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

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(Maintained in cooperation with the University of Wisconsin)

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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	<i>Guepinia</i>	2	5
Agaricales			
Thelephoraceae	<i>Asterostroma</i>	2	4
	<i>Coniophora</i>	5	162
	<i>Corticium</i>	11	35
	<i>Peniophora</i>	10	43
	<i>Stereum</i>	11	43
	<i>Vararia</i>	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	<i>Hericium</i>	1	1
	<i>Hydnum</i>	1	1
	<i>Irpex</i>	2	3
	<i>Odontia</i>	5	33
	<i>Oxydontia</i>	1	6
	<i>Porogramme</i>	1	1
	<i>Radulum</i>	1	1
		12	46
Polyporaceae	<i>Daedalea</i>	3	32
	<i>Fomes</i>	10	64
	<i>Ganoderma</i>	1	1
	<i>Lenzites</i>	3	231
	<i>Merulius</i>	5	57
	<i>Polyporus</i>	21	127
	<i>Poria</i>	22	494
	<i>Ptychogaster</i>	2	13
	<i>Trametes</i>	4	28
		71	1,047
Agaricaceae	<i>Armillaria</i>	1	1
	<i>Coprinus</i>	1	6
	<i>Gymnopilus</i>	1	1
	<i>Hypholoma</i>	1	5
	<i>Lentinus</i>	3	153
	<i>Naematoloma</i>	1	2
	<i>Paxillus</i>	1	21
	<i>Pholiota</i>	3	3
	<i>Pleurotus</i>	1	4
	<i>Schizophyllum</i>	1	20
		14	216
(Unknown)		11	71
Total	5	33	152
			1,678

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.) Fr., *P. raillantii* (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* Lév., *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			
<i>Guepinia</i> spp.	1	2				2		1	
Agaricales									
Thelephoraceae									
<i>Asterostroma cerri-colar</i> (Berk. & Curt.) Mass.		1		White*		1			
<i>Asterostroma</i> spp.	1	1	1			1		1	1
<i>Coniophora arida</i> (Fr.) Karst.	7	62	2	Brown	1	6	20	44	
<i>C. olitacea</i> (Fr. ex Pers.) Karst.		6	1	do		5		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. ?		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			
<i>C. subseriale</i> Bourd. & Galz. ?		2		Brown*				2	
<i>C. suecicum</i> Litsch.	1			White*		1			
<i>Corticium</i> A.		7		do		7			
<i>Corticium</i> B.		1		..				1	
<i>Corticium</i> C.		3		..		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. ?		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. murrayi</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 & Jacks.			1	White*					1
<i>V. pallens</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					1			
<i>Irpez mollis</i> Berk. & Curt.	1			White		1			
<i>Irpez</i> spp.		2					1	1	
<i>Odontia bicolor</i> (Fr.) Bres.		13		White		2		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	1		1	
<i>Orydonia chrysorhiza</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 annosus</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. pinicola</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 applanatum</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> Hedge.		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. gilvus</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			
<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	15	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 ⁵	5	12	1	White		15		1	2
<i>P. oleracea</i> Davidson & Lombard	20	6	1	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		3			
<i>P. vaillantii</i> (Fr.) Cke.	3	47	5	Brown	13	15	3	24	
<i>P. xantha</i> (Fr.) Cke.	8	44	3	do	13	20	15	5	2
<i>Poria</i> A.		7	2	**		3	6		
<i>Poria</i> B.		2		Brown*				2	
<i>Poria</i> C.		7		do	1	5	1		
<i>Poria</i> spp.	1	3	1		1	3		1	
<i>Ptychogaster rubescens</i> Boud.		9	2	Brown	3	6		2	
<i>Ptychogaster</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. sepium</i> Berk.	2	2	3	do		3	1	2	1
<i>T. serialis</i> Fr.	1	18		do	3	5	6	5	
Agaricaceae									
<i>Armillaria mellea</i> (Fr.) Quéf.	1			White		1			
<i>Coprinus radians</i> (Desm.) Fr.	5		1	**		2		3	1
<i>Gymnopilus</i> sp.		1				1			
<i>Hypholoma</i> spp.		5				5			
<i>Lentinus kauffmanii</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>Naematoloma sublateralitum</i> (Fr.) Karst.		2		White*		1		1	
<i>Paxillus panuoides</i> Fr.		12	9	Brown*	5	10	1	4	1
<i>Pholiota adiposa</i> (Fr.) Quéf.		1		White					1
<i>P. flammans</i> (Fr.) Kumm.		1						1	
<i>Pholiota</i> sp.	1							1	
<i>Pleurotus ostreatus</i> (Jacq. 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 E		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 (21), 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 (26), 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 gallie 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: *Porio cinerascens* Bres., *P. rivuloso* (Berk. & Curt.) Cke. (*P. albidipellucida* Baxter), and *P. subvernisporea* Pilát.

⁵ Includes the following species that have not been clearly defined taxonomically: *Polyporus rigidus* Lév., *P. zonatis* Berk., *Poria nigrescens* Bres., *P. sanguinolenta* (Alb. & Schw.) Cke., and *P. undato* (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			
	Angiosperm	Gymnosperm	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 result**: 11-----	10	27	6	43
Inconclusive result***: 1-----	0	1	0	1
Unknown: 18-----	12	31	9	52
	22	59	15	96
Total-----	316	1,248	114	1,678

¹ Summary based on table 2.

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.

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.) Fekl. 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	Mod-erately resistant	Resistant or very resistant			Non-resistant	Mod-erately resistant	Resistant or very resistant
GYMNOSPERMOUS WOODS ¹					GYMNOSPERMOUS WOODS ¹ —Con.				
Species occurring more than 5 times:	No.	No.	No.	No.	Species occurring more than 5 times	No.	No.	No.	No.
<i>Lentinus lepideus</i>	143	125	18	—	—Continued	—	—	—	—
<i>Lenzites trabea</i> ²	92	59	8	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	36	9	2	<i>Oxydantia 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 ³				
<i>Coniophora</i> spp.	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>Peniophora 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	13	—	—	<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>Parillus 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 balsa meus</i>	10	10	—	—	<i>Polyporus adustus</i>	6	3	3	—
<i>Fomes rosceus</i>	9	7	1	1	Total (14).....	202	92	90	20
<i>Merulius himantoides</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 spathulata</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. Nonresistant: 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. Nonresistant: 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*, *Lentinus 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
Tremellaceae							
<i>Guepinia spathularia</i>			Boat batten (1)	Porch step (1)			
<i>Guepinia</i> spp.			Boat (1)		Greenhouse bench (1)		Stake (1)
Thelephoraceae							
<i>Asterostroma cervicolar</i>					Greenhouse board (1)		
<i>Asterostroma</i> spp.				Insulating board (1); porch step (1).	Unknown (1)		
<i>Coniophora arida</i>				Houses (2)			Stakes (69)
<i>C. olivacea</i>		Pole (1)		Sill (1)			Stakes (5)
<i>C. puteana</i>	Pulplog (1); lumber (2).	Poles (2)	Tugboat (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>Coniophora</i> B.							Stakes (12)
<i>Coniophora</i> spp.	Lumber (1); pulplog (1).			Flooring (4); stored boards (1); joist (1).			Stakes (16)
<i>Corticium alutaceum</i>					Icebox (1); wood fiber product (1).		
