pentachlorophenol	Test sill	Do.
	FP 104086-Sp	do.	Phenyl mercury oleate	Test stake	Do.
	FP 104088-Sp	do.	do.	do.	Do.
<i>Lenzites trabea</i> Pers. ex Fr.	R-33	Ash		Motor launch fore- peak fillers	Virginia
	ASR-329, ASR-404	do.		Motor launch deck	Do.
	ASR-391, ASR-392, ASR-394, ASR-396, ASR-397, ASR-398, ASR-399, ASR-401, ASR-402, ASR-408	do.		Motor launch locker seat	Do.
	ASR-395, ASR-409	do.		Motor launch oar	Do.
	ASR-400	do.		Whaleboat forepeak thwart	Do.
	ASR-403	do.		Motor launch thwart	Do.
	735	Ash, white		Auto body	Michigan
	1714	do.		do.	China
	1813	do.		do.	Wisconsin
	2472	do.		do.	District of Columbia
	2628	Beech		Lawn chair	New York
	645-1	Birch		Auto frame	Wisconsin
	708	do.		Machinery	Illinois

See footnotes at end of table.

TABLE 7. —Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued Polyporaceae—Continued <i>Lenites trabea</i> Pers. ex Fr.—Continued	920	Birch		Auto body	Michigan
	4813	Cedar, incense		Boat rib	Wisconsin
	Op. 8601	Conifer		Telephone pole	South Dakota
	194	do		Sailboat cabin	Michigan
	645-3	Cottonwood		Auto frame	Wisconsin
	5	Cypress		Fence post	Florida
	496	do		Porch	Virginia
	592	do		Window frame	Wisconsin
	768	do		Boat	Do.
	924-1	do		Lumber	District of Columbia
	1271	do		Window shutter	New York
	1549	do		do	Florida
	FP 105470-Sp	do		Fence log	Maryland
	2116	do		Window frame	Minnesota
	2939	do		House siding	Ohio
	2164	do		Shingle	Pennsylvania
	3112	do		Boat	Illinois
	4274	do		Telephone booth	New York
	4817	do		Porch trim	Delaware
	5123	do		House siding	New Jersey
	5128	do		House balcony	New York
	228	Douglas-fir		Sailboat	Do.
	ASR-405	do		2x4 on boat deck	Virginia
	Na-1, Na-7	do		Boat	California
	Savo. Is.	do		Boat deck	
	ME-88	do		Siding	Wisconsin
	ME-138	do		Outside door	Illinois
	645-2	Elm		Auto frame	Wisconsin
	711-1	do		Auto top	New York
	1196	do		Auto body	District of Columbia
	2239-2	do		Steamer seat	Michigan
	5031	do		Outdoor theater seat	Missouri
	ME-24b	Fir, white		Garage siding	Ohio
	ME-3	do		Building	Illinois
	FP 104135-Sp	Hardwood		Automobile body	Maryland
	601	Hemlock		Pulp log	Wisconsin
	2181	Hickory		Railroad tie	Do.
	209	Mahogany, Mexican		Cruiser	New York
	1346	Maple		Cart	Michigan
	FP 56455-S	Oak		Railroad tie	Pennsylvania
	5060	do		Laminated panel	Wisconsin
	5040	Oak, red		Boat gun whale	
	ASR-381	Oak, white		Railroad tie	Illinois
	1490	Pine		Boat locker seat	Virginia
	1496, 1800	do		Window frame	Maryland
	MS-64, MS-65	do		do	Ohio
	1691	do		Boat	Wisconsin
	1822	do		Window frame	Texas
	1851	do		Window screen	
	4475	do		Roof	New York
	4931	do		Porch railing	Illinois
	182	do		Window frame	Wisconsin
		do		Schooner decking	District of Columbia
	3294	Pine, ponderosa		Lumber	South Dakota
	4575	do		do	New York
	4886	do		do	Minnesota
	ME-67	do		Window frame	Wisconsin
	539	Pine, southern		Lumber	Do.
	659	do		Window sash	Ohio
	879, 2264, 2679	do		Window frame	Wisconsin
	1009	do		do	Pennsylvania
	1174	do		Window shutter	Wisconsin
	1482	do		Porch railing	Tennessee
	1539	do		Telephone pole	Do.
	2587	do		Flooring	Illinois
	2617	do		Door	South Dakota
	2860	do		Window frame	Kansas
	3170	do		Garage door	Illinois
	1474	Pine, sugar		Window shutter	Kentucky
	1511	Pine, white		do	New Jersey
	862	do		Window frame	Missouri
	1268	do		do	Iowa
	2418	do		Window shutter	Illinois
	3253	do		House siding	Wisconsin
	859	Pine, yellow		Door	Do.
	ASR-410	do		Boat	Virginia
	ASR-412	do		Boat vehicle tract	Do.
	499, 617	Redcedar, western		Telephone pole	Wisconsin
	1315, 1527	do		do	Minnesota
	1843	do		Shingle	Ohio
	4925	do		Telephone pole	Montana
	ME-30	Redwood		Siding	Ohio
	5070 (2)	do		Cooling tower	
	R-31	Sweetgum		Boat plywood	Virginia
	4584-1	Willow		Lawn chair	Do.
	ME-76			Flooring	Wisconsin
	Na 2			Boat plywood	California

See footnotes at end of table.

