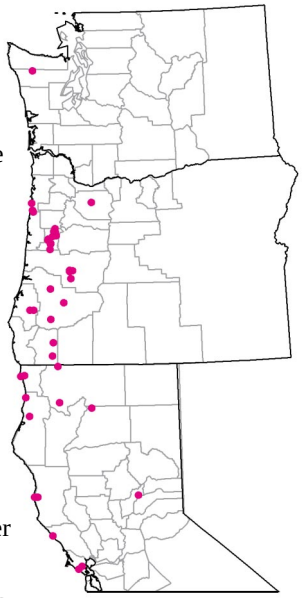
Phaeocollybia olivacea A.H. Smith



ROD name *Phaeocollybia olivacea*

Family Cortinariaceae **Morphological Habit** mushroom

Description: **Cap** 40-110 mm in diam., umbonate, viscid to glutinous, uniformly dark olive overall when young but later becoming pale brown to olive-brown. **Gills** nearly free, pale tan when young but soon becoming rusty brown with wavy to eroded edges. **Stem** up to 200 mm long over all with aerial portion up to 80 mm, 10-20 mm in diam. at apex, equal or enlarged down to the ground where it can reach 40 mm across, stuffed with an off-white conspicuous fibrillose pith. **Pseudorhiza** tapered, long, origin well below ground level. **Odor** of raw cucumbers, soon fading. **Taste** not distinct. **Pileipellis** a two-layered ixocutis with a thick, gelatinous, hyaline top layer and a bottom layer containing inflated floccose hyphae with brown walls in KOH. **Cheilocystidia** thin walled, clavate. **Clamp connections** absent. **Spores** ovate with an abrupt projecting snout in face view, 8-11 x 5-6.5 µm, walls warty-rugulose roughened except over smooth apical beak and suprahilar plage.

Distinguishing Features: *Phaeocollybia pseudofestiva* also produces green-capped sporocarps, but they are smaller, usually hollow-stemmed, producing much shorter, rounder spores, and have refractive, capitulate cheilocystidia with thick-walled, narrow necks.

Distribution: Endemic to western United States from central Oregon coast south to Santa Cruz Co., California. **CALIFORNIA**, **Del Norte** Co., Crescent City; Jedediah Smith Redwoods State Park, west of Smith River bridge on Hwy. 199; **Humboldt** Co., north fork of Mad River; Prairie Creek State Park, Davison Rd.; **Marin** Co., 16 km east of Fairfax; Audubon Canyon Ranch, Volunteer Canyon; **Mendocino** Co., Jackson State Forest, Aleuria Glen; Jackson State Forest, Woodland campground; Mendocino; Van Damme State Park, end of Fern Canyon loop; **Shasta** Co., Castle Crags State Park, Castella; **Siskiyou** Co., Rogue River National Forest, trail 954, Red Buttes Wilderness; Six Rivers National Forest, Klamath Mountains, 4.8 km up road to Haypress; **Sonoma** Co., Kruse Rhododendron State Reserve; **Yuba** Co., Bullard's Bar Recreation Area, Hornswoggle group campground; **OREGON**, **Benton** Co., about 0.8 km on Oregon State University Rd. 761; on trail; Bureau of Land Management (BLM), 4.8 km south of Glenbrook; BLM, Mary's Peak; BLM, Mary's Peak Resource Area, Rickard Creek; Corvallis; McDonald State Forest; Paul Dunn Forest, 4.8 to 6.4 km from Hwy. 99W; Philomath; Siuslaw National Forest (SNF), Mary's Peak; **Clackamas** Co., near Estacada; Mount Hood National Forest, Douglas trail; **Coos** Co., BLM, Bronson Creek; BLM, Big Creek; BLM, Sandy Creek off Rd. 29-10-14.2 at jct. of Rd. 29-10-2.1; **Douglas** Co., BLM, South River Resource Area, near jct. of Rds. 29-8-9.5 and 29-9-9.0; BLM, near Jim Creek; BLM, Swiftwater Resource Area, south of Yellow Creek Mountain; **Josephine** Co., BLM, Grants Pass Resource Area, 4.8 km southeast of Holcomb Peak; Grants Pass; **Lane** Co., BLM, 1.6 km north of Castle Rock; BLM, near BLM Rd. 19-2-13; BLM, near Middle Creek, off BLM Rd. 19-1-33; **Lincoln** Co., SNF, Cascade Head Experimental Forest; **Tillamook** Co., Pacific City; SNF, Cascade Head Experimental Forest, Cascade Head; **WASHINGTON**, **Jefferson** Co., Olympic National Park, Twin Creek at Hoh River.

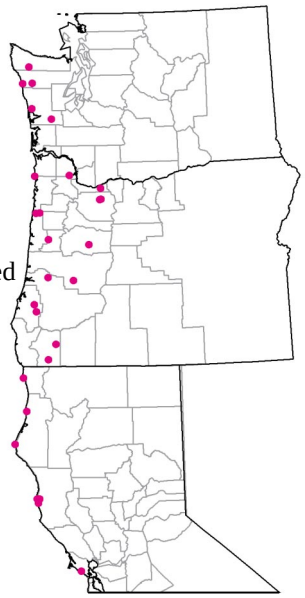
Substrate and Habitat: Scattered or in arcs in mixed forests containing Fagaceae or Pinaceae in coastal lowlands.

Season: Autumn.

Reference: Norvell, L.L. 1998. The biology and taxonomy of Pacific Northwest species of *Phaeocollybia* Heim (Agaricales, Cortinariaceae). Seattle, WA: University of Washington. 391 p. Ph.D. dissertation.

Photo courtesy of Michael Beug

Phaeocollybia pseudofestiva A.H. Smith



ROD name *Phaeocollybia pseudofestiva*

Family Cortinariaceae **Morphological Habit** mushroom

Description: **Cap** 20-50 mm in diam., obtusely-umbonate to broadly campanulate, glutinous, dark to olive green fading to olive-tan, margin pale and faintly striate when mature. **Gills** nearly free, broad at maturity with uneven edges, initially pale maturing to pale cinnamon-brown. **Stem** up to 150 mm long overall with aerial portion up to 40-50 mm, 5-8 (10) mm in diam. at apex, more or less equal, hollow, pale olive above becoming rusty red from the ground upwards. **Pseudorhiza** tapered, long, unbranched, rusty red. **Odor** fleetingly pungent. **Taste** not distinct. **Cheilocystidia** refractive, capitulate, lageniform to tibiiform elements with thick walled narrow necks. **Clamp connections** absent. **Spores** ovate with an abrupt apical beak in face view, 7-9 x 5-6 µm, moderately coarsely ornamented except over the smooth apical beak.

