

Draft Report
Interagency Special Status/Sensitive Species Program
Inventory and Conservation Planning
Eugene District 2015/2016 Special Status Fungi Inventory Surveys

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Introduction

There are many Special Status fungi, and several have been found on the Eugene District (see Eugene District Special Status Fungi List, attached). No pre-disturbance clearance surveys are planned for Special Status fungi, yet the BLM is committed to making some effort to conserve these species and to ensure that agency actions do not contribute to a need to list these species. Currently, direction is to not perform pre-disturbance clearance surveys, but rather to consider management of known sites coupled with broad scale inventories as adequate for the management of the species. This report describes fungi surveys conducted to locate Special Status fungi sites in forest stands, for the purpose of subsequent site monitoring and management as well as background range, distribution and habitat information. The surveys specifically helped fill a geographic information gap by surveying areas outside of the townships previously surveyed on the Eugene District, including the West Eugene Wetlands, which has about 250 acres of forest and woodlands, besides wet prairies. These surveys helped fulfill the Eugene BLM's commitment to pursue broad-scale inventories.

Methods

In the fall of 2015 and spring of 2016, 902 acres were surveyed by contract for all Special Status fungi documented or suspected on the Eugene District. Surveys targeted 20 Sensitive Species, 98 Strategic Species, 15 Oregon Biodiversity Information Center (ORBIC) List 3 Species, 5 ORBIC List 4 Species and 4 Eugene District Review species (see list, Attachment 2). Units were picked at random from the Forest Operations Inventory GIS layer, excluding five townships each of the Siuslaw (SI) and Upper Willamette (UW) Resource Areas (RA) where previous surveys occurred (see map, Attachment 1). Units were chosen at random to reduce bias and allow habitat relations to be explored. A unit was chosen non-randomly in the West Eugene Wetlands, based on access to a large forested block in this unique area. Generally only units with adjacent open, drivable roads were chosen, to reduce surveyor travel time. Units older than 30 years were selected, due to the tree and shrub density and expected poor habitat of younger units. Also excluded were FOI units without an age, units smaller than 10 acres, isolated coastal tracts, and units with active timber sales. Stratification was used to assure an approximately equal split among the Resource Areas and three age classes: 30-70 years, 80-190 years, and 200 plus years. The contract cost was \$31.40 per acre, plus an incentive payment of \$30.00 per target fungal species site reported.

The survey contract had the following characteristics:

- Surveys were for both epigeous and hypogeous fungi.
- To fulfill the fungi survey protocol (VanNorman et al. 2008) each unit was to be surveyed two times at three week intervals during the height of the fall and spring fruiting seasons, generally between October 21 and December 21, and between May 10 and July 10. Surveys were to be started at once if conditions were productive for sporocarps, or delayed if conditions were too dry or cold and unproductive. The final fall survey visit could be waived if persistent snow or a persistent hard freeze ended the fungal fruiting season early. The fungi survey protocol requires at least 2 survey visits but with more than two visits being preferable. Considering the usual weather patterns in the Eugene area, the protocol would probably result in each unit being surveyed 3 times in the fall, and 6 times in the spring. However, previous data found that the majority of sites could be found with only two visits per season. Two visits per season should result in more areas being surveyed, and more sites being found, given an overall limited budget.
- The intuitive controlled survey method was used to survey for both hypogeous and epigeous species.
- Hypogeous fungi were surveyed for by raking in the most likely habitats. Survey intensity was to be great enough so that inspection criteria were likely to be fulfilled.
- Inspection criteria centered on reduced payment in case of an excess of missed sites. In particular, a 20% deduction in payment for acres surveyed would be made if more than 2 sites and more than 20% of Special Status Sites were missed, as located during inspections and independently verified. The percentage of missed sites would be calculated as the additional sites found by the inspectors, divided by the sites found by both the inspector and contractor. For example, if the contractor locates 20 sites, and the inspectors locate more than an additional 5 missed sites, a 20% deduction would be made. To ensure inspection feasibility, the contractor was to inform the COR weekly of any units visited the previous week, so that an inspection could be made within one week.
- Vouchers of all potentially target species were collected for expert identifications as per ISSSSP/S&M policy, and fresh specimens were digitally photographed.

The survey units are described in Table 1. Stands with a birth date of 1810 or 1820 are the oldest on the Eugene District, are considered old growth stands on the Eugene District, and generally contain trees originating much earlier than 1810. The age class is determined by the dominant layer in the stand, normally the overstory. The North Taylor unit, in the West Eugene Wetlands, did not have a forest age estimate.

Unit Number	RA	Age Class	Overstory Birth Date	Acres	Section	Sites Found
840007	SI	60	1950	61	15S-06W-07	
840182	SI	60	1950	42	15S-07W-16	
833876	SI	200	1810	36	15S-07W-21	
Taylor North	SI			65	16S-05W-33	1
841392	SI	80	1934	40	18S-06W-27	

Unit Number	RA	Age Class	Overstory Birth Date	Acres	Section	Sites Found
831798	SI	40	1975	37	19S-04W-03	
841888	SI	200	1810	16	19S-07W-13	
830526	SI	200	1810	23	19S-07W-15	
830615	SI	200	1810	42	19S-07W-29	
834118	SI	90	1920	46	19S-08W-17	1
834235	SI	90	1920	46	19S-08W-27	
831424	SI	200	1810	30	20S-07W-01	
810201	UW	200	1810	23	15S-01W-05	3
810216	UW	200	1810	40	15S-01W-09	1
844221	UW	50	1960	21	15S-01W-21	5
810432	UW	200	1810	51	15S-02W-03	
811840	UW	30	1983	17	15S-02W-15	
810655	UW	80	1938	13	16S-01W-06	1
814013	UW	200	1810	16	17S-02W-07	
811507	UW	80	1938	126	18S-01W-09	1
820541	UW	200	1810	12	22S-01W-27	
821505	UW	80	1935	14	23S-03W-15	1
821545	UW	60	1950	85	23S-04W-01	3
			TOTAL:	902		17

Results

Fall visits occurred from November 1 to December 31, 2015. Spring visits occurred April 11 to June 28, 2016. Seventeen new sites representing eleven target fungal species were found (Tables 1 and 2). No additional sites found by the project inspector were target species. Eight of the species found were new to the Eugene District.

