

Shinnosuke Miyauchi · Nobuyoshi Miyauchi

A new variety of *Cortinarius subalboviolaceus* (Sect. *Sericeocybe*) from Japan

Received: August 20, 2007 / Accepted: October 28, 2008

Abstract *Cortinarius subalboviolaceus* var. *niigatensis* var. nov., which grows in deciduous forests, is described and illustrated from Niigata and Gunma prefectures, Japan. It differs from *C. subalboviolaceus* var. *subalboviolaceus* mainly in its more distinct violet coloration and somewhat larger size of the basidiocarp.

Key words *Cortinarius subalboviolaceus* var. *niigatensis* · New variety · *Sericeocybe* · Taxonomy

This article is concerned with a new *Cortinarius* that belongs to section *Sericeocybe* K uner & Romagnesi of the subgenus *Sericeocybe* P.D. Orton (Moser 1983; Singer 1986) and was observed in Niigata and Gunma Prefectures, Japan.

In the following description, microscopic characters were investigated on sections of fresh materials mounted in Meltzer's reagent. For scanning electron microscopy (SEM), fresh basidiospores were directly 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). Forty basidiospores from three specimens including the holotype were measured for the size of basidiospores.

Cortinarius subalboviolaceus* var. *niigatensis Miyauchi & N. Miyauchi, var. nov. Figs. 1–3

Pileo 30–60 mm lato, primo subgloboso vel campanulato dein plano-convexo, margine leviter undulato, sicco vel udo leviter hygrophano, sericeo-fibrilloso laeto-lilacino vel pallide lilacino interdum centro griseo-aurantio; lamellis subdistantibus, adnexis vel sinuatis, 4–7 mm latis, primo

laeto-lilacinis dein cinnamomeis; stipite 40–80 mm longo, 7–15 mm crasso, cylindraco vel ad basim inflato, primo solido, dein spongilliformi vel fistuloso, sicco, primo lilacino-albicanti, dein e basi versus apicem in stipite pallide flavo, supra cum cortina lilacina; care pallide lilacina, basi tarde pallide flava; sapore miti; odore leviter farinaceo; basidiosporis in massa laeto-brunneis, latiellipsoideis, 6.5–8.0 × 4.7–5.8 µm, verrucosis; basidiis 25–30 × 6–8 µm; cheilocystidiis cylindracois, 25–30 × 5–8 µm.

Holotypus: Kakumanji, Tokamachi-shi, Niigata Pref., 22 June 1997, S. Miyauchi leg., in herbario KPM conservatus (KPM-NC0010730).

Etymology: *niigatensis*, pertaining to Niigata Pref., where the variety was collected.

Pileus 30–60 mm in diameter, hemispherical or campanulate when young, becoming plano-convex with age, with a slightly wavy margin, dry, slightly hygrophanous, fibrillose, somewhat silky, when young light violet (18A5), when old pale violet (18A3) and sometimes grayish-orange (5B5) at the center. Lamellae subdistant, adnexed to slightly sinuate, somewhat arcuate, 4–7 mm wide, light violet (18A5) when young, later brownish-orange (5C5). Stipe 40–80 × 7–15 mm, cylindrical or slightly thickened toward base, solid to stuffed, then fistulose, surface dry, violet-white (18A2), slowly turning pale yellow (3A3) from the base upward when old, marked with irregular velar bands tinted light violet (18A5). Cortina light violet (18A5), fugacious. Context pale violet (18A3), in stipe later becoming pale yellow (3A2) from the base upward, slowly turning brown in 5% KOH. Taste mild, smell not distinctive. Basidiospore print light brown (6D7). Basidiospores broadly elliptical, 6.5–8.0 × 4.7–5.8 ($n = 40$, $7.3 \pm 0.7 \times 5.3 \pm 0.5 \mu\text{m}$) (including ornamentation), length/breadth quotient 1.3–1.5 ($n = 40$, 1.4 ± 0.1), verrucose. Basidia 25–30 × 6–8 µm. Cheilocystidia cylindrical or narrowly clavate, 25–30 × 5–8 µm. Pleuro-, pileo-, and caulocystidia absent. Hyphae of pileus surface tubular, 3–8 µm, hyaline, with clamps.

Habit and habitat: Solitary to gregarious on the ground in deciduous forests, in particular with *Fagus crenata* Blume and *Quercus mongolica* var. *crispula* (Blume) H. Ohashi; growing in summer (June and July).

S. Miyauchi (✉)
Bio-Engineering, Nagaoka University of Technology, Kamitomioka
1603-1, Nagaoka, Niigata 940-2188, Japan
Tel. +81-25-260-4845; Fax +81-25-260-4845
e-mail: adx37400@ams.odn.ne.jp

