

Short Communication

***Cortinarius purpurascens* var. *largusoides* and *Cortinarius herpeticus* var. *fageticola* new to Japan**

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Two species of *Cortinarius* Sect. *Scauri* collected in forests of *Quercus serrata* and *Q. mongolica* var. *grosseserrata*, *Q. serrata* and *Fagus crenata*, or *Q. mongolica* var. *grosseserrata* and *F. crenata* in Niigata prefecture were identified as *Cortinarius purpurascens* var. *largusoides* and *C. herpeticus* var. *fageticola*, new to Japan. Macro- and microscopical descriptions of each species are given.

Key Words—*Cortinarius purpurascens* var. *largusoides*; *Cortinarius herpeticus* var. *fageticola*; *Cortinarius* Sect. *Scauri*; mycoflora; taxonomy.

To clarify the *Cortinarius* flora of Japan, the author has been surveying these species for the past ten years.

Two varieties of *Cortinarius* new to Japan, collected in forests of *Quercus serrata* Thunb. and *Q. mongolica* Fisch. var. *grosseserrata* Rehd. et Wils., *Q. serrata* and *Fagus crenata* Blume, or *Q. mongolica* var. *grosseserrata* and *F. crenata* in Niigata Prefecture, were identified as *Cortinarius purpurascens* Fr. var. *largusoides* Henry and *C. herpeticus* Fr. var. *fageticola* Moser, both assigned to the section *Scauri* (Singer, 1986). They are known in Europe. In this paper, they are described and illustrated.

Descriptions of microscopic characters were from sections of fresh materials mounted in Melzer reagent. For scanning electron microscope (SEM) observations, spores were deposited on specimen holders with double-sided adhesive tape and coated with gold using an ion sputtering device (JFC-1500, JEOL Ltd.). Micrographs were obtained with a scanning microscope (JSM-6301F, JEOL Ltd.).

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

The voucher specimens are preserved in the Miyauchi private herbarium.

***Cortinarius purpurascens* Fr. var. *largusoides* Henry, Bull. Soc. Myc. Fr. 51: 66 (1935). Figs. 1–3**

Pileus 50–70 mm in diam, convex to flattened with a broad umbo, dark brown to violet brown (8F8–9F7), covered with dark innate fibers, slimy, the margin shortly incurved for a long time, becoming wavy with age. Lamellae adnate, at first violet (16B5), then dark brown (8F7–8F5), 5–7 mm broad, very crowded, staining purplish when pressed, with even edges. Stipe 50–75 × 7–11 mm, cylindric, swelled downwards with a roundish bulb, reddish violet-brown to violet-brown (8D6), paler

than pileus, pale violet at the apex, whitish at the base, dry, fibrous, sometimes silky, firm and solid. Veil violet, vanished with age. Flesh pale violet (17A3), turning deep violet (17E8) when cut and injured, whitish in the lower part of the stipe, reddish in iodine solution and brownish in 5% KOH. Taste mild, smell not distinctive. Basidiospores lemon- to somewhat almond-shaped, 8.0–10.5 × 5.0–5.5 μm, verrucose (Fig. 1c, Fig. 2). Basidia 30–40 × 7.0–9.5 μm, 4-spored (Fig. 1d). Cheilo-, pleuro- and caulocystidia absent. Hyphae of the pileipellis tubular, with element cells, 50–70 × 5–7 μm, with clamps (Fig. 1e).

Habitat: solitary to gregarious on the ground in *Q. serrata* and *Q. mongolica* var. *grosseserrata* forest; from September to October.

Distribution: New to Japan (Niigata). Known from Europe.

Specimens examined: SM9709063N, Hiroya, Kamikawa-machi, Niigata Pref. in deciduous forest (*Q. serrata*, *Q. mongolica* var. *grosseserrata*), 6 Sept. 1997; SM8909151N, Kamitomioka, Nagaoka-shi, Niigata Pref. in similar forest, 15 Sept. 1989; SM9110061N, Hapodai, Nagaoka-shi, Niigata Pref. in similar forest, 6 Oct. 1991; SM9509271N, Nishitani, Koshiji-machi, Niigata Pref. in similar forest, 27 Sept 1995; SM9709122N, Akinari, Tsunan-machi, Niigata Pref. in similar forest, 12 Sept 1997. All specimens were collected by S. Miyauchi.