<i>C. atrovirens</i> ? ²							Stakes (5)
<i>C. fuscostratum</i>	Lumber (1)						
<i>C. galactinum</i>				Joist (1); houses (3)			Stakes (3)
<i>C. roseum</i>		Railroad tie (1).					
<i>C. subseriale</i> ? ²							Stakes (2)
<i>C. suecicum</i>	Old lumber pile (1).						
<i>Corticium</i> A.				Window frame (1)			Stakes (7)
<i>Corticium</i> B.				Siding (3)			
<i>Corticium</i> C.				Sill and joist (1); flooring (1).	Wheelbarrow handle (1).		Stakes (2)
<i>Corticium</i> spp.							Stake (1)
<i>Peniophora affinis</i>				House (1); cabins (2)			
<i>P. dryina</i>				Beams and trusses (2)	Magazine igloo (1)		
<i>P. gigantea</i>	Pulpwood (6); log in cabin (1); lumber (1).	Railroad tie (1); poles (5); posts (2); piling (1).					
<i>P. mollis</i> ? ²					Cooling towers (4)		
<i>Peniophora</i> A.		Poles (2)					Stakes (3)
<i>Peniophora</i> B.							Stake (1)
<i>Peniophora</i> C.		Railroad tie (1).					
<i>Peniophora</i> D.							Stake (1)
<i>Peniophora</i> E.	Stored log (1)						
<i>Peniophora</i> spp.	Lumber (2)	Railroad tie (1); post (1).		Sills (2)			
<i>Stereum complicatum</i>		Posts (2)	Boat (1); corner posts (3); launch fender (1).				Stake (1)
<i>S. frustulatum</i>		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).				
<i>S. gausapatum</i>					Pier (1)	Post rail (1)	
<i>S. murrayi</i>	Lumber (1)						
<i>S. purpureum</i>	Pulpwood (6)						
<i>S. sanguinolentum</i>	Pulplogs (3)						
<i>S. subpileatum</i>			Plank (1)				
<i>Stereum</i> A.	Stored logs (2).						
<i>Stereum</i> B.							Stake (1)
<i>Stereum</i> C.							Do.
<i>Stereum</i> sp.							Do.
<i>Vararia effusata</i>					Crate (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
<i>Thelephoraceae</i> — Continued							
<i>V. pallescens</i>					Greenhouse board (1).		Stakes (4)
<i>Vararia</i> A.....							
<i>Hydnaceae</i>							
<i>Hericium erinaceus</i>			Ferryboat frame (1).				
<i>Hydnum</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. spathulata</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>Oxydonta chrysorhiza</i>							
<i>Porogramme fuligo</i>	Lumber (1).			Shingle (1).			
<i>Radulum</i> sp.....							
<i>Polyporaceae</i>							
<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 ehime (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. pini</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. saepiaria</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 (6); 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>Palyporus 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. craceus</i> -----	do.-----						
<i>P. dichraus</i> -----	Log in cahin (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); hoat hit (1); schooner deck (1); warship bridge (1); motor launch (1); hoat decks (2); boat fender (1); hoats (3).		Flume (1); dyehouse roof (1); millroof (1).		
<i>P. pargamenus</i> -----			Boat plank (1)-----				
<i>P. schweinitzii</i> -----	Lumber (1)-----						Stakes (7)
<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. versicalar</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); hoat (1).		Cooling tower (1); mine timber (1); lawn chairs (2); ladder (1); stave (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>Paria ambigua</i> -----			Boat frames (2)-----				
<i>P. carbanica</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); chimes (2); stringers (2); compartments (2); transom (1); ceilings (2); rising (1); stud (1); hoats (14); raft (1); deck (1); covering boards (2).	Flooring (4); houses (2); doors (3); sills (3).	Bridge haud 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); stave (1).		
<i>P. oleracea</i> -----		Railway tie (1).	Motor launch transom (1); chime (1); cruiser knees (2); carling (1); hitt post (1); timbers (6); stem (1); decking (1); planking (2).	House (1); porch step (1).	Cooling towers (3); insulator pin (1).		Stakes (4)
<i>P. pannocincta</i> -----	Log in cahin (1).						
<i>P. radiculasa</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)-----	Cahin (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. ralfianii</i>		Poles (4).....		Sills (4); girder (1); flooring (1); sheathing (1); houses (10); porch (1).	Double tree (1); barrel (1).		Stakes (31)
<i>P. rantha</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); knee (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>	Pulpwood (1)	Posts (2).....		House (1); step (1); building (1).		Plywood panel (1).	
<i>T. sepium</i>				Flooring (3); roof (1); doors (2); sheathing (1); beam (1); structural timber (1).			
<i>T. serialis</i>	Lumber (4).....	Poles (3); piling (1); railway tie (1).	Mast (1).....				
Agaricaceae							
<i>Armillaria mellea</i>	Lumber (1).....						
<i>Coprinus radicans</i>	Log disk (1); lumber (1).		Auto body (1); glider (1).	Flooring (1); lath (1).			
<i>Gymnopilus</i> sp.....		Fence post (1).					
<i>Hypholoma</i> spp.....							Stakes (5)
<i>Lentinus kanfmanii</i>	Boards (2).....						
<i>L. lepideus</i>	Lumber (4).....	Piling (1); railway ties (5); poles (91); posts (3).	Barge hull (1); deck beams (1).				Stakes (40)
<i>L. tigrinus</i>	Wood chip (1).	Railway tie (1).					
<i>Naematoloma sublateritium</i>		Pole (1).....					Stake (1)
<i>Pezizella pannuoides</i>		do.....	Scow (1).....	Sills and joists (11); houses (5); floors (2); header (1); church (1).			
<i>Pholiota adiposa</i>	Lumber (1).....			Shingle (1).....			
<i>P. flammula</i>							
<i>Pholiota</i> sp.....	Lumber (1).....			Flooring (1).....	Insulator pin (1).		
<i>Pleurotus ostreatus</i>		Fence posts (3).					
<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 buttock (1).	House (1).....			Stake (1)
White spiral							
Unknown A.....					Cooling tower supports (5).	Boxes (8).....	Stakes (2)
Unknown B.....							Stakes (8)
Unknown C.....							Stakes (7)
Unknown D.....							Stakes (4)
Unknown E.....		Poles (21).....					Stakes (4)
Unknown F.....							Stakes (3)
Unknown G.....							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.

Lentinus 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 himantoides 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.