Eugene District Review species are generally species that appear to be rare and will be submitted to ORBIC for consideration of their status. *Annulohypoxyton thouarsianum* is a rare Xylariaceae; only one herbarium record occurs in Oregon, from Grants Pass, 1916. The species is more common farther south. *Gautieria plumbea* is an apparently rare hypogeous fungus, previously found at only one other site in Oregon, in 1940. *Gymnomyces gilkeyae* is also an uncommon or rare truffle. *Lepiota roseolivida* is new to Oregon, and may be rare or simply overlooked. The *Sphaerobolus* voucher could not be identified to species as there was too little young material to allow microscopic examination. *S. stellatus* and *S. iowensis* occur in the Pacific Northwest, and one or both may be rare.

Table 2. Species Located in Fall 2015 and Spring 2016 Surveys. Survey and Manage categories are according to the December 2003 list.

Species	SI Sites	UW Sites	Status (as of 2016)	Comments	Month
<i>Annulohypoxylon thouarsianum</i>	1		Eugene District Review	New to Eugene BLM	Nov
<i>Cudoniella clavus</i>		2	Bureau Strategic	New to Eugene BLM	May
<i>Gautieria plumbea</i>		1	Eugene District Review	New to Eugene BLM	Jun
<i>Gymnomyces fragrans</i>		1	Bureau Sensitive	New to Eugene BLM	May
<i>Gymnomyces gilkeyae</i>		1	Eugene District Review	New to Eugene BLM	May
<i>Lepiota roseolivida</i>		1	Eugene District Review	New to Eugene BLM	Nov
<i>Radiigera bushnellii</i>		1	Bureau Strategic	New to Eugene BLM	May
<i>Ramaria suecica</i>		1	Strategic, S&M B		Nov
<i>Rickenella swartzii</i>		6	Bureau Strategic		May, June
<i>Sowerbyella rhenana</i>	1		ORBIC List 3, S&M B		Nov
<i>Sphaerobolus sp.</i>		1	Eugene District Review	New to Eugene BLM	Nov
TOTAL	2	15			

Identification Issues

Identification of fungi to species continues to be difficult. Of 25 specimens turned in to taxa experts, only 13 specimens were correctly identified by the survey contractor. For the other specimens, different names were given by taxa experts than originally determined, but often the genus was correctly determined. Continued access to taxa experts is critical, especially for difficult genera such as *Phaeocollybia* and *Ramaria*.

Contract Inspection

The contract inspection provision regarding missed sites was implementable. No collections found by the inspectors were a target species, representing missed sites. Using the inspector's results in comparison indicates that the contractor was probably finding sites at a good rate.

Discussion

There were relatively few sites of target fungal species found, as compared with previous surveys and given the acreage covered, but new species were found (Table 2). In general, it was a poor year for fungi fruiting, probably due to the ongoing warm, dry climate period. According to the United States Drought Monitor (<http://droughtmonitor.unl.edu/>), September conditions in our area have been abnormally dry to in-a-severe drought since September, 2013. Also,

previously listed species have been dropped as too common from the Special Status Species Lists, leaving only less frequently found species on the target species list.

This survey provided an increase in the understanding of these species' distribution and range. Ongoing Special Status fungi surveys continue to find species new to the Eugene District (Table 3), emphasizing the unfinished nature of these surveys. Additionally, the list of species considered rare or possibly rare is likely to change over time, hence new information will likely continue to accrue.

Year	Acres	Sites Found	Species New to the District	Comments
Fall 2008	754	24	7	Single fall visit.
Fall 2010	593	53	5	3 fall visits.
Fall 2011	756	38	6	3 fall visits.
2012-2013	129	17	4	Visited every 3 weeks for one year.
Fall 2013, Spring 2014	656	18	2	2 fall and 2 spring visits.
Fall 2014, Spring 2015	668	12	4	2 fall and 2 spring visits.
Fall 2015, Spring 2016	902	17	8	2 fall and 2 spring visits.

References

Van Norman, K., J. Lippert, D. Rivers-Pankratz, R. Holmes, and C. Mayrsohn. 2008. Sporocarp Survey Protocol for Macrofungi, version 1.0. Portland, OR. Interagency Special Status/Sensitive Species Program. U.S. Department of Interior, Bureau of Land Management, Oregon/Washington and U.S. Department of Agriculture, Forest Service, Region 6. 16 pp.

