

= *Pluteus nevadensis* =

Pluteus nevadensis is a species of fungus in the agaric family Pluteaceae . Described as new to science in 2010 , the species is known only from subtropical and pine forests in Mexico , where it grows on rotting pine and oak wood . Fruit bodies (mushrooms) have red @-@ orange caps up to 3 @.@ 8 cm (1 @.@ 5 in) in diameter with a shape ranging from conic , convex , or flattened , depending on their age . The silky yellow stems are up to 4 @.@ 5 cm (1 @.@ 8 in) long . It is similar in appearance to *Pluteus aurantiorugosus* , with which it shares an orange- or scarlet @-@ colored cap and a yellow stem . *P. nevadensis* can be distinguished from this and other superficially similar *Pluteus* species by differences in microscopic characteristics .

= = Taxonomy = =

The species was described by Olivia Rodríguez in 2010 in the journal *Mycotaxon* , based on collections made in 1991 . The holotype material was collected on the Colima volcano , in the Municipality of Zapotlán el Grande , at an elevation of 2 @,@ 100 m (6 @,@ 900 ft) . The species was formerly referred to *Pluteus aurantiorugosus* , with which it bears a close resemblance . After close examination and comparison of the two species , the authors concluded that the differences in morphology and DNA sequence were sufficient to warrant describing a new species .

According to Rolf Singer 's infrageneric classification of the genus *Pluteus* , the fungus belongs in the section *Celluloderma* . Species in this section have pleurocystidia that are either absent or non @-@ metuloid . Furthermore , the majority have a cap cuticle comprising short club @-@ shaped or spheropedunculate (somewhat spherical with a stem) cells , that may or may not be mixed with elongated cystidia @-@ like cells . Other species in *Celluloderma* include *P. romellii* , *P. aurantiorugosus* , *P. pulverulentus* , *P. thompsonii* , and *P. horakianus* . Molecular analyses of internal transcribed spacer DNA sequences supports the placement of *P. nevadensis* in *Celluloderma* , and further suggest that it has a sister relationship with *P. horakianus* . The specific epithet *nevadensis* refers to the mountain , Nevado de Colima , where the type material was collected .

= = Description = =

The cap is 15 ? 38 mm (0 @.@ 6 ? 1 @.@ 5 in) in diameter , conic when young , bell @-@ shaped to convex or plano @-@ convex when mature , and umbonate . The cap margin is curved downward , even or slightly eroded . The red @-@ orange cap surface is dry to moist , and wrinkled towards the margin but smooths out as it approaches the center . Sometimes there is white @-@ yellowish flesh underneath the cap cuticle . The gills are free from attachment to the stem , crowded closely together , broad to swollen in the middle , and white or whitish when young to salmon @-@ pinkish in age . The edge of the gill is floccose (with wool @-@ like tufts) or fringed , and whitish . The stem , which is centrally attached to the cap , measures 6 ? 45 mm (0 @.@ 24 ? 1 @.@ 77 in) by 2 ? 6 mm (0 @.@ 08 ? 0 @.@ 24 in) , and is roughly equal in width throughout . It is smooth to slightly fibrillose (covered in small slender fibers or filaments) , silky , and hollow . The color is yellow or yellowish near the top , and deep orange or with orange tinges towards the base . The base of the stem is covered with cottony whitish mycelia . The flesh of the cap is 1 mm thick or more at the center and whitish . The stem tissue is yellowish or yellow gold . Fruit bodies of *Pluteus nevadensis* have no distinctive taste or odor .

The color of the spore print is pinkish @-@ brown . The smooth spores measure 5 @.@ 5 ? 7 by 4 @.@ 5 ? 6 @.@ 5 µm , roughly spherical to broadly ellipsoid in shape . Their walls are thin to slightly thickened , and almost translucent . The basidia (spore @-@ bearing cells in the hymenium) are 22 ? 29 by 6 @.@ 5 ? 7 @.@ 5 µm (including sterigmata) , club @-@ shaped , and four @-@ spored . They have refringent contents and are hyaline (translucent) . The pleurocystidia (cystidia on the gill face) are 41 @.@ 8 ? 75 by 11 @.@ 8 ? 24 µm , frequent , scattered , and flask @-@ shaped with short or elongated necks . Some pleurocystidia are somewhat fusiform (tapered

on each end) or somewhat utriform (shaped like a leather bottle or flask) , thin @-@ walled , and hyaline . Cheilocystidia (cystidia on the gill edge) are 32 ? 55 by 10 ? 18 @.@ 5 μ m , crowded , and club @-@ shaped . Some are utriform , roughly cylindrical or egg @-@ shaped , thin walled , and hyaline . The gill tissue is convergent , meaning that the hyphae appear to converge toward the center of the tissue . The cap cuticle comprises club @-@ shaped or sphaeropedunculate cells that measure 25 @.@ 6 ? 60 by 13 @.@ 6 ? 31 @.@ 2 μ m . These cells typically have a long pedicel (stalk) with a thin or slightly thickened wall , and are hyaline . The species lacks oleiferous hyphae (filled with oil @-@ like contents) and clamp connections .

= = = Similar species = = =

Pluteus aurantiorugosus is very similar to *P. nevadensis* in external appearance , and the two can only be reliably distinguished by microscopic characteristics or DNA sequence . In contrast to the latter species , the former has oblong spores , and cystidia that are shorter and less slender . *P. aurantiorugosus* is widely distributed in the Northern Hemisphere , but rare .

The species *Pluteus horakianus* shares with *P. nevadensis* a fragile fruit body , a red cap , and similar cystidial morphology . It differs in its orange @-@ red gill edges , red stem , and cap cuticle cells that contain pigment . Other species with a roughly similar appearance , including *P. aurantiopustulatus* , *P. aurantipes* , *P. flammipes* , *P. laetifrons* , and *P. laetus* , can be distinguished by differences in microscopic characteristics .

= = Habitat and distribution = =

Pluteus nevadensis is known only from subtropical and pine forests in the states of Guerrero and Jalisco , Mexico , where it grows on the rotting wood of pine and oak . It is one of 34 *Pluteus* species known in Mexico .