

## Short Communication

A new species of *Cortinarius* Sect. *Hydrocybe* from Japan

Shinnosuke Miyauchi

Bio-engineering, Nagaoka University of Technology, 1603–1 Kamitomioka, Nagaoka 940–2188, Japan

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*Cortinarius laccarioides* sp. nov., found in deciduous forests, is described and illustrated. It is characterized by its small hygrophanous pileus, greyish red or greyish violet lamellae and stipe, and globose to subglobose basidiospores. The differences between *C. laccarioides* and similar species are briefly discussed.

Key Words—*Cortinarius laccarioides*; *Hydrocybe*; new species; taxonomy.

About 60 species of *Cortinarius* have been reported in Japan (Hongo, 1987), but few species of the section *Hydrocybe* in the subgenus *Telamonia* have been found.

Recently, an interesting *Cortinarius* of the section *Hydrocybe* was found in deciduous forests of Niigata Prefecture in Japan. Fresh and dried specimens were examined. As a result, it was found that the fungus represents an undescribed species in the section *Hydrocybe*.

Descriptions of microscopic characters were from sections of fresh materials mounted in Melzer's reagent. For scanning electron microscope (SEM) preparations, basidiospores were deposited on a specimen holder with double-sided adhesive tape and then sputter-coated with gold.

Color designations in parentheses in the species description follow Kornerup and Wanscher (1978).

*Cortinarius laccarioides* Miyauchi, sp. nov. Figs. 1–3

Pileo 20–50 mm lato, primo conico-convexo vel campanulato, dein explanato vel umbonato-explanato, circa centrum interdum leviter depresso, sicco, hygrophano, laevi, primo violaceo-brunneo vel griseo-rubro, dein brunneo vel rufo-brunneo, margine inflecto; lamellis subconfertis, adnatis, 3–5 mm latis, primo griseo-lilaceis, dein lilaceo-brunneis; stipite 50–80 longo, 3–6 mm crasso, aequali, flexuoso, basi leviter incrassato, sicco, griseo-rubro, supra griseo-lilaceo; carne ex albida pallide brunnescenti, sapore miti, odore leviter fungoideo; basidiosporis globosis vel subglobosis, 6.0–7.0 × 5.0–6.5 μm, asperatis; basidiis 4-sporigeris, 25–30 × 6–8 μm; cheilocystidiis pleurocystidiisque nullis.

Holotypus: Tsukayama, Koshiji-machi, Niigata Pref. 22. 9. 1995, S. Miyauchi leg., in herbario TNS conservatus (no. TNS-F-101513).

Etymology: laccarioides, means *Laccaria*-like, because of its habit.

Pileus 20–50 mm in diam, obtusely conical or campanulate when young, becoming expanded and um-

bonate, sometimes shallowly depressed around the center, not viscid, hygrophanous, smooth, glabrous, at first violet brown or greyish red (10E7, 11D4–11D5), later moderate brown or moderate reddish brown (7D5, 8D5), becoming paler from the center outward when dried; margin shortly striate when moist, incurved, sometimes undulate. Lamellae thin, close, with several lamellulae, adnate to adnexed, 3–5 mm wide, greyish violet (17C3) when young, later violet brown (10E5), edges deep violet at first (17D8); entire. Stipe 50–80 × 3–6 mm, equal, with a slightly enlarged base, curved near middle or base, fistulose, surface dry, smooth, later silky and fibrillose, greyish red or greyish Magenta (11D5, 14D5), greyish violet (15D6) at the apex, covered with white cottony mycelium at the base. Veil poor, pale violet. Context pale sordid yellow in the pileus and the lower part of stipe, violaceous in the upper part of stipe, soft, becoming dark brown reacting to 5% KOH, brownish to phenol-aniline, no change to iodine solution. Taste mild, smell, slightly fungoid. Basidiospores globose to subglobose, 6.0–7.0 × 5.0–6.5 μm, quotient of the length/width 1.1–1.3, comparatively finely verrucose (Figs. 1b, 2). Hyphae of the pileipellis tubular, dispersedly with clamps, element cells of the epicutis 4.0–6.0 × 40–50 μm, those of subcutis 5.0–10.0 × 25–40 μm (Fig. 1c). Basidia 4-spored, 25–30 × 6–8 μm (Fig. 1d). Cheilo-, pleuro- and caulocystidia absent.

