

Truffle Inventory

Of the

Big Creek Drainage

University of Idaho

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Summer Intern, 2015

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Box: 1

June 1, 2015

This is a specimen I sent you a picture of over the summer. At the time it was determined from the picture that this truffle was of the genus, *Geopora*; but that microscopic analysis is needed to determine species, (*cooperi* or *gilkeyae*).

Throughout my summer truffle raking, I noticed that the duff/litter is almost always deeper on the downhill side of the host tree. For this reason I searched on the downhill side first. These truffles were some that were found on the downhill side.

Physical Appearance:

- Peridium: Brown, slightly hairy.
- Gleba: White and brown with dense folds creating small chambers.
- Smell: Aromatic, difficult to describe. Comparable to some kind of cheese. This is a rather objective observation.

Site Description:

Found in a fairly open hillside that was dotted with mature Douglas Fir. The mature specimen was extricated from the duff by some industrious rodent. The other specimen was immature and likely not yet heavily fuming. For this reason, I suspect the rodents let it be.

Additional Information:

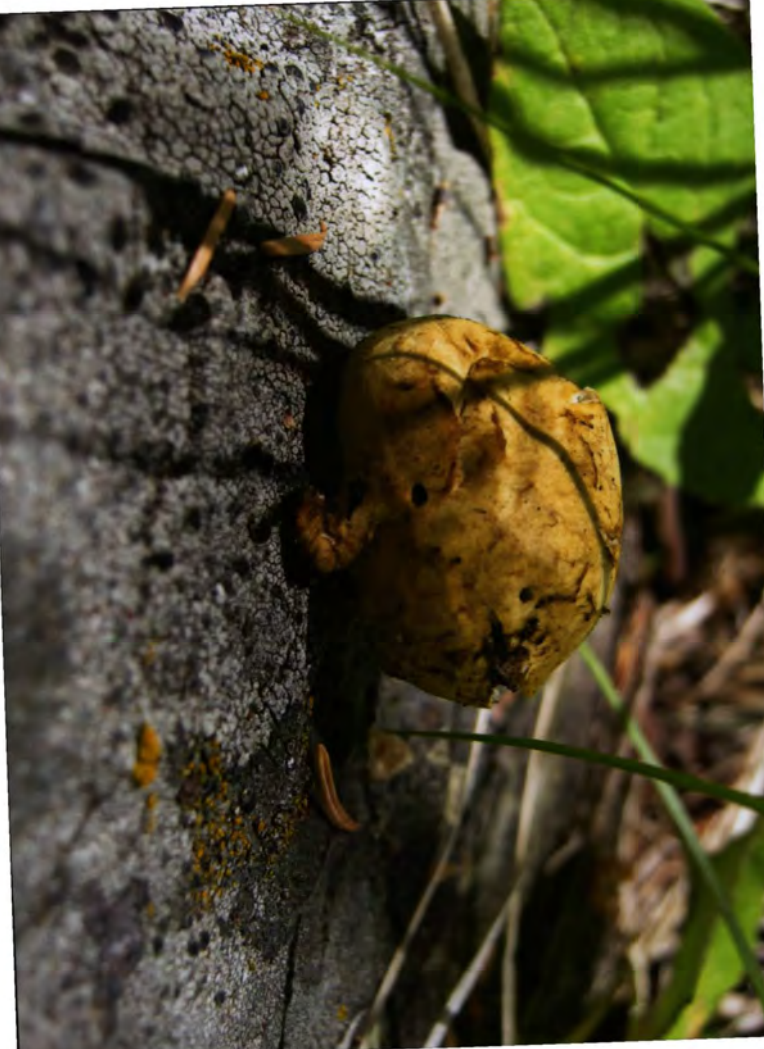
- Location: Rush Creek Point Lookout
- GPS Coordinates: Lat/Long N45° 05.807' W114° 55.848'
T20nR12es1 Mormon Mountain (Quad)
- Elevation: 6,718 feet
- Aspect: North East
- Likely Host Tree: Found under a Douglas Fir, (*Pseudotsuga menziesii*). The trees diameter at breast height, hereafter referred to as D.B.H. was measured to be 70.5 cm around.
- Canopy Density: 66%
- Litter Depth: 8 cm

- Depth at Which Truffles Were Found: The smaller, less mature specimen was found 5cm, deep. The other specimen was found at the mouth of a rodents dig hole.
- Surrounding Vegetation: Arnica (*Arnica cordifolia*), Balsam Root (*Balsamorhiza sagittata*), Yarrow (*Achillea millefolium*), Wild Strawberry (*Fragaria vesca*), and Sheep's Sorrel (*Rumex acetosella*).



















