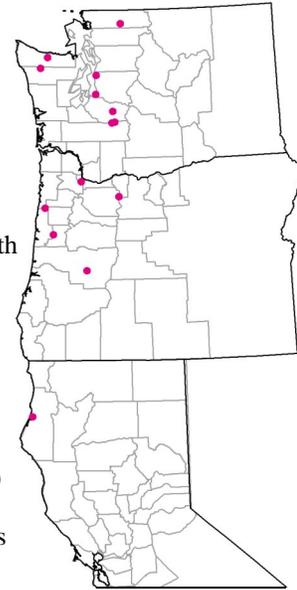


Chrysomphalina grossula (Pers.) Norvell, Redhead & Ammirati

ROD name *Chrysomphalina grossula*

Family Tricholomataceae **Morphological Habit** mushroom

Description: **CAP** 2-35 (-60) mm broad, convex to plano-convex with incurved margin when young, becoming convexo-umbilicate to uplifted with age, moist, hygrophanous, striate, smooth, initially yellow to brown or green-yellow, becoming pale green-yellow with age or even off-white, color of margin yellow to green-yellow; with age the entire cap almost white. **GILLS** strongly decurrent, initially ending at the same point on the stem apex, arcuate, thickened in age and often intervenous, edges even, yellow to green-yellow becoming slightly paler to off-white on exposure or with age. **STEM** central, 5-40 (-55) mm long, more or less equal 1.5-7 mm at apex, usually hollow in mature specimens, more or less smooth but may appear minutely pubescent, yellow or green-yellow. **ODOR AND TASTE** not distinct. **PILEIPELLS** of thin-walled, smooth, nongelatinized, compactly parallel to subparallel hyphae. **BASIDIA** 33-48 x 5-8 μ m, cylindrical to narrowly clavate, (2-) 4 spored. **STERIGMATA** 3-7.4 (10) μ m long. **CYSTIDIA** absent. **CLAMP CONNECTIONS** absent. **SPORES** ellipsoid to subellipsoid 6-9.5 x 3.7-5.5 (-6) μ m, with conspicuous obtuse apiculus and rounded apex, hyaline, smooth, thin walled, inamyloid, spore print white.



Distinguishing Features: *Chrysomphalina grossula* is a small, green-yellow mushroom with brown or green-yellow, moist, initially convex then uplifted-umbilicate caps, with yellow to green-yellow, strongly decurrent, widely separated thickened gills, and slightly paler hollow stems. *Chrysomphalina grossula* is similar in size and habit to *Omphalina ericetorum*. Older faded forms of both species can be microscopically differentiated by the hyphae in the cap and gill trama of *C. grossula* that are markedly inflated (reaching up to 22 mm in diam.) and constricted at the septa, whereas those of *O. ericetorum* are narrower (4-10 mm) and not normally swollen at the septa. More importantly, *O. ericetorum* is lichenized with the mushrooms surrounded by a dark green thallus composed of small spherules; it also develops a fairly conspicuous pubescence on its stem not found in *C. grossula*.

Distribution: Relatively uncommon in North America and restricted to the *Tsuga heterophylla*/*Pseudotsuga menziesii* zone in Washington, Idaho, Oregon, and northern California. Also in Great Britain, Europe, and Japan. **CALIFORNIA**, Humboldt Co., Arcata; **OREGON**, Benton Co., Siuslaw National Forest, Mary's Peak Scenic Botanical Area, Mary's Peak; Clackamas Co., Mount Hood National Forest, Salmon River, east fork; Lane Co., Willamette National Forest, Hardesty Mountain trail; Multnomah Co., Portland; Tillamook Co., Van Duzer Wayside Corridor; **WASHINGTON**, Clallam Co., Olympic National Park (ONP), Lake Crescent; Jefferson Co., ONP, Hoh West Twin Creek Research Natural Area; King Co., Federal Way, near Mirror Lake; City of Seattle, Seattle Park; Pierce Co., Mount Rainier National Park (MRNP), Green Lake; MRNP, Longmire campground; MRNP, Tahoma Creek; Whatcom Co., Mount Baker-Snoqualmie National Forest, lower Noisy Creek trail.

Substrate and Habitat: Gregarious to caespitose on water-soaked coniferous wood, bark chips, debris (occasionally found on hardwood mixed with colonized coniferous wood) in mixed forests or parks.

Season: Autumn.

Reference: Norvell, L.L.; Redhead, S.A.; Ammirati, J.F. 1994. *Omphalina sensu lato* in North America. 1-2. 1. *Omphalina wynniae* and the genus *Chrysomphalina*. 2. *Omphalina sensu* Bigelow. Mycotaxon. 50: 379-407.