Acknowledgments

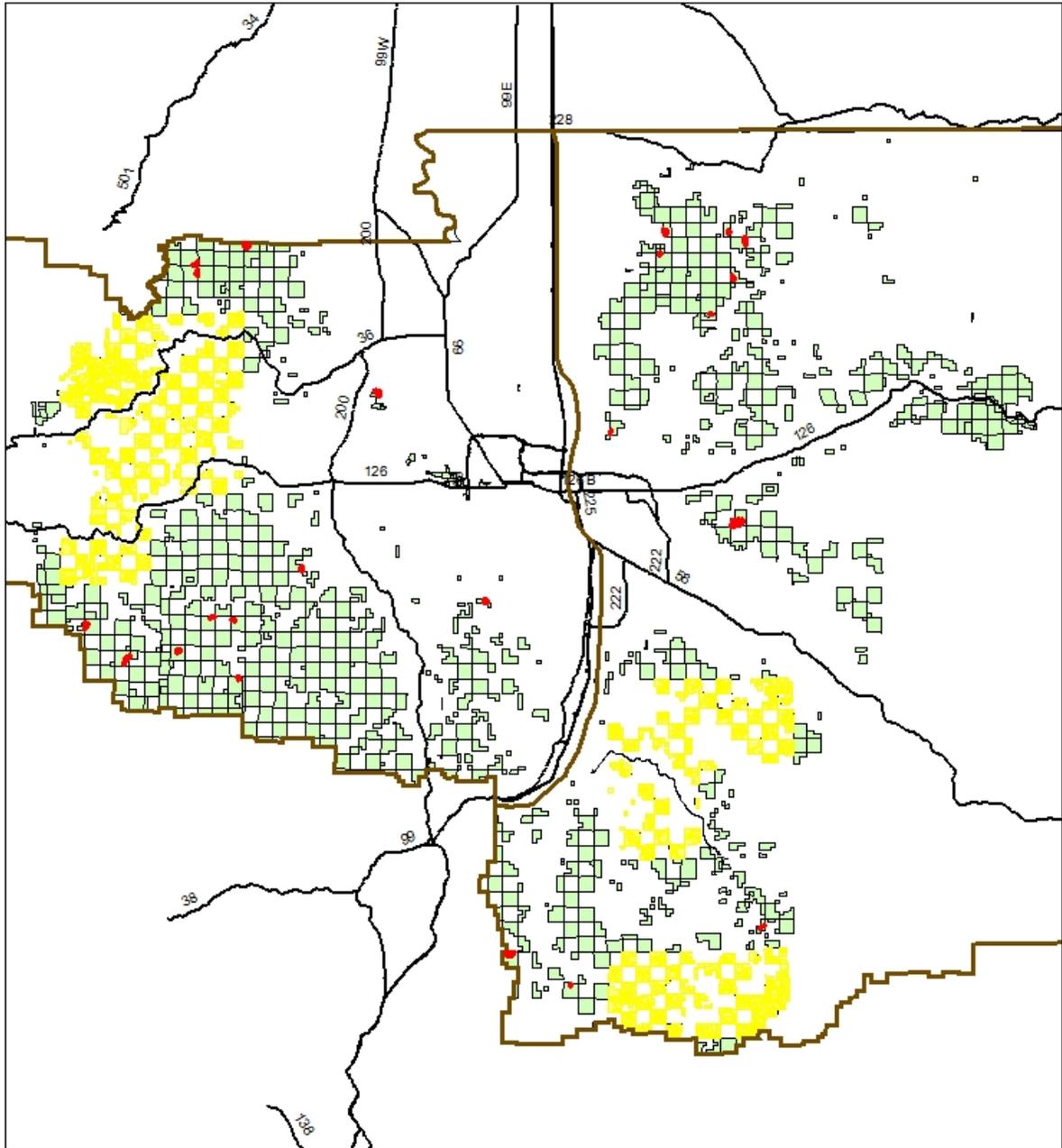
Many thanks to Scot Loring for performing the contracted field work, and Kelli VanNorman for manuscript review.

Figure 1. *Gautieria plumbea*, new to the Eugene District. Photograph by Scot Loring.



Figure 2. *Sphaerobolus* sp., new to the Eugene District. Photograph by Scot Loring.





-  Fungi_Units_2015
-  RA_boundaries
-  Highways
-  FOI_Fungi_2010
-  BLM_Ownership

Eugene District 2015/2016 Fungi Units
Survey Units are in red. Excluded townships are in yellow.

0 2.5 5 10 15
Kilometers

0 5 10
Miles

1:575,000 NAD 1983 Con US



Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Acanthophysium farlowii</i>	<u>Strategic</u> ORBIC List 3	Ne US, Canada, WA, Linn Co.	S	E	On recently dead twigs of <i>Abies</i> , <i>Tsuga</i> , PSME. 1400 feet in Linn Co. May.
<i>Albatrellus avellaneus</i>	<u>Sensitive</u> ORBIC List 1	CA, WA, Coos Co.	S	E	Terrestrial, assumed mycorrhizal with Pinaceae. Oct, Nov, Jan
<i>Albatrellus caeruleoporus</i>	<u>Strategic</u> ORBIC List 3	BC to CA, Eastern N.A., NS: Lane Co.	S	E	Terrestrial, assumed mycorrhizal with <i>Tsuga</i> . Sept-Dec.
<i>Albatrellus dispansus</i>	<u>Strategic</u> ORBIC List 3	Asia, e N.A., ID, AZ, Marion Co.	S	E	
<i>Albatrellus ellisii</i>	ORBIC List 4	CA, WA, ID, NS: SI RA	D	E	Forests. Oct-Jan. 500-6000' elevation. PSME, TSHE, ABAM, PICO, etc.
<i>Albatrellus skamanius</i>	<u>Strategic</u> ORBIC List 3	E Asia, WA, Marion Co.	S	E	
<i>Amanita novinupta</i>	<u>Strategic</u> ORBIC List 3	BC to ID, CA, NS: Lane Co.	S	E	
<i>Amogaster viridigleba</i> (= <i>Lepiota viridigleba</i>)	<u>Strategic</u> ORBIC List 3	CA, OR. NS. Douglas Co.	S	H	Under PSME in the Cascades. June. On BLM Strategic List as <i>Lepiota</i> .
<i>Arcangeliella camphorata</i> (= <i>Gastrolactarius camphoratus</i>)	<u>Sensitive</u> ORBIC List 1	BC, WA, to Coos and Lane Co.	S	H	Coast Range RA specimen verified by James Trappe, but no site report available. Mar-Jul, Oct, Nov. PSME, TSHE associate. 20-3000' elevation. On BLM Strategic List as <i>Gastrolactarius</i> .
<i>Arcangeliella crassa</i> (= <i>Gastrolactarius crassus</i>)	<u>Strategic</u> ORBIC List 3	CA, Coos, Douglas, Wasco Cos.	S	H	<i>Abies</i> , <i>Pinus</i> mixed conifer in CA, 6500'. Coos Co. site at 2200'. On BLM Strategic List as <i>Gastrolactarius</i> .
<i>Balsamia nigrens</i> (= <i>B. nigrescens</i>)	<u>Strategic</u> ORBIC List 3	CA to Benton Co., Yamhill Co.	S	H	Mar, Jun, Oct, Dec. <i>Abies</i> , <i>Quercus</i> , PSME, PIJE, low to mid elevation.
<i>Boletus regius</i>	<u>Strategic</u> ORBIC List 3	NS: UW RA	D	E	

