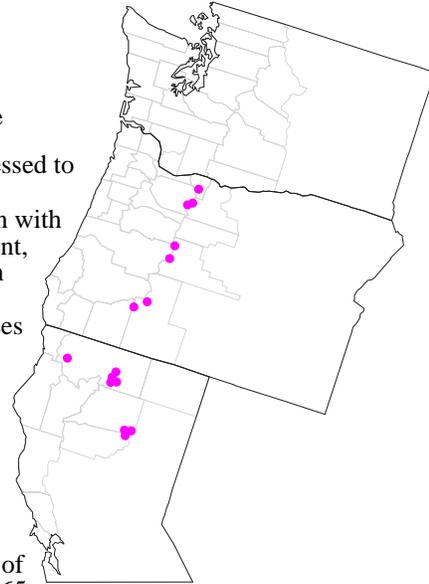


Gastroboletus subalpinus Trappe & ThiersROD name *Gastroboletus subalpinus*

Family Boletaceae

Morphological Habit sequestrate

Description: **SPOROCARPS** 60-100 mm broad, convex, plane, deeply depressed to plano-convex. **PERIDIAL UPPER SURFACE** dry to moist, glabrous, velutinous to subtomentose, pale buff to pale olive buff, unchanging or darkening to brown with age; peridium on lateral and undersides of gleba white, thin, velvety, persistent, peridial flesh in some sporocarps slowly staining pink to gray-lavender when cut. **GLEBA** tubulose, 10-30 mm long, in youth gray-yellow, dark olive buff, becoming olive-brown. **TUBES** oriented mostly curved and oriented 20 degrees from vertical to horizontal or angled upwards near edges of the sporocarp. **TUBE MOUTHS** small, less than 1 mm broad, concolorous with tubes, unchanging when bruised. **STEM-COLUMELLA** 20-50 mm long, 20-45 mm thick at apex, subventricose or tapering downward. **FLESH** white, unchanging. **ODOR** mild to farinaceous. **TASTE** mild, pleasant. **PERIDIAL EPICUTIS** covered with densely interwoven, much branched hyphae 4-15 μ m broad, with erect, tapered, blunt-tipped terminal cells 7-12 x 25-45 μ m. In KOH all hyphae hyaline, in Melzer's reagent hyphae pallid to pale yellow to bright red-brown. Peridial epicutis a trichodermium that collapses with age, of blunt-tipped, cylindrical to tapered to occasionally subcapitate cells 8-12 x 27-65 μ m, subtrichodermial hyphae interwoven, 4-10 μ m broad, hyaline except for localized pale golden brown areas, oleiferous hyphae abundant. Flesh of upper peridium of thin-walled, often inflated, loosely interwoven hyphae (3) 8-25 μ m broad. Hyaline, oleiferous hyphae 12-20 μ m broad and with walls thickened to 1 μ m scattered throughout. **STEM-COLUMELLA FLESH** a palisade of hyaline, clavate cells 6-15 x 22-35 μ m, with occasional fertile basidia, collapsing in age and then present only at remnant patches overlaid by hyaline, subparallel to interwoven hyphae 4-15 μ m broad. Oleiferous hyphae abundant. **TRAMA OF TUBES** 60-80 μ m wide, consisting of hyaline, parallel hyphae 4-6 (8) μ m broad, not divergent. **SUBHYMENTUM** similar to trama but with inflated cells 5-15 μ m broad scattered throughout. **BASIDIA** 4-spored, 8-13 x 40-48 μ m, thin-walled, hyaline, clavate, sterigmata 3-4 μ m long. **BRACHYBASIDIOLES** 7-12 x 25-40 μ m, similar in shape to basidia. **CYSTIDIA** hyaline, thin-walled, subcylindric to clavate to tapered, 7-10 x 24-75 μ m. **CLAMP CONNECTIONS** absent. **SPORES** ellipsoid, oblong to subovate, occasionally allantoid, 4.5-6 (8) x 10-16 (18) μ m, smooth, asymmetrical, pale yellow to ochraceous in KOH, moderately thick-walled.



Distinguishing Features: Characterized by its smooth, generally white to pallid peridium and stem.

Distribution: Endemic to California and Oregon. Known from eighteen sites within the range of the northern spotted owl: **CALIFORNIA**, **Siskiyou Co.**, Shasta-Trinity National Forest, Panther Meadow; Shasta-Trinity National Forest, Panther Creek area, Shasta-Trinity National Forest, Horse camp, Shasta-Trinity National Forest, Bear Springs; Shasta-Trinity National Forest, Marble Mountain Wilderness Area, Haypress trail; **OREGON**, **Clackamas Co.**, Mount Hood National Forest, Timothy Lake; Mount Hood National Forest, Clackamas Lake; **Deschutes Co.**, Deschutes National Forest, Elk Lake; **Douglas Co.**, Umpqua National Forest, Bradley Creek; Umpqua National Forest, Cascade Pass; **Hood River Co.**, Mount Hood National Forest, Cloud Cap; **Klamath Co.**, Winema National Forest, 2 miles east of Cascade Pass; Crater Lake National Park, Goodbye campground; **Lane Co.**, Willamette National Forest, 1 mile west of Frog camp. Also known from outside the assessment area in Lassen Volcanic National Park in California.

Substrate and habitat: Forms sporocarps beneath the soil surface associated with the roots of various Pinaceae above 4,700 ft. elevation, particularly *Abies magnifica*, *Pinus albicaulis*, *P. contorta*, and *Tsuga mertensiana*.

Season: Fruits in September and October.

References: THIERS, H.D., AND TRAPPE, J.M. 1969. Studies in the genus *Gastroboletus*. Brittonia 21:249-251.

NOTES:



Photo courtesy of Dr. J.M. Trappe