TABLE 7.—*Basidiomycetes associated with decay of various woods, products, and preservative treated items*
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Lenzites trabea</i> Pers. ex Fr.—Continued	R-29			Boat plywood	Virginia
	H-587			Car body	Delaware
	FP 103161	Conifer	Creosote	Railroad tie	Illinois
	Op. 256-B	Douglas-fir	do	Telephone pole	South Dakota
	MD-20	Hemlock, western	do	Railroad tie	Illinois
	MD-463, MD-482	Pine, lodgepole	do	Telephone pole	South Dakota
	Tp-350b, Tp-358	Pine, southern	Chromated copper arsenate	do	South Carolina
	H-463	do	Creosote	Railroad tie	New York
	MD-153, MD-208	do	Fluor-chrome-arsenate-dinitrophenol	Baggage car	Midwest U.S.
	MD-256	do	do	Test stake	Wisconsin
	MD-75, MD-76	do	Pentachlorophenol	do	Mississippi
	5096-14, 5096-15	do	do	do	Louisiana
	5096-70	do	Petroleum	do	do
	MD-505	do	Rosinamine D copper acetate	do	Wisconsin
	MD-315	do	Vaccinol	do	Illinois
<i>Merulius himantioides</i> Fr.	MD-280	Douglas-fir		Test post	Oregon
	FP 104405-Sp.	Hardwood		Board from house	Maryland
	FP 104425-Sp.	Pine		do	do
	FP 104042-S	Sweetgum		Stake on ground	do
	MD-288	Yew		Test post	Oregon
	MD-110	Alder	Copper chromate	do	do
	MD-431	Douglas-fir	Ammoniacal copper arsenite	do	do
	MD-273	do	Copper chromate	do	do
	MD-406	Hemlock	Ammoniacal copper arsenite	Test stake	do
	HUD-2A	Pine	Copper naphthenate	Pole	South U.S.
	MD-272	Pine, lodgepole	Copper chromate	Test post	Oregon
	MD-394	Pine, southern	do	do	Ohio
<i>Merulius lacrymans</i> Wulf. ex Fr.	2079	Cedar		House foundation	Oregon
	2893	Douglas-fir		House beam	Delaware
	3214	do		Flooring	Washington
	2168, 2436	Hemlock		Lumber	Illinois
	3005	Maple		Flooring	Connecticut
	FP 90876-R	Oak		Mine timbers	Missouri
	445	do		Board in house	North Carolina
	788	Pine, southern		Coal bin	New York
	1645	do		House siding	do
	1851	do		Floor	Montana
	1877	do		Lumber	Pennsylvania
	2375	do		Lath	New York
	2514	do		Flooring	Massachusetts
	2740	do		Building	Minnesota
	FP 9061	Redwood		Beam	Virginia
	4339	Spruce		Pier	California
	FP 6170	do		Test piece	Oregon
	FP 48259	Spruce, white		Mine timber	Colorado
	644	do		Lumber from house attic	Maine
	1661	do		Lumber	New York
	H-595-R	do		Mine timber	Pennsylvania
	FP 103986-S	do		Board from old house	Massachusetts
<i>Merulius pinastri</i> (Fr.) Burt.	1-B, 11-B	Douglas-fir		House timber	New York
	MS-8	Pine, ponderosa		Test stake	Wisconsin
	MS-9	Pine, southern		Test box	do
	MD-296, MD-311, MD-312	do	Zinc chloride	do	do
				Test stake	do
<i>Merulius tremellosus</i> Schrad.	ME-45	Douglas-fir		Fence post	Indiana
	Lo-10-Sp.	Locust, black		Vineyard post	Maryland
	127	Oak		Cruiser timber	New York
	FP 103954-Sp.	do		Fence post	Maryland
	B1-58, B1-68, B1-77	Pine, southern	Creosote	Utility pole	South Carolina
	MD-103	do	do	Telephone pole	Indiana
	4702	do	Naphthol	Test stake	Mississippi
	MD-161	do	Pyrosote	do	Oregon
<i>Merulius</i> spp.	FP 12-51a	Pine, jack		Pulpwood	
	FP 103869-Sp.	do		Picnic table	Maryland
	FP 103964-Sp.	do		Old fence post	do
	FP 104040-Sp.	do		Wood piled as road-block	District of Columbia
<i>Polyporus abietinus</i> Dicks. ex Fr.	410	Hemlock		Piling	Wisconsin
<i>Polyporus adustus</i> Willd. ex Fr.	2554	Pine		do	New York
	17E	Aspen		Stored log pulpwood	Wisconsin
	MS-46	Birch		Stored log	do
	MS-49	Birch, white		Log	do
	MD-194	Cork		Machinery foundation	Missouri
	101	Sweetgum		Lumber	Illinois
	1915	do		Railroad tie	do
<i>Polyporus amarus</i> Hedgc.	1287	Cedar, incense		Lumber	Oregon
<i>Polyporus anceps</i> Pk.	4541	do		do	California
	109	Pine, jack		Railroad tie	Canada
	545, 546	Spruce, northern white		Pulplog	
<i>Polyporus arcularius</i> Batsch ex Fr.	2430	Pine, southern		Outdoor seat	Wisconsin
<i>Polyporus balsameus</i> Pk.	1488	Fir, balsam		Lumber	Massachusetts
	MD-450, MD-516	Pine, southern	Acid copper chromate	Test stake	Wisconsin
	MD-494	do	Chromated zinc arsenate	do	Florida
	MD-498	do	do	do	Mississippi
	MD-445, MD-446, MD-448	do	Chromated zinc chloride	do	Wisconsin

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Polyporus balsameus</i> Pk.	MD-451	Pine, southern	Copperized chromated zinc chloride	Test stake	Wisconsin
—Continued.	MD-503	do	Pentachlorophenol	do	Do
<i>Polyporus croceus</i> Pers. ex Fr.	FP 70963-R	Chestnut		Lumber	Maryland
<i>Polyporus dichrous</i> Fr.	FP 103462-Sp	Pine		Log cabin joists and logs	Do
	FP 104140			Root cellar roof board	Do
<i>Polyporus fragilis</i> Fr.	2	Pine, southern		Porch post	
<i>Polyporus gilvus</i> (Schw.) Fr.	MD-255	do	Pentachlorophenol	Test stake	Wisconsin
<i>Polyporus hirsutus</i> Wulf. ex Fr.	5071	Mahogany		Plywood	New Jersey
	1814	Oak		Railroad tie	Michigan
	1767	Oak, white		do	Illinois
	MS-58	Sweetgum		do	Georgia
	MD-477	Pine, lodgepole	Creosote	Telephone pole	North Dakota
<i>Polyporus palustris</i> Berk. & Curt.	H-455	Ash		Warship bridge	Virginia
	FP 103768-R	do		Motor launch	Gilbert Islands
	4799	Douglas-fir		Boat deck planks	Virginia
	4800	do		do	Do
	R-37	Hardwood		Boat fenders	Do
	R-8, R-10	Mahogany		Boat	Do
	ASR-387	Maple, sugar		Boat towing bit	Do
	M-1a	Oak, white		do	Do
	Dye A	Pine		Dyehouse roof and trusses	New Jersey
	182a	do		Schooner decking	District of Columbia
	FP 5061	do		Post	Georgia
	FP 103991-R	do		Mill roof	South Carolina
	4828	Pine, southern		Pulpwood	South U.S.
	5095-48	Yellow-poplar		Trolley coach	Louisiana
	5095-52	Oak, red	Creosote	Railroad tie	Mississippi
	FP 5367	Oak, white	do	do	Do
		Pine	Coal tar	Surface flume carrying water	Louisiana
		do	Creosote	Telephone pole	Maryland
<i>Polyporus pargamensis</i> Fr.	182	Beech		Boat planking	Ontario
<i>Polyporus schweinitzii</i> Fr.	626-3	Pine, southern		Lumber	Massachusetts
	MD-130	do	Acid copper chromate	Test stake	Mississippi
	MD-332, MD-333	do	Chromated copper arsenate	Test post	Do
	MD-132	do	Chromated copper zinc arsenate	do	Do
	202	do	Nickel stearate	Test stake	Do
	MD-150	do	Rosin oil	do	Do
	MD-196	do	Zinc chloride	do	Do
<i>Polyporus spraguei</i> Berk. & Curt.	FP 59086-3	Chestnut		Telephone pole	Virginia
<i>Polyporus sulphureus</i> Bull. ex Fr.	208	Oak		Ferryboat fender	Ohio
<i>Polyporus tulipiferae</i> (Schw.) Overh.	557	do		Lumber	Do
<i>Polyporus versatilis</i> (Berk.) Rom.	4994	Hickory		Porch chair	New York
	517			Mine structure	Pennsylvania
	FP 104022-R	Cypress		Utility pole on ground	Florida
	FP 104023-Sp				
	FP 105308-R	do		Post	Do
<i>Polyporus versicolor</i> L. ex Fr.	FP 86690-Sp	Pine, southern		Discarded bolts used as support	Do
	ASR-331, ASR-406	Ash		Motor launch locker seat	Virginia
	21-E, 22-E, 26-E, 28-D, 30-E, 35-E, 4347	Aspen		Pulpwood	
	4956	Cedar, incense		Stored log	
	5029	Elm		Outdoor seat	
	4955	do		Lumber	Arkansas
	215	do		Barge deck	Ontario
	FP 104417-Sp	Hardwood		Lumber pile	Maryland
	MD-98	Hickory		Ladder	New Jersey
	4201	Mahogany		Boat plank	Tennessee
	201	do		Cruiser catwalk	Michigan
	ASR-411	do		Boat gusset	Virginia
	4113	Maple		Laminated stave	New York
	MS-69	do		Pulp chips	Michigan
	Na-5	Oak		Laminated test piece	Wisconsin
	Pa-11	do		Boat chime	California
	ASR-393	Oak, red		do	Pennsylvania
	4635	Oak, white		Motor launch fender mold	Virginia
	4797	do		Wagon body	Pennsylvania
	MS-70	do		Lumber	Virginia
	5137	do		Boat batten	Pennsylvania
	4789	Pine		Boat	
	FP 94451-Sp	Redwood		Cooling tower	Tennessee
	R-32	Sweetgum		Garage plank	Maryland
	5101	do		Boat floor tread	Virginia
	4584-3	Tanoak		Railroad tie	Oregon
	MD-277, MD-287	Willow		Lawn chair	Wisconsin
	MD-468	Alder, red	Copper chromate	Test post	Oregon
	MD-78	Pine, lodgepole	Creosote	Telephone pole	North Dakota
	MD-191	Pine, southern	Tetrachlorophenol	Test stake	Mississippi
	MD-202	do	Pentachlorophenol	do	Wisconsin
	MD-465, MD-601	do	do	do	Oregon
		do	do	do	Mississippi