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Bondarzewia mesenterica</i> (= <i>B. montana</i>)	Eugene District Review	BC to nCA, Europe; NS: UW RA	D	E	Late successional conifer forests, often associated with large stumps or snags; fruits from August to December. Locally rare. Large wood habitat indicator.
<i>Bryoglossum gracile</i>	Sensitive ORBIC List 2	Canada, Eurasia, WA, OR. NS: Will. NF.	S	E	On subalpine to arctic mosses. At 2000' Hehe Creek Lane Co. Aug-Oct.
<i>Catathelasma ventricosum</i>	ORBIC List 3	BC to CA, NS: Linn Co.	S	E	Forests, especially <i>Picea</i> and <i>Abies</i> . Sep-Jan.
<i>Chamonixia caespitosa</i>	Sensitive ORBIC List 2	WA to CA, NY, Europe. NS: Lincoln and Tillamook Co.	S	H	<i>Abies amabilis</i> , <i>Tsuga</i> , <i>Picea sitchensis</i> , <i>Pseudotsuga</i> . Jun-Nov. 7-5000' elevation.
<i>Choiromyces alveolatus</i>	Strategic ORBIC List 3	Western Cascades; NS: Linn, Douglas Cos.	S	H	<i>Abies</i> , <i>Tsuga</i> , <i>Pinus</i> , <i>Pseudotsuga</i> . May-Jul, Sept-Nov
<i>Choiromyces venosus</i>	Sensitive ORBIC List 2	OR, CA, WV, Europe. Lane County; NS: UW RA	D	H	Low elevation; hosts are <i>Pseudotsuga menziesii</i> and <i>Tsuga heterophylla</i> . Aug, Oct. 1400-1600' elevation.
<i>Chrysomphalina grossula</i>	Strategic ORBIC List 3	WA to CA. NS: Lane Co.	S	E	Coniferous debris, mixed forests and parks. <i>Pseudotsuga menziesii</i> and <i>Tsuga heterophylla</i> forests in PNW. Mar, Aug, Oct-Dec.
<i>Clavariadelphus subfastigiatus</i>	Strategic ORBIC List 3	WA to ID, CA, NS: Douglas Co.	S	E	Mixed conifers. Oct-Dec.
<i>Clavulina castanopes</i> var. <i>lignicola</i>	Strategic ORBIC List 3	BC to CA, NS: Lane Co.	S	E	On wood or bark. May, Oct, Nov.
<i>Clavulinopsis fusiformis</i>	Strategic ORBIC List 3	BC to OR, E North America, Eurasia	S	E	
<i>Clitocybe senilis</i>	ORBIC List 3	WA, Tillamook Co. E N.A., Europe.	S	E	Duff, conifer forests. Jul, Aug, Nov, Dec
<i>Conocybe subnuda</i>	Strategic ORBIC List 3	OR, Europe. NS: Multnomah Co.	S	E	
<i>Cordyceps militaris</i>	Eugene District Review	North America, Europe. NS: SI RA .	D	E	Taxonomic questions. <i>Cordyceps</i> cf. <i>militaris</i> specimens with <i>J. Spatafora</i> may be a new or different species.

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Cordyceps ophioglossoides</i>	ORBIC List 3	WA to CA, E N.A., Eurasia. NS: Lane Co.	S	E	Parasitic on <i>Elaphomyces</i> . Sep-Nov.
<i>Cortinarius barlowensis</i>	<u>Sensitive</u> ORBIC List 2	WA to CA, NS: Lane Co.	S	E	Coastal to montane conifer forests. Sep-Nov. 25-5000' elevation. TSHE to TSME.
<i>Cortinarius cyanites</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: Benton Co.	S	E	Forests. Aug-Nov.
<i>Cortinarius depauperatus</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: Lincoln Co.	S	E	Moist conifer forests, <i>Picea</i> , <i>Thuja</i> , <i>Tsuga heterophylla</i> . May-Jul; Sep-Oct.
<i>Cortinarius valgus</i>	ORBIC List 3	WA to CA. NS: Lane Co.?	S	E	Conifer forests, <i>Abies</i> , <i>Picea</i> , <i>Pseudotsuga</i> , <i>Tsuga heterophylla</i> . Oct.
<i>Cudoniella clavus</i>	<u>Strategic</u> ORBIC List 3	BC to CA, North America, Europe	S	E	
<i>Cystangium idahoensis</i> (= <i>Martellia i.</i>)	<u>Sensitive</u> ORBIC List 1	OR, ID. NS: Lane Co., Willamette NF.	S	H	Associated with the roots of <i>Abies amabilis</i> , <i>A. lasiocarpa</i> , <i>A. procera</i> , <i>Picea engelmannii</i> , and <i>Tsuga mertensiana</i> from 1,200 to 1,650 m elevation. Sep, Oct.
<i>Dendrocollybia racemosa</i> (= <i>Collybia racemosa</i>)	<u>Strategic</u> ORBIC List 3	WA to CA, E N.A., Europe. NS: UW, SI RA	D	E	Forests, on remains of other mushrooms or leaf mulch. Feb, Aug, Sep-Dec.
<i>Dermocybe humboldtensis</i>	<u>Sensitive</u> ORBIC List 1	CA, OR, NS: Douglas Co.	S	E	Mycorrhizal, various Pinaceae. Nov. 1300- 2000' elevation. PIPO, PSME, ABGR.
<i>Destuntzia fusca</i>	<u>Strategic</u> ORBIC List 3	Endemic to OR and CA. NS: H.J.Andrews Experimental forest, Lane Co.	S	H	Forms sporocarps beneath the soil associated with <i>Lithocarpus densiflorus</i> , <i>Pseudotsuga menziesii</i> & <i>Tsuga heterophylla</i> , below 1000 m elevation. Oct, Dec.
<i>Destuntzia rubra</i>	<u>Strategic</u> ORBIC List 1-ex	CA, OR in Linn Co.	S	H	Low elevation nw CA; PSME, ABGR, ARME, tanoak, redwoods. OR Cascades.
<i>Elaphomyces asperulus</i>	<u>Strategic</u> ORBIC List 3	OR, Europe. NS: Polk Co.	S	H	
<i>Elaphomyces decipiens</i>	<u>Strategic</u> ORBIC List 3	OR, CA, LA, MS, Europe. NS: Benton Co.	S	H	