Box: 2

June 19, 2015

Physical Appearance:

- Small, about 1cm x 1 cm or slightly smaller.
- Peridium: whitish-tan with occasional yellow splotches.
- Gleba: Dark brown with black spots on some.
- Smell: Less pungent, but comparable to the *Geopora*.

Site Description:

- Six truffles were found on either side of a three inch diameter log on a moist hillside. It was a fairly open, wooded area with the occasional patch of shrubbery. The truffles were found about 25 feet up hill from a creek. If rodent dig marks had not alerted me to the spot, this was not a place I would have raked. The ground was not clear of vegetation; and it didn't seem to afford good litter. As it was, my rake was slightly hampered by grass. There were no trees within 20 feet of the log, so I am unsure of what the host tree could have been. Nonetheless, Doug Fir was growing in the vicinity, therefore making it a likely candidate.

Surrounding Vegetation: Ponderosa Pine (*Pinus ponderosa*), Douglas Fir (*Pseudotsuga menziesii*), Nine Bark (*Physocarpus malvaceus*), Yarrow (*Achillea millefolium*), Snow Berry (*Symphoricarpos albus*), Arnica (*Arnica cordifolia*), Wild Strawberry (*Vesca fragaria*), Penstemon (*Penstemon spp.*), Oregon Grape (*Mahonia repens*), Bunch grass (*Poaceae*), Fireweed (*Chemerion spp.*), and Indian paintbrush (*Castilleja*).

Additional Information:

- Location: Lewis Creek Drainage, tributary of Rush Creek LSC6
- GPS Coordinates for waypoint LCS6 Lat/Long: N45° 03. 633' W114° 54. 505' Mormon Mountain quad T20n R13e S19
- Elevation: 5,826 feet
- Aspect: South East
- Canopy Density: 40%
- Litter: 4 cm at the deepest.

- Depth at Which Truffles Were Found: 2-3 cm in the litter.











Box: No specimen available

June 19, 2015

- I have a hunch that the truffles described here are larger, mature specimens of the small truffles I described on the latter page. In the pictures you will see both the small white truffles and the large brown truffles (described here) photographed together. You will also notice a yellow fungus in the "group" photograph. I found this epigeous in the moss and I have no sample of it.

By my own mistake, these truffles were accidentally thrown away.

Physical Description:

- This dig site produced two of the largest truffles I found that summer. They measured 3cm long and 2 cm wide.
- Peridium: Surface layer appeared dirty and slightly hairy. Just under this dark brown layer is a readily observed white layer.
- Gleba: Brownish tan to grayish green. Some specimens had the occasional black spot on the truffles cross sectioned outer edge. Possibly caused by bugs.
- Smell: None

Site Description:

- This was a moist draw that had old Doug Firs growing down its length. There were not many young trees growing here, as they were mostly old, mature trees. There was abundant shade and lush, healthy grass.
- Surrounding Vegetation: Snow Berry (*Symphoricarpos albus*), Arnica (*Arnica cordifolia*), Oregon grape (*Mahonia repens*), and Bunch grass (*Poaceae*).

Additional Information:

- Location: Base of Sheep Horn Mountain, GPS label RT
- GPS Coordinates: N 45° 03. 234' W 114° 54. 960' Mormon Mountain quad T20n R13e S19
- Elevation: 7,059 feet
- Aspect: South East
- Suspected Host Tree: Doug Fir (*Pseudotsuga menziesii*)

- Host Trees D.B.H.: 200cm.













Box: 3

June 24, 2015

- This page records the finding of four truffles in two different areas. There is information describing the conditions at both locations.