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Polyporus versicolor</i>	MD-17	Sweetgum	Nickel-sulphate/sodium phosphate	Test post.	Do.
L. ex Fr.—Continued	H-417, H-418			House	Pennsylvania
	Ida. 1960			Mine timber	Idaho
<i>Polyporus A.</i>	ASR-350, ASR-363, ASR-378	Ash		Motor launch locker seat.	Virginia
	ML-39	Redwood		Cooling tower	Ohio
	4998	do.		do.	
	MD-388	Larch	Pentachlorophenol	Telephone pole	Illinois
	MD-522	Pine, southern	Fluor-chrome-dinitrophenol	Test stake	Wisconsin
<i>Polyporus spp.</i>	4942	Maple		Lawn chair	
	FP 94362	Maple, hard		Park bench	Wisconsin
	5130	Pine		Lumber	Pennsylvania
	MD-242	Pine, lodgepole	Pentachlorophenol	Telephone pole	New Mexico
<i>Poria ambigua</i> Bres.	R-35, R-36			Boat frame & fillers	Virginia
<i>Poria carbonica</i> Overh.	156	Conifer		Scow	Ontario
	163	do.		Tug deck house sill	Do.
	ME-46	Douglas-fr.		Telephone pole	Oregon
	ME-89, ME-91, ME-95, ME-96, ME-90, ME-94, ME-97, ME-98	do.		Power pole	Do.
	Franklin 50	do.		do.	Washington
	4808	do.		Aircraft carrier deck	Massachusetts
	5051	do.		do.	
	West 35-S	do.		House cellar beam	New York
	109	do.		Dock piling	Oregon
	110	do.		Boat mast	New Jersey
	144	do.		Tug hatch closing	West Coast
	145	do.		Tug planking	Washington
	FP 94160-R	do.		Tug ceiling	Do.
	MS-81	do.		Boat anchor post	Do.
	MD-280, MD-288	Douglas-fr.	Creosote	Subflooring	California
				Telephone pole spar arm	Oregon
	MD-314	do.	do.	Telephone pole	Do.
	MD-399	do.	Chromated copper zinc arsenate	Test post.	Do.
	MD-418	Pine, southern	Chromated copper arsenate	Test stake	Florida
	MD-415	do.	Creosote	do.	Do.
	MD-141	do.	Petroleum	do.	Mississippi
<i>Poria cinerascens</i> Bres. complex. ¹	L 3353-Sp	Conifer		Board	New York
	MS-87	Douglas-fr.		Subflooring	California
	CZ-1, CZ-2, CZ-3, CZ-4, CZ-5, CZ-6, CZ-18	Hemlock, western		Chips from storage piles	Washington
<i>Poria cocos</i> (Schw.) Wolf.	H-598-R	Conifer		House wall	Georgia
	MD-107	Pine, lodgepole		Test post.	Oregon
	NS-94			Lumber in Navy shop	Virginia
	FP 71730-S			House kitchen floor	Maryland
	MD-106, MD-108, MD-109	Alder	Copper chromate	Test post.	Oregon
	MD-276	Alder, red	do.	do.	Do.
	MD-402	Douglas-fr.	do.	do.	Do.
	MD-430	Hemlock	Fluor-chrome-arsenate dinitrophenol	Test stake	Do.
	MD-111, MD-112, MD-275	Pine, lodgepole	Copper chromate	Test post.	Do.
	MD-210	Pine, southern	Acid copper chromate	Lumber	Louisiana
	MD-390	do.	do.	Test stake	Florida
	MD-412	do.	do.	do.	Mississippi
	MD-411	do.	Chromated copper zinc arsenate	do.	Florida
	MD-104, FP 104264-S	do.	Copper naphthenate	Fence post.	Do.
	MD-215	do.	do.	Test stake	Do.
	MD-128	do.	Zinc chloride	Test post.	Mississippi
<i>Poria ferruginosa</i> (Schrad. ex Fr.) Kurst.	FP 104375-Sp.	Hardwood		Barn window sill	Maryland
<i>Poria incrassata</i> (Berk. & Curt.) Burt.	ME-23S	Douglas-fr.		Studding	California
	607	do.		House floor & joists	Do.
	H-474	do.		Warehouse post.	Illinois
	832	do.		House	Do.
	905	do.		Lumber	Do.
	1219	do.		Flooring	Do.
	1696	do.		do.	Nebraska
	2105	do.		do.	Oregon
	4213	do.		Joist	Nebraska
	1082	Fir, white		Lumber	California
	1832	Hemlock		Flooring	Florida
	1847	Hemlock, western		Lumber	Pennsylvania
	3537	Magnolia		Wall board	Florida
	787	Maple		Flooring	District of Columbia
	2765	do.		do.	Wisconsin
	5012	do.		do.	New York
	678, 1411, 1458	Oak		do.	Florida
	794-1, 796, 1107, 1608	do.		do.	Tennessee
	1243	do.		do.	South Carolina
	Wt-2	do.		House flooring	Oregon
	H-536a	do.		Housesupporting post.	Pennsylvania
	1692	do.		Flooring	Nebraska
	3013	do.		do.	Virginia
	714	Oak, red		do.	Tennessee
	5118	do.		do.	Washington
	H-538b	Pine		House	Pennsylvania