Photo courtesy of Lorelei Norvell



Photo courtesy of mycology team

Clavariadelphus ligula (Schaeffer: Fries) Donk

ROD name *Clavariadelphus ligula*

Family Clavariaceae

Morphological Habit club

Description: **SPOROCARPS** 20-100 mm tall, 2-8 mm in diam. basally, enlarged upward to 5-12 (-22) mm in diam., simple, initially subcylindrical, then narrowly clavate to clavate, occasionally fan shaped, irregular, base terete, pruinose to pubescent, initially pale yellow, pale orange, pale tan, pale pink-tan, then brown-orange to pale brown, to pink-brown. **SPORE-BEARING TISSUE** smooth, becoming longitudinally rugose, apex subacute, obtuse or broadly rounded, often lobed or contorted at maturity, infrequently bifid, smooth, becoming rugose, green to dark green after a frost or at maturity, staining slowly, irregularly brown-orange to brown-gray, to pink-brown where cut or bruised. **CONTEXT** soft and spongy upward as the apex enlarges, white to pallid, on exposure staining slowly, irregularly brown-orange to brown-gray to pink-brown. **ODOR** not distinct. **TASTE** not distinct or slightly sweet. **MACROCHEMICALS** PYR, GUA, PHN, ANO, SYR all positive; KOH, TYR negative. **TRAMA** of loosely interwoven, thin to thick walled, smooth, hyaline to pale yellow hyphae 4-8 (-12) μm in diam. **GLOEOPLEUROUS HYPHAE** 2.5-5 (-10.5) μm in diam., arising from generative hyphae at clamp connections, scattered throughout the trama, more abundant near base, thin walled, smooth, pale yellow, cyanophilic. **LEPTOCYSTIDIA** 40-75 x 2.5-5 μm , scattered among and scarcely projecting beyond the basidia, cylindrical to narrowly clavate, at times apically or subapically branched, walls thin, smooth, hyaline to pale yellow. **BASIDIA** 45-85 x 8-11 μm , clavate, inflated apically at maturity, thin walled or irregularly thickened, pale yellow, acyanophilic, (2-) 4 spored. **STERIGMATA** 5-8 μm long, incurved. **CLAMP CONNECTIONS** present. **SPORES** narrowly ellipsoid, boletoid or sway-backed in profile, 12-16.5 x 3.5-4.5 μm , thin walled, smooth, hyaline to pale yellow, inamyloid, spore print pale yellow, yellow-white, pale orange or orange-white.



Distinguishing Features: The size of the basidia and spores separate *Clavariadelphus ligula* from the macroscopically similar *C. sachalinensis*.

Distribution: Widespread in Europe and North America. **CALIFORNIA**, Mendocino Co., Jackson State Forest; **OREGON**, Benton Co., Oregon State University (OSU), Peavy Arboretum; **Clackamas Co.**, Mount Hood National Forest (MHNF), Salmon River Meadows; **Deschutes Co.**, Deschutes National Forest, east of McKenzie Pass; **Douglas Co.**, Umpqua National Forest, 1.6 km south of OK Butte; Bureau of Land Management, southwest of Yellow Creek Mountain; **Hood River Co.**, MHNF, Tamanawas Falls, on trail 645, Elk Meadows trail; **Jackson Co.**, Rogue River National Forest (RRNF), 9.7 km north of Prospect Ranger Station; RRNF, Hwy. 62, past Prospect Ranger Station; **Klamath Co.**, Deschutes National Forest, Odell Lake; **Lane Co.**, Willamette National Forest (WNF), Belknap Springs; **Linn Co.**, WNF, Clear Lake Road; WNF, South Santiam Pass; Marion Co., MHNF, along Rd. 4672-250; **Wasco Co.**, MHNF, Beaver Creek; **WASHINGTON**, **Clallam Co.**, Olympic National Park, Heart of the Hills, Lake Angeles trail; **Kitsap Co.**, Bremerton; Hood Canal; **Kittitas Co.**, Wenatchee National Forest, Lake Kachess trail; **Lewis Co.**, Gifford Pinchot National Forest, Camp Creek Falls trail; Cispus River; **Okanogan Co.**, Okanogan National Forest (OKNF), Lone Fir campground; OKNF, Methow River trail bench; **Pierce Co.**, Mount Rainier National Park, Longmire campground.

Substrate and Habitat: Scattered to gregarious on soil or duff, under mixed conifers.

Season: July through October.

Reference: Methven, A.S. 1990. The genus *Clavariadelphus* in North America. Berlin: Cramer. 192 p.



Photo courtesy of Eugene Butler



Photo courtesy of Steve Trudell

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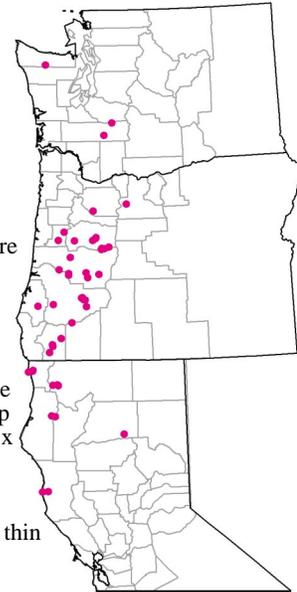
Clavariadelphus occidentalis Methven

ROD name *Clavariadelphus pistillaris*

Family Clavariaceae

Morphological Habit club

Description: **SPOROCARPS** 50-250 mm tall, 7-15 mm in diam. basally, enlarged upward to 10-35 mm in diam., simple, subcylindric to capitate-clavate, base terete, smooth, white to yellow-white to orange-white, pale tan, or yellow. **SPORE-BEARING TISSUE** smooth, becoming longitudinally rugose to rugulose, cream pale orange to brown, apex subacute, obtuse or broadly rounded, smooth, becoming rugose or rugulose, concolorous with the hymenium; surface staining slowly, irregularly brown, where cut or bruised, staining more conspicuously downward. **CONTEXT** initially solid, white to pallid, on exposure staining slowly, irregularly brown. **ODOR** not distinct. **TASTE** not distinct or bitter. **MACROCHEMICAL REACTIONS:** PYR, PHN, ANO, GUA, SYR all positive; KOH, TYR negative. **TRAMAL HYPHAE** 3-12 μ m in diam., more or less parallel to longitudinally interwoven, inflated (-12 μ m) or broadly undulate, branched, clamped; walls thin or irregularly thickened to 1 μ m, smooth; clamps uninflated or inflated (-15 μ m), sometimes ampulliform; contents amorphous, hyaline to pale yellow in KOH. **GLEOPLEUROUS HYPHAE** 3-8 (-12) μ m in diam., arising from generative hyphae at clamp connections, scattered throughout the trama, thin walled, smooth, cyanophilic. **LEPTOCYSTIDIA** 45-80 x 2.5-5 μ m, cylindric to narrowly clavate, at times apically or subapically branched, thin walled, smooth. **BASIDIA** 70-125 x 8-12 μ m, clavate, inflated apically at maturity, thin walled or irregularly thickened, pale yellow, acyanophilic, (2-) 4 spored. **STERIGMATA** 6.5-12 μ m long, incurved. **CLAMP CONNECTIONS** present. **SPORES** broadly ellipsoid, broadly ovate or amygdaliform, 10.5-14 x 6-7.5 μ m, thin walled, smooth, hyaline to pale yellow, acyanophilic, inamyloid, spore print white to pale yellow.



