= Lepiota babruzalka =

Lepiota babruzalka is an agaric mushroom of the genus Lepiota in the order Agaricales . Described as new to science in 2009 , it is found in Kerala State , India , where it grows on the ground in litterfall around bamboo stems . Fruit bodies have caps that measure up to 1 @.@ 3 cm (0 @.@ 5 in) in diameter , and are covered with reddish @-@ brown scales . The cap is supported by a long and slender stem up to 4 @.@ 5 cm (1 @.@ 8 in) long and 1 @.@ 5 millimetres (0 @.@ 1 in) thick . One of the distinguishing microscopic features of the species is the variably shaped cystidia found on the edges of the gills .

= = Taxonomy = =

The species was first described by Arun Kumar Thirovoth Kottuvetta and P. Manimohan in the journal Mycotaxon in 2009 , in a survey of the genus Lepiota in Kerala State in southern India . The holotype collection was made in 2004 in Chelavur , located in the Kozhikode District ; it is now kept in the herbarium of Kew Gardens . The specific epithet babruzalka derives from the Sanskrit word for " brown @-@ scaled " .

= = Description = =

The fruit bodies of Lepiota babruzalka have caps that start out roughly spherical , and as they expand become broadly convex , and eventually flat , with a blunt umbo . The cap attains a diameter of 1 ? 1 @.@ 3 cm (0 @.@ 4 ? 0 @.@ 5 in) . Its whitish surface is covered with small , reddish @-@ brown , pressed @-@ down scales that are more numerous in the center . The margin is initially curved inward , but straightens out in age , and retains hanging remnants of the partial veil . The gills are white , and free from attachment to the stem . They are crowded together , with two or three tiers of interspersed lamellulae (short gills that do not extend fully from the cap edge to the stem) . Viewed with a hand lens , the edges of the gills appear to be fringed . The stem is cylindrical with a bulbous base , initially solid before becoming hollow , and measures 2 @.@ 6 ? 4 @.@ 5 cm (1 @.@ 0 ? 1 @.@ 8 in) long by 1 ? 1 @.@ 5 mm thick . The stem surface is whitish , but will stain a light brown color if handled . In young fruit bodies , the stems have a whitish , membranous ring on the upper half , but the ring does not last long before disintegrating . The flesh is thin (up to 1 mm) , whitish , and lacks any appreciable odor .

Lepiota babruzalka produces a white spore print . Spores are roughly elliptical to somewhat cylindrical , hyaline (translucent) , and measure 5 @.@ 5 ? 10 @.@ 5 by 3 @.@ 5 ? 4 @.@ 5 µm . They are thick @-@ walled and contain a refractive oil droplet . The basidia (spore @-@ bearing cells) are club @-@ shaped , hyaline , and are one- to four @-@ spored with sterigmata up to 8 µm long ; the dimensions of the basidia are 15 ? 20 by 7 ? 8 µm . Cheilocystidia (cystidia on the edge of the gill) are plentiful , and can assume a number of shapes , including cylindrical to club @-@ shaped , utriform (like a wineskin bottle) , to ventricose @-@ rostrate (where the basal and middle portions are swollen and the apex extends into a beak @-@ like protrusion) . The cheilocystidia are thin @-@ walled , and measure 13 ? 32 by 7 ? 12 µm ; there are no cystidia on the gill faces (pleurocystidia) .

The gill tissue is made of thin @-@ walled hyphae containing a septum , which are hyaline to pale yellow , and measure 3 ? 15 µm wide . The cap tissue comprises interwoven , inflated hyphae with widths between 2 and 25 µm . Neither the gill tissue nor the cap tissue show any color reaction when stained with Melzer 's reagent . Clamp connections are rare in the hyphae of Lepiota babruzalka .

= = = Similar species = = =

According to the authors , the only Lepiota bearing a close resemblance to L. babruzalka is L. roseoalba , an edible mushroom described by Paul Christoph Hennings in 1891 . Found in Africa

and Iran , L. roseoalba lacks the reddish @-@ brown scales on the cap , has radial grooves on the cap margin , and its stem is not as slender as those of L. babruzalka .

= = Habitat and distribution = =

Fruit bodies of Lepiota babruzalka grow singly or scattered on the ground among decaying leaf litter around the base of bamboo stands . The species has been documented only from Chelavur and Nilambur in the Kozhikode and Malappuram Districts of Kerala State . As of 2009 , there are 22 Lepiota taxa (21 species and 1 variety) known from Kerala , which is recognized as a biodiversity hotspot .