FUNGOUS 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—no systematic 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.—Fungi ¹ 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 rantha</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>Guerninia</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 manticula</i> (2) <i>Coniophora B</i> (1).	"Colorado yellow" (1).		9
Creosote		<i>Peniophora affinis</i> (1). <i>Poria monticola</i> (1). <i>Poria rantha</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</i> sp. (1). <i>Poria oleracea</i> (1).	<i>Oryzomyces chrysosporia</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).	11
Fluor-chrom-phenol-rock salt.	<i>Poria oleracea</i> (1). <i>Poria vaillantii</i> (1). <i>Corticium atrorhizans</i> (2). <i>Poria rantha</i> (1). <i>Coniophora arida</i> (1).	<i>Coniophora arida</i> (3). <i>Poria monticola</i> (1). <i>Corticium atrorhizans</i> (1). <i>Leucites trahea</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>Odoatia 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>Oryzomyces chrysosporia</i> (1).	<i>Leucites sacpiaria</i> (1).	<i>Odoatia spatulata</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 chrysorhiza</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 chrysorhiza</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>Coniophora arida</i> (1).		6
Rosinamine D copper acetate.		<i>Lenzites trabea</i> (1). <i>Coniophora arida</i> (1).	<i>Oxydantia chrysorhiza</i> (2).	<i>Poria</i> C (1).		<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 86559-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 cerri-color</i> (Berk. & Curt.) Mass.	FP 94306-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.			do.	Do.
	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
	II-496-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-383	do.	Cresote	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-524	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		Telephone pole	Michigan
	H-491			House sill	Indiana
	MD-359, MD-361, MD-366, MD-372, MD-374.	Pine, southern	Creosote	Test stake	Florida
	ME-57	Ash, white		Test post	Wisconsin
	H-470	Conifer		House timber	Pennsylvania
	H-473	do		House joists	Virginia
	H-493-A	do		do	Pennsylvania
	H-506-R	do		House subflooring & joists.	Ohio
<i>Coniophora olivacea</i> (Fr. ex Pers.) Karst.	H-529-R	do		House sill	Pennsylvania
	H-537, H-538-R	do		do	Ohio
	2174	Douglas-fir		Cellar bin	Nebraska
	4318	do		Flooring	Wisconsin
	608	Fir, balsam		Pulp log	Pennsylvania
	1574	Hemlock		Lumber	Wisconsin
	1635	do		Flooring	Do.
	3796	do		Cold storage room	Michigan
	MC-9, MC-10, MC-11, MC-12.	Larch, western		Test stake	Montana
	515	Oak		Lumber	Wisconsin
	123	do		Tugboat	Ontario
	ME-55	Oak, bur		Test post	Wisconsin
	H-422	Pine		House timber	New Jersey
	FP-94359-R	do		Timber in crawl space	Do.
	FP 104403-Sp	do		House window sill	Maryland
	5127	Redcedar, western		Test post	New Jersey
	MC-8, MC-14, MC-28	do		Test stake	Montana
	MD-382	Redwood		Test post	Wisconsin
	MD-435	do		Beer vat support	Do.
	FP 103408-Sp			Board in root cellar	Maryland
<i>Coniophora puteana</i> (Schum. ex Fr.) Karst.	MC-13	Pine, lodgepole		Test stake	Montana
	MC-117	Pine, southern		do	Oregon
	MC-80	do		Post-rail	Mississippi
	MD-57, MD-70, MD-71, MD-72.	do	Acid copper chromate	Test stake	Do.
	MD-154	do	Creosote	Telephone pole	Connecticut
	MD-367, MD-371, MD-378.	do	do	Test stake	Florida
	4700	do	do	do	Mississippi
	4732	do	do	Telephone pole	South Carolina
	MD-119	do	Drop liquor	Test stake	Oregon
	MD-520	do	Oleoresin	do	Wisconsin
	MD-1	do	Petroleum	do	Mississippi
	MD-115	do	do	do	Oregon
	MD-56	do	do	do	Wisconsin
	MD-33, MD-44	do	Acid copper chromate	do	Mississippi
	4705	do	do	Test post	Do.
	MD-264	do	Copper naphthenate	Test stake	Do.
	MD-274	do	Drop liquor	do	Do.
	MD-189	do	do	do	Wisconsin
	MD-269	do	Pentachlorophenate	do	Mississippi
	MD-204	do	do	do	Oregon
<i>Coniophora B</i>	MD-35, MD-136, MD-139.	do	Petroleum	do	Mississippi
	551	Fir		Pulp log	Pennsylvania
	MD 432	Oak, white		Test post	Georgia
	H-949-b	Pine		House subflooring	Pennsylvania
	FP-105124-S	do		Stored boards	Maryland
	H-599	do		House basement floor	Do.
	691	do		Lumber	Wisconsin
	MD-339	do		Test stake	Florida
	1218	Pine, southern		Flooring	New Jersey
	MD-113	do		Test stake	Oregon
	H-448			Church floor joists	Ohio
	H-505-R			House subflooring	Do.
	MD-162, MD-163, MD-221.	Pine, southern	Acid copper chromate	Test stake	Wisconsin
	MD-321	do	do	do	Oregon
	MD-180	do	Copper naphthenate	do	Wisconsin
	MD-217	do	Drop liquor	do	Do.
	MD-160, MD-172, MD-232.	do	Fluor-chrome-rocksalt dinitro- phenol.	do	Do.
	MD-114	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					
Thelephoraceae—Con.					
<i>Coniophora</i> spp.—Con.					
	MD-170	Pine, southern	Pentachlorophenol	Test stake	Wisconsin
	MD-203	do	Petroleum	do	Oregon
	5096-42	do	Zinc naphthlenate	do	Wisconsin
<i>Corticium alutaceum</i> (Schrad.) Bres.				Insulating board in ice house	Minnesota
	FS-4			Wood fiber product	Do.
<i>Corticium atrovirens</i> Fr. ? ¹	MD-492	Pine, southern	Chromated zinc arsenate	Test stake	Florida
	MD-417	do	Creosote	do	Do.
	MD-410, MD-411, MD-513	do	Fluor-chrome-dinitrophenol	do	Wisconsin
<i>Corticium fuscostratum</i> Burt.	ME-21	Pine, lodgepole		Lumber	Colorado
<i>Corticium galactinum</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 fender	Rhode Island
	MD-226, MD-227	Pine, southern	Pentachlorophenol	Test stake	Wisconsin
	MD-223	Sweet bay	do	Test post	Mississippi
<i>Corticium roseum</i> Pers.	1792	Sweetgum		Railroad tie	Georgia
<i>Corticium subseriale</i> Bourd. and Galz. ? ¹	MC-17, MC-37	Pine, lodgepole		Test stake	Wisconsin
<i>Corticium succinum</i> Litsch.	FP 104976-Sp	Hardwood		Old lumber pile	Maryland
<i>Corticium A</i>	MD-37	Pine, southern		Test stake	Mississippi
	MD-129, MD-131	do	Acid copper chromate	do	Do.
	MD-142	do	Pentachlorophenol	do	Do.
	5096-56	do	Petroleum	do	Do.
	MD-45, MD-46	do	Resin oil	do	Do.
<i>Corticium B</i>	MS-53	Pine		Window frame	North Central U.S.
<i>Corticium C</i>		Baldypress		House siding	Louisiana
	5114-2, 5114-3	do		do	Do.
<i>Corticium</i> spp.	11-453-R	Conifer		House sills & joists	Rhode Island
	FP 103172-Sp			Wheelbarrow handle	Maryland
	FP 103868-Sp			House flooring	Do.