Distinguishing Features: Erronously identified as *Clavariadelphus pistillaris* in the past.

Clavariadelphus occidentalis is more yellow and darkens to a gray-orange as it ages, and it has smaller spores than *C. pistillaris*. *Clavariadelphus pistillaris* is known only from eastern North America and Europe.

Distribution: Across western North America. **CALIFORNIA, Del Norte Co.**, Jedediah Smith Redwoods State Park, Crescent City, Smith Grove; Panther Creek campground; **Mendocino Co.**, Jackson State Forest, Aleuria Glen; Booneville, Faulkner Park; Jackson State Forest, near Mendocino; **Shasta Co.**, Hwy. 44 near Viola; **Siskiyou Co.**, Klamath National Forest (KNF), Marble Mountain Wilderness, Haypress trail; Siskiyou Co., KNF, Marble Mountain Wilderness Area, Stanishaw trail near jct. with Ten Bears trail; **Trinity Co.**, Six Rivers National Forest SRNF, Gray Fall's campground, Hwy. 299; east of Salyer; **OREGON, Benton Co.**, Bureau of Land Management (BLM), Mary's Peak Resource Area, Reese Creek; Corvallis, Avery's Woods; north of Corvallis; **Clackamas Co.**, BLM, Cascades Resource Area, Pine Rockcut on Molalla River corridor; **Douglas Co.**, BLM, Swiftwater Resource Area, 0.8 km southeast of Wards Butte; BLM, Swiftwater Resource Area, 4.8 km west of Cottage Grove Lake; BLM, Irwin Rocks Research Natural Area; BLM, south of Rd. 20-6-26.0; Umpqua National Forest (UNF), 1.2 km northeast of Taft Mountain; UNF, 1.6 km south of OK Butte; UNF, 24.1 km southeast of Tiller, off Rd. 3220; UNF, 3.2 km west of Foster Butte; UNF, Andraieff Meadows; UNF, Lookout Mountain; **Josephine Co.**, BLM, Grants Pass Resource Area, 4.8 km southwest of Mooney Mountain; BLM, Grants Pass Resource Area, Draper Creek; Grants Pass; Cave Junction; near Grants Pass; **Lane Co.**, Willamette National Forest (WNF), H.J. Andrews Experimental Forest, 3.2 km east of Mona Camp; UNF, Wyatt Creek; UNF, 6.4 km southeast of June Mountain; WNF, Blue Pool; WNF, Blue River Ranger District, H.J. Andrews Experimental Forest near plot L401; WNF, H.J. Andrews Experimental Forest, watershed no. 2, lower trail; Eugene; near Eugene; WNF, H.J. Andrews Experimental Forest, stand 29; **Linn Co.**, Cascadia State Park; WNF, Moose Creek; Brownsville, Reservoir Hill; **Wasco Co.**, Mount Hood National Forest, Bear Springs; **WASHINGTON, Clallam Co.**, Olympic National Park, Soleduc Falls; **Pierce Co.**, Mount Rainier National Park, Lower Tahoma Creek.

Substrate and Habitat: Solitary to gregarious or in caespitose clusters of two or three sporocarps; on soil or duff under mixed deciduous-coniferous forests or deciduous forests.

Season: Mostly September through February but also in May.

Reference: Methven, A.S. 1990. The genus *Clavariadelphus* in North America. Berlin: Cramer. 192 p.



Clavariadelphus sachalinensis (Imai) Corner

ROD name *Clavariadelphus sachalinensis*

Family Clavariaceae

Morphological Habit club

Description: **SPOROCARPS** 20-70 mm tall, 1-4 mm in diam. basally, enlarged upward to 3-18 mm in diam., simple, initially cylindrical to subcylindric, then narrowly clavate to clavate, pubescent to tomentose, initially yellow-white to orange-white then gray-orange, finally pale brown. **SPORE-BEARING TISSUE** smooth, becoming longitudinally rugose to rugulose, apex subacute, obtuse or broadly rounded, at times forked or lobed at maturity, some nearly turbinate, smooth, becoming rugose, forest green to dark green following a frost, irregularly brown or dark brown where cut or bruised, staining more conspicuously near base. **CONTEXT** white to pale, slowly brown-orange when exposed. **ODOR AND TASTE** not distinct. **MACROCHEMICAL REACTIONS:** PHN, ANO, PYR, GUA, SYR all positive; KOH, PGR, TYR all negative. **TRAMA** of pale yellow, thin to thick walled, interwoven hyphae 3-12 μm in diam. **GLEOPLEROUS HYPHAE** 3-9.5 (-14) μm diam., arising from generative hyphae at clamp connections, scattered, branched, thin walled, smooth, pale yellow, cyanophilic. **LEPTOCYSTIDIA** 50-70 x 2.5-5 μm , scattered among and scarcely projecting beyond the basidia, cylindrical to narrowly clavate, at times apically or subapically branched, thin walled, smooth, pale yellow. **BASIDIA** 65-105 x 8-12.5 μm , clavate, inflated apically at maturity, thin walled, smooth, pale yellow, acyanophilic, (2-) 4 spored. **STERIGMATA** 8-9.5 μm long, incurved. **CLAMP CONNECTIONS** present. **SPORES** narrowly ellipsoid, boletoid or sway-backed in profile, 18-24 x 4-6 μm , thin walled, smooth, pale yellow, acyanophilic, inamyloid, spore print yellow-white to pale orange.