Physical Appearance:

- Peridium: This spot yielded three decrepit yellowish truffles
- Gleba: Gray with worm holes

Site Description:

- The rodents led me to this spot with their visible dig holes. These truffles were fruiting on the edge of riparian vegetation under Douglas Firs.
- Surrounding Vegetation, Same for Both Sites: Douglas Fir (*Pseudotsuga menziesii*), Snow Berry (*Symphoricarpos albus*), Hawthorn (*Crataegus douglasii*), and Rocky Mountain Maple (*Acer glabrum*).

Additional Information:

- Home Site Transect, waypoint CS1
- GPS Coordinates: N 45° 03.251° W 114° 54.982°
- DBH of Three Nearest Trees: 50, 15, 50 cm
- Depth At Which Truffle Was Found: 19 cm deep, in the litter.
- Aspect: North Facing
- Canopy cover/density: 85%
- Waypoint CS2

Description For Different Site But Likely Same Truffle Species. Included in the Same Box.

Physical Appearance:

- Nearly identical to the truffle described above, having yellowish Peridium and gray gleba. This truffle however, was not nearly as rotten.
- Depth At Which Truffle Was Found: 7.62 cm deep, in the litter.

Aspect: North

- Total litter depth: 11 cm
- DBH of Suspected Host Tree: 56.5 cm
- Canopy cover/density: 70.5 %





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Box: 4

July 22, 2015

Physical Appearance:

Three different truffles were found at this site. All of them were within several feet of each other; and for that reason they all have the same site description. I did not bring back two of the finds because I did not recognize them as being truffles at the time. In hind sight though, I'm sure that both were truffles. One could have been *Thaxterogaster pinguis*. I have included a picture of it anyways; maybe you will recognize it. There are pictures of both species I do not have samples for. Anyway, here is the description for the truffle I *did* bring back:

- Peridium: Slightly hairy brown surface with white skin below it.
- Gleba: Densely folded, dark brown. In cross section the vestigial columella (as I believe it to be called) is visible.

Site Description:

- The dominant tree species at this site was Sub-Alpine Fir (*Abies lasiocarpa*). There were good pockets of deep humus between rocks. Included are several photographs of the dig location and surrounding forest.
- Surrounding Vegetation: Not much vegetative cover, only litter.

Additional Information:

- GPS Coordinates: N45° 07.846' W114° 52.686'
- Waypoint: BSH1
- Elevation: 7760 feet
- DBH For Three Surrounding Trees: 33 cm, 16 cm, 7.5 cm
- Litter Depth Under Tree With 33 cm DBH: 6 cm deep
Under Tree With 16 cm DBH: 9 cm
Under Tree With 7.5 cm DBH: 9-10 cm
- Depth At Which Truffles Were Found: 3-5 cm Deep.
- Aspect: North East Facing Slope
- Canopy Cover/density: 70.62 %

Box: 5

July 25, 2015

Physical Appearance:

- Very light, spongy truffle.
- Gleba: squiggly, spongy appearance
- Peridium: Bruises easily and then turns "skin colored". The Peridium also peels off easily.

Site Description:

- Riparian zone. Rocks above and below ground broke up the litter/duff continuity. Waypoint: Burnt 2
- Surrounding Vegetation: Red Osier Dogwood (*Cornus sericea*), Snowberry (*Symphoricarpos albus*), Fairy Bells (*Disporum flavens*), River Birch (*Betula occidentalis*), Nine Bark (*Physocarpus malvaceus*), and Thimble Berry (*Rubus parviflorus*).

Additional Information:

- Waypoint: Burnt Creek 2
- GPS Coordinates: N45° 05.938' W114° 46.702' T 20 R 14e S5 Dave Lewis Peak (Quad)
- Elevation: 3864 ft.
- Litter depth: 12 cm
- Depth in the litter at which truffle was found: 3 1/4 cm deep
- DBH of neighboring Doug Fir (*P. menziesii*): 15.5 cm
- DBH of neighboring Rocky Mountain Maple (*Acer glabrum*): 10.5 cm
- Canopy cover/density: 65%











Box: 6

July 25, 2015

Physical Appearance:

This is almost certainly a *Tuber* species

- Peridium: White to cream colored. The bottom is curled inward. It's rather brain like in appearance.
- Gleba: Firm, cream colored with white veins composing the marbling. Has a wonderful spicy cheese smell, rather mild though.