Distinguishing Features: In the field *P. pseudofestiva* is similar to *P. fallax* (which, when young, has brilliant violet gills) and *P. olivacea* (which is larger and has a stuffed stem), both species producing mushrooms with green caps. They both possess thin-walled (never refractive or thick-walled) clavate cheilocystidia and have smaller spores than *P. pseudofestiva*.

Distribution: Endemic to western North America occurring from British Columbia, Canada, south to California. **CALIFORNIA**, **Del Norte** Co., Crescent City; **Humboldt** Co., Cape Mendocino, 8 km south of Camp Wailaki; Trinidad, Spruce Grove; **Marin** Co., Audubon Canyon Ranch, Volunteer Canyon; **Mendocino** Co., Jackson State Forest, Aleuria Glen; Van Damme State Park, Fern Canyon trail, north of north trail loop; **OREGON**, **Benton** Co., Siuslaw National Forest (SNF), Mary's Peak Scenic Botanical Area, Mary's Peak campground; **Clackamas** Co., Mount Hood National Forest (MHNF), Wildcat Mountain; MHNF, Douglas trail; **Columbia** Co., Bureau of Land Management (BLM), Tillamook Resource Area, 3.2 km southwest of Bonnie Falls; **Coos** Co., BLM, Cherry Creek; BLM, southwest of jct. of Rds. 28-10-15.0 and 29-10-2.1; **Douglas** Co., BLM, Johnson Creek; **Josephine** Co., BLM, near Sucker Creek; Grants Pass; **Lane** Co., BLM, 1.6 km southwest of Hawley Butte; **Lincoln** Co., SNF, Cascade Head Experimental Forest; **Linn** Co., Willamette National Forest, Moose Creek; **Multnomah** Co., MHNF, Larch Mountain; **Tillamook** Co., Van Duzer State Wayside; Oswald West State Park; **WASHINGTON**, **Clallam** Co., Olympic National Park (ONP), Rugged Ridge; **Grays Harbor** Co., Ocean Pines-Copalis area, 0.8 km southwest of Copalis Crossing; Lake Sylvia State Park; **Jefferson** Co., ONP, Kalaloch campground; ONP, Queets River.

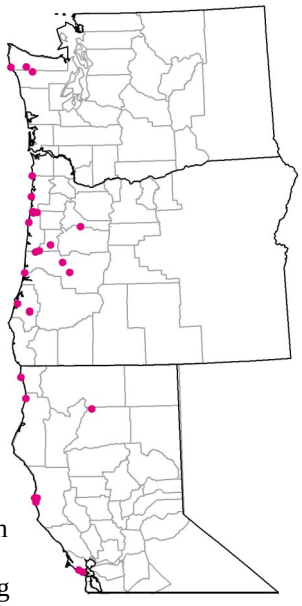
Substrate and Habitat: Scattered to ceaspitose under mature mixed conifers and hardwoods.

Season: October through December.

Reference: Norvell, L.L. 1998. The biology and taxonomy of Pacific Northwest species of *Phaeocollybia* Heim (Agaricales, Cortinariaceae). Seattle, WA: University of Washington. 391 p. Ph.D. dissertation.

No photograph available

Phaeocollybia spadicea A.H. Smith



ROD name *Phaeocollybia spadicea*

Family Cortinariaceae **Morphological Habit** mushroom

Description: **Cap** 40-120 mm in diam., broadly campanulate with an obtuse umbo, glabrous to glutinous, dark brown. **Gills** free or scarcely attached by a narrow tooth, initially pale, in age becoming brown with serrate to eroded pale edges. **Stem** up to 200 mm overall, aerial portion up to 80 mm, 10-20 mm in diam. at apex, slightly swollen below, stuffed fairly thick and cartilaginous, pale red-purple-brown near the apex and dull red-brown below. **Pseudorhiza** gradually narrowing to relatively thick origin well below ground level. **Odor** pungent farinaceous to mild. **Taste** slightly bitter. **Pileipellis** a two layered ixocutis with a hyaline, gelatinized top layer and lower layer with wider, inflated hyphae with rusty-brown walls. **Cheilocystidia** refractive capitulate, lageniform to tibiiform with narrow, thick-walled necks, with or without apical droplets. **Clamp connections** absent. **Spores** limoniform with distinct apical beak, 7-9 x 4.5-5.5 µm, warty-roughened.

Distinguishing Features: *Phaeocollybia spadicea* could possibly be confused with *P. scatesiae*, which also has a dark black-brown cap and tibiiform cheilocystidia but is generally smaller, has a completely hollow stem, fruits in dense fasciculate mounds arising from a single thread-like pseudorhiza, and has longer, more ornamented basidiospores. *Phaeocollybia spadicea* might also be confused with the slightly more robust *P. kauffmanii* and allies, all of which have thin-walled, clavate cheilocystidia and rounder, larger spores. *Cortinarius vanduzerensis* Smith and other glutinous dark-brown-capped representatives of *Cortinarius* might also be mistaken for *P. spadicea;* these species do not possess pseudorhiza.

Distribution: Endemic to western North America from Washington south to California. **CALIFORNIA**, **Del Norte** Co., Crescent City; **Humboldt** Co., Prairie Creek State Park, north of Davison Rd. at campground; **Marin** Co., Audubon Canyon Ranch, Volunteer Canyon; Muir Woods National Monument; **Mendocino** Co., Jackson State Forest, Aleuria Glen; Van Damme State Park, Lower Pygmy Forest; **Shasta** Co., Castle Crags State Park; **OREGON**, **Benton** Co., Bureau of Land Management (BLM), Mary's Peak Resource Area, Rickard Creek; Siuslaw National Forest (SNF), Buck Creek; **Coos** Co., BLM, Mrytlewood Resource Area, Bronson Creek; BLM, Big Creek; Winchester State Forest; **Douglas** Co., Booth; **Lane** Co., BLM, 1.6 km north of Castle Rock; Eugene; **Lincoln** Co., Fogarty Creek State Park; SNF, Cascade Head Experimental Forest, Tillamook/Lincoln County line; **Linn** Co., 1.6 km west of McCully Mountain; **Tillamook** Co., Cape Meares State Park; Cape Lookout; Oswald West State Park; SNF, Cascade Head Experimental Forest, 3.2 km northwest of Green Point; Van Duzer Corridor State Wayside, south of Hwy. 18, southwest of restrooms; **WASHINGTON**, **Clallam** Co., Mora-Quillayute River; Olympic National Park (ONP), Rugged Ridge; **Jefferson** Co., ONP, Twin Creek.