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued Polyporaceae—Continued <i>Poria incrassata</i> (Berk. & Curt.) Burt.—Con.	FP 39070.....	Pine.....	House timber.....	District of Columbia
	FP 59125-R.....	do.....	Building timbers.....	Do.
	FP 71984-R.....	do.....	House flooring.....	Do.
	FP 94330-R.....	do.....	Building timbers.....	Virginia
	FP 94343-R.....	do.....	House joists and flooring.....	District of Columbia
	2032, 2387.....	do.....	Flooring.....	New York
	2299.....	do.....	Subflooring.....	Louisiana
	3042.....	do.....	Flooring.....	Missouri
	3284.....	do.....	do.....	Georgia
	1679.....	Pine, longleaf.....	Sill.....	South Carolina
	1686.....	do.....	do.....	Alabama
	562, 563.....	Pine, southern.....	Flooring.....	Virginia
	594.....	do.....	Roof.....	Florida
	614.....	do.....	Flooring.....	Missouri
	616, 2492, 5011.....	do.....	do.....	Texas
	886.....	do.....	do.....	New Jersey
	1181.....	do.....	do.....	Alabama
	1347.....	do.....	do.....	do.....
	1367.....	do.....	Siding.....	Ohio
	1541.....	do.....	Lumber.....	Louisiana
1461, 1560.....	do.....	.....	do.....	Florida
1565.....	do.....	.....	Door.....	Virginia
1630.....	do.....	.....	Flooring.....	District of Columbia
2201.....	do.....	.....	Baseboard.....	Ohio
1216, 2236.....	do.....	.....	Flooring.....	Florida
2462.....	do.....	.....	Lumber.....	Mississippi
4158.....	do.....	.....	Basement stairway.....	Pennsylvania
4497.....	do.....	.....	Subflooring.....	Georgia
FP 42287.....	do.....	.....	House flooring.....	Virginia
590.....	do.....	.....	Joist.....	Georgia
634, 1191.....	do.....	.....	Flooring.....	Mississippi
636, 639, 1935.....	do.....	.....	do.....	New York
660.....	do.....	.....	Lumber.....	Illinois
696-1.....	do.....	.....	House.....	Louisiana
794-3.....	do.....	.....	Flooring.....	Tennessee
908.....	do.....	.....	Lumber.....	Pennsylvania
914.....	do.....	.....	Molding.....	Florida
919.....	do.....	.....	Door.....	Do.
999.....	do.....	.....	Lumber.....	Indiana
1050.....	do.....	.....	Flooring.....	Louisiana
1076.....	do.....	.....	Wall.....	Florida
1183.....	do.....	.....	Lumber.....	Missouri
1356.....	do.....	.....	House.....	Georgia
1489.....	do.....	.....	Flooring.....	Kentucky
1801.....	do.....	.....	do.....	North Carolina
1809.....	do.....	.....	Sill.....	Mississippi
2068.....	Pine, western yellow.....	.....	Door step.....	Pennsylvania
794-2.....	Poplar.....	.....	Flooring.....	Tennessee
3109.....	Redcedar, western.....	.....	do.....	Texas
508.....	do.....	.....	do.....	Do.
422.....	do.....	.....	do.....	Virginia
MS-82.....	do.....	.....	Building wall.....	Oregon
Lind. 2/17.....	do.....	.....	Stake.....	.....
H-410.....	do.....	.....	Building.....	Georgia
.....	do.....	.....	House.....	District of Columbia
H-503.....	do.....	.....	House floors & walls.....	South Carolina
H-520.....	do.....	.....	House studs & flooring.....	Virginia
FP 39069.....	do.....	.....	House timber.....	District of Columbia
FP 42264.....	do.....	.....	Building.....	Oregon
FP 86529.....	do.....	.....	House.....	Pennsylvania
FP 94309-Sp.....	do.....	.....	do.....	Oregon
FP 97355.....	do.....	.....	House subflooring.....	District of Columbia
H-597.....	do.....	.....	House piers.....	North Carolina
H-542.....	do.....	.....	House floor & joists.....	District of Columbia
L-11504-Sp.....	do.....	.....	Wooden bridge plank.....	Florida
MD-331.....	Pine, southern.....	Chromated copper arsenate.....	Test stake.....	Mississippi	
MD-261.....	do.....	Chromated copper zinc arsenate.....	do.....	Wisconsin	
MD-64.....	do.....	Copper naphthenate.....	do.....	Mississippi	
MD-330.....	do.....	Fluor-chrome-arsenate-dinitrophenol.....	Test post.....	Do.	
<i>Poria mappa</i> Overh. & Lowe.....	L-3377-R.....	Conifer.....	Bridge handrail.....	New York
<i>Poria monticola</i> Murr.....	do.....	Boat compartment.....	Pennsylvania
.....	138.....	do.....	Schooner hull planking.....	Do.
.....	221.....	do.....	Cruiser hull bottom.....	Do.
.....	H-460-Sp.....	do.....	House sills & pliers.....	Ohio
.....	H-480-R.....	do.....	House sills.....	Do.
.....	R-21551.....	do.....	Boat compartment.....	Massachusetts
.....	FP 94366.....	do.....	House joists & stringers.....	Maryland
.....	193.....	Cypress.....	Cruiser chime.....	Michigan
.....	ME-42.....	Douglas-fir.....	Lumber.....	Ohio

See footnotes at end of table.

TABLE 7.—*Basidiomycetes associated with decay of various woods, products, and preservative treated items*
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Poria monticola</i> Murr.—Continued.	ME-93	Douglas-fir		Power pole	Washington
	Pu-10	do.		do.	Pennsylvania
	9-6, 12-B, Mad-22-R, 5096-3	do.		Test stake	Wisconsin
	Calif 47-2b	do.		Oilwell shaft	California
	102	do.		Boat deck beams	New Jersey
	105	do.		Boat stringer	Maryland
	111	do.		Boat transom	West Coast
	141	do.		Boat chime	Florida
	148	do.		Boat planking	Washington
	149	do.		Barge	Do.
	150	do.		Tug covering board	Do.
	151	do.		Boat covering board	Do.
	153	do.		Boat culling	Do.
	G-180	do.		Test stake	Mississippi
	ASR-376	do.		Motor launch ceiling	Virginia
	ASR-377	do.		Motor launch rising	Do.
	ASR-382	do.		Motor launch studding	Do.
	FP 66236	do.		House	District of Columbia
	FP 94344-R	do.		Concrete form under house	Oregon
	MS-52	do.		Boat	Do.
	898	do.		do.	Maryland
	4763, 4764	do.		Aircraft carrier	Washington
	Franklin 5, White Plains 108	do.		do.	Massachusetts
	4935	do.		Window shade picket	Ohio
	575	do.		Structural timber	Oregon
	CH-10b	Fir		Boat	Maryland
	ME-84	Fir, white		Post-rail	Oregon
	4873, 4874	Hemlock		Lumber	Wisconsin
	CH-1	Mahogany		Boat	Maryland
	152	Oak		Boat frame	Washington
	207	do.		Cruiser knee	Ohio
	222	do.		Cruiser hull bottom	New York
	226	do.		Boat sheathing	Do.
	5041	do.		Boat	Oregon
	220	Oak, white		Cruiser hull	New York
	223	do.		Cruiser planking	Do.
	137	Pine		Schooner stringer	Do.
	197b	do.		Yacht planking	Michigan
	202	do.		Ferryboat planking	Ohio
	4718	Pine, southern		Post	Do.
	4380	do.		Sheathing	Wisconsin
	FP 94153-Sp	do.		Whaleboat beam	Connecticut
	FP 94182-R	do.		House subflooring	New York
	4752	do.		House beam	Do.
	225	do.		Target raft	Florida
	West M-23	Spruce, Sitka		Boards	Oregon
	219	Whitecedar, Atlantic		Cruise planking	New York
	Op 24-A	do.		Utility pole	Colorado
	Calif 47-2a	do.		Oilwell shaft	California
	YTL-315	do.		Tug	Oregon
	ASR-369	do.		Motor launch	Virginia
	ASR-381	do.		Warship	Do.
	H-465	do.		House flooring	Oregon
	4503	do.		Door	Do.
	ME-47, ME-48	do.		Telephone pole	Oregon
	ME-308	do.		Door	California
	ME-208	do.		Subfloor	Do.
	MD-307	Douglas-fir	Chromated copper arsenate	Test post	New Jersey
	MD-281	do.	Cresote	Telephone pole spar arm	Oregon
	MD-336	do.	do.	Telephone pole	Do.
	MD-480	Pine, lodgepole	do.	do.	North Dakota
	MD-251	Pine, southern	Acid copper chromate	Test post	Wisconsin
	5096-38	do.	Chromated copper arsenate	Telephone pole	Washington
	MD-65, MD-149	do.	Copper naphthenate	Test stake	Mississippi
	MD-257	do.	do.	do.	Wisconsin
	MD-86	do.	Cresote	Telephone pole	Connecticut
	MD-392	do.	do.	do.	Ohio
	5096-45	do.	do.	do.	North Carolina
	MD-484	do.	do.	Test post	New Jersey
	MD-506	do.	do.	Test stake	Wisconsin
	MD-59, MD-60, MD-61	do.	Fluor-chrome-arsenate-dinitrophenol	do.	Mississippi
	MD-190	do.	do.	do.	Wisconsin
	MD-133	do.	Pentachlorophenol	Test post	Mississippi
	5096-13	do.	do.	Test stake	Louisiana
	MD-12	do.	Pentachlorophenolate	do.	Florida
	5096-16	do.	do.	do.	Louisiana
	5096-51	do.	do.	do.	Wisconsin
	MD-3, 5096-11, 5096-69	do.	Petroleum	do.	Louisiana
	5096-22	do.	Zinc chloride	do.	Florida
	204	Oak		Boat	Ohio
	MD-278	do.	Cresote	Power pole	Do.
	Lo-13-R, Lo-20-R, Lo-21-R, Lo-22-R, Lo-45-R	Locust, black		Vineyard post	Maryland
<i>Poria nigra</i> (Berk.) Cke.					
<i>Poria nigrescens</i> Bres. complex. ^a					

