

Truffles of the Cascade Siskiyou National Monument

by Hilary Rose Dawson and Heather Dawson



A visual guide to an estimated 27 different species found by a truffle diversity dog over a period of three seasons from fall '22 to spring '23 in the Cascade Siskiyou National Monument.

Balsamia cf. filamentosa

Peridium orange-brown and warty, sporocarps varying in size, larger collected specimen exhibited an internal chamber with white hyphal layer over the peridium. Odor sweet and chemical, reminiscent of putty or glue. Found relatively abundant in mixed oak/conifer forest.

- ☐ Fall
- ☒ Winter
- ☐ Spring



Mixed oak/conifer



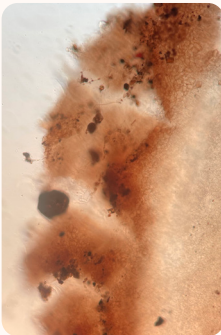
Balsamia latispora

Peridium orange-brown and warty, gleba pale with veins closely packed, infolding of the peridium varies. Odor sweet and chemical, reminiscent of putty or glue. Found sparsely in both mixed conifer forest and pine plantation after snowmelt, often in open and disturbed areas. Spores not found.

- ☐ Fall
- ☐ Winter
- ☒ Spring



Conifer



Balsamia sp. 'CS32'

Bright orange peridium with darker, distantly separated warts. Gleba white, veins relatively non-distinct. Sporocarps generally quite small. Odor sweet and chemical, reminiscent of putty or glue. Found in mixed oak/conifer forest; abundant.

- ☐ Fall
- ☒ Winter
- ☐ Spring



Mixed oak/conifer



Balsamia sp. 'CS37'

Thin orange peridium with small, distant warts. Gleba white with wide veins. Odor sweet and chemical, reminiscent of putty or glue. Found in oak woodland primarily fruiting under or near *Ceanothus* shrubs.

- ☐ Fall
- ☒ Winter
- ☐ Spring



Oak



Choiromyces sp. 'CS5'

Fruit bodies dense, often shaped irregularly. Peridium yellow-tan with adhered soil, gleba yellow with white veins. Aroma varying onion-y to *Tuber*-like. Found across two separate mixed conifer sites. Needs further investigation into species, DNA poor match to existing *C. alveolatus* voucher.

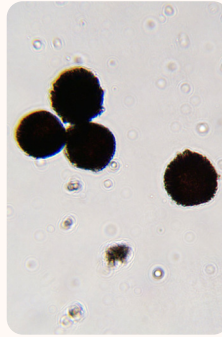
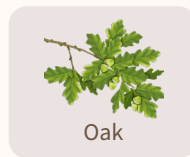
- Fall
- Winter
- Spring



Elaphomyces cf. *decipiens*

Outer layer of peridium yellow-brown and densely warty, inner layer thick and marbled. Spore mass black and powdery at maturity, odor pungent like rotting onions. Often deep in mineral soil, found under oak as well as in mixed oak/conifer habitat where it was found more commonly in fall.

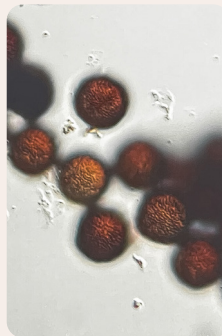
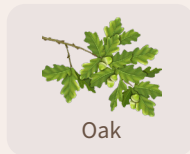
- Fall
- Winter
- Spring



Elaphomyces sp. 'CS50'

Outer layer of the peridium composed of rough black warts with brown matting between, inner layer whitish. Powdery black spore mass, odor very faint and paint-like. Found only once in pure white oak woodland. Sequence data suggests it is a relative of *E. aculeatus*, but is undescribed.

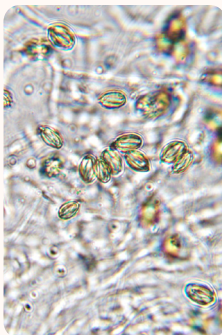
- Fall
- Winter
- Spring



Gautieria sp. 'CS16'

Peridium thin and flaking, with adhered soil. Gleba golden brown with sparse whitish veins. Odor foul, with tones of burnt rubber. In white fir/mixed conifer forests likely across two sites, few specimens found.

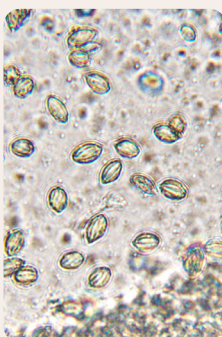
- Fall
- Winter
- Spring



Gautieria sp. 'CS17'

Peridium pale, with adhered soil. Gleba cinnamon brown with central white columella. Odor ripe, not pleasant. In white fir/mixed conifer forests likely across two sites, few specimens found.

- Fall
- Winter
- Spring



Genea* aff. *harknessii

Fruit bodies hollow and convoluted, peridium warty and ranging in color from brown to black. Odor pleasant and truffle-like when fresh, getting stronger and stinkier with age. Common under oaks. Large amount of sequence variation for *G. harknessii* suggests cryptic species/species complex.