Distinguishing Features: The size of the basidia and spores separate *Clavariadelphus sachalinensis* from the macroscopically similar *C. ligula*.

Distribution: Widespread in Asia, Europe, and northern North America. **CALIFORNIA, Mendocino Co.**, Jackson State Forest, Aleuria Glen; **OREGON, Jackson Co.**, Bureau of Land Management (BLM), Butte Falls Resource Area, Big Butte Creek; BLM, Butte Falls Resource Area, Gray Creek; Rogue River National Forest, Natural Bridge; BLM, Butte Falls Resource Area, Sugar Pine Flat; **Klamath Co.**, BLM, Klamath Falls Resource Area, 4.8 km southwest of Hamaker Mountain; **WASHINGTON, Kittitas Co.**, Crystal Springs; Wenatchee National Forest, Lake Kachess; Stampede Pass; **Lewis Co.**, Soda Springs campground; **Okanogan Co.**, Okanogan National Forest, Pasayten Wilderness, Tatoosh trail jct.; **San Juan Co.**, Friday Harbor Biological Station, Bear Springs area.

Substrate and Habitat: Scattered to gregarious on soil or duff, under mixed conifers.

Season: June through October.

Reference: Methven, A.S. 1990. The genus *Clavariadelphus* in North America. Berlin: Cramer. 192 p.

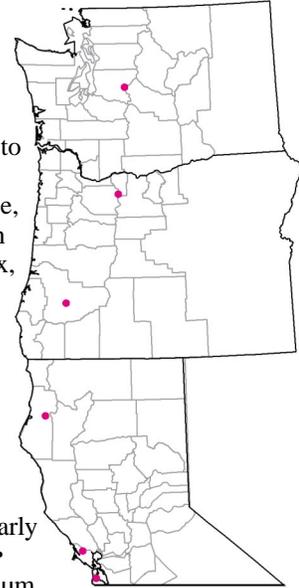
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Clavariadelphus subfastigiatus Wells & Kempton

ROD name *Clavariadelphus subfastigiatus*

Family Clavariaceae **Morphological Habit** club

Description: **SPOROCARPS** up to 105 mm tall, 6-12 mm in diam. basally, enlarged upward to 20 mm diam., simple, subcylindric, clavate or broadly clavate, smooth, becoming longitudinally rugose to rugulose, initially gray-red, dull red fading to salmon, gray-orange, apex obtuse or broadly rounded, often irregularly so, smooth, slowly pale brown to brown when bruised. **CONTEXT** white to pallid, initially solid, becoming soft and spongy near apex, staining slowly, irregularly pale brown or brown on exposure. **ODOR** not distinct. **TASTE** bitter. **MACROCHEMICAL REACTIONS:** KOH, PHN, GUA, ANO, PYR all positive. **TRAMAL HYPHAE** 3-12 (-16) μm diam., more or less parallel to interwoven, branched, thin walled or irregularly thickened to 1 μm , pale yellow. **GLEOPLEROUS HYPHAE** 2.5-8 (-12) μm in diam., arising from generative hyphae at clamp connections, scattered throughout the trama, branched, thin walled, pale yellow, cyanophilic. **LEPTOCYSTIDIA** 30-65 x 2.5-5 μm , scattered among and scarcely projecting beyond the basidia, cylindrical to narrowly clavate, at times apically or subapically branched, thin walled, smooth, pale yellow. **BASIDIA** 60-95 x 8-11 μm , clavate, inflated apically at maturity, thin walled or irregularly thickened, smooth, pale yellow, (2-) 4 spored. **STERIGMATA** 6-9.5 μm long, incurved. **CLAMP CONNECTIONS** present. **SPORES** broadly ellipsoid, broadly ovate or amygdaliform, 8-10 x 5-6 μm , thin walled, smooth, pale yellow, acyanophilic, inamyloid, spore print white.



Distinguishing Features: *Clavariadelphus subfastigiatus* is similar to *C. pistillaris* but has red tones to the sporocarp and smaller spores.

Distribution: Western North America. **CALIFORNIA**, Humboldt Co., Seely-McIntosh Road; Marin Co., vicinity of Alpine Lake; San Mateo Co., Huddart Park; **OREGON**, Clackamas Co., Mount Hood National Forest; Douglas Co., Bureau of Land Management, North Myrtle Creek Research Natural Area; **WASHINGTON**, Kittitas Co., Snoqualmie Pass.

Substrate and Habitat: Scattered to gregarious on soil or duff, under mixed conifers.

Season: October through January.

Reference: Methven, A.S. 1990. The genus *Clavariadelphus* in North America. Berlin: Cramer. 192 p.