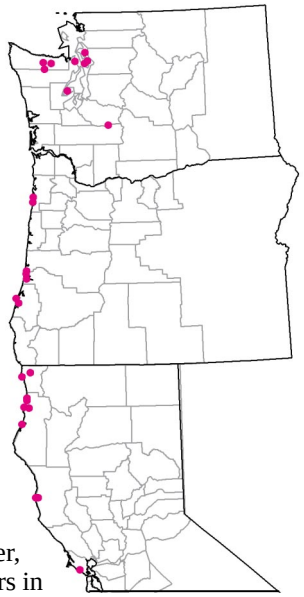
Substrate and Habitat: Solitary to scattered to closely gregarious in mature *Picea sitchensis* stands in coastal lowland regions.

Season: October and November.

Reference: Norvell, L.L. 1998. The biology and taxonomy of Pacific Northwest species of *Phaeocollybia* Heim (Agaricales, Cortinariaceae). Seattle, WA: University of Washington. 391 p. Ph.D. dissertation.

Photo Courtesy of Lorelei Norvell

Phellodon atratus K. Harrison



ROD name *Phellodon atratus*

Family Bankeraceae **Morphological Habit** tooth fungus

Description: **Cap** 10-50 mm in diam., often fused with others, plane to depressed or irregular, subtomentose, faintly zoned concentrically, blue-black to purple-black or black, margin slightly paler or purpler. **Context** in both cap and stem purple-black to blue-black, thin, tough, fibrous, pliant, sometimes with thin outer or upper spongy layer. **Spines** short, 1-2 mm, irregularly decurrent, gray to dark purple-gray-brown, darker where bruised. **Stem** 20-50 mm long, 30-50 mm thick, usually central, sometimes compound or branched, tapering downward, usually thickened at ground level by felty mycelial layer. **Odor** mild or faintly fragrant. **Taste** mild. **Basidia** 33-38 x 4-7 µm, clavate. **Cystidia** absent. **Spores** globose to subglobose, 3.8-4.2 x 3.3-3.8 µm, echinulate, apiculate, inamyloid, acyanophilic, spore print white.

Distinguishing Features: *Sarcodon fuscoindicum* is similar in color, but larger and brittle, rather than pliant and tough. *Phellodon melaleucus* has a dark brown to purple-gray cap with pallid margin, spines off-white to gray, and the stem is thin, dark brown to black, deeply rooted. *Phellodon niger* occurs in eastern North America, is larger and thicker, with a white to brown, gray or black cap and black context. *Hydnellum nigellum* also occurs in eastern North America and is small, gray to black with brown spores.

Distribution: Endemic to Western United States. **CALIFORNIA**, **Del Norte** Co., Six Rivers National Forest, Siskiyou Fork, Smith River; Crescent City; **Humboldt** Co., Patrick's Point State Park, Indian Rock; Big Lagoon County Park, north of Patrick's Point State Park; Prairie Creek State Park, on Davison Rd. near beach; Orick; Samoa Peninsula, Arcata; **Marin** Co., Audubon Canyon Ranch, Volunteer Canyon; **Mendocino** Co., Jackson State Forest, Aleuria Glen; **OREGON**, **Coos** Co., Coos County Forest; Shore Acres State Park; **Douglas** Co., Reedsport area; Tahkenitch Lake; **Lane** Co., Siuslaw National Forest, Siltcoos Lake; **Tillamook** Co., Camp Meriweather; Cape Kiwanda State Park; **WASHINGTON**, **Clallam** Co., Olympic National Park (ONP), Mount Angeles; ONP, Olympic Hot Springs; **Island** Co., Columbia Beach, Whidbey Island; Langley, Whidbey Island; Useless Bay, Whidbey Island; **Jefferson** Co., ONP, 2.4 km south of Mount Carrie; Chimacum; **Mason** Co., Mason Lake; **Pierce** Co., Mount Rainier National Park, Longmire.

Substrate and Habitat: Scattered to gregarious, often forming fused clusters; on ground under conifers.

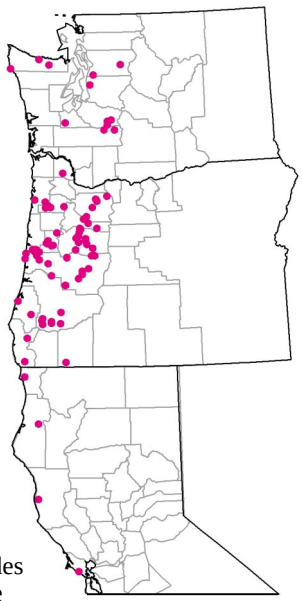
Season: Autumn and winter.

Reference: Arora, D. 1986. Mushrooms demystified. Berkeley, CA: Ten Speed Press. 959 p.

Photo courtesy of Michael Beug

Photo courtesy of David Arora

Plectania melastoma (Sowerby: Fries) Fuckel



ROD name *Plectania melastoma*

Family Sarcosomataceae **Morphological Habit** cup

Description: **Sporocarp** cupulate, sessile to subsessile, black or nearly black, up to 3 cm in diam., relatively thick fleshed but interior not gelatinous. Young specimens may or may not have orange to rust-colored granules around the rim of the cup. **Asci** relatively thick walled, long, narrow, curving bases, operculate, inamyloid. **Paraphyses** up to 4 µm wide, branched, anastomosing around asci. **Spores** ellipsoid, 21-24 x 8-10 µm, smooth.

Distinguishing Features: The inamyloid asci, ellipsoid spores, and nongelatinous interior separate this species from all other fungal species in the region.