See footnotes at end of table.

TABLE 7.—*Basidiomycetes* associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued Polyporaceae—Continued <i>Poria nigrescens</i> Bres. complex ² —Continued.	ML-25.....	Redwood.....		Cooling tower structural member.....	Kansas
	ML-36, 4795, 4850, 4855, 4897, 4900, 4933, 4983.	do.....		do.....	Texas
	4856.....	do.....		Staves.....	North Carolina
	2945.....	do.....		Cooling tower	
	4868.....	do.....		Barge timbers.....	District of Columbia
FP 90869—Sp.....					West Virginia
<i>Poria cleracea</i> Davidson & Lombard.	MD-21.....	Locust.....		Insulator pin.....	Michigan
	FP 48286.....	Mahogany, Philippine.....		Cruiser planking.....	
	CH-5.....	Oak.....		Boat bitt post.....	Florida
	CH-10a.....	do.....		do.....	Maryland
	135.....	do.....		Schooner carling.....	New York
	140.....	do.....		Sailboat decking.....	Do.
	143.....	do.....		Boat stem.....	Florida
	203, FP 48282—R.....	do.....		Cruiser knee.....	Michigan
	FP 48283.....	do.....		Boat timber.....	Florida
	FP 48284.....	do.....		Cruiser chime.....	Michigan
	FP 48288.....	do.....		Cruiser frame.....	New York
	FP 105253—R.....	do.....		Porch step riser.....	Maryland
	CH-3.....	Oak, white.....		Boat.....	Florida
	CH-4.....	do.....		do.....	New Jersey
	ASR-365.....	do.....		Motor launch transom.....	Virginia
	FP 104085—R.....	do.....		Tug boat frame.....	Pennsylvania
	ML-24, ML-27, 4907.....	Redwood.....		Cooling tower.....	Texas
	H-455.....	do.....		House.....	Pennsylvania
	MD-437.....	Oak.....	Pentachlorophenol.....	Boat.....	Massachusetts
	5098-50.....	Oak, red.....	Creosote.....	Railroad tie.....	South U.S.
MD-380.....	Oak, scarlet.....	Copper chromate.....	Test post.....	Tennessee	
MD-177.....	Pine, southern.....	Fluor-chrome-dinitrophenol.....	Test stake.....	Wisconsin	
MD-178.....	do.....	Oleoresin.....	do.....	Do.	
MD-260.....	do.....	Drop liquor.....	do.....	Do.	
<i>Poria pannocincta</i> (Rom.) Lowe.	FP 103166—Sp.....	Hardwood.....		Log joist in cabin.....	Maryland
<i>Poria radiculosa</i> (Pk.) Sacc.	B12-2.....	Locust.....		Fence post.....	Do.
	FP 07461—R.....	Pine.....		Test post.....	Florida
	FP 103286—R.....	do.....		Lumber.....	Georgia
	MD-401.....	Douglas-fir.....	Pentachlorophenol.....	Test post.....	Oregon
	MD-179.....	Pine, southern.....	Chromated zinc chloride.....	Test stake.....	Wisconsin
	MD-11, MD-82.....	do.....	do.....	do.....	Florida
	MD-83.....	do.....	do.....	do.....	Mississippi
	5098-29.....	do.....	Chromated copper zinc arsenate.....	do.....	Wisconsin
	MD-490, MD-493.....	do.....	Chromated zinc arsenate.....	do.....	Florida
	MD-460.....	do.....	Copper chromate.....	do.....	Georgia
	MD-73, MD-134.....	do.....	Copper chromated zinc chloride.....	Test post.....	Mississippi
	MD-455.....	do.....	Copper naphthenate.....	Test stake.....	Wisconsin
	MD-74.....	do.....	do.....	Test post.....	Mississippi
	4617.....	do.....	Creosote.....	Telephone pole.....	South Carolina
	MD-309.....	do.....	do.....	Test post.....	Mississippi
	MD-357, MD-365, MD-377, MD-379, Hept 5, Hept 19, P-70, Tp-353, Tp-361, 4614, FP 97477.....	do.....	do.....	Telephone pole.....	South Carolina
	MD-80.....	do.....	Fluor-chrome-dinitrophenol.....	Test stake.....	Florida
	MD-84.....	do.....	Pentachlorophenate.....	do.....	Do.
	2996.....	do.....	Zinc chloride.....	Test post.....	Do.
	5098-20.....	do.....	do.....	Test stake.....	Do.
MD-459.....	do.....	do.....	do.....	Georgia	
<i>Poria subambigua</i> Bres.....	FP 48263—Sp.....	Cypress.....		Greenhouse bench.....	Maryland
<i>Poria tenuis</i> (Schw.) Cke.....	4636.....	Maple.....		Outdoor seat.....	Wisconsin
	L-3407.....	Oak.....		Park bench.....	New York
	FP 94361—R.....	Oak, white.....		Wagon body.....	Wisconsin
<i>Poria unita</i> (Pers.) Cke.....	FP 103661—Sp.....	Locust, black.....		Post.....	Virginia
	186.....	Mahogany.....		Motor boat cabin.....	District of Columbia
	FP 90012—Sp.....	Oak, white.....		Porch step.....	Maryland
<i>Poria vaillantii</i> (Fr.) Cke.....	63-263.....	Conifer.....		Test post.....	Colorado
	H-496b.....	do.....		House sills.....	Pennsylvania
	H-497.....	do.....		House joists.....	New York
	2-6, 27-B.....	Douglas-fir.....		Test stake.....	Wisconsin
	MS-50.....	do.....		Subflooring.....	California
	MC-4, MC-19, MC-21, MC-26, MC-27.....	Larch, western.....		Test stake.....	Wisconsin
	FP 94428—Sp.....	Oak.....		Harness doubletree.....	Maryland
	FP 94367—Sp.....	do.....		House porch step.....	Do.
	FP 94370a.....	do.....		House.....	Virginia
	H-442.....	Pine.....		do.....	District of Columbia
	H-477a.....	do.....		House girder.....	Pennsylvania
	4632.....	do.....		House sill.....	Illinois
	FP 90877—R.....	do.....		Soil test blocks.....	New Jersey
	FP 94288—R.....	do.....		do.....	
	FP 94370b.....	do.....		House.....	Virginia
	FP 94371—R.....	do.....		House sills & joists.....	Do.
	FP 94319.....	do.....		House timber.....	New Jersey
	FP 94320.....	do.....		House.....	District of Columbia