Site Description:

- Riparian Zone to a stream.
- Surrounding Vegetation: Red Osier Dogwood (*Cornus sericea*), Snowberry (*Symphoricarpos albus*), Fairy Bells (*Disporum flavens*), River Birch (*Betula occidentalis*), Nine Bark (*Physocarpus malvaceus*), and Thimble Berry (*Rubus parviflorus*).

Additional Information:

- Waypoint: Burnt 6
- GPS Coordinates: N 45° 05.990' W 114° 46.669' T 20 R 14e S5 Dave Lewis Peak (Quad)
- Elevation: 4,083 ft.
- DBH of neighboring Alder (*Alnus incana*): 23.5 cm
- Depth of Litter on the uphill side: 4 cm deep
Depth of litter on the downhill side: 12 cm deep
- Depth at which the truffle was found in the litter: 7 cm deep

- Canopy cover/density: 89%
- Likely Host Tree: Alder (*Alnus spp.*)

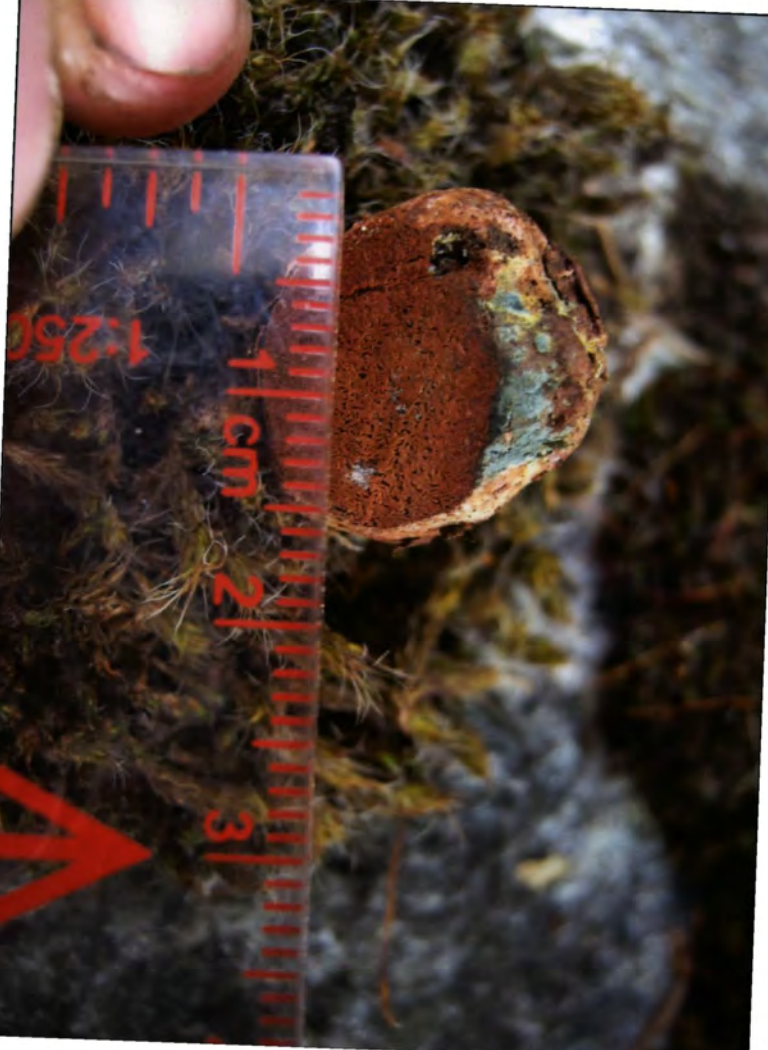












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Box: 7

July 26, 2015

Physical Appearance:

- Some of these truffles were a little old and dried up. While others had minimal to no bug damage and were quite large in size. All appeared to be the same species.
- Peridium: A mixture of colors because of age. Mostly pale yellow though. There are several spots of blue green mold on One or two of these. These truffles were red orange both inside and out. Though I would say that the color was more vibrant on the gleba than on the Peridium.
- Gleba: Very firm and dense. I struggled to cross section these specimens with my pocket knife. The gleba on all species gathered at this site was red-orange colored. Several small worm holes were present.