Distribution: Across North America and Europe. **CALIFORNIA**, **Del Norte** Co., Crescent City; **Marin** Co., Audubon Canyon Ranch, Volunteer Canyon; **Mendocino** Co., Jackson State Forest, Mendocino Woodlands; **OREGON**, **Benton** Co., Bureau of Land Management (BLM), Mary's Peak Resource Area, Cabin Creek; BLM, 1.6 km southeast of Old Butte Mountain; BLM, northwest of Hull Spring; Siuslaw National Forest (SNF), north side of Mary's Peak, Woods Creek Rd.; SNF, jct. of Hwy. 34 and Mary's Peak Rd.; Bunker Hill; Paul Dunn Forest, south of Tampico Rd., along Rd. 320; **Clackamas** Co., BLM Cascades Resource Area, north of Butte Creek; BLM, upper Eagle Creek; BLM, 1.6 km south of Hope Lake; BLM, 1.6 km northwest of Table Rock Wilderness; Mount Hood National Forest (MHNF), Cast Creek; MHNF, 4 km northeast of Goat Mountain; **Columbia** Co., BLM, west of Scaponia campground; **Coos** Co., BLM, southeast of Big Creek; Coos County Forest; Beaver Hill Forest; **Curry** Co., Siskiyou National Forest (SINF), Wheeler Creek; SINF, 1.6 km east of Agness; **Douglas** Co., BLM, near Olalla Creek; BLM, near Chipmunk Ridge; BLM, near Catching Creek; BLM, Dutchman Creek; BLM, Beaver Creek; BLM, Shively Creek; BLM, North Myrtle Creek Research Natural Area; BLM, Irwin Rocks Research Natural Area; Jackson Co., Rogue River National Forest (RRNF), Haskins Creek; **Lane** Co., BLM, Jasper Creek; BLM, south of Badger Mountain; BLM, upper McGowan Creek; SNF, 1.6 km southwest of Fisher; SNF, headwaters of Five Rivers; SNF, Cummins Creek trailhead; SNF, China Creek trail; Umpqua National Forest, Patterson Creek; Willamette National Forest (WNF), south shore Fall Creek Reservoir; WNF, H.J. Andrews Experimental Forest, 3.2 km east of Mona campground; WNF, 1.6 km west of Mona campground; **Lincoln** Co., SNF, Cape Perpetua State Park; SNF, Yachats Ridge; SNF, Cascade Creek area; **Linn** Co., near Holley; Tadmor Baptist camp, McDowell Creek; BLM, Trout Creek; BLM, near Green Peter Reservoir; BLM, near McCully Mountain Rd.; BLM 1.6 km south of Fords Mill; BLM, 3.2 km southeast of McCully Mountain; BLM, 1.6 km northeast of Hammond Camp; BLM, 1.6 km south of Camp Morrison; WNF, Moose Creek; WNF, Gordon Lakes; **Marion** Co., BLM, near Fawn Creek; WNF, near Detroit; **Yamhill** Co., BLM, south side of Burton Ridge; BLM 3.2 km south of Bell Moutnain; **WASHINGTON**, **Clallam** Co., Olympic National Park (ONP), Mount Angeles; ONP, Lake Crescent; ONP, Lake Ozette; ONP, west of Ozette Ranger Station; **Lewis** Co., Gifford Pinchot National Forest, La Wis Wis forest camp; Mount Rainier National Park (MRNP), Longmire; **Pierce** Co., MRNP, lower Tahoma Creek; MRNP, Sumer land trail; **Snohomish** Co., Canyon Park in Bothell; Mount Baker-Snoqualmie National Forest, Monte Cristo campground; **Thurston** Co., Capitol Forest.

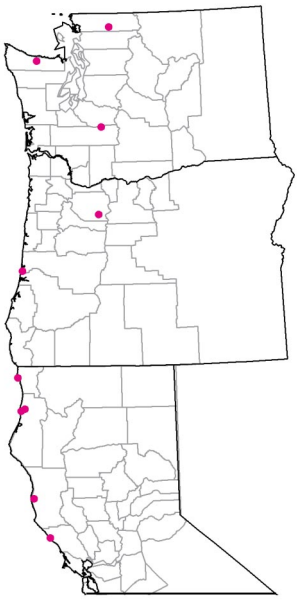
Substrate and Habitat: Usually associated with decaying woody debris of relatively small diameter (often less than 7.50-10 cm diam.).

Season: Spring.

Reference: Tylutki, E.E. 1993. Mushrooms of Idaho and the Pacific Northwest, Discomycetes. Moscow, ID: University Press of Idaho. 133 p.

Photo courtesy of mycology team

Podostroma alutaceum (Pers.) Atkinson



ROD name *Podostroma alutaceum*

Family Hypocreaceae **Morphological Habit** club

Description: **Sporocarps** stipitate, cylindrical to clavate, 5-10 mm x 20-40 mm, off-white when immature becoming yellow-orange at maturity. **Spore-bearing tissue** comprising the upper three-fourths of the stroma, ostioles of immersed perithecia imparting a brown color. **Stem** less pigmented to almost white. **Perithecia** ovoid, 400-525 x 200-325 µm. **Asci** cylindrical, 80-90 x 5 µm, gradually narrowing below, truncate above, 8 spored. **Spores** obtusely fusiform, 2.5-4 x 4.5-5.5 µm, hyaline, uniseriate, single septum, disarticulating along septum into 16 single-celled irregulary globose part spores, smooth to slightly punctate.

Distinguishing Features: *Podostroma zeylanicum* and *P. truncatum* are most similar to *P. alutaceum*; the former differs from *P. alutaceum* in lacking a stem and possessing slightly warted spores, and the latter differs from *P. alutaceum* only in possessing a more truncate stroma with a depressed apex.

Distribution: Across northern North America. **CALIFORNIA**, **Del Norte** Co., Crescent City; **Humboldt** Co., Patrick's Point State Park, Indian Rock; Trinidad, Spruce Grove; **Mendocino** Co., Jackson State Forest, Aleuria Glen; **Sonoma** Co., Salt Point State Park, near Stump Beach; **OREGON**, **Clackamas** Co., Mount Hood National Forest; **Lane** Co., Siuslaw National Forest, Siltcoos River; **WASHINGTON**, **Clallam** Co., Olympic National Park, Lake Crescent; **Pierce** Co., Mount Rainier National Park, Lower Tahoma Creek; **Whatcom** Co., Mount Baker-Snoqualmie National Forest, Baker River trail.

Substrate and Habitat: Solitary to clustered, occurring primarily in coniferous forests in the litter, in association with dead wood and possibly with the roots of trees.

Season: Autumn.

Reference: Arora, D. 1986. Mushrooms demystified. Berkeley, CA: Ten Speed Press. 959 p.

