

Fremont-Winema 2009-10 Fungi Survey

INTRODUCTION/BACKGROUND:

This survey focused on areas outside NWFP or areas not previously surveyed for former 'Survey and Manage' fungi. This survey is a continuation of the 2008 fungi surveys.

PROJECT DESIGN AND METHODS:

Areas of probable suitable habitat were selected using GIS, satellite imagery and info from FS personnel; areas targeted were wetter areas within old growth stands – mostly adjacent to streams and areas with melting snow (higher elevation). A list of target species was generated based on presence of documented sites or potential habitat and appears below.

Table 1. List of targets:

| Spring | |
|-------------------------------|---------------|
| ScientificName | ISSSSP Status |
| PSEUDORHIZINA CALIFORNICA (*) | SEN |
| HYGROPHORUS CAERULEUS | OR-SEN |
| RAMARIA COULTERAE | OR-STR |
| PLECTANIA MILLERI | OR-STR |
| CORTINARIUS WIEBEAE | OR-STR |
| CORTINARIUS VERRUCISPORUS | OR-STR |
| ELAPHOMYCES ANTHRACINUS | OR-STR |
| ELAPHOMYCES SUBVISCIDUS | OR-STR |
| RHIZOPOGON ATROVIOLACEUS | OR-STR |

Fall

| ScientificName | ISSSSP Status |
|-------------------------------------|---------------|
| ARCANGELIELLA CRASSA | OR-STR |
| BOLETUS PULCHERRIMUS (*) | SEN |
| CORTINARIUS VERRUCISPORUS | OR-STR |
| ELAPHOMYCES ANTHRACINUS | OR-STR |
| GASTROBOLETUS VIVIDUS | OR-SEN |
| GOMPHUS KAUFFMANII (*) | SEN |
| LEUCOGASTER CITRINUS (*) | SEN |
| RAMARIA AURANTIISICCESCENS (*) | SEN |
| RAMARIA BOTRYIS VAR. AURANTIIRAMOSA | OR-STR |
| RAMARIA MACULATIPES | OR-STR |
| RHIZOPOGON ATROVIOLACEUS | OR-STR |
| RHIZOPOGON BACILLISPORUS | OR-STR |
| RHIZOPOGON FLAVOFIBRILLOSUS | OR-STR |
| RHIZOPOGON SEMIRETICULATUS | OR-STR |

The surveys were done 6/15/09-6/25/09, 10/8/09-11/4/09 and 5/12/10-5/25/10 over about 1700 acres by force account crews using a focused (intuitive controlled) survey. Spring survey areas were visited once and fall survey areas were visited twice or occasionally a third time during the

timeframes above. A map of fungi sites found in 2009 and a map of survey areas are attached. A few of the sites are incidental finds not located during fungi surveys.

Equipment used, survey methods and documenting procedures were similar to those described in the *Sporocarp Survey Protocol for Macro-fungi, version 1.0*.

RESULTS:

A list of sites of R6 sensitive/strategic or other species of interest located and verified is in Table 2 below. Survey data has been entered into NRIS, but two sites were not included, 1 pending identification and 2 waiting for additional location information. In summary, crews found 2 sites of *Gomphus kauffmanii*, 27 sites of *Hygrophorus caeruleus*, 1 site of *Leucogaster citrinus* (previously not documented on Fre-Win), 1 site of *Ramaria coulterae*, 1 site of *Rhizopogon bacillosporus* and 1 site of *Rhizopogon abietis* (previously not documented on Fre-Win). Additionally crews found 3 sites of *Sedecula pulvinata* (a survey and manage species not known from OR), 1 unknown sequestrate species, and 15 sites of survey and manage species. Of note is that the indispensable Jim Chambers was the collector for many of the new sites.