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Elaphomyces reticulatus</i>	<u>Strategic</u> ORBIC List 3	OR, Eurasia. NS: Lane Co.	S	H	
<i>Endogone oregonensis</i>	<u>Strategic</u> ORBIC List 3	OR. NS: Douglas and Benton Co.	S	H	Mycorrhizal, <i>Picea sitchensis</i> , <i>Pseudotsuga menziesii</i> , <i>Tsuga heterophylla</i> . Feb, Jul, Sep-Nov.
<i>Galerina fuscobrunnea</i>	<u>Strategic</u> ORBIC List 3	OR. NS: Cascades in Wasco Co.	S	E	
<i>Gautieria magnicellaris</i>	<u>Strategic</u> ORBIC List 3	OR, CA, E N.A., Mex., Europe, NS: Deschutes Co.	S	H	<i>Abies concolor</i> in OR, pines in Mexico. July-Oct
<i>Genea compacta</i> (= <i>Gilkeya compacta</i>)	<u>Strategic</u> ORBIC List 3	Polk Co., Willamette Valley, to Mexico.	S	H	PSME, Pinus, Abies, Quercus. Feb.-Aug.
<i>Glomus pubescens</i>	<u>Strategic</u> ORBIC List 3	OR, NJ, Japan. NS: Coos and Douglas Co.	S	H	
<i>Gomphus kauffmanii</i>	<u>Strategic</u>	BC to ID, CA, NS: Lane Co.	S	E	<i>Pinus</i> and <i>Abies</i> . Aug-Dec, Jan. 200-7000' elevation. PSME, TSHE, ABAM, TSME.
<i>Gymnomyces californicus</i>	<u>Eugene District Review</u>	California. NS: SI RA	D	H	Rare species, previously endemic to CA. Possible first collection in OR in Siuslaw RA, needs verification.
<i>Gymnomyces compactus</i>	ORBIC List 3	Oregon: Clackamas, Douglas, Yamhill Co.	S	H	Under deep decayed fir wood. June.
<i>Gymnomyces cremeus</i>	ORBIC List 3	Oregon: Benton, Douglas Co.	S	H	
<i>Gymnomyces monosporus</i>	<u>Strategic</u> ORBIC List 3	Benton, Douglas Co.	S	H	Jun, Jul
<i>Gymnomyces nondistincta</i>	<u>Strategic</u> ORBIC List 1	Clackamas, Klamath Co.	S	H	ABAM, TSME. Oct. 6000-7000' elevation.
<i>Gymnomyces setigerus</i>	<u>Strategic</u> ORBIC List 3	WA, OR: Lane Co.	S	H	
<i>Gymnopilus punctifolius</i>	<u>Eugene District Review</u>	WA to n CA; NS: SI, UW RA	D	E	Fruits on well decayed (brown cubically rotted) large conifer stumps and snags; fruits Apr, Jun, August to December. Locally rare. Large wood habitat indicator.

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Hebeloma occidentale</i>	<u>Strategic</u> ORBIC List 3	Clackamas, Wasco Co.	S	E	
<i>Helvella crassitunicata</i>	<u>Sensitive</u> ORBIC List 2	Endemic to OR and WA. NS: Lane Co., Willamette NF.	S	E	Scattered or gregarious on soil along trails in montane regions with <i>Abies</i> spp. Jan, May, Aug-Oct. 1900-9200' elevation. PSME, TSHE, ABAM, TSME.
<i>Helvella elastica</i>	ORBIC List 3	WA to OR; NS: UW, SI	D	E	Typically gregarious on soil under conifers in damp areas in fall; Does not routinely fruit in recently heavily disturbed areas; may fruit in open areas under conifers; fruits April- Dec.
<i>Hemimycena pseudocrispula</i>	<u>Strategic</u> ORBIC List 3	Europe, Lane Co.	S	E	On wood.
<i>Hydropus marginellus</i>	<u>Strategic</u> ORBIC List 3	WA to CA. NS: SI RA, UW RA.	D	E	Conifer wood, <i>Abies</i> , <i>Pinus</i> . Jun-Dec. Both June, Dec. on Eugene District.
<i>Hygrophorus albicarneus</i>	<u>Strategic</u> ORBIC List 3	OR. NS: Lane Co.	S	E	
<i>Hygrophorus albiflavus</i>	<u>Strategic</u> ORBIC List 3	Clackamas Co.	S	E	
<i>Hypomyces luteovirens</i>	ORBIC List 3	BC to CA. NS: Clackamas Co.	S	E	Parasitic crust on Russulaceae. Sep, Oct.
<i>Imaia gigantea</i>	<u>Strategic</u> ORBIC List 3	Japan, Appalachians, Douglas CO.	S	H	Sept, Oct.
<i>Ionomidotis irregularis</i>	<u>Eugene District Review</u>	North America, Eurasia. NS: UW RA, SI RA.	D	E	Globally rare, saprophytic on hardwoods, old growth associated. Ron Hamill SI RA collection needs verification. Nov.
<i>Leptonia caesiocincta</i>	<u>Strategic</u> ORBIC List 3	WA to CA, Europe. NS: Clackamas Co.	S	E	
<i>Leptonia exalbida</i>	ORBIC List 3	BC to CA. NS: Douglas Co.	S	E	
<i>Leptonia foliocontusa</i> var. <i>discolor</i>	ORBIC List 3	BC to CA. NS: Douglas Co.	S	E	
<i>Leptonia occidentalis</i> var. <i>occidentalis</i>	<u>Strategic</u> ORBIC List 1	Benton, Marion Cos.	S	E	Nov.