	163 b	Oak		Test stake	Louisiana
	1	Pine, southern	Phenyl mercury oleate	do	Do.
<i>Peniophora affinis</i> Burt.	MD-230	do	Creosote	do	Wisconsin
<i>Peniophora dryina</i> (Berk. & Curt.) Rogers & Jacks.	FP 94368-S	Conifer		House	Connecticut
	FP 104362-Sp	Hardwood		Board in cabin	Maryland
	FP 104400-S				
<i>Peniophora gigantea</i> (Fr.) Mass.	FP 71884	Pine		Pulpwood	North Carolina
	ME-48 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
	666	Pine, southern		Telephone pole	
	MRC-45	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
	1815	do		Railroad tie	Colorado
	4532	do		Building truss	Wisconsin
				Magazine igloo	Illinois
	TP 360	do	Copper naphthenate	Telephone pole	
	FP 90849-S	<i>Pinus virginiana</i>	Copper sulfate	Log in cabin	Maryland
<i>Peniophora mollis</i> (Bres.) Bourd. & Galz. ? ¹	ML 20, ML 21, ML 22	Redwood		Cooling tower	
	ML 26	do		do	Kansas
<i>Peniophora A</i>	MD-215, MD-247	Pine, red	Creosote	Test post	Mississippi
	MD-492, MD-493	Pine, southern	do	Telephone pole	Louisiana
	4703	do	Petroleum	Test post	Mississippi
<i>Peniophora B</i>	3595	do	Phenyl mercury oleate	Test stake	Do.
<i>Peniophora C</i>	MS-59	Sweetgum		Railroad tie	Georgia
<i>Peniophora D</i>	MD-140	Pine, southern	Copper naphthenate	Test stake	Mississippi
<i>Peniophora E</i>	4921-4			Stored logs	
<i>Peniophora</i> spp.	11-538	Conifer		House sills	Ohio
	11-546	do		House sills & joists	Maine
	FP 94432-Sp	Locust, black		Post	Maryland
	1769	Oak, white		Railroad tie	Illinois
	FP 104297-Sp			Stored used lumber	Maryland
	FP 104404-Sp			Lumber in log cabin	Do.
<i>Stereum complicatum</i> (Fr.) Fr.	MD-433	Hickory		Test stake	Georgia
	R-5, R-6, R-7	Oak		Boat corner post	Virginia
	H-8	do		Boat	Florida
	BOP-31A, BOP-51B	Oak, black		Fence post	Wisconsin
	ASR-332	Oak, red		Motor launch fender	Virginia
<i>Stereum frustulatum</i> (Pers. ex Fr.) Fekl.	875-2	Douglas-fir		Railroad tie	Wisconsin
	R-2, R-2a	Oak		Boat	Virginia
	115	do		Tugboat railing	Maryland
	116	do		Tugboat frame	Do.
	124	do		Tug frame	Ontario
	164	do		Tug planking	Do.
	205	do		Ferryboat rull	Ohio
	216	do		Barge cushion deck	Ontario
	875-1	do		Railroad tie	Wisconsin
	3289	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					
Thelephoraceae—Con.					
<i>Stereum frustulatum</i>	103.	Oak, red.		Boat timber.	Massachusetts
(Pers. ex Fr.) Fekl.—	ME-54S.	Oak, white.		Post.	Wisconsin
Continued.	5096-49, 5096-51, 5096-53.	do.	Creosote.	Railroad tie.	Southern
<i>Stereum gausapatum</i>	H-464-R.	Oak.		House piers.	Pennsylvania
(Fr.) Fr.	ME-80.	Pine, southern.		Post rail.	Mississippi
<i>Stereum murrayi</i> (Berk.	5004.	Birch, yellow.		Lumber.	Pennsylvania
& Curt.) Burt.					
<i>Stereum purpureum</i>	Mad. 4-E, Mad. 25-D,	Aspen.		Pulpwood.	
(Pers. ex Fr.) Fr.	Mad. 32E-1,				
	Mad. 33-E,				
	Mad. 34-A, 4847.				
<i>Stereum sanguinolentum</i>	568.	Fir, balsam.		Pulp log.	Maine
(Alb. & Schw. ex Fr.)	539, 603.	Hemlock.		do.	Wisconsin
Fr.					
<i>Stereum subpileatum</i>	1899.	Oak.		Boat plank.	Illinois
Berk. & Curt.					
<i>Stereum A.</i>	4924-2, 4924-3.	Birch.		Stored logs.	
<i>Stereum B.</i>	MD-105.	Alder.	Copper-chromate.	Test post.	Oregon
<i>Stereum C.</i>	MD-40.	Pine, southern.	Petroleum.	Test stake.	Mississippi
<i>Stereum sp.</i>	7-4.	Douglas-fir.		do.	Wisconsin
<i>Vararia effusata</i> (Cke. &	4621.			Crate.	Philippine
Ell.) Rogers & Jaeks.					Islands
<i>Vararia pallescens</i>	H-449-Sp.	Pine.		Greenhouse board.	Maryland
(Schw.) Rogers & Jaeks.					
<i>Vararia A.</i>	MS-39.	Maple.		Test stake.	Wisconsin
	MD-36, MD-205.	Pine, southern.		do.	Do.
	MD-47.	do.		do.	Mississippi
Hydnaceae					
<i>Hericium erinaceus</i>	126.	Beech.		Ferryboat frame.	Ontario
(Fr.) Pers.					
<i>Hydnum sp.</i>	FP 90001-R.	Loeust, black.		Arbor post.	Maryland
<i>Irpex mollis</i> Berk. & Curt.	Lo 12-R.	do.		Grapevine post.	Do.
<i>Irpex sp.</i>	ME-37S.	Cedar.		Shingles.	Wisconsin
	ME-32S.	Douglas-fir.		Subfloor.	California
<i>Odontia bicolor</i> (Fr.)	ML-5, ML-6, ML-9,	Pine, northern.		Test ammunition box.	Panama
Bres.	ML-11, ML-12,				
	ML-13, MS-10,				
	MS-11, MS-12.				
	4806-2.	Pine, southern.		Cold storage door.	Florida
	MD-197.	do.	Fluor-chrome-rocksalt dinitro-phenol.	Test stake.	Oregon
	MD-135.	do.	Pentaehlorophenol.	do.	Florida
<i>Odontia gueletii</i> Bourd. &	5092-1.	do.	Zine naphthenate.	do.	Wisconsin
Galz.	FP 94485-Sp.	Conifer.		House sills.	Virginia
<i>Odontia spathulata</i> (Fr.)	FP 105079-Sp.	Oak, white.		Beach bouse step.	Maryland
Litsch.	MD-121.	Pine, southern.		Test stake.	Florida
	FP 94484-Sp.			House.	Distriet of
	FP 94486-Sp.			do.	Columbia
	FP 103971-Sp.			do.	Maryland
	5096-36.	Pine, southern.	Coal tar.	Test post.	New Jersey
	MD-201.	do.	Fluor-chrome-arsenate-dinitrophenol.	Test stake.	Oregon
	MD-198.	do.	Oleoresin.	Test post.	Do.
	MD-199.	do.	Rosin oil.	Test stake.	Do.