Site Description:

- In the midst of a small Birch stand located just to the left of the Big Creek Trail. Once again, rodent dig holes notified me that something tasty was beneath the soil.
- Surrounding Vegetation: Snake Grass (*Equisetum*), Nine Bark (*Physocarpus malvaceus*), Alder (*Alnus spp.*), Red Osier Dogwood (*Cornus sericea*), Fireweed (*Chemerion spp.*), Rose (*Rosa woosdii*), and River Birch (*Betula occidentalis*).

Additional Information:

- Waypoint: Birch Stand 0,1, & 2
- GPS Coordinates: N45° 06. 249' W114° 48. 955'
- Elevation: 3,891 feet
- DBH of Neighboring Trees: 13 & 17 centimeters
- Likely Host Trees: Birch (*Betula occidentalis*) and Rocky Mountain Maple (*Acer glabrum*).
- Litter Depth: 12 cm
- Depth at which the truffle was found in the litter: 3 cm down

- Canopy cover/density: 91%











Box: 8

July 17, 2015

Physical Appearance:

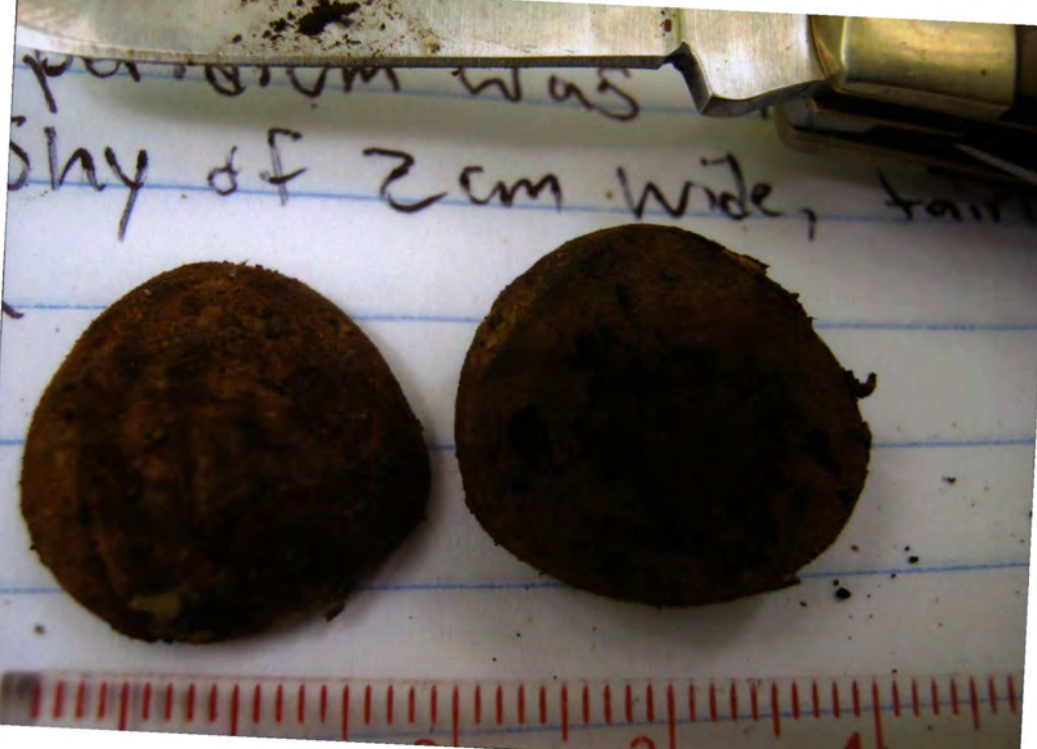
- There was a colony of these large fungi, whose tops were popping up through the litter. I suspect these truffles are considered hypogeous, they just fruited close to the soils surface. This habit is consistent with what I've read about *Truncocolumella*.
- Gleba: Gray with small yellow veins running up through the fruiting body, apparently emerging from what was left of the columella.
- Peridium: Light yellow where exposed to the sun. Darker yellow where soil covered the sides. Some of these fungi had rounded tops, emerging through the soils surface. Others had three dull points rising up through the duff.