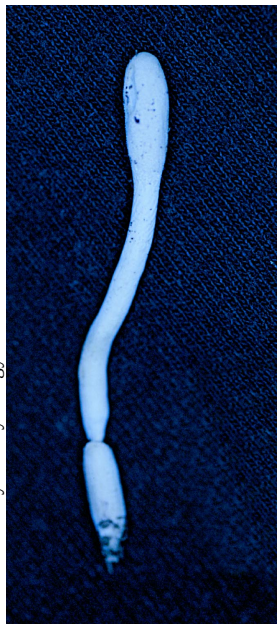
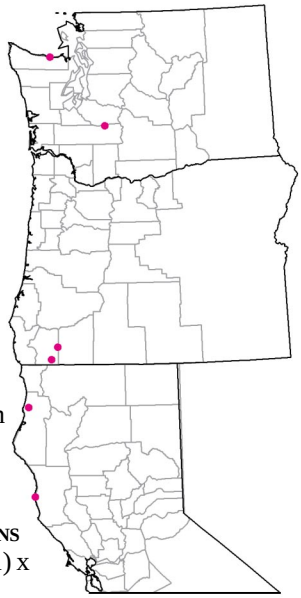


Photo courtesy of mycology team

Ramaria abietina (Pers.:Fr.) Quélet



ROD name *Ramaria abietina*

Family Ramariaceae **Morphological Habit** coral

Description: **Sporocarps** up to 7.5 x 3.5 cm, obconical to spherical in general outline, arising from white rhizomorphs, this white appearance remaining on drying. **Stem** variable, sometimes slender and distinct, often nearly lacking with branches arising at or below substrate level, upward olive-ochraceous to pale gold or sometimes olive, quickly turning blue-green when bruised. **Branches** yellow-gold to dull gold when fresh or somewhat green-gold, quickly bruising blue-green, but often with some small branchlets blue-green when fresh. **Apices** somewhat more yellow than branches when fresh, usually not bruising. **Odor** mild, of anise. **Taste** sometimes mildly bitter. **Flesh** of stem positive for FSW, $Fe_2(SO_4)_3$, GUA, KOH, ANO; negative for ANW, PYR, IKI. **Hyphae of basal tomentum** 1.4-2.6 µm diam., hyaline, thin walled, ampulliform clamps abundant, up to 14 µm diam., slightly thick walled. **Hyphae of branch trama** 2.6-14 µm in diam., hyaline, thin walled, ampulliform clamps occasional, up to 15 µm broad, thin walled, medallion clamps common, gleoplerous hyphal segments occasional. **Subhymenium** of thin walled, hyaline hyphae 1.5-2.4 µm in diam. **Basidia** 40-46 x 6-6.5 µm, clavate, 2-4 spored. **Clamp connections** present. **Spores** sublacrimiform to broadly ovoid with curved apicular end, (5.5-) 7.0-9.0 (-11) x (3.3-) 3.7-4.5 (-4.8) µm, ochraceous, cyanophilic, thin walled, ornamentation of numerous, scattered, warts or rounded spines less than 1 µm long.

Distinguishing Features: The blue-green bruising reaction and the large spores distinguish it from all other *Ramaria* species.

Distribution: Widespread across North America and Europe. **CALIFORNIA**, **Humboldt** Co., Patrick's Point State Park, Beech Creek campground trail; **Mendocino** Co., Jackson State Forest, near Mendocino; **OREGON**, **Josephine** Co., Oregon Caves Rd.; Bureau of Land Management, 3.2 km southeast of Grants Pass Peak; **WASHINGTON**, **Clallam** Co., Port Angeles; **Pierce** Co., Mount Rainier National Park, Lower Tahoma Creek.

Substrate and Habitat: On conifer debris, rare but scattered through coniferous forests.

Season: May, and September through November.

Reference: Petersen, R.H. 1981. *Ramaria* subgenus *Echinoramaria*. Vaduz, Germany: Bibliotheca Mycologica Cramer. 261 p.

Photo courtesy of Steve Trudell

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Ramaria concolor f. *tsugina* (Peck) Petersen

ROD name *Ramaria concolor* f. *tsugina*

Family Ramariaceae **Morphological Habit** coral

Description: **Sporocarps** up to 80 mm tall, up to 50 mm in diam., arising from a small basal tomentum with a small tangle of slender rhizomorphs. **Stem** 6-7 mm thick, distinct, up to 1.2 cm long, major branches few, stout, vinaceous cinnamon or red-brown, axils green, strongly bruno-vinescent when bruised. **Apices** up to 4 mm long, tips creamy yellow. **Rhizomorphs** dimitic with skeletal hyphae, generative hyphae 2.4-4.5 µm in diam., thin walled, hyaline, densely interwoven, skeletal hyphae 1.3-2.2 (-3.0) µm in diam., somewhat thick walled, straight but flexible, hyaline. **Clamp connections** present. **Spores** ellipsoid to subcylindrical, 7.0-9.3 x 3.5-4.2 µm, thin walled, cyanophilic, ornamentation of scattered, low warts.

Distinguishing Features: *Ramaria concolor* f. *tsugina* is characterized by its habit on coniferous wood, its dimitic hyphal construction of rhizomorphs, and its green colors of axils and branch apices. *Ramaria apiculata*, which is also green colored, has monomitic hyphal system.

Distribution: Known only from Washington and New York. **WASHINGTON**, **Grays Harbor** Co., Lake Quinalt.

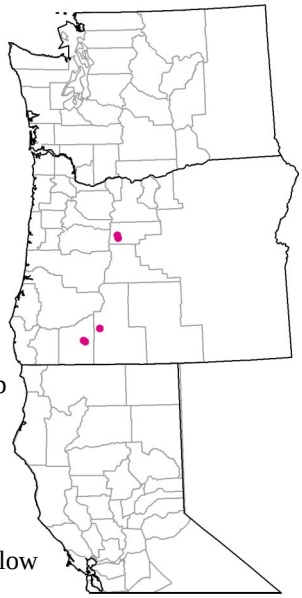
Substrate and Habitat: Solitary to gregarious, along margins of bogs among mosses or on wet soil under conifers and *Alnus* spp.

Season: September and October.

References: Petersen, R. 1975. *Ramaria* subgenus *Lentoramaria* with emphasis on North American taxa. Vaduz, Germany: Bibliotheca Mycologica Cramer. 161 p. Marr, C.D.; Stuntz, D.E. 1973. *Ramaria* of western Washington. Vaduz, Germany: Bibliotheca Mycologica Cramer. 232 p.