	5096-21, 5096-59.	do.	Zine ehloride.	do.	Florida
<i>Odontia A.</i>	ML-32, ML-33.	Hiekory.		Cooling tower ladder.	Tennessee
<i>Odontia spp.</i>	H-494e.	Conifer.		House timber.	Pennsylvania
	R-30.	Douglas-fir.		Motor launeh.	Virginia
	R-38.	do.		Boat.	Do.
	FP 94271-R.	Fir, red.		Porch.	Wisconsin
	H-530.	Hardwood.		House timber.	Tennessee
	FP 94360.	Pine, longleaf.	Creosote.	Telephone pole.	South Carolina
<i>Oxydantia chrysorhiza</i>	MD-144, MD-267.	Pine, southern.	Copper naphthenate.	Test stake.	Mississippi
(Torr.) Rogers &	MD-143.	do.	Drop liquor.	do.	Do.
Martin.	MD-291.	do.	Oleoresin.	do.	Do.
	MD-342, MD-344.	do.	Pentaehlorophenol.	do.	Do.
<i>Porogramme fuligo</i>	3324.	Sweetgum.		Lumber.	Illinois
(Berk. & Br.) Pat.					
<i>Radulum sp.</i>	H-596.	Conifer.		Shingle.	Do.
Polyporaceae					
<i>Daedalea berkeleyi</i> Sacc.	FP 5021, FP 5022.	Pine.		Railroad tie.	South Carolina
	FP 5194.	do.		do.	Georgia
	FP 5295.	do.		do.	Alabama
	FP 6746.	do.		do.	Florida
	FP 7687.	do.		do.	Louisiana
	FP 97368-S.	do.		Post.	Florida
	FP 104048-Sp.	Pine, southern.		Test stake.	Mississippi
	FP 39163.	do.		Stringer block.	Texas
	FP 104037-Sp.	do.		Lumber.	Florida
<i>Daedalea juniperina</i> Murr.	FP 21244.	Redcedar, eastern.		Fence post.	Texas
	FP 39092.	do.		do.	Distriet of
					Columbia
	FP 41537.	do.		do.	Virginia
	FP 71582-R.	do.		Post.	Do.
	FP 71583-R.				
	FP 71584-R.				
	FP 71585-R.				
	FP 71586-R.				
	FP 103280-R.	do.		Post & brace.	Georgia
	FP 104414-Sp.	do.		do.	Maryland
	FP 105489-Sp.				

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 swaging 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		Large cushion deck	Ontario
	168	Pine, southern		Cruiser chime	New York
<i>Fomes annosus</i> (Fr.) Karst.	MD 401	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-44	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	Redcedar, western	Pentachlorophenol	Telephone pole	Michigan
<i>Fomes igniarius</i> (L. ex Fr.) Kleck.	820	Birch		Plywood panel	Minnesota
	4267	Maple		Lumber	New Jersey
	421	Oak, white		Post	Wisconsin
<i>Fomes igniarius</i> var. <i>laevigatus</i> (Fr.) Overh.	5005	Birch		Lumber	District of Columbia
<i>Fomes igniarius</i> var. <i>populinus</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
	4734	do		do	California
	5062	do		do	Massachusetts
	4838	Pine, ponderosa		do	Louisiana
<i>Fomes pini</i> (Fr.) Karst.	847	Douglas-fir		Mine timber	Utah
	1155	do		Flooring	California
	3686	do		Lumber	Wisconsin
	3691, 4634	do		do	Oregon
	76	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		Plywood	Michigan
	4053	Spruce, Sitka		Lumber	Oregon
	1227	Whitecedar			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
	4642	Cypress		Tank	North Dakota
	77	Fir		Pulp log	Quebec
	3773	Hemlock		Cold storage room	Michigan
	449	Larch		Lumber	Wisconsin
	1333	Pine, white		do	Do.
	4630	Spruce		Pulpwood	Ohio
	ME-15	do		Furring strip	Canada
	FP 101278-S			House sill	Maine
<i>Ganoderma applanatum</i> (Pers. ex Wallr.) Pat.	5125b	Pine, southern	Pentachlorophenol	Test stake	Mississippi
<i>Lenzites betulina</i> (L. ex Fr.) Fr.	5014	Mahogany		Boat	Wisconsin
<i>Lenzites saepiaria</i> (Wulf. ex Fr.) Fr.	487	Sweetgum		Lumber	Do.
	5101-2	Tanoak		Railroad tie	Oregon
	Op-42-26, 14N3;	Conifer		Telephone pole	South Dakota
	Op-42-26, 15N11;				
	Op-8691				
	FP 103468-Sp.	Cypress		Fence log	Maryland
	FP 103739-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 saepiaria</i> (Wulf. ex Fr.) Fr.—Continued	MC-43, MC-44, 4807	Douglas-fir		Aircraft carrier deck	
	ME-81	do		Post-rail	Oregon
	158	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
	3083	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	
	1981	do		Garage door	Illinois
	119	Pine		Barge deck planking	Virginia
	172	do		Barge	Louisiana
	182c	do		Schooner deck	District of Columbia
	189	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	
	165	do		do	Mississippi
	Mad. 4-B			Aircraft carrier flight deck	
	208			Cruiser roof	Pennsylvania
	FP 94450			Lumber	Maryland
	FP 104083-Sp			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, 5096-66	do	do	do	Mississippi
	MD-509	do	do	do	Wisconsin
	FP 104087-Sp		Creosote	do	Mississippi
	FP 104050-Sp		Pentachlorophenol	Test sill	Do.
	FP 104086-Sp		Phenyl mercury oleate	Test stake	Do.
	FP 104088-Sp				
	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>Lenzites trabea</i> Pers. ex Fr.—Continued	920.....	Birch.....		Auto body.....	Michigan
	4813.....	Cedar, incense.....		Boat rib.....	Wisconsin
	Op. 8604.....	Conifer.....		Telephone pole.....	South Dakota
	191.....	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 103470-Sp.....	do.....		Fence log.....	Maryland
	2416.....	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-68.....	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 10H35-Sp.....	Hardwood.....		Automobile body.....	Maryland
	601.....	Hemlock.....		Pulp log.....	Wisconsin
	2161.....	Hickory.....		Railroad tie.....	Do.
	209.....	Mahogany, Mexican.....		Cruiser.....	New York
	1346.....	Maple.....		Cart.....	Michigan
	FP 56455-S.....	Oak.....		Railroad tie.....	Pennsylvania
		do.....		Laminated panel.....	Wisconsin
	5060.....	do.....		Boat gun whale.....	
	5040.....	Oak, red.....		Railroad tie.....	Illinois
	ASR-361.....	Oak, white.....		Boat locker seat.....	Virginia
	1490.....	Pine.....		Window frame.....	Maryland
	1496, 1800.....	do.....		do.....	Ohio
	MS-64, MS-65.....	do.....		Boat.....	Wisconsin
	1691.....	do.....		Window frame.....	Texas
	1822.....	do.....		Window screen.....	