Photo courtesy of Lorelei Norvell

Clavariadelphus truncatus Donk

ROD name *Clavariadelphus truncatus*

Family Clavariaceae

Morphological Habit club

Description: **SPOROCARPS** up to 150 mm tall, up to 15 mm in diam. at base, enlarged upward to 35 mm in diam., simple, clavate to broadly clavate, then turbinate or cantharelloid, base terete, smooth, white to pale orange. **SPORE-BEARING TISSUE** smooth, becoming longitudinally rugose to rugulose, yellow to brown, apex truncate, smooth, becoming rugose or rugulose, yellow to red-brown when bruised. **CONTEXT** solid, white to pale, slowly pale brown, to red-brown when bruised. **ODOR** not distinct. **TASTE** not distinct. **MACROCHEMICAL REACTIONS:** KOH, PYR, GUA, PHN, ANO, SYR all positive, TYR negative. **TRAMAL HYPHAE** 3-12 (-16) μm in diam., more or less parallel to interwoven, branched, thin walled or irregularly thickened to 1 μm , smooth, pale yellow. **GLEOPEROUS HYPHAE** 2.5-5 (-8) μm in diam., branched, thin walled, smooth, pale yellow, cyanophilic. **LEPTOCYSTIDIA** 40-70 x 2.5-5 μm , cylindrical to narrowly clavate, thin walled, pale yellow. **BASIDIA** 80-110 x 8-12 μm , clavate, thin walled, pale yellow, acyanophilic, 2-4 spored. **STERIGMATA** 6.5-9.5 μm long, incurved. **CLAMP CONNECTIONS** present. **SPORES** broadly ellipsoid, broadly ovate or amygdaliform, 9.5-13.5 x 5.5-7 μm ; thin walled, smooth, pale yellow, acyanophilic, inamyloid, spore print white.

Distinguishing Features: The spore size and shape and color of the sporocarp are distinct.

Distribution: Widespread in Asia, Europe, and North America. **CALIFORNIA, Mendocino Co.,** Jackson State Forest, Aleuria Glen; Van Damme State Park; **Siskiyou Co.,** Klamath National Forest (KNF), Marble Mountain Wilderness Area, Canyon Creek trail; KNF, Cub Creek, west of Marble Mountain Wilderness; KNF, Duck Lake trailhead; KNF, Haypress Meadows; KNF, Stanshaw trailhead, west of Marble Mountain Wilderness; **Trinity Co.,** Mendocino National Forest, George's Valley; **OREGON, Benton Co.,** Siuslaw National Forest, Mary's Peak; **Clackamas Co.,** Mount Hood National Forest (MHNF), Clackamas River Ranger District, Buck Creek; MHNF, Little Crater Lake; MHNF, Still Creek campground; **Curry Co.,** Mule Prairie; **Deschutes Co.,** Deschutes National Forest, southeast shore of Cultus Lake; **Douglas Co.,** Umpqua National Forest (UNF), 1.6 km south of Threehorn Camp; Bureau of Land Management (BLM), Swiftwater Resource Area, 2.4 km south of Wards Butte; UNF, 18 km southeast of Tiller; off Rd. 3220; UNF, 3.2 km south of Clayton Point; UNF, Andraieff Meadows; BLM, Myrtle Creek Research Natural Area; UNF, South Umpqua Falls; Lake Tahkenitch; **Jackson Co.,** BLM, 1.6 km north of Round Top; BLM, 1.6 km northwest of Northern Glades; Rogue River National Forest, 2.4 km east of Prospect Ranger Station; BLM, 3.2 km east of Flounce Rock; BLM, 3.2 km south of Medco Pond; BLM, 3.2 km west of Fredenburg Butte; BLM, 4.8 km west of Santiam Peak; BLM, Big Butte Creek; BLM, Dog Creek; BLM, McNeil Creek; BLM, near Gardner Butte; BLM, near riparian area off of road 34-2E-29; BLM, Prospect Ranger Station; BLM, Sugar Pine Flat; BLM, southwest of road 34-2E-9.07; Rogue River National Forest (RRNF), Thousand Springs; Rogue River National Forest, Willow Lake campground; **Josephine Co.,** RRNF, Jacksonville, 3.2 km southeast of Larkspur Spring; **Klamath Co.,** Winema National Forest (WINF), 3.2 km northeast of Blue Springs; WINF, Crater Lake south entrance; Willamette National Forest (WNF), Willamette Pass; **Lane Co.,** UNF, Wyatt Creek, 0.8 km north of Rose Hill; WNF, Belknap Springs; WNF, south of Buckhead Mountain; near Fern Ridge Dam, north of Eugene; WNF, 3.2 km northeast of Lost Prairie campground; **Linn Co.,** WNF, Clear Lake area; WNF, Maude Creek; **Umatilla Co.,** Meacham; **Wasco Co.,** MHNF, Wapinita Summit, Frog Lake; **Yamhill Co.,** BLM, Tillamook Resource Area, north of East Creek; **WASHINGTON, Chelan Co.,** Wenatchee National Forest (WENF), Chiwawa River; WENF, off road 6300 spur 151; WENF, Old Blewett Pass; WENF, Rock Creek Guard Station, Lake Wenatchee; near Lake Wenatchee; **Kittitas Co.,** Cle Elum; WENF, Lake Kachess trail; **Lewis Co.,** Mount Rainier National Park, Longmire campground; Soda Springs; **Okanogan Co.,** Okanogan National Forest (OKNF), Pasayten Wilderness, 1.6 km east of wilderness shelter; OKNF, Pasayten Wilderness, head of Dry Lake; OKNF, Pasayten Wilderness, Hidden Lakes cabin; OKNF, Pasayten Wilderness, south of head of Big Hidden Lake; OKNF, Pasayten Wilderness, Stub Creek trail; **Pierce Co.,** Mount Rainier National Park (MRNP), Longmire campgrounds; MRNP, southwest entrance; **San Juan Co.,** Friday Harbor Biological Station, Bear Springs area; **Snohomish Co.,** Stevens Pass Rd., San Juan campground; **Yakima Co.,** Indian Creek near Trenton Reservoir.