Habitat and distribution: Gregarious or solitary, sometimes subcespitate, on the ground in the deciduous forests, in particular with *Quercus serrata* Thunb. ex Murray, *Quercus mongolica* var. *grosseserrata* (Blume) Rhed. et Wilson, *Castanea crenata* Siebold et Zucc., and *Hamamelis japonica* Siebold et Zucc.

Holotype: Tsukayama, Koshiji-machi, Niigata Pref., in mixed deciduous forest of *Q. serrata*, *C. crenata* and *H. japonica*, 22 Sept. 1995, collected by S. Miyauchi [No. TNS-F-101513, preserved in National Science Museum, Tsukuba herbarium]; isotype in Miyauchi private herbarium as SM9509221N.

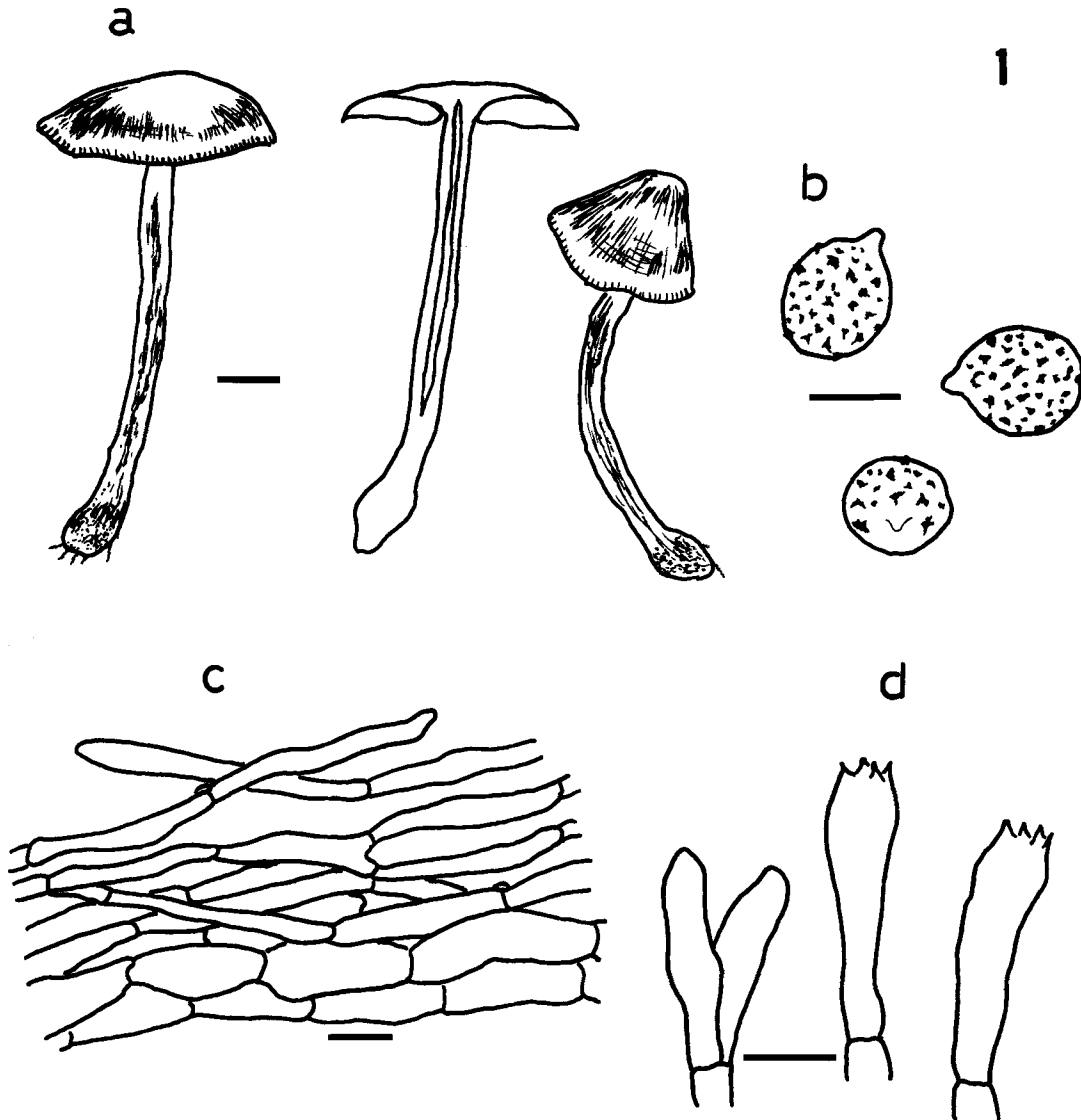


Fig. 1. *Cortinarius laccarioides* (Holotype). a. Basidiocarps; b. Basidiospores; c. Pilleipellis; d. Basidia. Scale bars: a=1 cm; b=5  $\mu$ m; c, d=10  $\mu$ m.

Other specimens examined: SM9709061N, Hiroya, kamikawa-machi, Niigata Pref. in deciduous forest (*Q. serrata*, *Q. mongolica* var. *grosseserrata*, *C. crenata* etc.), 6 Sept. 1997, collected by S. Miyauchi; SM9709212N, Nakanosawa, Mikawa-mura, Niigata Pref., in deciduous forest (*Q. serrata*, *Q. mongolica* var. *grosseserrata*, *H. japonica* etc.), 21 Sept. 1997, collected by S. Miyauchi; SM9910092N Hiroya, kamikawa-machi, Niigata Pref., in deciduous forest (*Q. serrata*, *Q. mongolica* var. *grosseserrata*, *C. crenata* etc.), 9 Oct. 1999, collected by S. Miyauchi.