	1851.....	do.....		Roof.....	New York
	4476.....	do.....		Porch railing.....	Illinois
	4931.....	do.....		Window frame.....	Wisconsin
	182.....	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
	1171.....	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-39.....	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-356b, 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 himantiaides</i> Fr.	MD-286	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
	786	Pine, southern		Coal bin	New York
	1645	do		House siding	Do.
	1651	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			Lumber from house attic	Maine
	1661			Lumber	New York
	H-595-R			Mine timber	Pennsylvania
	FP 103986-S			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 tremellus</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			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.	JP 12-51a	Pine, jack		Pulpwood	
	FP 103869-Sp			Picnic table	Maryland
	FP 103954-Sp			Old fence post	Do.
	FP 104040-Sp			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> Hedge.	1287	Cedar, incense		Lumber	Oregon
	4541	do		do	California
<i>Polyporus anceps</i> Pk.	169	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. —Continued.	MD-451	Pine, southern	Copperized chromated zinc chloride.	Test stake	Wisconsin
	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 103162-Sp	Pine		Log cabin joists and logs.	Do.
	FP 101140			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
	1614	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.	11-455	Ash		Warship bridge	South Carolina
	FP 103798-R	do		Motor launch	Virginia
	4799	Douglas-fir		Boat deck planks	Gilbert Islands
	4800	do		do	Virginia
	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.
	5096-48	Yellow-poplar		Trolley coach	Louisiana
	5096-52	Oak, red	Creosote	Railroad tie	Mississippi
	FP 5357	Oak, white	do.	do.	Do.
		Pine	Coal tar	Surface flume carrying water.	Louisiana
		do	Creosote	Telephone pole	Maryland
<i>Polyporus pargamensis</i> Fr.	162	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	Resin oil	do	Do.
	MD-196	do	Zinc chloride	do	Do.
<i>Polyporus spraguei</i> Berk. & Curt.	FP 59068-S	Chestnut		Telephone pole	Virginia
<i>Polyporus sulphureus</i> Bull. ex Fr.	206	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.	do			
	FP 105308-R	do		Post	Do.
	FP 86590-Sp.	Pine, southern		Discarded bolts used as support.	Do.
<i>Polyporus versicolor</i> L. ex Fr.	ASR-331, ASR-406	Ash		Motor launch locker seat.	Virginia
	21-E, 22-E, 26-E, 28-D, 30-E, 35-E, 4847.	Aspen		Pulpwood	
	4956	Cedar, incense		Stored log	
	5029	Elm		Outdoor seat	
	4655	do		Lumber	Arkansas
	215	do		Barge deck	Ontario
	FP 104117-Sp.	Hardwood		Lumber pile	Maryland
	MD-96	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
		Oak		Laminated test piece	Wisconsin
	Na-5	do		Boat chime	California
	Pa-11	do		do	Pennsylvania
	ASR-393	Oak, red		Motor launch fender mold.	Virginia
	4635	Oak, white		Wagon body	Pennsylvania
	4797	do		Lumber	Virginia
	MS-70	do		Boat batten	Pennsylvania
	5137	Pine		Boat	
	4789	Redwood		Cooling tower	Tennessee
	FP 94151-Sp.	Sweetgum		Garage plank	Maryland
	R-32	do		Boat floor tread	Virginia
	5101	Tanoak		Railroad tie	Oregon
	4584-3	Willow		Lawn chair	Wisconsin
	MD-277, MD-287	Alder, red	Copper chromate	Test post	Oregon
	MD-468	Pine, lodgepole	Creosote	Telephone pole	North Dakota
	MD-78	Pine, southern	Tetrachlorophenol	Test stake	Mississippi
	MD-191	do	Pentachlorophenol	do	Wisconsin
	MD-202	do	do	do	Oregon
	MD-196, MD-301	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.
<i>L. ex Fr.</i> —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
<i>Polyporus spp.</i>	MD-522	Pine, southern	Fluor-chrome-dinitrophenol	Test stake	Wisconsin
	4942.	Maple		Lawn chair	
	FP 94362	Maple, hard		Park bench	Wisconsin
	5130.	Pine		Lumber	Pennsylvania
<i>Poria ambigua</i> Bres.	MD-242	Pine, lodgepole	Pentachlorophenol	Telephone pole	New Mexico
<i>Poria carbonica</i> Overh.	R-35, R-36.			Boat frame & fillers	Virginia
	156.	Conifer		Scow	Ontario
	163.	do		Tug deck house sill	Do.
	ME-46.	Douglas-fir		Telephone pole	Oregon
	ME-89, ME-91.	do		Power pole	Do.
	ME-95, ME-96.			do	Washington
	ME-90, ME-94.	do			
	ME-97, ME-98.				
	Franklin 50.	do		Aircraft carrier deck	Massachusetts
	4808.	do		do	
	5051.	do		House cellar beam	New York
	West 35-S.	do		Dock piling	Oregon
	109.	do		Boat mast	New Jersey
	110.	do		Tug hatch closing	West Coast
	144.	do		Tug planking	Washington
	145.	do		Tug ceiling	Do.
	FP 94160-R.	do		Boat anchor post	Do.
	MS-81.			Subflooring	California
	MD-280, MD-283.	Douglas-fir	Creosote	Telephone pole spar arm.	Oregon
	MD-314.	do	do	Telephone pole	Do.
	MD-399.	do		Test post	Do.
	MD-418.	Pine, southern	Chromated copper zinc arsenate	Test stake	Florida
	MD-415.	do	Chromated copper arsenate	do	Do.
	MD-141.	do	Creosote	do	Do.
	MD-141.	do	Petroleum	do	Mississippi
<i>Poria cinerascens</i> Bres. complex. ²	L 3353-Sp.	Conifer		Board	New York
	MS-87.	Douglas-fir		Subflooring	California
	CZ-1, CZ-2, CZ-3, CZ-4, CZ-5, CZ-6, CZ-16.	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-64.			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-fir	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> (Schedr. ex Fr.) Karst.	FP 104375-Sp.	Hardwood		Barn window sill	Maryland
<i>Poria incrassata</i> (Berk. & Curt.) Burt.	ME-23S.	Douglas-fir		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
	676, 1411, 1458.	Oak		do	Florida
	794-1, 796, 1107, 1608.	do		do	Tennessee
	1243.	do		do	South Carolina
	Wr-2.	do		House flooring	Oregon
	H-536a.	do		House supporting post.	Pennsylvania
	1692.	do		Flooring	Nebraska
	3013.	do		do	Virginia
	714.	Oak, red		do	Tennessee
	5118.	do		do	Washington
	H-536b.	Pine		House	Pennsylvania

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 incrassata</i> (Berk. & Curt.) Burt.—Con.	FP 39070	Pine		House timber	District of Columbia
	FP 59123-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
	3264	do		do	Georgia
	1679	Pine, longleaf		Sill	South Carolina
	1686	do		do	Alabama
	562, 563	Pine, southern		Flooring	Virginia
	591	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
	1153	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-62	do		Building wall	Oregon
	Ind. 2/17	do		Stake	do
	II-410	do		Building	Georgia
	do	do		House	District of Columbia
	H-503	do		House floors & walls	South Carolina
	II-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 pliers	North Carolina
	II-542	do		House floor & joists	District of Columbia
	I-11501-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-61	do	Copper naphthenate	do	Mississippi
	MD-330	do	Fluor-chrome-arsenate-dinitrophenol	Test post	Do.
