

= *Cortinarius vanduzerensis* =

Cortinarius vanduzerensis is a species of mushroom in the family Cortinariaceae . Described as new to science in 1972 , it is known only from the Pacific Northwest region of North America , where it grows under conifers such as spruce , hemlock , and Douglas @-@ fir . The fruit bodies of the fungus , or mushrooms , have a slimy dark chestnut @-@ brown cap that becomes deeply radially grooved or corrugated in maturity , and reaches diameters of up to 8 cm (3 @. @ 1 in) . The gills on the underside of the cap are initially pinkish @-@ buff before becoming pale brown when the spores mature . The stem is lavender , measuring 10 ? 18 cm (3 @. @ 9 ? 7 @. @ 1 in) long and 1 ? 2 cm (0 @. @ 4 ? 0 @. @ 8 in) thick . The mushroom produces a rusty @-@ brown spore print , with individual spores measuring 12 ? 14 by 7 ? 8 micrometers . The edibility of the mushroom has not been determined , and it has been described as " much too slippery to be of value " .

= = Taxonomy = =

The species was described in 1972 by mycologists Alexander H. Smith and James M. Trappe , based on specimens they found in Cascade Head in Tillamook County , Oregon , in October and November 1970 . The species had also been called *Cortinarius elatior* , but that name refers to a European species . Within the genus *Cortinarius* , *C. vanduzerensis* is classified in the subgenus *Myxacium* . This subgenus includes species in which both the cap and stem are sticky as a result of a glutinous universal veil . Based on the nucleic acid sequence similarity in the internal transcribed spacer region , *C. vanduzerensis* is closely related to the European and North American *C. mucifluus* and the Costa Rican species *C. costaricensis* .

A common name for the species is the " pointed *Cortinarius* " , while the specific epithet *vanduzerensis* refers to the H.B. van Duzer Forest where the species was originally collected .

= = Description = =

Young fruit bodies of *C. vanduzerensis* are covered with a slimy universal veil ; the slime layer persists on the cap of young mushrooms , or in moist weather . The shape of the cap is oval to conical with the margin initially appressed , expanding to broadly conic or somewhat flattened in maturity , eventually reaching diameters of 4 ? 8 cm (1 @. @ 6 ? 3 @. @ 1 in) . The cap color is initially chestnut @-@ brown to black , but becomes paler brown as it matures . The surface is radially wrinkled or corrugated , especially near the margin . The flesh is pallid but soon pale cinnamon @-@ buff . The odor and taste are not distinctive . A drop of FeSO₄ solution (a reagent commonly used in mushroom identification) applied to the surface of the cap will turn olive @-@ green .

The gills are pinkish @-@ buff when young (in unopened caps) , dull cinnamon @-@ brown at maturity when the spores mature . They are packed close together , and are adnate or adnexed . The stem is 10 ? 18 cm (3 @. @ 9 ? 7 @. @ 1 in) long , 1 ? 2 cm (0 @. @ 4 ? 0 @. @ 8 in) thick , narrowed slightly to the base . It is pallid within but slowly cinnamon buff at least near the base . The stem surface has a thick slime @-@ veil , and is lavender to light purple on the upper portion , but darker on the lower portion . Sometimes the universal veil breaks up into concentric zones over the lower third of the stem .

The edibility of the mushroom is not known . David Arora notes that it is " much too slippery to be of value " .

The spore print is a rusty @-@ brown color . In face view , the spores are broadly elliptic to ovate (egg @-@ shaped) , while in profile they appear broadly inequilateral ; they have dimensions of 12 ? 14 by 7 ? 8 ?m . The spore surface is roughened with warts , and they lack an apical pore . The spores contain two nuclei . The basidia (spore @-@ bearing cells in the hymenium) are four @-@ spored , broadly club @-@ shaped , and have contents that are often in the form of yellow masses or granules when stained in Melzer 's reagent . The cheilocystidia (cystidia on the gill edge) are club @-@ shaped , sometimes with an abruptly tapering point , and measure 17 ? 26 by 9 ? 15 ?m .

There are no pleurocystidia (cystidia on the gill face) . The gill tissue is made of hyphae that are arranged in a roughly parallel fashion (subparallel) ; there are also brownish to orange @-@ brown fat @-@ containing hyphae present . The epicutis (outer layer of tissue) of the cap is made of a turf of gelatinous hyphae that measure 2 @. @ 5 ? 6 ?m wide ; clamp connections are absent to rare in the hyphae . The veil hyphae are 4 ? 8 ?m wide , and hyaline (translucent) to yellow when mounted in a dilute solution of KOH . The hyphae of the cortex of the stem are subparallel , and clamps are present .

= = = Similar species = = =

Smith and Trappe noted a similarity to the European *Cortinarius elatior* , but this species has violet gills at first . *C. collinitis* has a lighter brown slimy cap , with glutinous bands on the stem that are rarely tinged purple . A third species in this group , *C. cylindripes* has a lighter colored , sometimes wrinkled cap , and gills that are pale purple when young with fringed edges . *C. stillatitius* is a related European species found in coniferous (sometimes in mixed) forests . Another glutinous , dark @-@ brown capped species with which *C. vanduzerensis* might be confused is *Phaeocollybia spadicea* , but this species has pseudorhiza (a subterranean elongation of the stem) at the stem base and gills that are free from attachment to the stem .

= = Habitat and distribution = =

Cortinarius vanduzerensis is a mycorrhizal mushroom that grows in association with conifer trees . The fruit bodies grow solitarily , scattered , in rings or in groups under spruce , hemlock , and Douglas @-@ fir . The mushroom is known only from the Pacific Northwest region of North America , including the Queen Charlotte Islands on the north Coast of British Columbia , Canada . It fruits in the autumn and early winter , or in the late summer in western Canada . Its frequency of occurrence has been described variously as " very common " , to " fairly common " , or " rare " everywhere except Oregon " .