

Cortinarius kroegeri Niskanen, Liimat., Harrower, Berbee, Garnica & Ammirati, sp.nov.

IF551939

Pileus (2) 3.5-7 cm diam, broadly convex to plane or uplifted, broadly umbonate to flattened on disc, margin decurved to plane or upturned, moist, more or less hygrophanous, with some scattered yellow fibrils and small scales on surface, margin subfragile, breaking and splitting in age, opaque or short striate on the edge of margin, color moist brownish orange to orange brown mixed with reddish brown, becoming dull reddish orange to dark orange with yellowish at the edge, often fading from the center outward. Lamellae yellowish brown to brownish yellow, more yellowish edges, developing reddish orange brown discolorations, edges uneven and splitting in age, sinuate to adnexed, with a decurrent tooth, more or less thick, close to subdistant. Stipe (3) 4.5-9 cm long, 6-13 mm thick above, tapered to base below, color pale yellow to light yellow mixed with streaks of orange red brown, brownish orange and brownish yellow, base sometimes becoming dark orange brown, surface with some superficial reddish orange brown fibrils mature. Context 5-7 mm on disc, thin over lamellae, in pileus dull brown or concolor with surface, yellowish faded, in stipe fibrous, narrowly hollow in places, pale yellow in places but usually brownish yellow to reddish orange brown, in base becoming dark reddish orange brown. Odor fungoid. Taste mild. Basidiospores 7.8-9.3 x 5.9-7um, L/W 1.3-1.4, broadly ellipsoid to subglobose, distinctly verrucose, not or faintly dextrinoid. Basidia 4-spored. Pileipellis with thin surface layer, hyphae cylindrical to broadly cylindrical, mostly 4-12 um wide, some end cells irregularly shaped, colorless to pale yellowish or with some yellow pigment, more or less encrusted, wall refractive layer beneath surface well developed, hyphae broadly cylindrical to enlarged, 7.5-23 um wide, colorless to yellowish, with some yellowish pigment, walls refractive, more or less encrusted trama beneath of compacted, darker orange to orange yellow hyphae. Clamp connections present. Remarks: Similar in aspect and general coloration to *C. limonius* (Fr.:Fr.) Fr. Currently, *C. kroegeri* is only known from the western North America whereas *C. limonius* is known from Europe and eastern North America but further study will be necessary to determine this for certain. The ITS sequence (GenBank no. FJ157053, holotype) of *C. kroegeri* is distinct from the other members of section Limoni and deviating from the sister species *C. limonius* (UNITE no. UDB001086) by about 10 substitutions and indel positions. Ecology and distribution: solitary to gregarious, in moist, old growth forests with *Abies* and *Tsuga* or *Tsuga* and *Picea*, in soil and duff or among mosses, September to mid-October. Currently only known from Canada, British Columbia and USA, Washington. Canada: British Columbia. Queen Charlotte Islands. Ellen Island, F15371 (UBC), GenBank no. FJ157055, 2004 Sep 10 Quadra Rocks Point, Moresby Island, F15952 (UBC) (Holotype), GenBank no. FJ157053, 2005 Sep 05 Huxley Island, F15895 (UBC), GenBank no. FJ157050, 2005 Sep 02 Heater Harbour, Kunghit Island, F16045 (UBC), GenBank no. FJ157054, 2005 Sep 07 Windy Bay, Lyell Island, F15469 (UBC), GenBank no. FJ157048, 2004 Sep 16 Rose Inlet Estuary, Moresby Island, F15150 (UBC), GenBank no. FJ157047, 2003 Sep 05 Echo Harbour, Moresby Island, F16151 (UBC), GenBank no. FJ157046, 2005 Sep 10 Section Cove, Burnaby Island, F15941 (UBC), GenBank no. FJ157051, 2005 Sep 03 Boschniakia Point, West side of Rose Inlet, Moresby Island, F15965 (UBC), GenBank no. FJ157052, 2005 Sep 05. USA: Washington, Snohomish County, Barlow Pass, JFA10055 (WTU), 1989 Sep 09 JFA10711 (WTU), 1992 Sep 07. Etymology: Named for Paul Kroeger, well known Canadian mycologist.

Holotype Canada. British Columbia, Queen Charlotte Islands, Quadra Rocks Point, Moresby Island, F15952 (UBC), GenBank no. FJ157053, 2005 Sep 05, in soil and duff, under *Tsuga* and *Picea*..