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Leptonia rosea var. marginata</i>	<u>Strategic</u> ORBIC List 2-ex	WA to CA, NS: Lane Co.	S	E	
<i>Leptonia striatula</i>	ORBIC List 3	WA, OR, Eastern NA. NS: Douglas Co.	S	E	
<i>Leptonia subeuchroa</i>	<u>Strategic</u> ORBIC List 2-ex	WA to CA. NS: Lane Co.	S	E	
<i>Leptonia violaceonigra</i>	<u>Strategic</u> ORBIC List 3	WA to CA. NS: Linn Co.	S	E	
<i>Leucogaster candidus</i>	<u>Eugene District</u> <u>Review</u>	NS: UW RA	D	H	Rare in the PNW. UW RA site needs verification.
<i>Leucogaster microsporus</i>	ORBIC List 4	WA to CA, NS: Lane Co.	S	H	PSME, TSHE. Jul-Nov
<i>Leucogaster odoratus</i>	<u>Strategic</u> ORBIC List 3	CA to Lane, Linn Cos.	S	H	
<i>Lyophyllum acutipes</i>	<u>Strategic</u> ORBIC List 1-X	Clackamas Co.	S	E	
<i>Lyophyllum furfurellum</i>	<u>Strategic</u> ORBIC List 1-X	Clackamas Co.	S	E	
<i>Lyophyllum lubricum</i>	<u>Strategic</u> ORBIC List 1-X	Clackamas Co.	S	E	
<i>Lyophyllum pallidum</i>	<u>Strategic</u> ORBIC List 1-X	West Cascades of Jefferson Co.	S	E	
<i>Lyophyllum solidipes</i>	<u>Strategic</u> ORBIC List 1-X	Clackamas Co.	S	E	
<i>Macowanites chlorinosmus</i>	<u>Strategic</u> ORBIC List 3	WA to CA. NS: lane Co.	S	H	Coastal Sitka spruce and western hemlock. Jan, Jul-Nov.
<i>Martellia medlockii</i>	<u>Strategic</u> ORBIC List 3	Linn Co.	S	H	
<i>Melanogaster natsii</i>	ORBIC List 3	WA to CA, NS: Benton Co.	S	H	

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Melanophyllum haematospermum</i>	<u>Eugene District Review</u>	North America, Europe. NS: SI RA.	D	E	Taxonomic questions. Species complex; material in the Pacific Northwest is likely an unnamed endemic.
<i>Mycena gaultheri</i>	<u>Strategic</u> ORBIC List 3	Clackamas Co.	S	E	
<i>Mycena hudsoniana</i>	<u>Strategic</u> ORBIC List 3	WA and Lane Co.	S	E	Apr-Jul. Woody debris near snowbanks, usually >2300 feet.
<i>Mycena quinaultensis</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: Lane Co.	S	E	On conifer needle duff, rarely wood. Oct-Dec
<i>Mycena tenax</i>	<u>Strategic</u> ORBIC List 3	WA to CA, E N.A., NS: Lane Co.	S	E	Duff under <i>Abies</i> , <i>Pseudotsuga</i> , <i>Picea</i> , <i>Sequoia</i> . Jun, Aug-Dec.
<i>Mythicomycetes corneipes</i>	<u>Sensitive</u> ORBIC List 2	OR, WA, northern Europe. NS: Lane Co.	S	E	Margins of bogs among mosses, or wet soil under conifers or alders. Aug-Oct.
<i>Nolanea edulis var. concentrica</i>	<u>Strategic</u> ORBIC List 3	Lincoln Co.	S	E	
<i>Nolanea verna var. isodiametrica</i>	<u>Strategic</u> ORBIC List 3	OR, ID, WY. NS: Douglas Co.	S	E	
<i>Octavianina macrospora</i>	<u>Strategic</u> ORBIC List 1-X	Clackamas Co.	S	H	<i>Tsuga heterophylla</i> , 3200 feet elevation.. Aug.
<i>Omphalina isabellina</i>	<u>Strategic</u> ORBIC List 3	Clackamas Co.	S	E	
<i>Otidea smithii</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: UW	D	E	On soil, duff, moss, PSME, TSHE, black cottonwood. 1200-3800' elevation. Nov, Dec, Feb.
<i>Phaeocollybia californica</i>	<u>Sensitive</u> ORBIC List 1	WA to CA, NS: UW, SI	D	E	Terrestrial, mycorrhizal, under conifers, coastal to montane moist forests. 300-4000' elevation. Apr-Jun, Sep-Jan.
<i>Phaeocollybia dissiliens</i>	<u>Strategic</u> ORBIC List 3	CA, OR, NS: Lane Co. NS: UW, SI	D	E	Terrestrial, mycorrhizal, under conifers, moist forests. Mostly coastal and Coast Range. 300-2500' elevation. Sept-Dec.