No photograph available

Ramaria coulterae Scates



ROD name *Ramaria coulterae*

Family Ramariaceae **Morphological Habit** coral

Description: **Sporocarps** up to 120 x 100 mm, broadly obpyriform to subcircular in outline. **Stem** up to 80 x 60 mm, large to massive, single, white to off-white, slowly brunnescent to pale purple-gray when bruised. **Branches** off-white, pale yellow to pale pink-tan, darkening to pink-tan to tan-pink in age. **Apices** cauliflowerlike, pale red to fleshy pink-tan when young, quickly fading to pink, in age concolorous with major branches, extreme tips brown to dark brown. **Context** off-white, usually with brown fan-shaped area where cut longitudinally. **Odor** indistinct. **Taste** mildly nutty. **Flesh** of stem weakly positive for $Fe_2(SO_4)_3$, negative for ANO, ANW, PYR, PHN, GUA, KOH, NOH, IKI. **Stem hyphae** 4-13 µm in diam., hyaline, thick walled, tightly interwoven, ampulliform inflations up to 15 µm broad, with extensive and coarse ornamentation. **Gleoplerous hyphae** occasional, 4-15 µm in diam., thin walled, yellow. **Tramal hyphae** of upper branches 4-14 µm diam., hyaline, clampless, thin walled, parallel, free to adherent; ampulliform inflations and gleoplerous hyphae not observed. **Basidia** 50-70 x 7-9 µm, clavate, 4 spored. **Sterigmata** stout, straight. **Clamp connections** absent. **Spores** narrowly ellipsoid to cylindrical, 8.3-12.6 x 2.9-4.0 µm, thin walled, ornamentation none or a few ill-defined small, low warts.

Distinguishing Features: Characterized by the combination of lack of clamp connections, smooth spores, somewhat red branch apices, and by fruiting in spring and summer.

Distribution: Endemic to Idaho, northeastern California, and eastern Oregon. **OREGON**, **Jackson** Co., Bureau of Land Management (BLM), 1.6 km north Esmond Mountain; BLM, Doubleday Creek; **Jefferson** Co., Deschutes National Forest (DNF), east of Metolius Research Natural Area; DNF, head of Jack Creek; **Klamath** Co., Winema National Forest, 4.8 km northeast of Sevenmile Marsh.

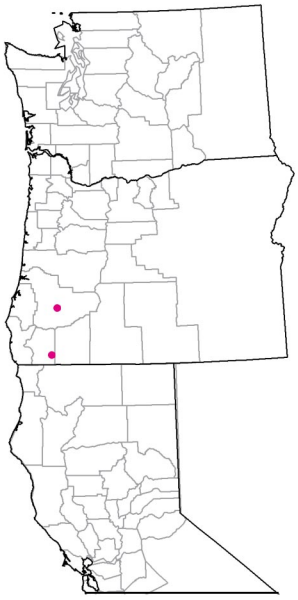
Substrate and Habitat: On coniferous debris, rare but scattered through coniferous forests.

Season: Spring and early summer.

Reference: Petersen, R.H.; Scates, C. 1988. Vernally fruiting taxa of *Ramaria* from the Pacific Northwest. Mycotaxon. 33: 101-144.

Photo courtesy of Michael Beug

Ramaria suecica (Fries) Donk



ROD name *Ramaria suecica*

Family Ramariaceae **Morphological Habit** coral

Description: **Sporocarps** up to 70 mm tall, usually more or less stipitate but often branched from the base, generally fusiform in outline. **Rhizomorphs** white, slender, fragile, when dried turning pale lemon-yellow with KOH. **Stem** up to 20 mm long, up to 8 mm in diam., dull pale ochraceous when young, darker when mature. **Branches** pallid ochre to pink ochre when fresh. **Apices** somewhat stout, acute, white when young to pale pink-tan when mature. **Odor** faintly spicy or fragrant. **Taste** mildly acrid or bitter. **Flesh** of stem positive for ETOH, KOH, GUA, ANO, negative for ANW, PHL, FSW. **Hyphae of rhizmorphs** monomitic, 1.5-3.7 µm in diam., thin walled, hyaline, usually encrusted with crystalline material, inflated clamp connections up to 15 µm broad, broadly ovoid to onion shaped, somewhat thick walled, unornamented to rarely and sparsely ornamented. **Basidia** 45-70 x 7.6-8.7 µm, clavate, 4 spored. **Sterigmata** long, slender, incurved. **Clamp connections** present. **Spores** narrowly rhomboidal to cylindrical, 8.1-10.4 x 3.7-5.2 µm, thin walled, ornamentation of coarse, cyanophilic, meandering ridges and scattered warts.

Distinguishing Features: Characterized by the combination of having a litter-binding basal mat, monomitic hyphae, pink-tan color, and a short to absent stem.

Distribution: Cool coniferous northern temperate forests, including the Pacific Northwest. Also known from eastern Oregon. **OREGON**, **Douglas** Co., Bureau of Land Management (BLM), North Myrtle Creek, Lee Creek. Josephine Co., BLM, Yew Wood Gulch.

Substrate and Habitat: On litter.

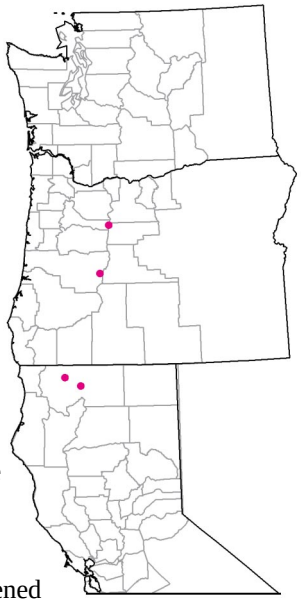
Season: August through October.

References: Petersen, R. 1975. *Ramaria* subgenus *Lentoramaria* with emphasis on North American taxa. Vaduz, Germany: Bibliotheca Mycologica Cramer. 161 p. Marr, C.D.; Stuntz, D.E. 1973. *Ramaria* of western Washington. Vaduz, Germany: Bibliotheca Mycologica Cramer. 131 p.