<i>Poria mappa</i> Overh. & Lowe.	I-3377-R	Conifer		Bridge handrail	New York
<i>Poria monticola</i> Murr.	138	do		Boat compartment	Pennsylvania
	221	do		Schooner hull planking	Do.
	II-469-Sp.	do		Cruiser hull bottom	Do.
	II-490-R	do		House sills & pliers	Ohio
	R-21551	do		House sills	Do.
	FP 91366a	do		Boat compartment	Massachusetts
	193	Cypress		House joists & stringers	Maryland
	ME-42	Douglas-fir		Cruiser chime	Michigan
				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
	Pa-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 ceiling.	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.
	698.	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 knce.	Ohio
	222.	do.		Cruiser hull bottom.	New York
	226.	do.		Boat sheathing.	
	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.	
	4360.	do.		Sheathing.	Wisconsin
	FP 94153-Sp.	do.		Whaleboat beam.	Connecticut
	FP 94182-R.	do.		House subflooring.	New York
	4752.	do.		House beam.	
	225.	do.		Target raft.	Florida
	West M-23.	Spruce, Sitka.		Boards.	Oregon
	219.	Whitecedar, Atlantic.		Cruise planking.	New York
	Op 24-A.			Utility pole.	Colorado
	Calif 47-2a.			Oilwell shaft.	California
	YTL-315.			Tug.	Oregon
	ASR-369.			Motor launch.	Virginia
	ASR-381.			Warship.	Do.
	H-465.			House flooring.	Oregon
	4503.			Door.	
	ME-47, ME-48.			Telephone pole.	Oregon
	ME-308.			Door.	California
	ME-208.			Subfloor.	Do.
	MD-307.	Douglas-fir.	Chromated copper arsenate.	Test post.	New Jersey
	MD-281.	do.	Creosote.	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.	Creosote.	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.	Pentachlorophenate.	do.	Florida
	5096-16.	do.	do.	do.	Louisiana
	5096-31.	do.	do.	do.	Wisconsin
	MD-3, 5096-11, 5096-69.	do.	Petroleum.	do.	Louisiana
	5096-22.	do.	Zinc chloride.	do.	Florida
<i>Poria nigra</i> (Berk.) Cke.	204.	Oak.		Boat.	Ohio
	MD-278.	do.	Creosote.	Power pole.	Do.
<i>Poria nigrescens</i> Bres. complex. ³	Lo-13-R, Lo-20-R, Lo-21-R, Lo-22-R, Lo-45-R.	Locust, black.		Vineyard post.	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>Poria nigrescens</i> Bres. complex ² —Continued.	ML-25	Redwood		Cooling tower structural member.	Kansas
	ML-36, 4795, 4850, 4855, 4897, 4900, 4933, 4963.	do		do	Texas
	4856	do		do	
	2945	do		Staves	North Carolina
	4868	do		Cooling tower	
	FP 90869-Sp.			Barge timbers	District of Columbia
<i>Poria oleracea</i> Davidson & Lombard.	MD-21	Locust		Insulator pin	West Virginia
	FP 48286	Mahogany, Philippine.		Cruiser planking	Michigan
	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
	II-455			House	Pennsylvania
	MD-437	Oak	Pentachlorophenol	Boat	Massachusetts
	5096-50	Oak, red	Cresosote	Railroad tie	South U.S.
<i>Poria pannocincta</i> (Rom.) Lowe. <i>Poria radiculosa</i> (Pk.) Sacc.	MD-389	Oak, scarlet	Copper chromate	Test post	Tennessee
	MD-177	Pine, southern	Fluor-chrome-dinitrophenol	Test stake	Wisconsin
	MD-178	do	Creosote	do	Do.
	MD-260	do	Drop liquor	do	Do.
	FP 103166-Sp.	Hardwood		Log joist in cabin	Maryland
	B12-2	Locust		Fence post	Do.
	FP 97451-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
	5096-29	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	Test stake	Florida
<i>Poria sambigua</i> Bres. <i>Poria tenuis</i> (Schw.) Cke.	MD-80	do	Fluor-chrome-dinitrophenol	Test stake	Florida
	MD-84	do	Pentachlorophenol	do	Do.
	2996	do	Zinc chloride	Test post	Do.
	5096-20	do	do	Test stake	Do.
	MD-459	do	do	do	Georgia
	FP 48263-Sp.	Cypress		Greenhouse bench	Maryland
	4636	Maple		Outdoor seat	Wisconsin
	L-3407	Oak		Park bench	New York
	FP 94361-R	Oak, white		Wagon body	Wisconsin
	FP 103661-Sp.	Locust, black		Post	Virginia
<i>Poria nnita</i> (Pers.) Cke. <i>Poria taillantii</i> (Fr.) Cke.	186	Mahogany		Motor boat cabin	District of Columbia
	FP 90012-Sp.	Oak, white		Porch step	Maryland
	63-263	Conifer		Test post	Colorado
	II-496b	do		House sill	Pennsylvania
	H-497	do		House joists	New York
	2-6, 27-B	Douglas-fir		Test stake	Wisconsin
	MS-80	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
	II-477a	do		House girder	Pennsylvania
	4632	do		House sill	Illinois
	FP 90877-R.	do		Soil test blocks	New Jersey
	FP 94268-R.	do		do	Do.
	FP 94370b	do		House	Virginia
	FP 94371-R.	do		House sills & joists	Do.
	FP 94319	do		House thuber	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 vaillantii</i> (Fr.) Cke. —Continued.	FP 94322	Pine		House	Pennsylvania
	MD-354	Pine, jack		Test post	Michigan
	MC-2, MC-16, 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
	MC-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-508	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	Rosin oil	do	Do.
	MD-294	do	Zinc chloride	do	Do.
	MD-423	Pine, jack	Chromated copper arsenate	do	Florida
<i>Poria xantha</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 94155	do		Boat	Do.
	FP 94159-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-62	Pine, southern		Test stake	Mississippi
	ME-508	do		Board on soil	Wisconsin
	185	Pine, white		Schooner bulwark	Connecticut
	108	Spruce		Boat mast	New Jersey
	4472				
	Na-3			Boat decking	California
	FP 90883-R			Concert barge	District of Columbia
	MD-407	Cottonwood, black	Pentachlorophenol	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</i> C.....	II-438.....	Conifer.....		Deck of ship.....	Pennsylvania
	MD-51.....	Pine, southern.....	Fluor-chrome-dinitrophenol.....	Test stake.....	Mississippi
	MD-137.....	do.....	Oleoresin.....	do.....	Do.
	MD-148.....	do.....	Pentachlorophenolate.....	do.....	Do.
	MD-31.....	do.....	Phenyl dichlor arsine.....	Test post.....	Do.
	MD-50.....	do.....	Rosinamine D-copper-acetate.....	Test stake.....	Do.