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Phaeocollybia gregaria</i>	<u>Sensitive</u> ORBIC List 1	Polk, Tillamook Cos.	S	E	Terrestrial, mycorrhizal, under conifers, moist forests. Coastal and Coast Range. 500-1500' elevation. Oct-Dec.
<i>Phaeocollybia lilacifolia</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: SI RA	D	E	Terrestrial, mycorrhizal, under conifers, moist forests. Oct.
<i>Phaeocollybia oregonensis</i>	<u>Sensitive</u> ORBIC List 1	BC to OR, NS: SI RA	D	E	Terrestrial, mycorrhizal, under conifers, moist forests. 800-3800' elevation. Aug, Oct, Nov.
<i>Phaeocollybia pseudofestiva</i>	<u>Strategic</u> ORBIC List 3	BC to CA, NS: UW RA	D	E	Mature mixed conifers and hardwoods. 35-3700' elevation. April, May, July, Sept-Jan.
<i>Phaeocollybia radicata</i>	<u>Strategic</u> ORBIC List 3	OR, CA, NS: SI, UW RA	D	E	Terrestrial, mycorrhizal, under conifers, moist forests. Oct-Dec.
<i>Podostroma alutaceum</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: Lane Co.	S	E	Conifer forests, litter, dead wood. Apr, Jul-Dec.
<i>Polyozellus multiplex</i>	ORBIC List 4	WA to CA, ID, E N.A., Japan, NS: Lane Co.	S	E	<i>Abies</i> , montane conifer forests. Aug-Jan.
<i>Pseudoaleuria quinaultiana</i>	<u>Strategic</u> ORBIC List 3	WA to OR, NS: Lincoln Co.	S	E	Disturbed microsites (e.g. windthrow mounds) low elevation old growth, PISI, PSME, TSHE. March-May, Sept.
<i>Pseudorhizina californica</i> (= <i>Gyromitra c.</i>)	<u>Sensitive</u> ORBIC List 2	BC to CA, ID, NS: Linn Co., Douglas Co.	S	E	Well-rotted stumps or logs of conifers; humus in moist areas, along streams. Apr-Oct.
<i>Radiigera bushnellii</i>	<u>Strategic</u> ORBIC List 3	OR, Tillamook and Yamhill Co.	S	H	Coast Range, PSME forest. May, Aug.
<i>Ramaria abietina</i>	<u>Strategic</u> ORBIC List 3	WA to CA, ID, Eurasia, NS: Lane Co. NS: UW, SI RA	D	E	Conifer forests, often PSME, duff and debris. Aug-Dec., Jan-Mar. 1999 O'Dell Collection UW RA.
<i>Ramaria amyloidea</i>	<u>Sensitive</u> ORBIC List 2	WA to CA, NS: Lane Co.	S	E	Coniferous forests. 1800-5500' elevation. PSME, TSHE, ABAM, TSME. Jul-Nov.
<i>Ramaria aurantiisiccescens</i>	ORBIC List 4	WA to CA, NS: Lane Co. NS: UW RA	D	E	Coniferous forests. 560-7000' elevation, PSME, TSHE, ABAM, TSME. Sept-Jan.
<i>Ramaria botrytis</i> var. <i>aurantiiramosa</i>	<u>Strategic</u> ORBIC List 3	WA to OR, NS: Douglas Co.	S	E	Coniferous forests. Sept-Nov.

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<i>Ramaria conjunctipes</i> var. <i>sparsiramosa</i>	Strategic ORBIC List 3	WA to CA, NS: SI RA	D	E	Coniferous forests. Oct-Dec.
<i>Ramaria gelatinaurantia</i>	Strategic ORBIC List 3	WA to CA, NS: Clackamas Co.	S	E	Coniferous forests. 1600-3600' elevation, PISI, PSME, TSHE. Sept-Jan
<i>Ramaria gracilis</i>	Strategic ORBIC List 3	WA to CA, NY, Europe, NS: Benton Co.	S	E	Conifer duff; humicolous on twigs and needles. Sept, Nov, Dec.
<i>Ramaria largentii</i>	Strategic ORBIC List 3	WA to CA, NS: Benton Co.	S	E	Coniferous forests. 1300-5100' elevation, PSME, TSHE, ABAM, ABGR. Mar, Jun, Sept-Nov.
<i>Ramaria maculatipes</i>	Strategic ORBIC List 3	WA to CA, NS: Lane Co.	S	E	Coniferous forests. Sept-Dec.
<i>Ramaria rainierensis</i>	Strategic ORBIC List 3	WA to CA, ID, NS: Coos Co.	S	E	Conifer duff; humicolous on twigs and needles. Mar, Dec.
<i>Ramaria rubella</i> forma <i>blanda</i>	Sensitive ORBIC List 2	BC to CA, TN, NS: Lane Co.	S	E	152-530' elevation, PISI, TSHE. On wood, <i>Picea</i> , <i>Alnus</i> . Oct, Nov.
<i>Ramaria rubribrunnescens</i>	Strategic ORBIC List 3	WA to CA, NS: Douglas Co.	S	E	Coniferous forests. Sept-Nov
<i>Ramaria suecica</i>	Strategic ORBIC List 3	BC to CA, NS: SI RA	D	E	On humus, conifer twigs and needles, sometimes deciduous litter. Oct, Nov.
<i>Ramaria tsugina</i> (= <i>R. concolor</i> f. <i>tsugina</i>)	Strategic ORBIC List 3	WA to CA, ID, NS: Coos Co.	S	E	On rotting conifer wood.. Sept-Oct.
<i>Rhizopogon abietis</i>	Strategic ORBIC List 3	CA, OR, ID, WY, E N.A. NS: Lane Co.	S	H	<i>Abies</i> , <i>Tsuga</i> , <i>Picea</i> , <i>Pinus</i> . July-Dec.
<i>Rhizopogon atroviolaceus</i>	Strategic ORBIC List 3	OR, ID, NS: Lane Co.	S	H	<i>Pseudotsuga</i> , <i>Abies</i> , <i>Tsuga</i> , <i>Picea</i> , <i>Pinus</i> . May-Oct.
<i>Rhizopogon brunneiniger</i>	Strategic ORBIC List 3	OR, CA, NS: Benton Co.	S	H	ABCO, PICO, PIMO, PSME, TSHE, TSME. Jun, Sept-Nov.
<i>Rhizopogon chamaleontinus</i>	Sensitive ORBIC List 2	OR, ID, NS: Josephine Co.	S	H	PSME, PILA. Tanoak at 900'. Jun, Sept.