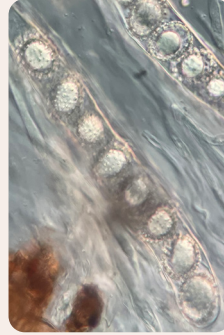
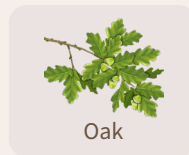
- Fall
- Winter
- Spring



Genea* *arenaria

Fruit bodies hollow and convoluted, peridium brown and finely warty, interior flesh white. Typically shallow in soil or at the surface just under litter layer. Odor pleasant, both sweet and garlicky and similar to white truffle. Ubiquitous in oak woodland habitat in winter, also present in spring.

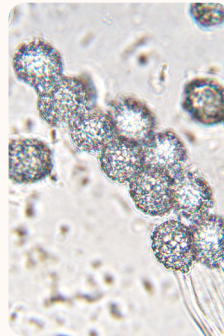
- Fall
- Winter
- Spring



***Genea* sp. 'CS3'**

Fruit bodies hollow and convoluted, dry to the touch; peridium densely warty and dark brown to black. Odor pleasant and truffle-like. Found in mixed oak/conifer habitat.

- Fall
- Winter
- Spring



Hymenogaster* *raphanodorus

Peridium tan-brown and smooth, gleba gray-brown with spore covered surfaces a deep rusty brown. Odor planty, strongly scented of curry/spices. Only a single specimen was found, growing under a *Ceanothus* shrub in close proximity to a young white oak in a dry exposed area.

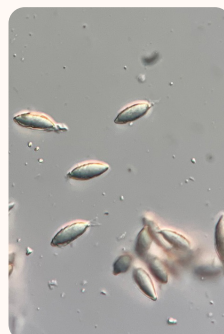
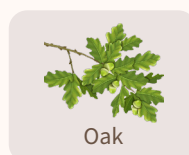
- Fall
- Winter
- Spring



***Hysterangium* sp. 'CS49'**

White peridium turning brown with exposure, easily peeling from gleba. Gleba green-gray and solid when young, melting into liquid with age. Short rhizomorphs present. Odor strong and unpleasant, foul at the liquid stage. Fruiting productively in one small patch in oak woodland.

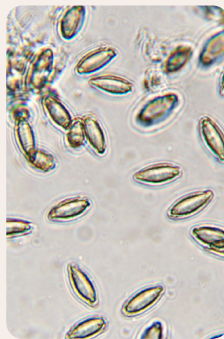
- Fall
- Winter
- Spring



Hysterangium setchellii

Tufty white peridium with adhered soil and organic matter, gleba gray-green and firm. Odor hardly detectable. Single collection under white fir and Douglas-fir.

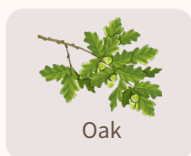
- ☒ Fall
- ☐ Winter
- ☐ Spring



Lactarius sp. 'CS40'

Orange-yellow peridium, bumpy and folding over in places. Gleba pale yellow, firm with centralized branching pattern of sterile tissue. Single very small specimen found under Oregon white oak. Odor hardly detectable.

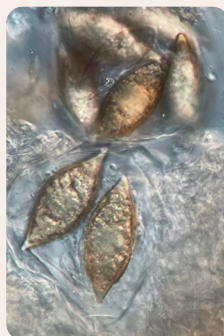
- ☐ Fall
- ☒ Winter
- ☐ Spring



Leucangium carthusianum

Fruit body dense, with a coal-black peridium and pale mottled gleba. Odor complex, somewhat sweet with notes of cocoa and coconut, smelled "past prime" for a typical Oregon black truffle but no signs of decay. Growing at least a foot underground, only a single one was found. Under Douglas-fir.

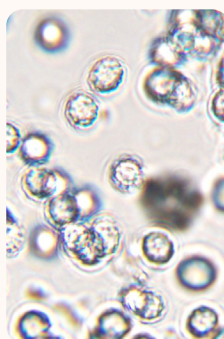
- ☐ Fall
- ☐ Winter
- ☒ Spring



Leucogaster odoratus

Pale yellow peridium, gleba consisting of white locules, generally firm. Odor sweet, but not appetizing with notes of acetone. Locally common under true firs and ponderosa pine.

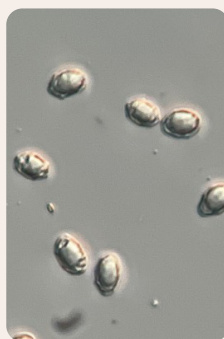
- ☒ Fall
- ☐ Winter
- ☐ Spring



Leucogaster sp. 'CS18'

Vibrant, smooth orange peridium; gleba consisting of whitish locules, very firm. Odor sweet and typical for a *Leucogaster*, the rough ellipsoid spores are a notable characteristic. Found only once under Douglas-fir and white fir.