Photo courtesy of Currie Marr

Photo courtesy of Michael Castellano

Rhizopogon abietis A.H. Smith



ROD name *Rhizopogon abietis*

Family Rhizopogonaceae **Morphological Habit** truffle

Description: **Sporocarps** 10-40 mm in diam., subglobose to irregular, tinged yellow to brown-yellow, and spotted or flushed pink to vinaceous where bruised, at maturity sometimes scaly and dark olive to brown with yellow to red-brown areas, becoming pink in cross section where cut, with a basal rhizomorph at the point of attachment and usually with a few rhizomorphs appressed near the base, drying to olive with blackened areas. **Gleba** initially soft and white, becoming dark olive to olive-brown and rubbery at maturity. **Columella** lacking. **Odor** and **Taste** not distinctive. KOH pale orange to red or red-brown on peridium; $Fe_2(SO_4)_3$ slightly olive, with ETOH quickly black; ETOH nonreactive. **Peridium** up to 1 mm thick, of appressed-interwoven, hyaline to pale yellow, thin-walled hyphae 5-10 µm in diam., many cells inflated to 15 (-25) µm, the surface in youth often a turf with scattered to abundant clavate terminal cells up to 14 µm in diam., these soon collapsing as specimens mature, the outer layer olivaceous stained in KOH, the inner layer with abundant, extracellular deposits of amorphous red-orange to rusty brown pigment present in KOH, in Melzer's reagent the pigment forming pink to orange-brown globules. **Trama** of hyaline hyphae 2-7 µm in diam., at maturity with gelatinous-thickened, glassy-appearing walls. **Subhymenium** of isodiametric cells 4-6 µm in diam., the walls thickened at maturity. **Basidia** thin walled, hyaline, clavate, 12-24 x 4-10 µm. **Brachybasidioles** ellipsoid to clavate, hyaline, the end cells 4-10 x 4-8 µm with walls gelatinous-thickened at maturity. **Clamp connections** absent. **Spores** fusoid to subcylindric or occasionally ellipsoid, ovoid, narrowly clavate or slightly allantoid, 7.5-13 x 3-5 (-6) µm, smooth, thin walled, sterigmal attachment ± 1 µm broad, hyaline singly, olive in mass, inamyloid.

Distinguishing Features: In spore size *R. abietis* is between the closely related *R. rubescens* (8–10 x 3.2-4.2 µm) and *R. ventricisporus* (9-13 (-22) x 6-8 µm). All three species stain pink when bruised.

Distribution: Klamath Mountains in California and Oregon, north to the Cascade Mountains of Oregon and east to central Idaho and Wyoming; in the Eastern United States from Tennessee and Virginia, north to Ontario. **CALIFORNIA**, **Siskiyou** Co., Deadfall Meadows west of Gazelle; west of Hilt; **OREGON**, **Lane** Co., Willamette National Forest (WNF), 1.6 km north of Waldo Lake on Taylor Burns Rd.; **Jefferson** Co., WNF, Breitenbush Lake.

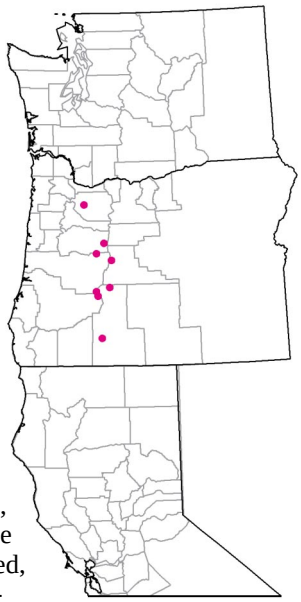
Substrate and Habitat: Hypogeous to emergent, scattered to grouped, associated with *Abies, Tsuga, Picea,* and *Pinus* spp.

Season: July through December.

References: Miller, S.L. 1986. Hypogeous fungi from the Southeastern United States. I. The genus *Rhizopogon.* Mycotaxon. 27: 193-218. Smith, A.H.; Zeller, S.M. 1966. A preliminary account of the North American species of *Rhizopogon.* Memoirs of the New York Botanical Garden. 14(2): 1-177.

Photo courtesy of James M. Trappe

Rhizopogon atroviolaceus A.H. Smith



ROD name *Rhizopogon atroviolaceus*

Family Rhizopogonaceae **Morphological Habit** truffle

Description: **Sporocarps** 15 to 30 mm in diam., subglobose to pyriform or lobed, in youth white and coarsely fibrillose, usually slowly staining faintly to moderately pink to vinaceous or violet where bruised or cut; at maturity the surface fibrils brown, sometimes with scattered, appressed, concolorous rhizomorphs; when dried brown-black overall. **Gleba** minutely loculate, soft and white in youth, becoming rubbery and gray-olive to green-olive. **Columella** lacking. **Odor** and **Taste** fungoid, pleasant. KOH on peridium lilac, soon lilaceous brown to black; $Fe_2(SO_4)_3$ on peridium olive to blue, soon black; Melzer's reagent negative on peridium, purplish black on gleba. **Peridium** 300-500 µm thick, composed of interwoven, cablelike strands of hyphae with nongelatinous walls and obscured by pink to orange, red or brown, amorphous pigment masses in KOH, the pigment forming pink to orange-brown globules in Melzer's reagent. **Trama** of interwoven, hyaline hyphae 2-3 µm in diam., at maturity with gelatinous-thickened, glassy-appearing walls. **Basidia** hyaline, thin walled, subcylindric, 17-20 x 5-7 µm, 4, 6, or 8 spored, with interspersed brachybasidioles. **Clamp connections** absent. **Spores** ellipsoid to clavate 6-8 x 2-4 µm and as well as subangular 7-9 (-10) x 3-4 (-6) µm, smooth to punctate-roughened, the walls somewhat thickened, sterigmal attachment inconspicuous, hyaline singly, brown-yellow in mass, distinctly amyloid.

Distinguishing Features: *Rhizopogon atroviolaceus* has the peridium of interwoven rhizomorphic strands typical of section *Amylopogon.* It is the only species in which all the spores are deeply amyloid, as opposed to other species of the section in which none or only part of the spores are deeply amyloid. *Rhizopogon subpurpurascens*, with only part of its spores amyloid, further differs in having a subhymenium of isodiametric cells and a peridium that does not stain when bruised. *Rhizopogon kauffmanii* has deep purple pigment globules when mounted in Melzer's reagent, and *R. fallax* has large inflated cells in the peridium.

Distribution: Siskiyou Mountains and Cascade Range of Oregon, east to central and northern Idaho. **OREGON**, **Douglas** Co., Willamette National Forest (WNF), Indigo Lake trail; **Clackamas** Co., east of Timothy Lake Rd. 4280-250; **Deschutes** Co., Deschutes National Forest, Three Sisters Wilderness, Green Lakes area; **Klamath** Co., Crater Lake National Park, Mount Scott; WNF, Diamond Peak Wilderness Area, Yoran Lake; **Lane** Co., WNF, Ruth Lake; WNF, H.J. Andrews Experimental Forest stand 29; **Linn** Co., Santiam Pass airstrip burn.