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood				
Name	Collection number	Species	Preservative treatment	Product	Exposure	
Agaricales—Continued Polyporaceae—Continued <i>Poria vallantii</i> (Fr.) Cke. —Continued.	FP 94322	Pine		House	Pennsylvania	
	MD-354	Pine, jack		Test post	Michigan	
	MC-2, MC-10, MC-18, MC-22	Pine, lodgepole		Test stake	Wisconsin	
	4472	Pine, southern		Sheathing	New York	
	H-451-Sp			House timbers	District of Columbia	
	H-525-Sp			Wood under house	Maryland	
	H-557a			House	New York	
	H-579a			do	Pennsylvania	
	LOO 13780			Old barrel	Do	
	MD-502	Pine, southern		Test stake	Wisconsin	
	MD-1, MC-20	Redcedar, western		do	Do	
	MD-279	Douglas-fir	Copper chromate	Test post	Oregon	
	MD-491	Pine, southern	Chromated copper zinc arsenate	Test stake	Florida	
	MD-497	do	do	do	Mississippi	
	MD-259	do	Copper zinc chromate	do	Wisconsin	
	MD-155, MD-156, MD-175, MD-176	do	Creosote	Telephone pole	Connecticut	
	MD-369, MD-375	do	do	Test stake	Florida	
	MD-308	do	Drop liquor	do	Wisconsin	
	MD-439	do	Fluor-chrome-dinitrophenol	do	Do	
	MD-85	do	Pentachlorophenol	do	Do	
	MD-517	do	Petroleum	do	Do	
	MD-442	do	Pyrosote	do	Do	
	MD-462	do	Eosin oil	do	Do	
	MD-294	do	Zinc chloride	do	Do	
	MD-425	Pine, jack	Chromated copper arsenate	do	Florida	
	<i>Poria zantha</i> (Fr.) Cke.	H-501, FP 97434-R	Conifer		House sills	Maryland
		H-462-Sp	do		Building beam	Connecticut
		107	Douglas-fir		Boat knee	Maryland
		122	do		Pump well pile driver	Do
		154	do		Boat planking	Washington
		192-S	do		Barge	Virginia
		ASR 364-S	do		Motor launch deck plank	Do
		FP 94156	do		Barge	California
		FP 94156	do		Boat	Do
		FP 94156-R	do		Barge decking	Washington
		3361	do		Barge planking	California
		4765	do		Boat deck	Washington
		4774	do		Wall of dry dock	Florida
		4803	do		Boat	Gilbert Islands
		Enterprise 5	do		Aircraft carrier	Massachusetts
		175	Hardwood		Cruiser transom	New York
		213a	Mahogany		Cruiser planking	Do
		130	Oak		Boat butt block	Do
		133	do		Sailboat horn timber	Do
		210	do		Boat upright	Do
212		do		Cruiser floor support	Do	
FP 94154		do		Cruiser transom	Do	
118		Pine		Barge deck	Virginia	
121		do		Lumber	Do	
173		do		Cruiser transom	Washington	
188		do		Barge deck beams	Virginia	
197a		do		Yacht planking	Michigan	
FP 103870-Sp		do		Log in old cabin	Maryland	
FP 105494-Sp		do		Board on ground	Do	
191		Pine, longleaf		Barge planking	Virginia	
MD-82		Pine, southern		Test stake	Mississippi	
ME-505		do		Board on soil	Wisconsin	
185		Pine, white		Schooner bulwark	Connecticut	
108		Spruce		Boat mast	New Jersey	
4472						
Na-3						
FP 90883-R				Boat decking	California	
				Concert barge	District of Columbia	
MD-407		Cottonwood, black	Pentachlorophenolate	Test post	Oregon	
MD-212, MD-317		Douglas-fir	Creosote	Telephone pole	Washington	
MD-282		do	do	do	Oregon	
MD-404		do	Pentachlorophenol	Test post	Do	
MD-469		Pine, lodgepole	Creosote	Telephone pole	North Dakota	
MD-200		Pine, southern	Acid copper chromate	Test stake	Oregon	
MD-68, MD-69		do	Chromated copper arsenate	do	Mississippi	
MD-413	do	Chromated copper zinc arsenate	do	Florida		
MD-24	do	Copper naphthenate	Telephone pole	Virginia		
MD-118	do	do	Test stake	Oregon		
MD-348	do	Creosote	Telephone pole	Illinois		
MD-514	do	do	Test stake	Wisconsin		
5096-35	do	Creosote/pentachlorophenol	Test post	New Jersey		
MD-504	do	Fluor-chrome-dinitrophenol	Test stake	Wisconsin		
MD-5	do	Pentachlorophenol	do	Florida		
<i>Poria A</i>	Op-1			Utility pole	Colorado	
	Op-23			do	Do	
	MD-213, MD-214	Douglas-fir	Creosote	Telephone pole	Washington	
	MD-127	Pine, lodgepole	do	Test post	Oregon	
MD-327	do	do	Telephone pole	Do		
MD-244, MD-246	Pine, red	do	do	Mississippi		
MD-381	Pine, southern	do	do	Georgia		
<i>Poria B</i>	MS-25	Pine		Test box	Wisconsin	
	MS-35	Spruce		Test stake	Do	