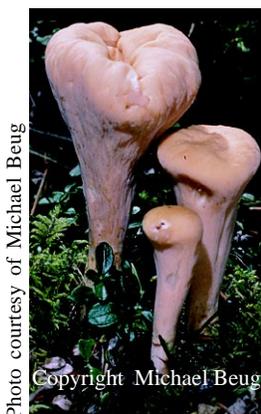
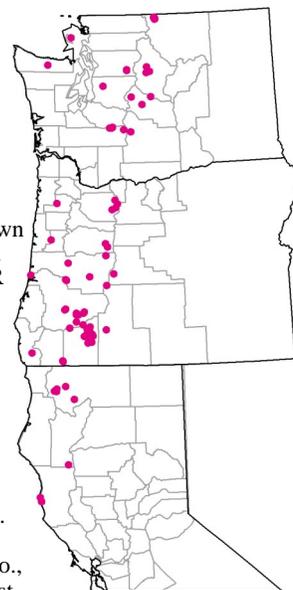
Substrate and Habitat:

Scattered to gregarious on soil or duff, under mixed conifers.

Season: July through November.

Reference:

Methven, A.S. 1990. The genus *Clavariadelphus* in North America. Berlin: Cramer. 192 p.



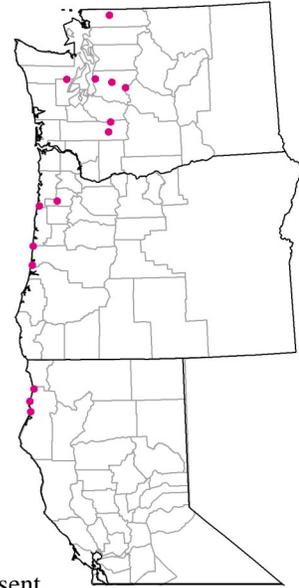
Clavulina castaneopes var. *lignicola* Petersen

ROD name *Clavulina ornatipes*

Family Clavariaceae

Morphological Habit club

Description: **SPOROCARPS** up to 70 mm tall, composed of a distinct stemlike portion and a flattened spore-bearing area, usually branched but occasionally simple, especially in young or small plants. **STEM** 15-60 mm long, 4-8 mm broad, some shade of tan or brown, clothed with fascicles of hyphae, which give the appearance of being strigose, fibrillose; fascicles usually extending up the stem to the base of the branches; branches often longitudinally ridged or grooved, especially in the upper portions. **SPORE-BEARING TISSUE** occasionally simple, then flattened, somewhat palmate and longitudinally grooved, but usually divided into few to several branches, some shade of dull tan to gray. **MEDULLARY HYPHAE** of the stem composed of long cells, 20-150 x 4-10 μm , often slightly inflated (-20 μm), rarely highly inflated (-35 μm), hyaline, thin walled, rather tightly packed, often curving or zigzag throughout much of their length, sparsely branched. **CORTICAL HYPHAE** linear, composed of uninflated, rarely slightly swollen, long cells, with pale brown walls slightly thickened, branching and anastomosing throughout their length. **FASCICLES** of hyphae on the stem composed of the cortical cell type with some swollen cells in the center depending on the size of the fascicle. **BASIDIA** 28-40 x 8.5-11.5 μm , subclavate to subcylindrical, hyaline, 2 spored. **STERIGMATA** stout, 4-8 μm long. **CLAMP CONNECTIONS** present. **SPORES** globose, subglobose, suboval to pip shaped, 9.6-10.4 x 8.8-9.6 μm , smooth, thick walled.



Distinguishing Features: Characterized by the fascicles on the stem.

Distribution: **CALIFORNIA**, Humboldt Co., Murray Road; Prairie Creek State Park, off Hwy. 101; Big Lagoon County Park; **OREGON**, Lane Co., Siuslaw National Forest (SNF), Cummins Creek Wilderness Area, Cummins Creek trailhead; SNF, Siltcoos River; **Tillamook** Co., SNF, Cascade Experimental Forest, Cascade Head; **Yamhill** Co., SNF, 4.8 km east of Green Top; **WASHINGTON**, **King** Co., Mount Baker-Snoqualmie National Forest (MBSNF), Denny Creek, west of Snoqualmie Pass, just off Hwy. 10; Seattle; Upper Snoqualmie Falls; **Lewis** Co., near Randle; **Mason** Co., Olympic National Forest, Olympic Mountains, Lake Cushman; **Pierce** Co., Mount Rainier National Park, Lower Tahoma Creek; **Whatcom** Co., MBSNF, Cascade Creek Rd. near jct. with Deadhorse Rd.; MBSNF, O'Keefe Creek.

Substrate and Habitat: Usually on wood or bark.

Season: Autumn.

References: Petersen, R.H. 1964. Notes on clavarioid fungi. I. The *Clavulina castaneopes* complex. Mycologia. 56: 20-28. Petersen, R.H. 1967. Type studies in the clavarioid fungi. I. The taxa described by Charles Horton Peck. Mycologia. 59: 767-802.



