

***Volvariella bombycina*: A Mycofloral Species from Nepal**

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Abstract

This paper highlights on *Volvariella bombycina* (Schaeff.: Fr.) a tropical to subtropical edible species growing parasitic on *Populus* tree collected from Kirtipur, Kathmandu valley. This will assist in preparation of “Mycoflora of Nepal” in future.

Introduction

This group of mushrooms, which includes *Volvariella*, is easily recognized with pink lamellae and spores. The stipe of fruit body does not have an annulus. It has a volva at the base of the stipe. The lamellae of *Volvariella* species are whitish at first, which later become pink. *Volvariella* is traditionally viewed as a member of the family Pluteaceae but the recent DNA studies revealed that *Pluteus* and *Volvariella* have evolved separately and have very different DNA. These studies show that *Volvariella* is very closely related to “schizophylloid” mushrooms like *Schizophyllum commune* (Kuo, 2011). There are 13 species of *Volvariella* around the world (28 July 2016, WIKIPEDIA). Some species are popular edibles in Europe.

There are 1271 species of mushroom flora recorded in Nepal (Adhikari, 2014). These include both edible and poisonous forms. Two species of *Volvariella* have been recorded in Nepal. *Volvariella bombycina* (Schaeff.:Fr.) Singer, though previously recorded (Pandey & Budhathoki, 2007), growing on stump of *Populus* tree, but the place of collection and description were not mentioned instead screening of amino acids and proteins was mentioned. The another species: *Volvariella volvacea* (Fr.) Singer [*Volvariella volvacea* (Bull.: Fr.) Singer] [= *Volvaria volvacea*, *Agaricus volvaceus*, *Amanita virgata*, *Vaginata virgata*] also known as Paddy straw mushroom or Straw mushroom was cultivated by NARC (Annonymus, 1989), Singh (1966) (Adhikari, 1976, 2000, 2009, 2012, 2014ab). These two species are not well studied. *Volvariella volvacea* (Fr.) Singer, the cultivated species (Bhandary, 1984; Adhikari, 2000; Rana & Giri, 2008) and *Volvariella*

bombycina (Schaeff.: Fr.) Singer are tropical to subtropical edible species. This study will assist in the preparation of “Mycoflora of Nepal” in future.

Description

***Volvariella bombycina* (Schaeff.:Fr.) Singer** [= *Agaricus bombycinus* Schaeff. (1774); *Agaricus denudatus* Batsch.(1783); *Amanita calyptrate* Lam.(1783); *Pluteus bombycinus* (Schaeff.) Fr. (1836); *Volvaria bombycina* (Schaeff.) P. Kumm. (1871); *Volvariopsis bombycina* (Schaeff.) Murrill. (1911)][Schaeffer (1774), Singer (1951), Fries (1821), Saccardo (1887), Kauffman (1918), Shaffer (1957), Smith, Smith & Weber (1979), Weber & Smith (1985), Arora (1986), Lincoff (1992), Metzler & Metzler (1992), Horn, Kay & Abel (1993), Monoson, Methven & Sundberg (1993), McNeil (2006), Miller & Miller (2006), Kuo & Methven (2010)] - Silky agaric, Silky sheath, Silky rosegill, Silver-silk straw mushroom, Tree mushroom.

Pileus 5-20 cm, oval becoming bell-shaped to broadly convex or nearly flat, creamy whitish, dry, covered with silky hairs. Pelliopellis easily separable, thin. Flesh white. Stipe 13 cm long, 1-2 cm thick, tapering up wards, cylindrical, often curved, dry; white, smooth without a ring. Volva 4 cm long, 2 cm wide, thick, white to yellowish or brownish, mouth open sack like. Lamellae free, at first whitish, later becoming pink, crowded, margin entire. Spore print pink. Spores 6.5-10.5 x 4.5-7 µm; elliptical; smooth. Cystidia 26-144 µm long; variously shaped. Pileipellis without gelatinized hyphae. Clamp connections absent (Figure 1).

Odor and Taste: Not distinctive.

Specimen examined – Growing on *Populus* tree, Tribhuvan University, Kathmandu. 2073.5.22, Adhikari, and on *Populus* tree trunk, TU, Kirtipur, no. 2072 & 2073. KATH.Edible.

Distribution – North America, India, Nepal, Korea, Japan.

Remark – According to Kuo (2011) the pileus of *Volvariella bombycina* must be white fairly large cap (over 5 cm) covered with silky fibers and an unlined margin, and it must possess very long (over 100 µm long) cystidia. A yellow variety, *Volvariella bombycina* var. *flaviceps*, was described from Florida by Murrill in 1949. Brown or brownish collections may be referred to *Volvariella bakeri* if they have short cystidia (80 µm long or shorter) and are collected in tropical or subtropical areas.

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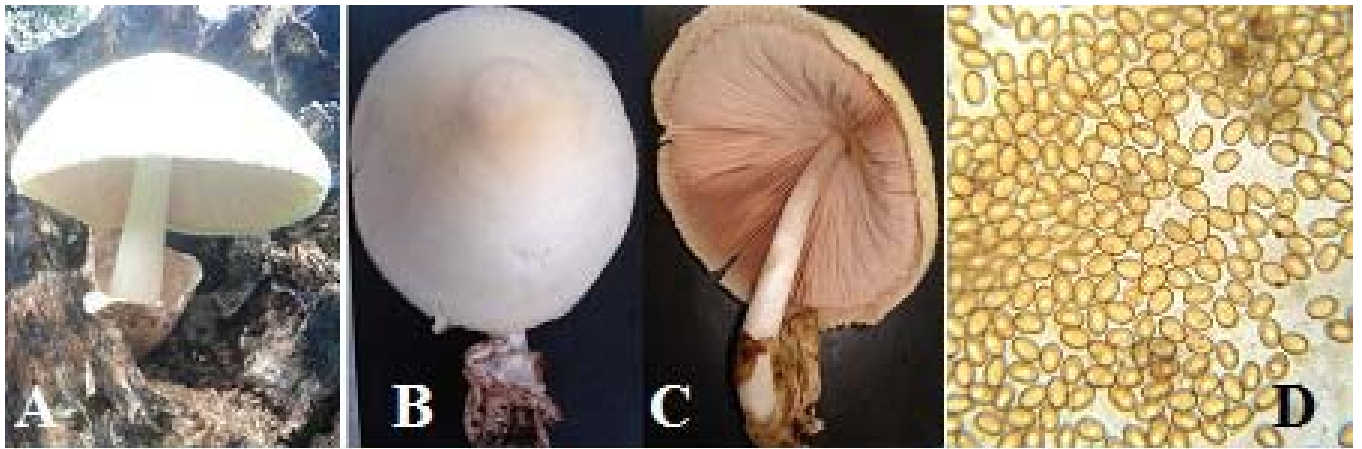


Figure 1: Friut body- A. Growing on crevices of *Populus* tree. B. Upper surface C. Hymenial surface D. Spores (10 X 40)