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Polyporaceae—Continued					
<i>Poria C.</i>	H-438	Conifer		Deck of ship	Pennsylvania
	MD-51	Pine, southern	Fluor-chrome-dinitrophenol	Test stake	Mississippi
<i>Poria spp.</i>	MD-137	do	Oleoresin	do	Do.
	MD-148	do	Pentachlorophenolate	do	Do.
	MD-31	do	Phenyl dichloro arsine	Test post	Do.
	MD-50	do	Rosinamine D-copper-acetate	Test stake	Do.
	PNW-1 & 2	Pine, ponderosa	Copper naphthenate	Porch flooring	Oregon
	H-509	Conifer		House floor sills	Virginia
	H-510	Douglas-fir		do	Indiana
	Lo-18-R	Locust, black		Grapearbor post	Maryland
	FP 94366	Pine		House joist	Do.
	H-579b			House floor sills	Pennsylvania
<i>Ptychogaster rubescens</i> Boud.	H-578	Baldcypress		Greenhouse bench	Minnesota
	H-579c	do		House	District of Columbia
	H-441	Pine		House, supporting board	Pennsylvania
	H-507	do		House sills & flooring	District of Columbia
	FP 48292	do		House joists	Virginia
	FP 94372-R	do		do	Maryland
	MD-458	Pine, southern		Test stake	Virginia
	Ec			Telephone pole	Wisconsin
	H-436			House	Pennsylvania
	4611	Pine, southern	Creosote	Telephone pole on bottom of pile	Do.
<i>Ptychogaster A.</i>	ME-101	do		Pulp chip	South Carolina
	ME-4	Sweetgum		do	Georgia
<i>Trametes hiapida</i> Bagl.	MC-42	Pine		Post	Do.
<i>Trametes odorata</i> (Wulf. ex Fr.) Fr.	FP 94463-Sp	Conifer	Creosote	Guard rail	Oklahoma
<i>Trametes septum</i> Berk.	MD-195	Birch		Plywood test panel	New York
<i>Trametes serialis</i> Fr.	L-9223-Sp	Conifer		Post	Wisconsin
	MS-80	Pine, white		Building	Arizona
	H-689	Yogruma		Pulpwood	Wisconsin
	FP 71964-Sp			House	Puerto Rico
	H-685			Post	Maryland
	MS-24	Douglas-fir		Cottage step	Do.
	1386	do		Telephone pole	Wyoming
				Telephone pole (cross arm)	New York
	1828	do		Piling	California
	2017	do		Lumber	Ohio
	2522	do		Flooring	Washington
	2882	do		Lumber	Minnesota
	2883	do		Railroad tie	Minnesota
	2936	do		Subflooring	California
	4503	do		Refrigerator door	Idaho
184	do		Boat mast	Maryland	
1297	Oak		Flooring	Massachusetts	
1804	Pine		Roof	Florida	
3032	do		Structural support	Wisconsin	
2024	Pine, southern		Lumber	Ohio	
2222	do		Beam	Iowa	
3509	do		Shafting	Louisiana	
3165	Spruce, Sitka		Lumber	District of Columbia	
1607	do		Door	Virginia	
1004	Douglas-fir	Creosote	Telephone pole	Pennsylvania	
				California	
Agaricaceae					
<i>Armillaria mellea</i> (Fr.) Quél.	2426	Basswood		Lumber	Georgia
<i>Coprinus radicans</i> Fr.	786	Ash		Auto body	Ohio
	428	Maple		Lumber	Michigan
	623	do		Flooring	Wisconsin
	1269	do		Log (disk)	Alabama
	FP 106495-Sp	Conifer		House studding/lathes	Maryland
<i>Gymnopilus</i> sp.	2545	Oak		Gilder	
	Pine, southern			Fence post	Mississippi
<i>Hypoloma</i> spp.	F-5, F-38	do	Ammonium sulphate-sodium phosphate	Test stake	Do.
	21, 41	do	Pentachlorophenolate	do	Do.
<i>Lentinus kaufmannii</i> A. H. Smith	West M-23, West 44	Spruce, Sitka	Phenyl mercury oleate	Board at box factory	Do.
<i>Lentinus lepideus</i> Fr.	FP 2889	Conifer		Board at box factory	Oregon
	P 28	Douglas-fir		Railroad tie	Wisconsin
	57, 69, F86, 94, MD-240	do		Utility pole	Colorado
	ME-335	do		Telephone pole	New Mexico
	FP 71167-S	do		do	Oregon
	FP 42056	Hemlock		Post	Wisconsin
	636	Larch		Railroad tie	Washington
	MC-25	do		Lumber	Wisconsin
	235	Larch, western		Test stake	Do.
	MC-33, MC-34	do		Utility pole	Do.
	6026-5	do		do	Colorado
1403	Madrone		do	Mississippi	
4163	Pine		Post	Wisconsin	
	do		Telephone pole	Do.	
				New York	

See footnotes at end of table.

TABLE 7.—*Basidiomycetes* associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood				
Name	Collection number	Species	Preservative treatment	Product	Exposure	
Agaricales—Continued Agaricaceae—Continued <i>Lentinus lepideus</i> Fr.—Continued.	Hept 102, Hept 105	Pine		Telephone pole	South Carolina	
	117	do		Barge hull timber	Maryland	
	187	do		Barge deck beams	Virginia	
	FP 5105	do		Railroad tie	Georgia	
	FP 41819	do		House timber	District of Columbia	
	534	Pine, jack		Railroad tie	Northwest U.S.	
	MD-353	do		Test post	Michigan	
	MC-3, MC-31, MC-32, MC-35, MC-38, MC-38	Pine, lodgepole		Test stake	Mississippi	
	MC-29	do		do	Wisconsin	
	RO, A-1, 1-59, A-2, 5, Op-5, A-16, 29-3N, 64, Op-04, 190, 882	do		Utility pole	Colorado	
	Op-1, Op-2, Op-4, Op-5, Op-6, Op-7, Op-8, Op-9, Op-13, Op-14, Op-15, Op-16, Op-18, Op-19, Op-20, Op-21, Op-22, Op-25, Op-27	do		Telephone pole	Do.	
	626-1	do		Lumber	Massachusetts	
	1203	do		Piling	Kansas	
	2204	do		Telephone pole	Massachusetts	
	2257	do		Lumber	New Jersey	
	1034, 1038, 1072	do		Utility pole	South Dakota	
	ME-64	Pine, southern		Telephone pole	Colorado	
	Op-8a	do		do	Do.	
	P-72	do		do	South Carolina	
	FP 4199	do		Railroad tie	Minnesota	
	FP 104981	do		Telephone pole	Colorado	
	MD-211	Douglas-fir	Creosote	do	Washington	
	MD-238, MD-239, MD-241	do	do	do	New Mexico	
	MD-464, MD-465, MD-466, MD-467, MD-470, MD-473, MD-474, MD-476, MD-478, MD-479	Pine, lodgepole	do	do	North Dakota	
	MD-334, MD-335	do	do	do	New Mexico	
	MD-6, MD-8, MD-9	do	do	do	Wyoming	
	MD-22	do	do	do	Northwest U.S.	
	5096-47	do	do	do	South Dakota	
	2311, 2331, 2340	do	Pentachlorophenol	Utility pole	Montana	
	MD-30, MD-66, MD-67	Pine, southern	Chromated copper arsenate	Test stake	Mississippi	
	MD-56	do	do	Test post	Do.	
	Tp-357	do	do	Telephone pole	South Carolina	
	MD-488	do	do	Test post	New Jersey	
	4940	do	Copper naphthenate	Telephone pole	Texas	
	5096-18, 5096-19	do	Fluor-chrome-dinitrophenol	Test stake	Florida	
	5096-26, 5096-27	do	do	do	Wisconsin	
	1360	do	Creosote	Telephone pole	Louisiana	
	5096-33	do	do	do	Texas	
	5096-37	do	do	do	Arizona	
	MD-7, MD-10	do	do	do	North Carolina	
	MD-13	do	do	do	Ohio	
	MD-26, MD-54	do	do	Test post	Mississippi	
	MD-79	do	do	Test stake	Do.	
	MD-87, MD-159, MD-185	do	do	Telephone pole	Connecticut	
	MD-243	do	do	do	California	
	MD-273, MD-368	do	do	Test stake	Florida	
	MD-362, MD-363, MD-364, MD-368, MD-376, MD-424, MD-425, MD-426, MD-427, MD-428, MD-429	do	do	do	do	
	FP 94316-R	do	do	Telephone pole	South Carolina	
	MD-380	do	do	do	Georgia	
	Tp-351	do	do	Telephone pole-stored	South Carolina	
	5096-6, 5096-7, 5096-10, 5096-12, 5096-17	do	Petroleum	Test stake	Louisiana	
	5096-04	do	do	do	Mississippi	
	MD-709	do	Petroleum/creosote	Telephone pole	Texas	
	<i>Lentinus tigrinus</i> Bull. ex Fr. <i>Naematoloma sublateralitium</i> (Fr.) Karst. <i>Paxillus panuoides</i> Fr.	ME-6	Oak, red		Wood chip	Georgia
		MS-57	Sweetgum		Railroad tie	Do.
		MC-30	Pine, lodgepole		Test stake	Wisconsin
		Tp-359	Pine, southern	Creosote	Telephone pole	North Carolina
		H-439	Conifer		House sill	Virginia
		H-445-Sp	do		House	District of Columbia
		H-453	do		House sill	Rhode Island
		H-471		do		do	District of Columbia
		H-550		do		House joists	Maine
		H-440b		Douglas-fir		House flooring and subflooring	District of Columbia
	ME-368	do		Header in house	Oregon	
	161	Fir		Scow	Ontario	

