

## Matchmaker: Mushrooms of the Pacific Northwest

Below are written descriptions and images of fruiting bodies, mushrooms, of the fungal species in this ectomycorrhizal association. The information is from the web version of the Matchmaker: Mushrooms of the Pacific Northwest (MMPNW) created by the Canadian Forest Service and based on the Windows MMPNW version 1.3 by Ian and Eli Gibson.

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**LATIN NAME(S)** *Tricholoma sulphureum* (Fr.) Staude Die Schwamme Mitteldeut. 126. 1858

**ENGLISH NAME(S)** the stinker

**NOTES** characterized by yellowish overall color (the disc may have some brown color), dry bald cap, and coal tar odor; the Breitenbach(3) description is for *Tricholoma sulphureum* (Bull.:Fr.) Kummer; fairly common in Pacific Northwest under conifers (Arora), and included in PNW keys, **CHEMICAL REACTIONS** some *sulphureum* allies apparently staining green or blue-green with PDAB

**CAP** 2-8cm, convex to umbonate or sometimes flat; "yellow or sometimes olive-yellow, or tinged brownish to grayish-brown at center"; dry, smooth, (Arora), 2-5cm, obtuse when young, becoming flat; "very pale pinkish tan over disc, pale yellow elsewhere"; dry, bald, with occasionally scattered minute squamules, (Shanks), 2-8cm, hemispheric then convex, sometimes also conic, margin acute; "sulfur-yellow to red-brown and all intermediate colors, (but in differentiating from *T. amoenum*, they give color of *sulfureum* as yellowish to olive-colored, see also note on *bufonium* under **SIMILAR**), sometimes very finely (purple-) floccose toward the center"; smooth, dull, (Breitenbach(3))

**FLESH** rather thin; yellow, (Arora), pale greenish yellow, in stem pale yellow, (Shanks), thin, sulphur-yellow, (Breitenbach(3))

**GILLS** typically adnexed or notched, well-spaced, broad, thick; yellow, (Arora), adnate, subdistant, 0.2-0.5cm broad; pale yellow, not discoloring, (Shanks), notched, 32-38 reaching stem, broad; sulphur-yellow; edges smooth, (Breitenbach(3))



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**STEM** 4-10cm x 0.5-1.0cm, often rather long in relation to cap, more or less equal; yellow to olive-yellow or with darker fibrils; dry, smooth, (Arora), 4.0-4.5 x 0.7-1.3cm, equal or clubshaped, the base rounded or somewhat bulbous, solid; pale yellow overall but the base often with a slight vinaceous tinge; silky fibrillose with superficial fibrils projecting, (Shanks), 2.5-7(10)cm x 0.8-1.5(2.5)cm, cylindric to ventricose or somewhat clubshaped, solid, corticate, fragile; "sulfur-yellow, covered with gray to purple-reddish longitudinal fibrils, base whitish", (Breitenbach(3))

**VEIL** absent (Arora)

**ODOR** usually strong and repulsive like coal tar gas (or acetylene), (Arora), coal-tar (Shanks), repulsively like carbide-illuminating gas, (Breitenbach(3))

**TASTE** similar to odor (Shanks), mild (Breitenbach(3))

**EDIBILITY** no (Arora)

**HABITAT** scattered to gregarious on ground under both hardwoods and conifers, (Arora), scattered to gregarious under conifers in coastal forests (Shanks for California), solitary to gregarious in hardwood and coniferous forests, among leaf or needle litter, (Breitenbach(3))

**SPORE DEPOSIT** white (Arora)

**MICROSCOPIC** spores 8-12 x 5-6 microns, elliptic, smooth, presumably inamyloid, (Arora), spores 8.6-12.0 x 5.3-7.2 microns, elliptic or fusoid-ventricose (spindle-shaped - wider in middle) in face view, almond-shaped or elliptic in side view, smooth, inamyloid, occasional spores thick-walled and dextrinoid; basidia 38-52 x 9.6-12 microns, clavate, colorless, basidioles occasionally with violet contents in KOH, smooth; pleurocystidia and cheilocystidia absent; clamp connections present at base of the basidia in some collections, (Shanks), spores 8.2-10.9 x 5.5-7 microns, broadly elliptic to amygdaliform (almond-shaped), smooth, with drops; basidia 4-spored, 35-45 x 9-10 microns, cylindric-clavate; pleurocystidia and cheilocystidia not seen; basal clamp on basidia, rare or apparently absent on cap cuticle, (Breitenbach(3))

**NAME ORIGIN** means 'sulphury'

**SIMILAR** like several others that have or can have coal tar odor: bufonium which has a reddish brown cap, inamoenum and platyphyllum which are white to creamy, sulphurescens which has variable odor and whitish cap with yellow to orange yellow to ochraceous patches, and odorum which has variable odor and yellowish cap which becomes buff; with regard to bufonium, Breitenbach(3) et al. remark, "Many authors place this species in the circle of forms around *Tricholoma sulphureum*... or consider it to be one of its varieties...We noticed that the number of lamellae in our collections of *T. bufonium* was about twice as large as in *T. sulfureum*. If this feature is constant, it would surely justify the rank of species."

**SOURCES** Shanks(2), Breitenbach(3)\*, Arora, Lincoff(1)\*, Kibby\*, Courtecuisse\*, McKnight\*

**FAMILY** Tricholomataceae of Order Agaricales