Table 2.

| 2009-10 Fungi Sensitive/Strategic Species Sites | | |
|---|------------|------------------------|
| NRIS SITE # | PLANT CODE | SITE NAME |
| 060203EO09JC114 (2009/10/22) | GOKA | Augur Creek 2 |
| 060201EO09JC122 (2009/10/26) | GOKA | Deer Creek |
| 060204EO09LA005 (2009/06/18) | HYCA21 | West fork Silver Creek |
| 060204EO09FW005 (2009/06/18) | HYCA21 | Guyer Creek S |
| 060212EO09JC008 (2009/06/17) | HYCA21 | spring 2009 |
| 060202EO09TG001 (2009/06/16) | HYCA21 | spring 2009 |
| 060212EO09JC005 (2009/06/17) | HYCA21 | spring 2009 |
| 060202EO09JC003 (2009/06/16) | HYCA21 | spring 2009 |
| 060213EO09JC015 (2009/06/17) | HYCA21 | spring 2009 |
| 060202EO09JC001 (2009/06/16) | HYCA21 | spring 2009 |
| 060213EO09JC021 (2009/06/22) | HYCA21 | spring 2009 |
| 060213EO09JC019 (2009/06/22) | HYCA21 | spring 2009 |
| 060212EO09JC011 (2009/06/17) | HYCA21 | spring 2009 |
| 060212EO09JC010 (2009/06/17) | HYCA21 | spring 2009 |
| 060202EO09FW6169A(2009/06/16) | HYCA21 | cottonwood meadow |
| 060201EO09JC024 (2009/06/23) | HYCA21 | spring 2009 |
| 060213EO09JC014 (2009/06/17) | HYCA21 | spring 2009 |
| 060212EO09JC006 (2009/06/17) | HYCA21 | spring 2009 |
| 060201EO09JC023 (2009/06/23) | HYCA21 | spring 2009 |
| 060202EO09JC002 (2009/06/17) | HYCA21 | spring 2009 |
| 060213EO09TS001 (2009/06/11) | HYCA21 | Camp Ester Applegate |
| 060213EO09JC017 (2009/06/18) | HYCA21 | spring 2009 |

| | | |
|------------------------------|--------|----------------------------|
| 060213EO09JC016 (2009/06/17) | HYCA21 | spring 2009 |
| 060213EO09JC013 (2009/06/17) | HYCA21 | spring 2009 |
| 060204EO09DC001 (2009/06/18) | HYCA21 | Guyer Creek |
| 060202EO09JC004 (2009/06/16) | HYCA21 | spring 2009 |
| 060201EO09JC025 (2009/06/23) | HYCA21 | spring 2009 |
| 060213EO09JC020 (2009/06/22) | HYCA21 | spring 2009 |
| 060213EO09JC018 (2009/06/22) | HYCA21 | spring 2009 |
| 060201EO09JC155 (2009/10/29) | LEC117 | Buckboard Creek |
| 060201EO09TS002 (2009/06/22) | RACO18 | Sprague/Boulder confluence |
| Not assigned | RHAB | incidental |
| Not assigned | RHBA7 | incidental |
| 060201EO09JC157 (2009/10/29) | SEPU15 | Buckboard Creek |
| 060202EO09JC127 (2009/10/28) | SEPU15 | 111 Spur |
| 060203EO09JC112 (2009/10/22) | SEPU15 | Augur Creek 1 |

Other species of interest

| SITE # | PLANT CODE | DATE |
|-----------------|------------|------------|
| 060203EO09TG010 | ALEL4 | 10/21/2009 |
| 060201EO09JC089 | ALEL4 | 10/19/2009 |
| 060201EO09JC098 | ALEL4 | 10/20/2009 |
| 060201EO09JC151 | COMA22 | 11/05/2009 |
| 060201EO10TG001 | GYMO | 5/12/2010 |
| 060201EO10FW001 | GYMO | 5/12/2010 |
| 060201EO10FW003 | GYMO | 5/24/2010 |
| 060201EO10FW004 | GYMO | 5/25/2010 |
| 060201EO10JC003 | MYLI4 | 5/24/2010 |
| 060201EO10JC004 | MYLI4 | 5/25/2010 |
| 060201EO10FW002 | NINU | 5/24/2010 |
| 060201EO10MA002 | NINU | 5/25/2010 |
| Not assigned | Plectania | 5/24/2010 |
| 060202EO09TG002 | RARU6 | 06/16/2009 |
| 060211EO09FW007 | RHTRx | 07/27/2009 |
| Cougar Peak | unknown | 10/28/2009 |

Complete list of fungi found 2009:

Agaricus semotus
Agrocybe pediades
Albatrellus confluens
Albatrellus ellisii
Albatrellus fletii
Alpova trappei
Ampulloclitocybe clavipes
Armillaria mellea
Boletopsis subsquamosa
Boletus edulis
Boletus haematinus
Boletus sp.
Caloscypha fulgens
Cantharellus subalbidus
Chroogomphus vinicolor
Clitocybe albirhiza
Clitocybe glacialis
Clitocybe squamulosa
Coprinus comatus
Cortinarius sp.
Cortinarius calochrous ssp. coniferarum
Cortinarius croceus
Cortinarius magnivelatus
Cortinarius varius
Cryptoporus volvatus
Cyathus sp.
Discina perlata
Fomitopsis pinicola
Galerina sp.
Gautieria crispa
Geopyxis vulcanalis
Geopora cooperi
Guepiniopsis alpinus
Gomphidius subroseus
Gomphus floccosus
Gomphus kauffmanii
Gymnopilus flavidellus
Gyromitra montana
Hebeloma crustuliniforme
Hericium abietis
Heterobasidion annosum
Hydnotrya tulasnei
Hygrocybe sp.
Hygrophorus caeruleus
Hygrophorus chrysodon
Hygrophorus purpureus
Hygrophorus sordidus
Hygrophorus subalpinus
Hysterangium separabile
Ischnoderma resinosum
Laccaria laccata
Lactarius deliciosus
Lepista irina
Leucogaster citrinus

Leucopaxillus amarus
Lycoperdon sp.
Marasmius tremulae
Melanoleuca cognate
Morchella elata
Mycena adonis
Mycena alcalina
Mycena griseoviridis
Mycena lilacifolia
Mycena overholtsii
Mycena pura
Mycena sp.
Naematoloma fasciculare
Neolentinus ponderosus
Nivatogastrium nubigenum
Phaeolus schweinitzii
Pholiota aurivella
Pholiota terrestris
Plectania sp.
Pleurotus ostreatus
Pluteus cervinus
Polyporus badius/elegans
Polyporus sp.
Ramaria botrytis
Ramaria cartilaginea
Ramaria coulterae
Ramaria flavobrunnescens var. aromatica
Ramaria formosa
Ramaria rasilispora
Ramaria rubripermanens
Ramaria testaceoflava var. brunnea
Rhizopogon abietis
Rhizopogon bacillisporus
Rhizopogon occidentalis
Rhizopogon salebrosus
Rhizopogon truncatus
Rhizopogon vulgaris
Russula brevipes
Sarcodon sp.
Scleroderma sp.
Sedecula pulvinata
Strobilurus ablipilatus
Strobilurus trullisatus
Stropharia hornemannii
Suillus brevipes
Suillus tomentosus
Trametes sp.
Trappea darkeri
Tricholoma flavovirens
Tricholoma imbricatum
Tricholoma intermedium
Tricholoma saponaceum
Tricholomopsis rutilans
Xeromphalina fulvipipes

DISCUSSION:

Limited surveys were done in spring/early summer of 2009 using program funds. 2009 seems to have provided excellent conditions for *Hygrophorus caeruleus* sporocarp production. Most sites

were located from 6/16-6/23, Forest-wide in stands with white fir. Spring of 2009 was cool and wet, which may have contributed to the number of fruiting bodies seen, although it did not seem to be a particularly good year for other species of fungi. A number of interesting sequestrates were found in the fall. It is possible that on the Eastside, the diversity of hypogeous fungi is greater, except for years with favorable conditions for epigeous species – and this may be quite variable, depending on the species, as in 2009 for *H. caeruleus*. For the 2009 fall surveys, the second round of surveys (starting Oct. 28) were less productive than the first visits (begun Oct. 8). Several sites had snow on the ground by the time of the second survey. In general, sites with the greatest fungal diversity were more likely to be sites of sensitive/strategic species. For the 2010 spring surveys, many areas were inaccessible due to snow. Overall, no correlation between plant association and associated fungi was noted for the species of interest found, but a pattern may be evident once more sites are located. At present, the most effective method for Eastside epigeous fungi may be to survey areas that demonstrate higher diversity of above-ground fungi, and if species of interest are found, expand the search. This method requires a great deal of flexibility, as ‘good conditions’ cannot usually be anticipated. Below-ground species could also be surveyed for in these locations, but survey should also include other areas that appear to have suitable habitat. As referred to above, as more sites are located, with documentation of conditions, time of year, and habitat, efficiency of surveying will improve.

References used to ID specimens:

Arora, D. 1986: **Mushrooms Demystified. 2nd Edition.** Ten Speed Press, Berkeley, California: 959 pp.