See footnotes at end of table.

TABLE 7.—Basidiomycetes associated with decay of various woods, products, and preservative treated items
—Continued

Fungus		Host wood			
Name	Collection number	Species	Preservative treatment	Product	Exposure
Agaricales—Continued					
Agaricaceae—Continued					
<i>Parvulus parvulus</i> Fr.—Continued.	H-440a	Pine		House flooring and subflooring.	District of Columbia
	H-452	do.		House sill	Tennessee
	FP 90841-R	do.		Building joists.	Mississippi
	5096-34	Pine, southern	Acid copper chromate.	Telephone pole.	Do.
	H-469			House sill	Michigan
	H-510a			do.	Indiana
	H-515			House	Ohio
	H-415			Church	
	H-425			House	Rhode Island
	H-451			House timbers	District of Columbia
	II-454			House sill	Indiana
	H-467			do.	Maryland
	H-468			House sill & joists	Michigan
	541			Lumber	
<i>Pholiota adiposa</i> (Fr.) Quéf.		Fir, white			
<i>Pholiota flammans</i> (Fr.) Kumm.		Redcedar		Shingles	Wisconsin
<i>Pholiota</i> sp.	306	Basswood		Lumber	Do.
<i>Pleurotus ostreatus</i> (Jacq. ex Fr.) Kumm.	BOP-59, BOP-77, BOP-98	Oak, black		Fence post	Do.
<i>Schizophyllum commune</i> Fr.	MD-10			Flooring	Illinois
	924-2	Cypress		Lumber	District of Columbia
	3479	do.		Boat	Wisconsin
	MS-63	Elm		Stadium seat	Texas
	711-2	do.		Auto top	New York
	2239-1	do.		Steamer seat	Michigan
	5102	Douglas-fir		Piling	Oregon
	4605	Hickory		Electrical insulator	Florida
	BOP-3, BOP-31B, BOP-61	Oak, black		Fence post	Wisconsin
	3461	Oak, white		Keg	New Jersey
	MC-45	<i>Partnarium</i> sp.			Liberia
	2858	Pine, shortleaf		Sign board	Missouri
	ML-43	Redwood		Cooling tower	Do.
	MRC-6	Willow		Pulpwood	Argentina
	4584-2	do.		Lawn chair	Wisconsin
	4622	do.		Grate	Philippine Islands
		Hardwood	Creosote	Railroad tie	Virginia
	800	Pine, southern	Fluor-chrome-arsenate-dinitrophenol.	Fence post	Louisiana
	MD-461	do.	Pentachlorophenol	Test stake	Mississippi
Unknown groups					
Chain-chlamydospore	4869	do.		Telephone pole	
	6079-2	do.	Petroleum	Test stake	Illinois
Colorado yellow	MD-322	do.	Copper naphthenate	do.	Oregon
	MD-318	do.	Fluor-chrome-dinitrophenol	do.	Do.
Garlic odor	FP 97303a-R	Conifer		House	Ohio
	183	Douglas-fir		Boat planking	California
	4853	do.		Test stake	Florida
	161	Fir		Scow	Ontario
	139	Oak		Schooner butt block	New York
White spiral	MD-228, MD-229	Pine, southern	Pentachlorophenol	Test stake	Wisconsin
Unknown A	MS-14, MS-16, MS-16, MS-17, MS-18, MS-19, MS-20, MS-21	Pine		Test box	Panama
	ML-19, ML-23, 5078-1, 5078-2, 5078-3	Redwood		Cooling tower support	Missouri
Unknown B	6098-24	Pine, southern	Pentachlorophenolate	Test stake	Wisconsin
	MD-138, MD-145, MD-146	do.	Pentachlorophenol	do.	Mississippi
	6098-23, 5096-25, 5096-28, 5096-30	do.	Tetrachlorophenol	do.	Wisconsin
Unknown F	5129, 5134	Chinquapin		do.	Do.
	MD-305	Madrone		do.	Do.
	Mad. 21-R, 5133	Tanoak		do.	Do.
	MD-410	Pine, southern	Ammoniacal copper arsenate	do.	Florida
	MD-306	do.	Chromated copper zinc arsenate	do.	Wisconsin
Unknown J	L-20, 13-142, 2261, 2262, 2264, 2266, 2287, 2299, 2270, 2274, 2286, 2299, 2302, 2309, 2310, 2320, 2324, 2325, 2332, 2334, 2337	Pine, ponderosa	Pentachlorophenol	Utility pole	Montana
Unknown K	MD-301	Pine, southern	Chromated zinc chloride	Test stake	Wisconsin
	MD-292	do.	Copper naphthenate	do.	Mississippi
	MD-300	do.	Tetrachlorophenol	do.	Wisconsin
	MD-299	do.	Zinc chloride	do.	Do.
Unknown L	MD-268	do.	Drop liquor	do.	Mississippi
	MD-282	do.	Pentachlorophenol	do.	Do.
	MD-265	do.	Rosin oil	do.	Do.
Unknown N	MD-511	do.	Chromated-copper-zinc-arsenate	do.	Wisconsin
	MD-489	do.	do.	do.	Florida
	MD-496	do.	Creosote	do.	Do.
	MD-510	do.	Rosinamine D-pentachlorophenol	do.	Mississippi

¹ Question mark following species name indicates a tentative identification.
² Includes the following species that are difficult to separate culturally: *Poria cinerascens* Bres., *P. rivulosa* (Berk. and Curt.) Oke. (*P. albipellucida* Baxter), and *P. subvermispora* Pilát.
³ Includes the following species that have not been clearly defined taxonomically: *Polyporus rickardsi* Lév., *P. zonalis* Berk., *Poria nitrescens* Bres., *P. nummularis* (Alb. & Schw.) Oke., and *P. undata* (Pers.) Bres.