N. Miyauchi
Niigata Prefecture Environmental Hygienic Central Laboratory,
Niigata, Japan

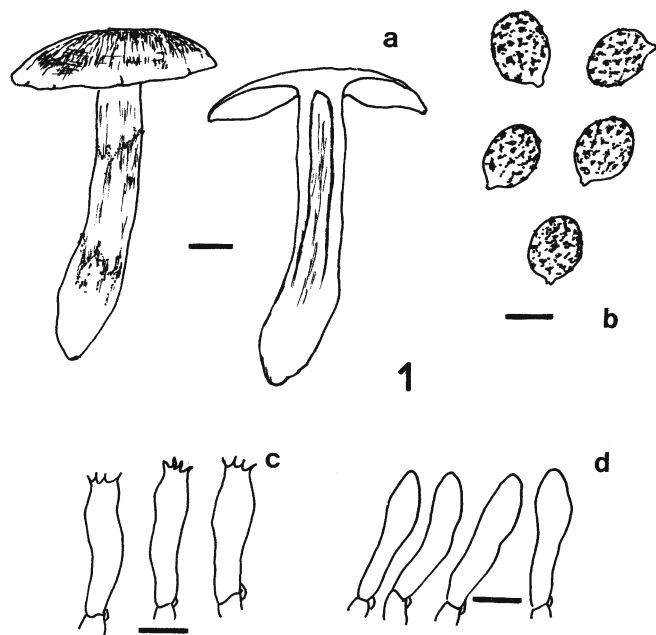


Fig. 1. *Cortinarius subalbviolaceus* var. *niigatensis* (holotype). **a** Basidiocarps. **b** Basidiospores. **c** Basidia. **d** Cheilocystidia. Bars **a** 1 cm; **b** 5 μ m; **c** 10 μ m; **d** 10 μ m

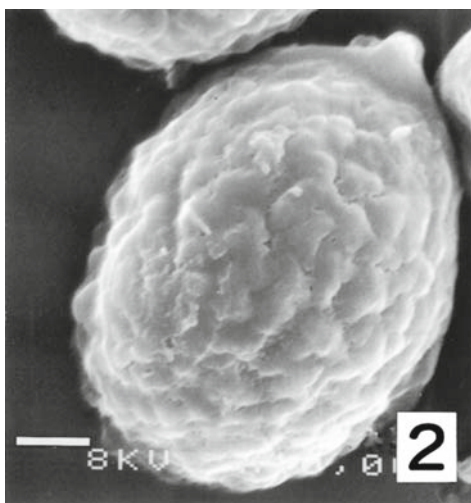


Fig. 2. *Cortinarius subalbviolaceus* var. *niigatensis* (isotype). Basidiospore (scanning electron microscopy, SEM). Bar 1 μ m

Distribution: Japan (Niigata Pref., Gunma Pref.).

Holotype: Kakumanji, Tokamachi-shi, Niigata Pref., in *F. crenata* forest, 22 June 1997, coll. by S. Miyauchi (S.M.) (KPM-NC0010730 preserved in Kanagawa Prefectural Museum of National History, Odawara, Kanagawa Pref.; isotype in S. Miyauchi private herbarium as SM9706225N).

Other specimens examined: SM9307261G, Shiroyama, Kiryu-shi, Gunma Pref. in deciduous forest (*Quercus serrata* Thunb., *Q. mongolica* var. *crispula*), 26 July 1993, coll. by S.M.; SM9507231N, Uragozu, Aga-shi, Niigata Pref., in deciduous forest (*F. crenata*, *Q. mongolica* var. *crispula*), 23



Fig. 3. *Cortinarius subalbviolaceus* var. *niigatensis* (isotype). Basidiocarps in the habitat. Bar 1 cm

July 1995, coll. by S.M.; SM0207061N, Daigonji, Tokamachi-shi, Niigata Pref., in deciduous forest (*F. crenata*, *Q. mongolica* var. *crispula*), 6 July 2002, coll. by H. Takizawa.

Japanese name: koshino-usumurasakifusentakke.

Comments: *Cortinarius subalbviolaceus* var. *niigatensis* is most similar to the type variety (Hongo 1963, 1987) in its habit and habitat, coloration of the basidiocarp, and in particular, microscopic characters. However, the latter differs in forming no velar bands on the stipe, whitish-gray lamellae in the button stage, and much paler, violet-white (18A2) colored and somewhat smaller basidiocarps (pileus 20–40 mm broad; 30–60 mm broad in *C. subalbviolaceus* var. *niigatensis*). *Cortinarius albviolaceus* (Pers.: Fr.) Fr. (Brandrud et al. 1990; Breitenbach and Kränzlin 2000) is also close to *C. subalbviolaceus* var. *niigatensis*, but *C. albviolaceus* can be distinguished by longer spores, 7.5–9.5 \times 4.8–6.2 μ m (Breitenbach and Kränzlin 2000), or 7.5–10.5 \times 4.5–6 μ m (Hongo 1987) and pale silvery bluish gray to silvery grayish violet color of the pileus and stipe. *Cortinarius subalbviolaceus* var. *niigatensis* may also be comparable with *C. azureus* Fr. (Breitenbach and Kränzlin 2000) because of the shape and the color of basidiocarps. *Cortinarius azureus*, however, has a finely fibrilloso-tomentose pileus and subglobose to broadly elliptical basidiospores.

References

- Brandrud TE, Lindström H, Marklund H, Melot J, Muskos S (1990) *Cortinarius* flora photographica, vol 1. *Cortinarius* HB, Matfors
Breitenbach J, Kränzlin F (2000) Fungi of Switzzland, vol 5. Agarics (3rd part). Cortinariaceae. Verlag Mykologia, Luzern, pp 206–207
Hongo T (1963) Notes on Japanese larger fungi (16). J Jpn Bot 38:233–240

- Hongo T (1987) *Cortinarius*. In: Imazeki R, Hongo T (eds) Colored illustrations of mushrooms of Japan, vol 1 (in Japanese). Hoikusha, Osaka, pp 226–240
- Kornerup A, Wanscher JH (1978) Methuen handbook of colour, 3rd edn. Methuen, London (reprinted in 1989)
- Moser MM (1983) Die Röhrlinge und Blätterpilze. In: Gams H (ed) Kleine Kryptogamenflora IIb/2, 5 Aufl. Fischer, Stuttgart, pp 382–384
- Singer R (1986) The Agaricales in modern taxonomy, 4th rev edn. Koeltz, Koenigstein, pp 633–634