Photo Courtesy of Michael Beug

Copyright Michael Beug

Collybia racemosa (Pers.: Fr.) Quélet

ROD name *Collybia racemosa*

Family Tricholomataceae **Morphological Habit** mushroom

Description: CAP 2-8 (-10) mm in diam., plano-convex with a distinct broad papilla or umbo, margin decurved, sometimes splitting, and slightly crenate at maturity, subhygrophanous, innately silky, even or finely rugulose, pale gray to gray-brown overall or brown. **GILLS** adnate to adnexed, close to crowded, narrow, gray-brown, edges even. **STEM** 20-60 x 0.2-1.0 mm, central, terete, flaccid, sometimes prostrate, finely longitudinally striate at the apex, pruinose, dull, dry, gray-brown to dark brown; with numerous side branches (racemose) up to 5 mm long projecting at right angles and topped by a small, globose head of conidia. **ODOR AND TASTE** not distinct. **PILEIPELLIS** of non-gelatinous, radially arranged hyphae 2-4 μm in diam., weakly incrustated with gray pigments. **BASIDIA** 16-22 x 3.5-4.5 μm , narrowly clavate, 4 spored. **CYSTIDIA** absent. **CLAMP CONNECTIONS** present. **SPORES** ovoid to subellipsoid, 4-6 (-6.5) x 2-3 μm , smooth, hyaline, inamyloid, acyanophilic, thin walled. **CONIDIA** 7-13 x 3.0-5.5 μm , elongate-ellipsoid to cylindrical or subtriangular, often curved and with a rounded projection at the base, hyaline.

Distinguishing Features: *Collybia racemosa* is the only known mushroom that forms conidia on side branches of the stem. Such structures are so distinctive on this small gray mycenoid agaric that the species is easily recognized in the field and not likely to be confused with any other taxa.

Distribution: Widespread in the Northern Hemisphere but always locally rare. **CALIFORNIA**, Del Norte Co., Six Rivers National Forest (SRNF), Patrick Creek; Crescent City; Jedediah Smith Redwoods State Park; **Humboldt Co.**, Redwood National Park, Lady Bird Johnson Grove; **Marin Co.**, Mount Tamalpais Watershed, Lake Lagunitas; Corte Madera, Deer Run Rd.; **Mendocino Co.**, Northern California Coast Preserve, 14.5 km west of Brandscombe; Jackson State Forest, near Dunlap campground; Van Damme State Park, Pygmy Forest; Northern California Coast Preserve; **Napa Co.**, Clearly reserve; **Siskiyou Co.**, Klamath National Forest, Duck Lake trailhead; **Trinity Co.**, SRNF, Gray Falls campground; Shasta-Trinity National Forest, near Weaverville; **OREGON**, **Clackamas Co.**, Mount Hood National Forest, Zigzag; **Douglas Co.**, Lake Tahkenitch; **Jackson Co.**, Rogue River National Forest, Sturgis Fork; **Josephine Co.**, Taklima; Grants Pass; **Lane Co.**, Willamette National Forest (WNF), Blue River; WNF, McKenzie Bridge; **WASHINGTON**, **Clallam Co.**, Olympic National Park (ONP), Heart of the Hills campground; ONP, Olympic Hot Springs; **Jefferson Co.**, ONP, Hoh River trail, Hoh rain forest; **King Co.**, Annette Lake trailhead, Snog Pass; **Okanogan Co.**, Okanogan National Forest, Wolf Creek, Eliulia Valley; **Pierce Co.**, Mount Rainier National Park, Lower Tehoma Creek; **Snohomish Co.**, Mount Baker-Snoqualmie National Forest, Verlot campground; **Thurston Co.**, Tenino Mounds.

Substrate and Habitat: Gregarious, on rotting or mummified remnants of agarics or seldom in nutrient-rich leaf mulch, in forests.

Season: Autumn.

References: Noordeloos, M.E. 1995. *Collybia*. In: Bas, C.; Kuyper, Th.W.; Noordeloos, M.E.; Vellinga, E.C., eds. Flora Agaricina Neerlandica. Rotterdam, The Netherlands: A.A. Balkema: 106-123. Vol. 3.

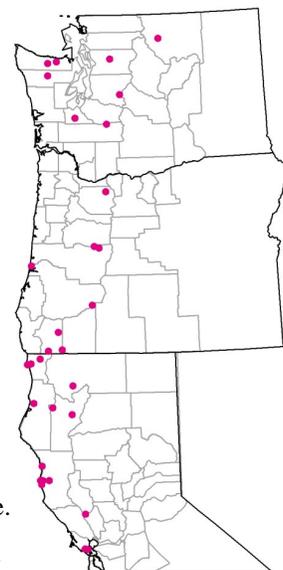


Photo courtesy of George L. Barron

Cordyceps capitata (Fr.) LinkROD name *Cordyceps capitata*

Family Clavicipitaceae Morphological Habit earth tongue

Description: **SPOROCARP** capitate, 2-12 cm tall, spore bearing region conspicuously enlarged from stem, typically ovoid to spherical heads, 5-20 x 5-15 mm, brown to olive to olive-black, punctate to rough, cortex of brown pseudoparenchymatous hyphae. **STEM** 2-10 mm x 2-10 cm, brown-yellow to olive-tan to olive-gray to olive-black, often furfuraceous. **SPORE-BEARING STRUCTURES** ovoid, 650-950 x 250-450 μm, entirely embedded. **ASCI** cylindrical, 350-550 x 10-14 μm, gradually narrowing below with a pronounced hemispherical apical cap possessing a pore. **SPORES** filiform, multiseptate, breaking up into single-celled, cylindrical to slightly fusiform part spores 8-30 x 2.5-3 μm, hyaline.

Distinguishing Features: *Cordyceps canadensis*, *C. valliformis*, and *C. fracta* are all similar to *C. capitata* in that they all possess ovoidlike caps and fruit from *Elaphomyces* species. These taxa are characterized by part spore dimensions and the presence or absence of clava possessing an ectal layer differentiated by palisadelike hyphae. *Cordyceps canadensis* is the most similar to *C. capitata*. The former possesses a differentiated ectal layer on the cap, whereas the latter does not.