Site Description:

- Surrounding Vegetation: The area was quite void of vegetation and instead had a forest floor of coniferous tree litter. However, present close by was Lupine (*Lupinus spp.*), Arrow leaf Balsam (*Balsamorhiza sagittata*), Arnica (*Arnica cordifolia*), Snowberry (*Symphoricarpos albus*), and Hawkweed (*Hieracium spp.*). Doug fir (*Pseudotsuga menziesii*) was the likely host.

Additional Information:

- Waypoint: Citrina
- GPS Coordinates: N 45° 0.5 788' W 114° 55. 852'
- Elevation: 7254 feet
- Aspect: South West facing
- Canopy cover/Density: 62.25%



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Box: 9

July 28, 2015

Physical Appearance:

- Light, fuzzy brown truffle.
- Fairly round
- Approximately 2 cm wide, 1 cm thick
- Peridium: Creamy flesh under Peridium
- Gleba: Densely folded, red orange. Rotten and slightly bug eaten.
- This could be the same species as the ones in box 7. I couldn't help but notice that this truffle had the same round form and red orange gleba as those specimens described on page 13, box 7. This truffle was not in close proximity to River Birch and Rocky Mountain Maple. However, these tree species were found in the vicinity.

Site Description:

- Doug Fir (*Pseudotsuga menziesii*), Oregon Grape (*Mahonia repens*), Service Berry (*Amelanchier alnifolia*), Horsetail (*Equisetum spp.*), and Rocky Mountain Maple (*Acer glabrum*).

Additional Information:

- Waypoint: PT2
- GPS Coordinates: N45°06.476' W114° 48.114' T20n R14e S6 Dave Lewis Peak (Quad)
- DBH of Likely Host Tree: 50.5 cm
- Depth of Litter: 3-21 cm deep
- Depth in Litter At Which Truffle Was Unearthed: 18 cm down
- Surrounding Vegetation: Douglas Fir (*Pseudotsuga menziesii*), Snow Berry (*Symphoricarpos albus*), Oregon Grape (*Mahonia repens*), and Rocky Mountain Maple (*Acer glabrum*).
- Canopy Density/Cover: 80%
- Aspect: North facing











Box: 10

July 28, 2015

Physical Appearance:

- This page is dedicated to the suspected *Raiigera* found next to the last description on the same day. To be exact, this specimen was found 2.5 feet away from the last find.
- 2.5 cm long and 3 1/4 cm wide
- Peridium: Dirty white colored. This truffle had a short stem as an attachment spot. It snapped off cleanly from where it was growing in the duff.
- Gleba: Black, powdery spore mass, with a circular hollow on one side of the cross section. The spores radiated out from the circular hollow.

Site Description:

- Doug Fir (*Pseudotsuga menziesii*), Oregon Grape (*Mahonia repens*), Service Berry (*Amelanchier alnifolia*), Horsetail (*Equisetum spp.*), and Rocky Mountain Maple (*Acer glabrum*).

Additional Information:

- Waypoint: PT2
- GPS Coordinates: N45°06. 476' W114° 48. 114' T20n R14e S6 Dave Lewis Peak (Quad)
- Litter Depth: 21 cm deep
- Depth at which truffle was found in the duff: 13 cm deep
- Canopy cover/ Density: 80%
- Likely host tree: Doug Fir
- Elevation: 3,670 feet

Box 11

July 28, 2015

Physical Appearance:

- Peridium: Distinct looking; dirty white and yellowish colored. The skin appears white under a very thin, fragile brown layer. This truffle had many dips and ridges along its outer surface.
- This healthy looking truffle was 3 cm long and about 1.5 cm wide.
- Gleba: Densely folded ark gray to brownish colored. This truffle is unique in that it, when viewed in cross section, it has a Sulphur yellow outer rim. The gleba also shows the occasional white vein stabbing in towards the center.