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<i>Rhizopogon clavitisporus</i>	<u>Strategic</u> ORBIC List 2	CR Lincoln Co., Cascades Clackamas Co., south to Klamath Ranges, ID	S	H	
<i>Rhizopogon elliposporus</i>	<u>Sensitive</u> ORBIC List 2	OR, CA, Jackson, Josephine Co.	S	H	PSME, PILA. 1080-4000' elevation, PSME, TSHE, TSME. Apr, Oct-Jan.
<i>Rhizopogon exiguus</i>	<u>Sensitive</u> ORBIC List 2	Endemic to OR, WA. NS: Lane Co. Mapleton.	S	H	85-4000' elevation, PSME, TSHE. Mar, Sept, Nov.
<i>Rhizopogon flavofibrillosus</i>	<u>Strategic</u> ORBIC List 3	OR, CA, ID, Montana. NS: Deschutes, Curry, Siskiyou, Josephine Co.	S	H	Associated with the roots of ABCO, ABLA, PIEN, PIAT, PICO, PILA, PIMU, PSME from 950 to 2350 m elevation. Mar, Apr, Jul, Nov.
<i>Rhizopogon inquinatus</i>	<u>Sensitive</u> ORBIC List 2	OR, ID, NS: Linn Co.	S	H	PIJE, PSME, TSHE, TSME. 1280-4400' elevation. Sept, Oct.
<i>Rhizopogon rogersii</i>	<u>Strategic</u> ORBIC List 3	OR, ID, NS: Polk Co.	S	H	Coast Range, Cascades, Blue Mountains; PSME, PIPO. July.
<i>Rhizopogon semireticulatus</i>	<u>Strategic</u> ORBIC List 3	WA to CA, ID. NS: Douglas and Linn Co.	S	H	Near sea level under PICO, to 4800'. PSME, PICO, PIPO, ABLA, Quercus, ARME. Apr- Jan.
<i>Rhizopogon subcinnamomeus</i>	<u>Strategic</u> ORBIC List 3	OR, ID, NS: SI RA	D	H	Fall.
<i>Rhizopogon subclavitisporus</i>	<u>Strategic</u> ORBIC List 3	OR, ID, NS: Lane Co. HJ Andrews.	S	H	PSME, mixed conifers. July.
<i>Rhizopogon subradicatus</i>	<u>Strategic</u> ORBIC List 2-ex	WA, OR, NS: Benton Co.	S	H	PIPO. Oct.
<i>Rhizopogon truncatus</i>	ORBIC List 4	OR, CA, E N.A., NS: Lane Co.	S	H	Pinaceae, particularly pines. Jan, Apr-Dec.
<i>Rickenella swartzii</i>	<u>Strategic</u> ORBIC List 3	WA to CA, MT, Europe, NS: SI RA.	D	E	Among mosses under hardwoods. May be parasitic on mosses. May-Jan. June, July, Aug. on Eugene District.
<i>Sarcodon fuscoindicus</i>	<u>Strategic</u> ORBIC List 3	WA to CA, NS: SI RA	D	E	On soil. 34-6500' elevation, PSME, TSHE, ABAM. Sept-Jan.

Species	Status	Range/Nearest Site	D/S	H/E	Habitat and Season
<i>Sowerbyella rhenana</i> (= <i>Aleuria rhenana</i>)	ORBIC List 3	w North America, CA, OR, WA. Europe and Japan. NS: SI RA	D	E	Fruits in duff of moist, relatively undisturbed, older conifer forests. 600-3600' elevation, PSME, TSHE, PIPO, PILA. May, Jul, Sept-Jan.
<i>Squamanita paradoxa</i>	<u>Strategic</u> ORBIC List 2-ex	Europe, BC, ID, OR. NS: Clackamas Co.	S	E	Parasitic on <i>Cystoderma</i> , which it transforms into a tan stem-like gall. Only a historic collection in OR. Nov.
<i>Stephensia bynumii</i>	<u>Strategic</u> ORBIC List 3	Clackamas, Marion Cos.	S	H	
<i>Stropharia albovelata</i> (= <i>Pholiota a.</i>)	<u>Strategic</u> ORBIC List 3	WA to CA, NS: SI RA	D	E	May, Aug-Dec. Under conifers in fall.
<i>Thaxterogaster pavelekii</i>	ORBIC List 1	WA to CA. NS: Lincoln Co.	S	H	Coastal PISI, PICO forests; possible at Heceta Dunes ACEC. 17-588' elevation. Mar-Jun, Nov.
<i>Tuber asa</i>	<u>Strategic</u> ORBIC List 3	OR, E N.A., Europe, NS: UW	D	H	PSME, TSHE, PIPO. Jan, Oct.. All North American <i>Tuber asa</i> are to be called <i>T. pseudoasa</i> .
<i>Tuber pacificum</i>	<u>Strategic</u> ORBIC List 3	Coos, Lane and Polk Co., Coast Ranges	S	H	PSME, TSHE. Feb, Jun, Jul.
<i>Tuber quercicola</i>	ORBIC List 3	OR, CA. NS: Douglas or Linn Co.	S	H	
<i>Urnula craterium</i>	<u>Strategic</u> ORBIC List 2-ex	OR, E N.A., Eurasia. NS: Benton Co.	S	E	
<i>Vibrissea filisporea</i>	ORBIC List 3	OR, Eastern NA, Europe. NS: Marion Co.	S	E	
<i>Vibrissea truncorum</i>	<u>Strategic</u> ORBIC List 3	Scattered globally. NS: SI RA.	D	E	On dead wood in streams. March

D/S = Documented or Suspected on the Eugene District. H/E = Hypogeous/Epigeous
 Season is determined from the GeoBOB database site report dates, or other sources. Bold font = not found October, November, December.

ex, X = Extirpated in OR, Extinct. ORBIC=Oregon Biodiversity Information Center

NS=Nearest site UW=Upper Willamette Resource Area SI=Siuslaw Resource Area

ORBIC List 1 contains taxa that are threatened with extinction or presumed to be extinct throughout their entire range.

ORBIC List 2 contains taxa that are threatened with extirpation or presumed extirpated from the state of Oregon.

ORBIC List 3 contains taxa for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range.

ORBIC List 4 contains taxa which are of conservation concern but are not currently threatened or endangered.

In range but excluded due to high elevation or other factors: *Alpova alexsmithii*, *Brauniella albipes*, *Chroogomphus loculatus*, *Clitocybe subditopoda*, *Cortinarius boulderensis*, *Fevansia aurantiaca*, *Gastroboletus imbellus*, *Gastroboletus ruber*, *Gastroboletus vividus*, *Gelatinodiscus flavidus*, *Glomus radiatum*, *Gymnomyces fragrans*, *Hebeloma oregonense*, *Hebeloma parcivelum*, *Hydnotrya inordinata*, *Hydnotrya michaelis*, *Macowanites mollis*, *Psathyrella gruberi*, *Psathyrella oregonensis*, *Ramaria thiersii*, *Rhizopogon masoniae*, *Rhizopogon subpurpurascens*, *Stagnicola perplexa*, *Tricholomopsis fulvescens*.

This list may change during the course of the contract to accommodate changes in the status of species. Species may be added or deleted from this list.