Distribution: Widespread but locally rare in the Northern Hemisphere. **CALIFORNIA**, Del Norte Co., Yurok Experimental Forest, on hillside of forest road; **Humboldt Co.**, Patrick's Point State Park; Prairie Creek State Park, along Prairie Creek trail; Redwood Forest; **Marin Co.**, Golden Gate National Recreation Area, Inverness; **Mendocino Co.**, Jackson State Forest, Aleuria Glen; **Sonoma Co.**, Salt Point State Park, off Hwy. 1; **OREGON**, **Clackamas Co.**, Bureau of Land Management, Cascades Resource Area, north fork of Eagle Creek; Mount Hood National Forest, Still Creek; **Clatsop Co.**, Ecola State Park, Cannon Beach; **Coos Co.**, 11.3 km south of Bandon; **Lane Co.**, Siuslaw National Forest (SNF), Siltcoos River; **Lincoln Co.**, SNF, Cascade Head Experimental Forest; **Linn Co.**, Roaring River State Fish Hatchery; **Tillamook Co.**, SNF, Cascade Experimental Forest, Cascade Head; **Yamhill Co.**, SNF, 4.8 km south of Green Top; **WASHINGTON**, **Clallam Co.**, Olympic National Park (ONP), Olympic Hot Springs; ONP, Sol Duc Hot Springs; Olympic National Forest (ONF), Soleduc Falls; **Grays Harbor Co.**, Olympic State Wildlife Recreation Area, Humptulips; ONF, Lake Quinault; **Mason Co.**, ONF, Olympic Mountains, Lake Cushman; **Pierce Co.**, Mount Rainier National Park (MRNP), Longmire; MRNP, Lower Kautz Creek; MRNP, Lower Tahoma Creek; MRNP, Nisqually River; **Skamania Co.**, Gifford Pinchot National Forest, Pacific Crest Trail; **Snohomish Co.**, Mount Baker-Snoqualmie National Forest, Barlow Pass; Troublesome Creek.

Substrate and Habitat: Parasitic on various *Elaphomyces* species.

Season: Autumn.

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

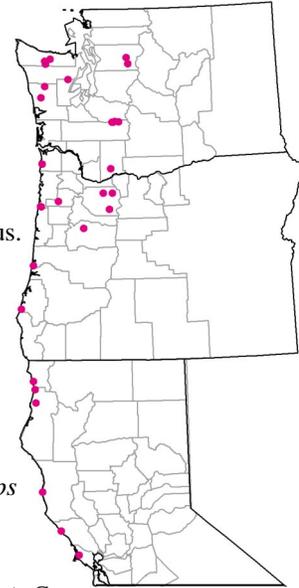


Photo courtesy of George L. Barron



Photo courtesy of Michael Castellano

Cordyceps ophioglossoides (Fr.) Link

ROD name *Cordyceps ophioglossoides*

Family Clavicipitaceae **Morphological Habit** earth tongue

Description: **SPOROCARPS** clavate, simple or rarely branched, 2-8 cm long, attached to host via rhizomorphs. Spore-bearing region not conspicuously enlarged from stem, typically an elongated clavate head, one-third to one-half entire length of sporocarp, 3-8 mm in diam., red-brown to olive-brown to olive-black, punctate cortex of pseudoparenchymatous hyphae. **STEM** 2-8 mm x 1-6 cm, brown-yellow to olive to dark brown. **SPORE-BEARING TISSUE** ovoid, 600-800 x 250-500 μm . **ASCI** cylindrical, 400-450 x 5-8 μm , gradually narrowing below with a pronounced hemispherical apical cap possessing a pore. **SPORES** filiform, multiseptate, breaking up into single-celled, cylindrical, truncate part spores 2-5 x 1.5-2 μm , hyaline.

Distinguishing Features: Other *Cordyceps* species that fruit on *Elaphomyces* species, which are morphologically similar to *C. ophioglossoides*; i.e., they possess clavate heads and usually form rhizomorphs, include *C. tenuispora* and *C. japonica*. These taxa possess larger part spores than *C. ophioglossoides*.

Distribution: Widespread but locally uncommon in the Northern Hemisphere.

CALIFORNIA, Humboldt Co., Patricks Point State Park; Big Lagoon County Park; **OREGON**, Clackamas Co., Mount Hood National Forest (MHNF), Still Creek; MHNF, Middle Fork Salmon River; Lane Co., Florence, Ada Park; Lincoln Co., Siuslaw National Forest, Cascade Head Experimental Forest; **WASHINGTON**, Clallam Co., Olympic National Park (ONP), Soleduc Hot Springs trail; Jefferson Co., ONP, Twin Creek at Hoh River Rd.; Pierce Co., Mount Rainier National Park (MRNP), Green Lake trail; MRNP, Lower Tahoma Creek; Skagit Co., North Cascades National Park, Cascade Pass trailhead; Snohomish Co., Mount Baker-Snoqualmie National Forest, south fork of Sauk River.

Substrate and Habitat: Parasitic on various *Elaphomyces* species, including *E. cervinus*, *E. granulatus*, *E. muricatus*, and *E. variegatus*.

Season: Autumn.

Reference: Phillips, R. 1991. Mushrooms of North America. Boston, MA: Little, Brown and Co. 319 p.

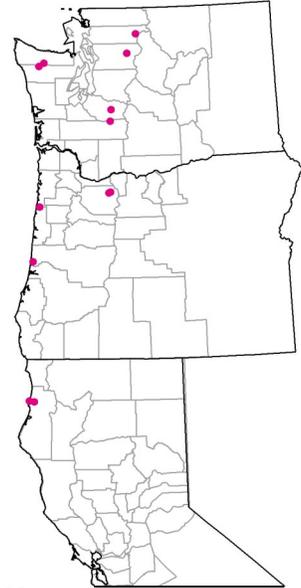


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