	PNW-1 & 2.....	Pine, ponderosa.....	Copper naphthenate.....	Porch flooring.....	Oregon
<i>Poria</i> spp.....	II-509.....	Conifer.....		House floor sills.....	Virginia
	H-510.....	Douglas-fir.....		do.....	Indiana
	Lo-48-R.....	Locust, black.....		Grapearbor post.....	Maryland
	FP 94366.....	Pine.....		House joist.....	Do.
<i>Ptychogaster rubescens</i> Boud.	II-579b.....	Baldcypress.....		House floor sills.....	Pennsylvania
	II-578.....	Conifer.....		Greenhouse bench.....	Minnesota
	II-579e.....	do.....		House.....	District of Columbia
	II-411.....	Pine.....		House, supporting board.....	Pennsylvania
	II-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
	En.....			Telephone pole.....	Wisconsin
	II-436.....			House.....	Pennsylvania
	4611.....	Pine, southern.....	Creosote.....	Telephone pole on bottom of pile.....	Do.
<i>Ptychogaster</i> A.....	ME-101.....	do.....		Pulp chip.....	South Carolina
	ME-4.....	Sweetgum.....		do.....	Georgia
<i>Trametes hispida</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 sepium</i> Berk.....	MD-195.....	Birch.....		Plywood test panel.....	New York
	L-9223-Sp.....	Conifer.....		Post.....	Wisconsin
	MS-60.....	Pine, white.....		Building.....	Arizona
	II-589.....	Yogruana.....		Pulpwood.....	Wisconsin
	FP 71964-Sp.....			House.....	Puerto Rico
	II-585.....			Post.....	Maryland
<i>Trametes seriolis</i> Fr.....	MS-21.....	Douglas-fir.....		Cottage step.....	Do.
	1386.....	do.....		Telephone pole.....	Wyoming
	1828.....	do.....		Telephone pole (cross arm).....	New York
	2017.....	do.....		Piling.....	California
	2522.....	do.....		Lumber.....	Ohio
	2882.....	do.....		Flooring.....	Washington
	2883.....	do.....		Lumber.....	Minnesota
	2936.....	do.....		Railroad tie.....	California
	4503.....	do.....		Subflooring.....	Idaho
	184.....	do.....		Refrigerator door.....	Maryland
	1297.....	Oak.....		Boat mast.....	Massachusetts
	1604.....	Pine.....		Flooring.....	Florida
	3032.....	do.....		Roof.....	Wisconsin
	2024.....	Pine, southern.....		Structural support.....	Ohio
	2222.....	do.....		Lumber.....	Iowa
	3509.....	do.....		Beam.....	Louisiana
	3165.....	Spruce, Sitka.....		Sheathing.....	District of Columbia
	1607.....	do.....		Lumber.....	Virginia
	1004.....	Douglas-fir.....	Creosote.....	Door.....	Pennsylvania
				Telephone pole.....	California
Agaricaceae					
<i>Armillaria mellea</i> (Fr.) Quel.....	2426.....	Basswood.....		Lumber.....	Georgia
<i>Coprinus radians</i> Fr.....	766.....	Ash.....		Auto body.....	Ohio
	428.....	Maple.....		Lumber.....	Michigan
	623.....	do.....		Flooring.....	Wisconsin
	1289.....	do.....		Log (disk).....	Alabama
	FP 105493-Sp.....	Conifer.....		House studding/joists.....	Maryland
<i>Gymnopilus</i> sp.....	2545.....	Oak.....		Glider.....	
<i>Hypholoma</i> spp.....	F-5, F-38.....	Pine, southern.....		Fence post.....	Mississippi
	21, 41.....	do.....	Ammonium sulphate-sodium phosphate.....	Test stake.....	Do.
	30.....	do.....	Pentachlorophenolate.....	do.....	Do.
	West M-23, West 44.....	Spruce, Sitka.....	Phenyl mercury oleate.....	do.....	Do.
<i>Lentinus kauffmanii</i> A. H. Smith.....	FP 2689.....	Conifer.....		Board at box factory.....	Oregon
<i>Lentinus lepideus</i> Fr.....	P 28.....	Douglas-fir.....		Railroad tie.....	Wisconsin
	57, 69, P86, 94, MD-240.....	do.....		Utility pole.....	Colorado
	ME-388.....	do.....		Telephone pole.....	New Mexico
	FP 74167-S.....	Homlock.....		do.....	Oregon
	FP 42056.....	Larch.....		Post.....	Wisconsin
	535.....	do.....		Railroad tie.....	Washington
	MC-25.....	Larch, western.....		Lumber.....	Wisconsin
	238.....	do.....		Test stake.....	Do.
	MC-33, MC-34.....	do.....		Utility pole.....	Colorado
	5096-5.....	Madrone.....		do.....	Mississippi
	1403.....	Pine.....		do.....	Wisconsin
	4163.....	do.....		Post.....	Do.
				Telephone pole.....	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-36, 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-64, 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.
	P-72			do	South Carolina
	FP 4199			Railroad tie	Minnesota
	FP 104981			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-55	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-358, MD-362, MD-363, MD-364, MD-368, MD-376, MD-424, MD-425, MD-426, MD-427, MD-428, MD-429.	do	do	Test stake	Florida
	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
	5096-64	do	do	do	Mississippi
	MD-709	do	Petroleum/creosote	Telephone pole	Texas
<i>Lentinus tigrinus</i> Bull. ex 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
<i>Paxillus panuoides</i> Fr.	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-36S	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>Paxillus panuoides</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.	Miehlgau
	H-510a			do	Indiana
	H-515			House.	Ohio
	H-415			Church.	
	H-425			House.	Rhode Island
	H-451			House timbers.	District of Columbia
	H-454			House sill.	Indiana
	H-467			do	Maryland
	H-468			House sill & joists.	Miehlgau
	541	Fir, white		Lumber.	
		Redcedar		Shingles.	Wisconsin
<i>Pholiota adiposa</i> (Fr.) Quél.					
<i>Pholiota flammans</i> (Fr.) Kumm.					
<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-19.				
	924-2	Cypress		Flooring.	Illinois
				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.	Miehlgau
	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>Parinarium</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		Crate.	Philippine Islands
		Hardwood	Creosote	Railroad tie.	Virginia
	800	Pine, southern	Fluor-chrome-arsenate-dinitrophenol.	Fence post.	Louisiana
		do	Pentachlorophenol.	Test stake.	Mississippi
Unknown groups					
Chain-chlamydospore	4860	do		Telephone pole.	
	5079-2	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-15, 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 E	5096-24	Pine, southern	Pentachlorophenol.	Test stake.	Wisconsin
	MD-138, MD-145, MD-146.	do	Pentachlorophenol.	do	Mississippi
	5096-23, 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, 2267, 2269, 2270, 2274, 2286, 2290, 2302, 2309, 2310, 2320, 2324, 2325, 2333, 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-262	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-486	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. rutilosa* (Berk. and Curt.) Cke. (*P. albipellucida* Baxter), and *P. subvermispora* Pat.

³ Includes the following species that have not been clearly defined taxinomically: *Polyporus rigidus* Lév., *P. zonalis* Berk., *Poria nigrescens* Bres., *P. sanguinolenta* (Alb. & Schw.) Cke., and *P. undata* (Pers.) Bres.