This species is considered to belong to the section *Hydrocybe* in the subgenus *Telamonia* (Singer, 1986), since it forms small carpophores which are hygrophanous in the pileus and has greyish violet colors in the stipe and the lamellae. The presence of the globose to subglobose basidiospores is rare in this section.

*Cortinarius laccarioides* is unique among section

*Hydrocybe* in the combination of the greyish violet color on the young lamellae and stipe and the globose to subglobose basidiospores. *Cortinarius decipiens* (Pers.: Fr.) Fr. (Fries, 1838; Phillips, 1991; Marklund and Melot, 1995; Hongo, 1997), *C. erythrinus* (Fr.) Fr. (Fries, 1838; Michael, 1981; Moser, 1983) and *C. washingtonensis* A. H. Sm. (Smith, 1939; Arora, 1986), are similar in some respects, but they differ primarily in having ellipsoid to broadly ellipsoid basidiospores and more brown, darker pilei.

Apart from the section, *C. laccarioides* may be comparable with *Cortinarius azureus* Fr. (Marchand, 1983; Bidaud, 1992), due to the color of the basidiocarps and the globose to subglobose basidiospores. The latter, however, differs chiefly in hygrophanous but dry pileus whose margin is finely micaceous, and belongs in subgenus *Sericeocybe* section *Anomali* (Singer, 1986).

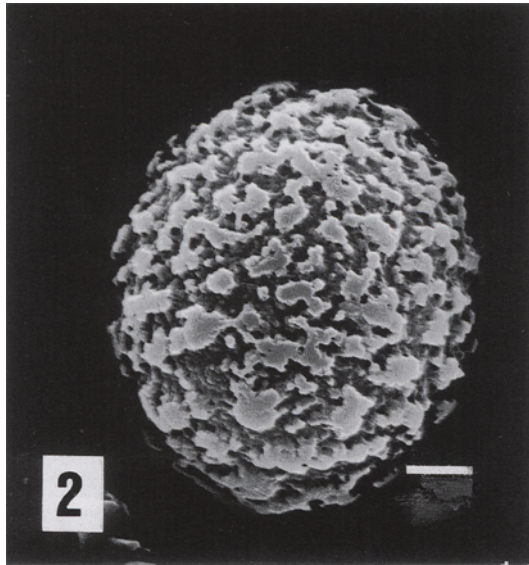


Fig. 2. *Cortinarius laccarioides* (SM9509221N). Basidiospore (SEM photograph). Scale bar: 1  $\mu$ m.

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Fig. 3. *Cortinarius laccarioides* (SM9509221N). Basidiocarps in the habitat. Scale bar: 2 cm.