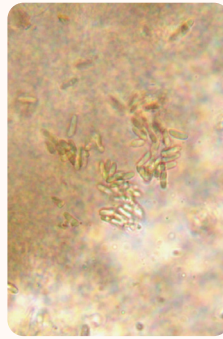
- ☒ Fall
- ☐ Winter
- ☐ Spring



Rhizopogon sp. 'CS10'

Peridium whitish-brown, peeling on mature specimen. Gleba dense, specimens generally heavy. Odor strong, mostly chemical but with some banana fruitiness. Growing gregariously under young white fir, ponderosa pine nearby.

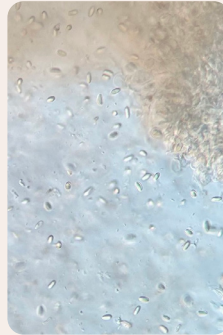
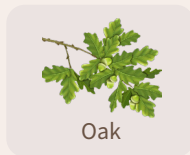
- ☒ Fall
- ☐ Winter
- ☐ Spring



Rhizopogon sp. 'CS34'

Thin mottled brown and tan peridium, gleba ochre and spongy, darker around the edges. Odor unpleasant, somewhat acid. Found once in an oak woodland with some ponderosa pine nearby.

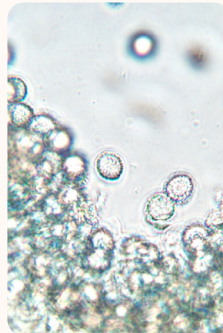
- ☐ Fall
- ☒ Winter
- ☐ Spring



Russula similaris

Yellowish peridium, gleba very firm with tightly packed veins. Odor pleasant and sweet, like dried fennel. Highly abundant, this was the most commonly found species at the highest elevation true fir site. Under true firs, Douglas-fir, and ponderosa pine.

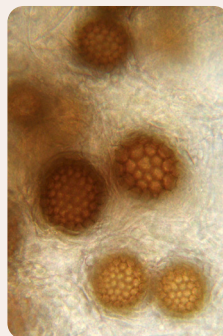
- ☒ Fall
- ☐ Winter
- ☐ Spring



Tuber aff. *anniae*

Smooth gray-brown to white peridium. Gleba intensely patterned with starburst white veins and brown spores against a gray background. Odor chemical, and characteristically *Tuber*. Found numerous times, often with decaying logs. Under white fir and Douglas-fir. Species complex.

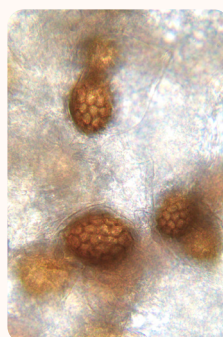
- ☒ Fall
- ☐ Winter
- ☐ Spring



Tuber beyerlei

Peridium smooth, yellow to brown, gleba with long white veins and minutely speckled fertile tissue. Under Douglas-fir and white fir, odor mild with typical *Tuber* chemical/paint notes, not unpleasant. Few specimens found, generally deeper in mineral layer of the soil.

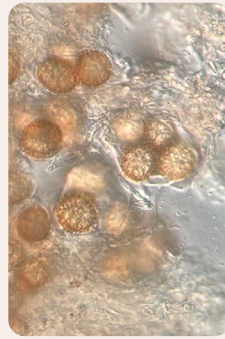
- ☒ Fall
- ☐ Winter
- ☐ Spring



Tuber cf. candidum

Peridium tan, generally smooth. Gleba rich orange-brown with white veins. Firm and rubbery, odor quite pleasant of cooked corn and vegetables. With Oregon white oak, some ponderosa pine nearby. Found once, DNA similar to *T. candidum* but more variation than expected.

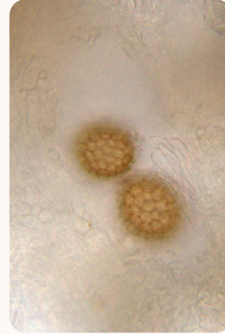
- ☐ Fall
- ☒ Winter
- ☐ Spring



***Tuber* sp. 'CS22'**

Peridium tan and finely textured, gleba rubbery with narrow white veins and brown fertile sections. Found once in a damp, grassy meadow in compacted soil along a trail, under young white fir. Odor generally chemical in nature.

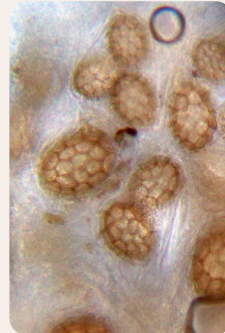
- ☒ Fall
- ☐ Winter
- ☐ Spring



Tuber whetstonense

Reddish peridium with soil adhering, gleba a similar dark red color with strongly contrasting white veins. Odor like paint/solvents. Found under true firs and ponderosa pine.

- ☒ Fall
- ☐ Winter
- ☐ Spring



All truffles pictured were found by truffle dog Rye, a golden retriever with three years of truffle hunting experience at the time of this writing. Rye was initially trained on only two species of culinary truffles, but quickly branched out to non-culinary species and continues to expand his truffle repertoire to more and more interesting new species every year.

Rye is trained to dig up the truffle and point it out with his nose before getting his favorite ball as a reward. He is a champion of the "truffle dog method" for the efficient discovery of mature truffles with minimal ground disturbance.