

= *Mycena multiplicata* =

Mycena multiplicata is a species of mushroom in the *Mycenaceae* family . First described as a new species in 2007 , the mushroom is known only from Kanagawa , Japan , where it grows on dead fallen twigs in lowland forests dominated by oak . The mushroom has a whitish cap that reaches up to 13 mm (0 @. @ 51 in) in diameter atop a slender stem 15 to 20 mm (0 @. @ 59 to 0 @. @ 79 in) long by 1 to 1 @. @ 3 mm (0 @. @ 039 to 0 @. @ 051 in) thick . On the underside of the cap are whitish , distantly spaced gills that are narrowly attached to the stem . Microscopic characteristics of the mushroom include the amyloid spores (turning bluish @-@ black to black in the presence of Melzer 's reagent) , the pear @-@ shaped to broadly club @-@ shaped cheilocystidia (cystidia found on the gill edge) covered with a few to numerous , unevenly spaced , cylindrical protuberances , the lack of pleurocystidia (cystidia on the gill face) , and the diverticulate hyphae in the outer layer of the cap and stem . The edibility of the mushroom is unknown .

= = Taxonomy , naming , and classification = =

The mushroom was first collected by Japanese mycologist Haruki Takahashi in 1999 , and reported as a new species in a 2007 , along with seven other Japanese *Mycenas* . The specific epithet is derived from the Latin word *multiplicata* , meaning " multiplicative " . Its Japanese name is *Keashi* @-@ *ochiedatake* (?????????) .

Takahashi suggests that the mushroom is best classified in the section *Mycena* of the genus *Mycena* , as defined by Dutch *Mycena* specialist Maas Geesteranus .

= = Description = =

The cap of *M. multiplicata* is conical to convex to bell @-@ shaped , reaching 7 to 13 mm (0 @. @ 28 to 0 @. @ 51 in) in diameter . It is often shallowly grooved toward the margin , dry , and somewhat hygrophanous (changing color when it loses or absorbs water) . The cap surface is initially pruinose (appearing as if covered with a fine white powder) , but soon becomes smooth . The cap color is whitish , sometimes pale brownish at the center . The white flesh is up to 0 @. @ 3 mm thick , and does not have any distinctive taste or odor . The slender stem is 15 to 20 mm (0 @. @ 59 to 0 @. @ 79 in) long by 1 to 1 @. @ 3 mm (0 @. @ 039 to 0 @. @ 051 in) thick , cylindrical , centrally attached to the cap , and hollow . Its surface is dry , pruinose near the top , and covered with fine , soft hairs toward the base . It is whitish to grayish @-@ violet near the top , gradually becoming dark violet below . The stem base is covered with long , fairly coarse , whitish fibrils . The gills are narrowly attached to the stem , distantly spaced (between 13 and 16 gills reach the stem) , up to 1 @. @ 7 mm broad , thin , and whitish , with the gill edges the same color as the gill faces . The edibility of the mushroom has not been determined .

= = Microscopic characteristics = =

The spores are ellipsoid , thin @-@ walled , smooth , colorless , amyloid , and measure 8 ? 9 @. @ 5 by 4 μ m . The basidia (spore @-@ bearing cells) are 24 ? 31 by 6 @. @ 5 ? 7 @. @ 5 μ m , club @-@ shaped , four @-@ spored , and have clamps at the basal septa . The cheilocystidia (cystidia on the gill edge) are abundant , pear @-@ shaped to broadly club @-@ shaped , and measure 17 ? 28 by 11 ? 20 μ m . They are covered with a few to numerous excrescences (outgrowths) that are 2 ? 18 by 1 ? 3 μ m , colorless , and thin @-@ walled . The excrescences are unevenly spaced , simple to somewhat branched , cylindrical , and straight or curved . There are no pleurocystidia (cystidia on the gill face) in this species . The hymenophoral (gill @-@ producing) tissue is made of thin @-@ walled hyphae that are 7 ? 20 μ m wide , cylindrical (but often inflated) , smooth , hyaline (translucent) , and dextrinoid (staining reddish to reddish @-@ brown in Melzer 's reagent) . The cap cuticle is made of parallel , bent @-@ over hyphae that are 3 ? 5 μ m wide , cylindrical , and covered with simple to highly branched colorless diverticulae that have thin walls . The layer of

hyphae underneath the cap cuticle have a parallel arrangement , and are hyaline and dextrinoid , and made of short and inflated cells that are up to 52 μm wide . The stem cuticle is made of parallel , bent @-@ over hyphae that are 2 ? 10 μm wide , cylindrical , diverticulate , colorless or pale violet , dextrinoid , and thin @-@ walled . The caulocystidia (cystidia on the stem) are 2 ? 6 μm wide , and otherwise similar in appearance to the cheilocystidia . The stem tissue is made of longitudinally arranged , cylindrical hyphae measuring 5 ? 13 μm wide that are smooth , hyaline , and dextrinoid . Clamp connections are present in the cap cuticle and flesh , and at the septa at the base of the basidia .

= = = Similar species = = =

Within the section *Mycena* , *M. multiplicata* is similar to the Malaysian species *M. obcalyx* in having a grayish @-@ white cap , lobed cheilocystidia with finger @-@ like outgrowths , and a lignicolous habitat . *M. obcalyx* may be distinguished by forming much smaller fruit bodies (with caps 2 ? 4 mm wide) with subdecurrent gills , a pruinose , hyaline white stem , and broadly ellipsoid spores .

= = Habitat and distribution = =

Mycena multiplicata is known only from Kanagawa , Japan . It is found growing solitary or scattered , on dead fallen twigs in lowland forests dominated by the oak species *Quercus myrsinaefolia* and *Q. serrata* .