

= *Mycena lanuginosa* =

Mycena lanuginosa is a species of mushroom in the *Mycenaceae* family . First collected in 2000 and reported as a new species in 2007 , it is known only from lowland oak @-@ dominated forests in central Honshu in Japan . The small mushroom is characterized by its grooved , grayish @-@ brown to violet @-@ brown cap up to 11 mm (0 @.@ 43 in) in diameter , and the slender grayish @-@ brown to reddish @-@ brown stem covered with minute , fine , soft hairs . The mushroom produces amyloid spores (spores that stain when treated with Melzer 's reagent) . Microscopic distinguishing features include the smooth , spindle @-@ shaped cheilocystidia and pleurocystidia (cystidia on the gill edge and face , respectively) and the diverticulate elements in the outer layer of the cap and the stem .

= = Taxonomy , naming , and classification = =

Mycena lanuginosa was first collected by Haruki Takahashi in 2000 , and published as a new species in 2007 , along with seven other Japanese *Mycena* species . The specific epithet is derived from the Latin word *lanuginosa* , meaning " lanugineous " , referring to the hairy stem . The Japanese name for the mushroom is *Keashi @-@ hairotake* (?????????) .

The fungus is classified in the section *Fragilipedes* (Fr .) Quél . , as defined by Dutch *Mycena* specialist Maas Geesteranus . This section is the largest in the genus *Mycena* .

= = Description = =

The cap is 7 to 11 mm (0 @.@ 28 to 0 @.@ 43 in) in diameter , conical to convex to bell @-@ shaped , and has distinct radial grooves that extend almost to the center . It is dry , and somewhat hygrophanous (changing color as it loses or absorbs water) . The surface is initially pruinose (covered with what appears to be a fine white powder) , but soon becomes smooth . The cap is dark brown at the center , and gradually changes to reddish @-@ brown and finally to nearly white at the margin . The white flesh is up to 0 @.@ 5 mm thick , and does not have any distinctive taste or odor . The slender stem is 30 to 60 mm (1 @.@ 2 to 2 @.@ 4 in) long by 0 @.@ 8 to 1 @.@ 3 mm (0 @.@ 031 to 0 @.@ 051 in) thick , cylindrical , attached to the center of the cap , hollow , and dry . The top portion of the stem is pruinose , while near the base the surface is covered with soft , fine hairs . The stem color is grayish @-@ brown to reddish @-@ brown near the top , changing to reddish @-@ brown near the bottom . The stem base is covered with long , fairly coarse , whitish fibrils . The gills are narrowly attached to the stem , distantly spaced (12 ? 18 gills reach the stem) , up to 1 @.@ 5 mm broad , thin , and whitish , with the gill edges the same color as the gill faces .

= = = Microscopic characteristics = = =

The spores are roughly ellipsoid , smooth , thin @-@ walled , colorless , and measure 10 ? 12 by 5 @.@ 5 ? 6 @.@ 5 μm . They are amyloid , meaning they will stain blue to black when treated with Melzer 's reagent . The basidia (spore @-@ bearing cells) are 35 ? 42 by 7 ? 9 μm , club @-@ shaped , four @-@ spored , and have clamps at their bases . The abundant cheilocystidia (cystidia on the gill edge) are thin @-@ walled , and measure 40 ? 80 by 5 ? 15 μm . The smooth , colorless , and thin @-@ walled spindle @-@ shaped cells sometimes come to an abruptly tapering point ; they form a sterile gill edge . Like the cheilocystidia , the pleurocystidia (cystidia on the gill face) are also spindle @-@ shaped , abundant , smooth and thin @-@ walled ; they measure 63 ? 102 by 8 ? 15 μm . The hymenophoral tissue (tissue of the hymenium @-@ bearing structure) is made of smooth , thin @-@ walled element hyphae that are 3 ? 25 μm wide , roughly cylindrical (often inflated) , hyaline (translucent) , and dextrinoid (turning reddish to reddish @-@ brown in Melzer 's reagent) . The cap cuticle is made of parallel , bent @-@ over hyphae that are 2 ? 6 μm wide , and cylindrical . They can be either smooth , or covered with scattered , warty or finger @-@ like thin @-@ walled brownish diverticulae . The underlying hyphae have a parallel arrangement , and

are hyaline or brownish , dextrinoid , with short and inflated cells that are up to 35 µm wide . The stem cuticle is made of parallel , bent @-@ over hyphae measuring 3 ? 6 µm wide . These hyphae , as well as the terminal cells (caulocystidia) , have characteristics similar to the hyphae of the cap cuticle . The flesh of the stem is composed of longitudinally arranged , cylindrical hyphae that are 6 ? 20 µm wide , smooth , hyaline , and dextrinoid . Clamp connections are present in the cortical layer of cap and stem , and at the basal septa of the basidia .

= = = Similar species = = =

M. lanuginosa closely resembles *M. pilosella* , a species originally described from Netherlands by Maas Geesteranus , and the European species *M. zephrus* ; both are in the section *Fragilipedes* . *Mycena pilosella* differs in several microscopic characteristics : it has densely diverticulate elements of the cap cuticle ; long , cylindrical caulocystidia that diverge at a right angle ; and it does not have pleurocystidia . *Mycena zephrus* is distinct in forming a whitish cap , a stem that is initially minutely hairy but later becomes smooth , radish @-@ like odor , ellipsoid to cylindrical spores , and cheilocystidia with branches near the tip .

= = Habitat and distribution = =

Mycena lanuginosa is known only from Kanagawa , in Honshu , Japan . Fruit bodies are found solitary or scattered , on dead leaves and twigs in lowland forests dominated by the oak species *Quercus myrsinifolia* and *Q. serrata* . Fruiting occurs from March to November .