

## 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)** *Pholiota highlandensis* (Peck) Smith & Hesler  
North American Species of *Pholiota* p.287. 1968; *Pholiota carbonaria* (Fr.) Singer; *Gymnopilus carbonarius* (Fr.) Murrill; *Flammula highlandensis* (Peck) Peck

**NOTES** features include hygrophanous fulvous to reddish-brown cap that is smooth except for remnants of whitish to yellowish-buff veil on margin, close broad gills that are pallid or pale yellowish becoming cinnamon-brown, stem that is whitish to yellowish becoming dingy brown on top part and pallid then darker brown on lower part, growth on burned soil or burned wood, cinnamon brown spore deposit, and microscopic characters; Smith(3) examined collections from WA, ID, and also AL, CA, CO, LA, MD, MI, NM, NY, TN, TX, WY, Germany, Sweden, United Kingdom, Ammirati(11) said "fairly common and widely distributed and certainly occurs across Canada and throughout the United States", Breitenbach & Kranzlin give distribution as North America, Europe, Asia, North Africa

**CAP** 2-5cm, broadly convex becoming flatter and somewhat depressed, sometimes with a low umbo; hygrophanous, yellowy orange to cinnamon reddish brown with a paler margin, fading to ochraceous-buff colors; smooth except for veil remnants on the margin, (Phillips), 2-4(6)cm, convex, becoming somewhat depressed, at times with low umbo; hygrophanous, fulvous or reddish-cinnamon-brown to reddish brown, the margin usually paler, colors varying "russet", "tawny", "pecan brown", "Verona brown", or when old almost "mummy brown", fading to various shades around "ochraceous-buff"; viscid, bald except for veil remnants along the margin which fall off, margin even, (Smith)

**FLESH** thin; yellow, (Phillips), rather thin; yellow to nearly colored as cap, (Smith)



Ben Woo

**GILLS** adnate, close, broad; pallid or pale yellowish becoming cinnamon-brown; edges even or eroded, (Phillips), adnate or rounded adnate, close, broad; pallid to pale-yellowish when young, becoming "snuff-brown" or "cinnamon-brown"; edges even or eroded, (Smith)

**STEM** 2-4cm x 0.3-0.6cm, "top portion whitish to yellowish becoming dingy brown, lower portion pallid then brownish (darker than the top), with patches of pale yellow or buff veil remnants", (Phillips), (1)2-4cm x (0.2)0.3-0.6cm, whitish to yellowish at first, becoming dingy brownish, lower part pallid then dark brown (darker than top); on lower part with zones or patches of pallid yellow to pale buff veil at first, (Smith)

**VEIL** pallid yellow to "cinnamon-buff" (pale buff), forming a fleeting fibrillose ring zone, but stem becoming bald, (Smith)

**ODOR** not distinctive (Phillips, Smith)

**TASTE** slightly disagreeable or none (Phillips, Smith)

**EDIBILITY** poisonous (Ammirati(11) cite a case requiring a child to be hospitalised for dysentery for 10 days after consuming about 20 caps verified by A.H.Smith to be *P. highlandensis*)

**HABITAT** on burned soil or burned wood, from spring to winter, (Smith), scattered to gregarious or cespitose (tufted) on pieces of burned or charred wood or on burned soil, from late spring to winter, (Ammirati)

**SPORE DEPOSIT** cinnamon brown (Phillips), "cinnamon-brown" (Smith)

**MICROSCOPIC** spores 6-8 x 4-4.5 microns, mostly elliptic but varying to ovate in face view, somewhat elliptic to obscurely inequilateral in side view, smooth, distinct pore at apex, wall about 0.3 microns thick, dark rusty brown (near cinnamon brown) in KOH, pale and more ochraceous in Melzer's, (Smith); basidia 4-spored, 25-32 x 7-8 microns, subcylindric to clavate, yellowish to colorless in KOH, yellowish in Melzer's, in American material often 18-24 x 5-6 microns; pleurocystidia 38-65(70) x 7-15 microns, fusoid-ventricose, apex obtuse, smooth, thin-walled, content often ochraceous in KOH; cheilocystidia like pleurocystidia but smaller (30-50 x 7-12 microns) but varying to subfusoid to nearly clavate, content yellow to colorless; clamp connections present, (Smith)

**NAME ORIGIN** means 'from Highland' after Highland Falls, New York where Peck's type was found

**SIMILAR** seven others in growing on burned areas: *P. brunnescens* (yellow veil and thicker stem), *P. carbonaria* (rusty-red to reddish veil), *P. fulvozonata* (orange-brown or russet colored veil), *P. molesta* (white veil which becomes dingy brownish orange and separates into zones and patches on stem, pale pinkish-buff young cap which develops a reddish or brownish flush), *Pachylepyrium carbonicola* (pallid veil and slimmer stem (0.25-0.35cm, thick spore walls 0.5-1.8 microns), *Pholiota subsaponacea* (dull cinnamon veil, unpleasant taste), and type of *Pholiota punicea* with blood red cap found on a burned stump

**SOURCES** Smith(3), Phillips\*, Kibby\*, Courtecuisse\*, Ammirati(11)\*, Breitenbach(4)\*

**FAMILY** Strophariaceae of Order Agaricales