Keys to Mushrooms of the Pacific Northwest: <http://www.svims.ca/council/keys.htm>

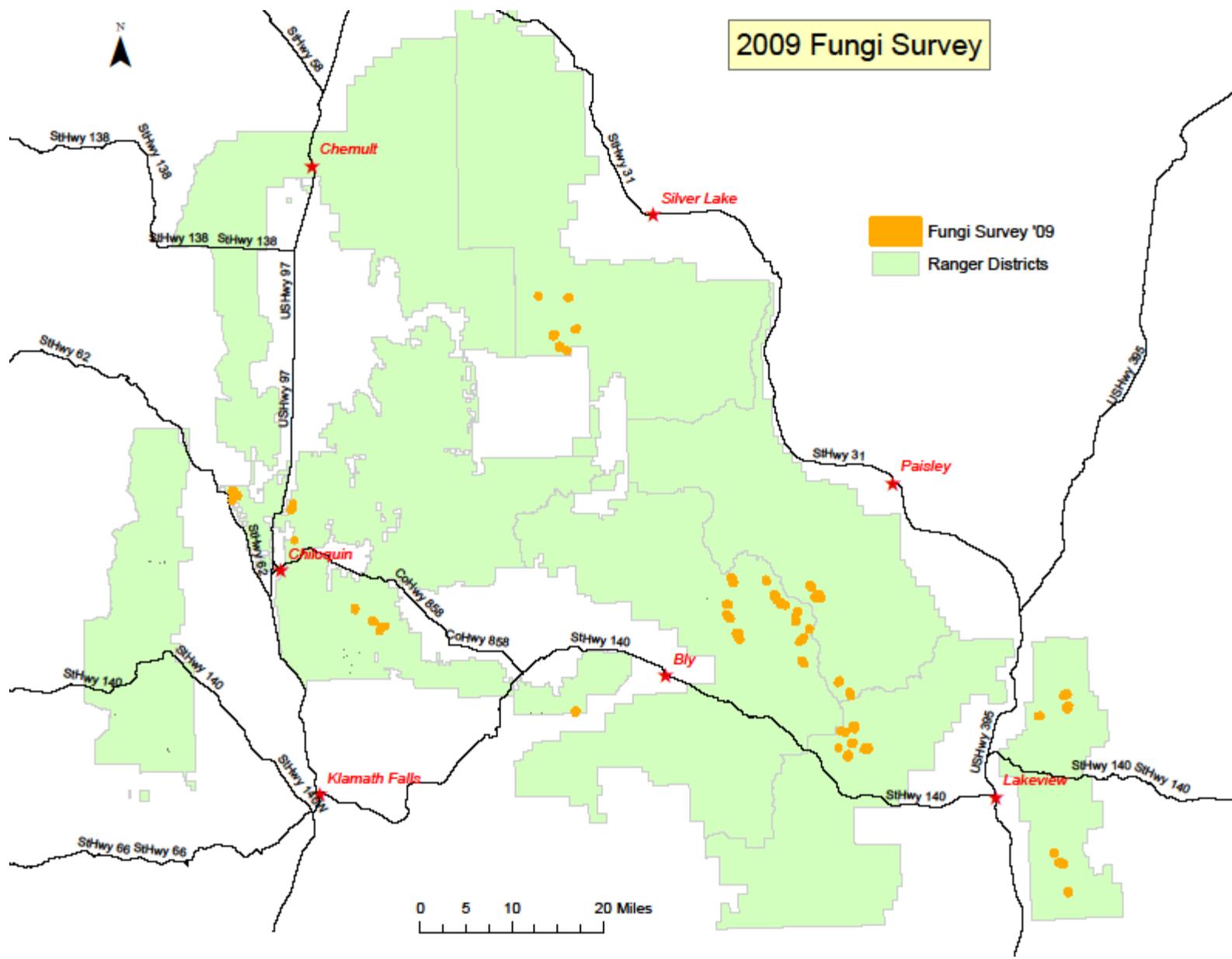


Rhizopogon abietis

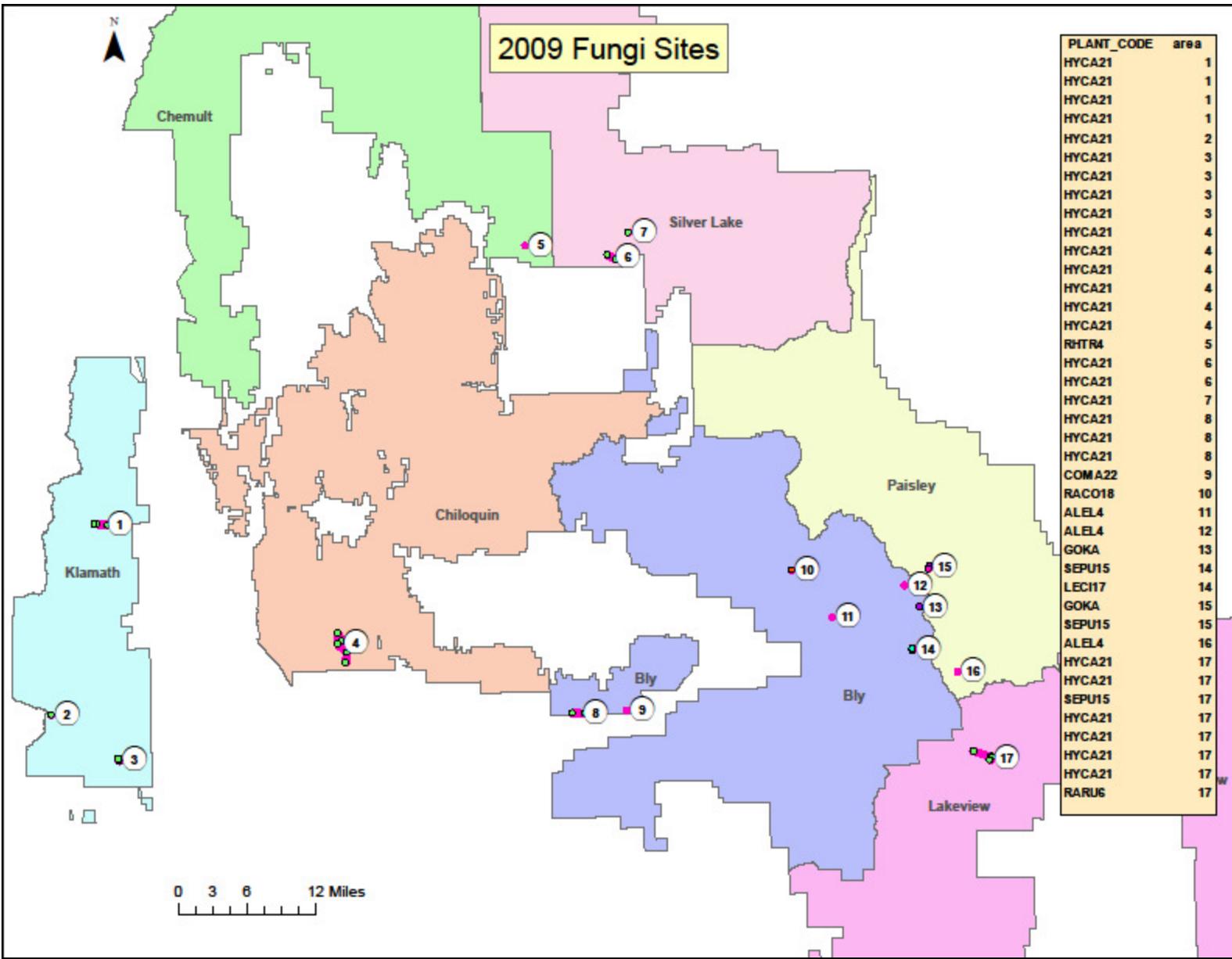


Rhizopogon truncatus

2009 Fungi Survey



2009 Fungi Sites



| PLANT_CODE | area |
|------------|------|
| HYCA21 | 1 |
| HYCA21 | 2 |
| HYCA21 | 3 |
| HYCA21 | 4 |
| RHTR4 | 5 |
| HYCA21 | 6 |
| HYCA21 | 6 |
| HYCA21 | 7 |
| HYCA21 | 8 |
| COMA22 | 9 |
| RACO18 | 10 |
| ALEL4 | 11 |
| ALEL4 | 12 |
| GOKA | 13 |
| SEPU15 | 14 |
| LECH17 | 14 |
| GOKA | 15 |
| SEPU15 | 15 |
| ALEL4 | 16 |
| HYCA21 | 17 |
| HYCA21 | 17 |
| SEPU15 | 17 |
| HYCA21 | 17 |
| RARUS | 17 |