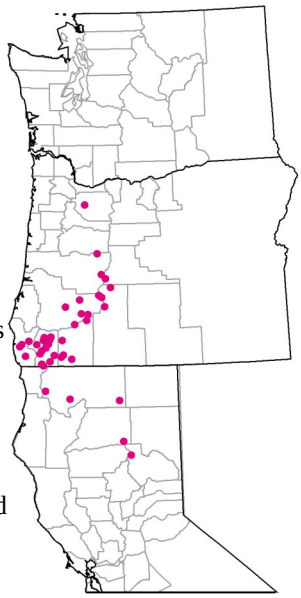
Substrate and Habitat: Hypogeous to emergent, scattered to grouped, associated with species of *Abies, Picea, Pinus, Pseudotsuga,* and *Tsuga*.

Season: May through December.

Reference: Smith, A.H.; Zeller, S.M. 1966. A preliminary account of the North American species of *Rhizopogon.* Memoirs of the New York Botanical Garden. 14(2): 1-177.

Photo courtesy of James M. Trappe

Rhizopogon truncatus Linder



ROD name *Rhizopogon truncatus*

Family Rhizopogonaceae **Morphological Habit** truffle

Description: **Sporocarps** 10-30 mm in diam., globose to subglobose or ovoid, yellow to vivid yellow at all stages, becoming gray-yellow to olive-yellow where bruised, with scattered, appressed, concolorous rhizomorphs, when dried dull yellow to yellow. **Gleba** minutely loculate, dark yellow-brown. **Columella** lacking. **Odor** and **Taste** slightly oily or not distinctive. KOH, $Fe_2(SO_4)_3$, and Melzer's reagent negative on peridium and gleba. **Peridium** 100-220 µm thick, of cylindric to occasionally inflated, thin-walled hyphae 4-7 µm in diam., pale yellow in KOH and the pigment diffusing into the medium, in Melzer's reagent the pigment lightly encrusting the hyphae and not diffusing. **Trama** of interwoven, cylindric to slightly inflated, hyaline hyphae 2-5 µm in diam., in youth thin walled, at maturity with gelatinous-thickened, glassy-appearing walls. **Basidia** hyaline, thick walled, clavate, 11-14 x 4.5-5.5 µm, 6 or 8 spored. **Brachybasidioles** hyaline, subglobose to obovate, 7-10 x 6-8 µm. **Clamp connections** absent. **Spores** ellipsoid-truncate to oblong-truncate, (5.5-) 7-9 (-11) x 3-5 µm, sterigmal attachment conspicuous and up to 2 µm broad, the walls up to 0.75 µm thick, hyaline to yellow-brown singly, yellow-brown in mass, inamyloid but sometimes dextrinoid.

Distinguishing Features: *Rhizopogon truncatus* differs from all other species in the genus with its bright yellow peridium and strikingly truncate spores.

Distribution: Sierra, Siskiyou, and Cascade mountains of northern California into the central Oregon Cascades, also from North Carolina to Nova Scotia. **CALIFORNIA**, **Del Norte** Co., Smith River, Panther Flat forest camp; **Shasta** Co., near Mount Lassen.; **Siskiyou** Co., Little Duck Lake; Klamath National Forest, Duck Lake Creek; **Tehama** Co., Lassen National Forest, Hwy. 89; **OREGON**, **Clackamas** Co., Mount Hood National Forest, southeast of Timothy Lake on Rd. 5750; **Curry** Co., Chief-Indigo Creeks; Siskiyou National Forest (SINF), Panther Lake; State Creek; SINF, Rd. 3680-200; **Douglas** Co., south Umpqua Coyote Creek; Umpqua National Forest (UNF), Steamboat Creek; UNF, Windigo Pass; Bureau of Land Management (BLM), Red Ponds Research Natural Area; BLM, Tater Hill Research Natural Area; Limpy Rock Research Natural Area; Willamette National Forest (WNF), Indigo Lake trail; **Jackson** Co., Rogue River National Forest, 8 km east of Union Creek on Crater Lake Hwy.; Glade Creek Wrangle forest camp; **Josephine** Co., Burned Timber Creek; China Hat; SINF, Dutcher Creek, 16 km west of Grants Pass; SINF, Eight Dollar Rd., milepost 7; Flat Top; Horse Mountain; lower Quartz Creek, near Merlin; Missouri Flats, Amaranthus ranch; Quartz Creek reforestation systems study site; upper Quartz Creek, north of Merlin; Waldo Hill; Waters Creek; Siskiyou National Forest, Limpy Creek; **Klamath** Co., WNF, Diamond Peak Wilderness Area, Yoran Lake; Creek, Miller Lake; **Lane** Co., WNF, 1.6 km north of Waldo Lake; WNF, H.J. Andrews Experimental Forest stand 29; WNF, Waldo Lake.

Substrate and Habitat: Hypogeous to emergent, scattered to grouped associated with Pinaceae species particularly *Pinus* spp.

Season: April through November.

References: Miller, S.L. 1986. Hypogeous fungi from the Southeastern United States. I. The genus *Rhizopogon.* Mycotaxon. 27: 193-218. Smith, A.H.; Zeller, S.M. 1966. A preliminary account of the North American species of *Rhizopogon.* Memoirs of the New York Botanical Garden. 14(2): 1-177.

Photo courtesy of Michael Castellano

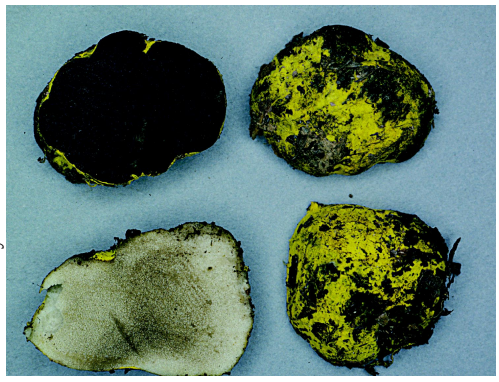
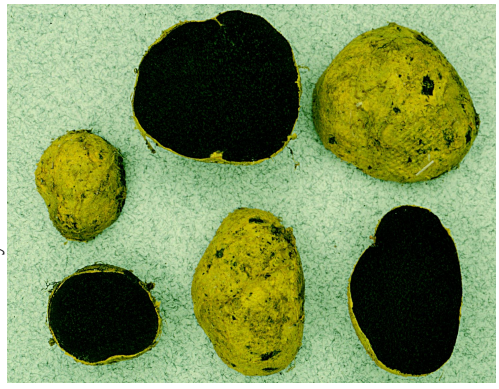


Photo courtesy of Michael Castellano



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