Site Description:

- This truffle was found just above mineral soil. As seems to be the trend, the litter/duff was deeper on the downhill side of the host tree, and that is where this truffle was found.
- Surrounding Vegetation: Doug Fir (*Pseudotsuga menziesii*), Oregon Grape (*Mahonia repens*), Service Berry (*Amelanchier alnifolia*), Horsetail (*Equisetum spp.*), and Rocky Mountain Maple (*Acer glabrum*).

Additional Information:

- Host Tree: Doug Fir
- Waypoint P.T. 2
- GPS Coordinates: N45°06.476' W114° 48.114' T20n R14e S6 Dave Lewis Peak (Quad)
- D.B.H.: 50.5 cm
- Depth of Litter: 23 cm deep
- Depth at Which Truffle was Found: 23 cm deep
- Canopy Cover/Density: 80%







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Box: 12

July 28, 2015

Physical Appearance:

- Peridium: Pale in color. Much whiter than the last find, though it had brown, dirty fibrils. A very different looking species despite the fact that it was unearthed by only two more swipes of the rake!
- Gleba: Spongy, Firm, and light brown colored.
- Quite large relative to my other finds. The truffle measured 3 cm long and 2 cm wide.
- There was a similar looking species found several inches away. It was smaller and rotten and it crumbled upon cross sectioning. I will include the rotted specimen in the same box anyway.

Site Description:

- Surrounding Vegetation: Doug Fir (*Pseudotsuga menziesii*), Oregon Grape (*Mahonia repens*), Service Berry (*Amelanchier alnifolia*), Horsetail (*Equisetum spp.*), and Rocky Mountain Maple (*Acer glabrum*).

Additional Information:

- Waypoint: P.T. 2
- GPS Coordinates: N45°06.476' W114° 48.114' T20n R14e S6 Dave Lewis Peak (Quad)
- Elevation: 3670 ft.
- Litter Depth: 23 cm
- Depth At Which Truffle was Found: 18 cm deep
- Host Tree: Doug Fir

Box 13

July 28, 2015

Physical Appearance:

- **Peridium:** This was a unique cluster of three white gray looking truffles. They reminded me of a clutch of birds' eggs lying side by side. The Peridium is covered in what looks like a spider web network of light brown, yellowish rhizomorphs. This feature convinces me that this is *Rhizopogon*. Additionally, the Peridium was lightly pitted.
- **Gleba:** Dark brown colored, white edges in cross section, densely folded, and porous looking.
- The largest of the three measured just over 3 cm in length and just over 2 cm in width.

Site Description:

- **Surrounding Vegetation:** Doug Fir (*Pseudotsuga menziesii*), Ponderosa Pine (*Pinus ponderosa*) Oregon Grape (*Mahonia repens*), Service Berry (*Amelanchier alnifolia*), Horsetail (*Equisetum spp.*), and Rocky Mountain Maple (*Acer glabrum*). Exceptionally deep litter largely composed of discarded pine needles.

Additional Information:

- **Waypoint Label:** P.T. Pondo
- **GPS Coordinates:** N45° 06.482' W114° 48.104' T20N R14E S6 Dave Lewis Peak (Quad)
- **Elevation:** 3645 ft.
- **Depth of Litter:** 20-30 cm deep
- **Depth at Which Truffle was Found in the Litter:** 16-17 cm deep
- **Likely Host Tree:** Ponderosa Pine (*Pinus ponderosa*)
- **D.B.H.:** 117.5 cm
- **Canopy cover/density:** 79% covered













Box: 14

July 15, 2015

Physical Appearance:

- Peridium: White colored. These truffles were old and dried out.
- Gleba: densely folded, dark brown in color.

Site Description:

- These small truffles were found in the most unsuspecting of places: At the top of a wind-swept mountain, underneath a few young Doug Firs. This was a dry rocky area and if I hadn't been curious about the dig holes at the bases of the trees, I would never have looked there.

Additional Information:

- GPS Coordinates: 45°07.708' W 114° 52.736' T 21m R13e S28 Vinegar Hill Quad
- Elevation: 8120 feet
- Litter Depth: 6 cm
- Depth at Which Truffles were found: 1.5-2 cm deep
- Host Tree: Doug Fir