Japanese name: fujiiro-fusentake

From the above macro- and microscopical characteristics, this variety is identified as *Cortinarius purpurascens* var. *largusoides*. In Japan, *C. purpurascens* var. *largusoides* is often confused with *C. purpurascens* Fr., but it is distinguished from the latter by lacking a marginated bulb, the base being covered with white

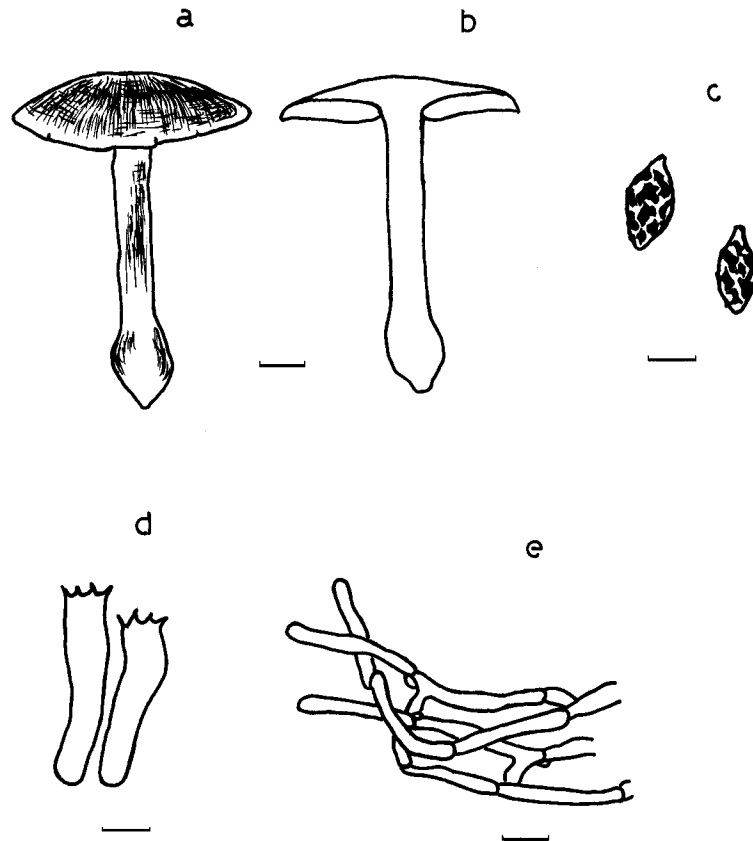


Fig. 1. *Cortinarius purpurascens* var. *largusoides* (SM9709063N). a. Mature basidiocarp, b. Cross section of basidiocarp, c. Basidiospores, d. Basidia, e. Pileipellis. Scale bars: a, b = 1 cm; c = 5 μm ; d = 10 μm ; e = 20 μm .

mycelium, and by its habitat in deciduous forests. *Cortinarius purpurascens* var. *largusoides* also resembles *C. largus* Fr. and *C. nemorensis* (Fr.) Britzelmayr. It is easily distinguished from the latter two species by the colour change of context with iodine solution.

***Cortinarius herpeticus* Fr. var. *fageticola* Moser, die Pilze Mitteleuropas 4: 274. (1960). Figs. 3–5**

Pileus 40–70 mm in diam, convex to flattened, ochraceous brown to brown (6E8–7E8), dark brown (6F8–7F8) mixed with grayish or olivaceous tint around margin, sometimes with dark brown flecks, slimy, the margin incurved, becoming wavy with age. Lamellae shortly adnate to emarginate, lilaceous (18A3), olivaceous brown (3B4), then dark brown (8F7), 5–7 mm broad, crowded. Stipe 50–75 \times 10–16 mm, cylindrical, lilac (16C3) in the center, yellowish gray (4B4–5C4) downwards with marginated bulb covered yellowish green mycelium (4B4), dry, fibrous, striate, sometimes silky, firm and solid. Veil yellowish green. Flesh violaceous (17B3) in the stipe, yellowish (4B5) in the pileus and the base of stipe; colour not changed when cut, becoming reddish in iodine solution and brownish in 5% KOH. Taste mild, smell not distinctive. Basidiospores ellipsoid to almond-shaped, 9.0–11.0 \times 5.5–6.5 (7.0) μm , verrucose (Fig. 4c, Fig. 5). Basidia 30–45 \times 7.0–9.0 μm , 4-spored (Fig. 4d). A few cheilocystidia,

30–40 \times 11 μm present (Fig. 4e). Pleuro- and caulocystidia absent. Hyphae of the pileipellis tubular, with element cells, 50–70 \times 3–7 μm , with clamps (Fig. 4f).

Habitat: solitary to gregarious on the ground in *Q. serrata* and *F. crenata* forest or *Q. serrata* and *Q. mongol-*

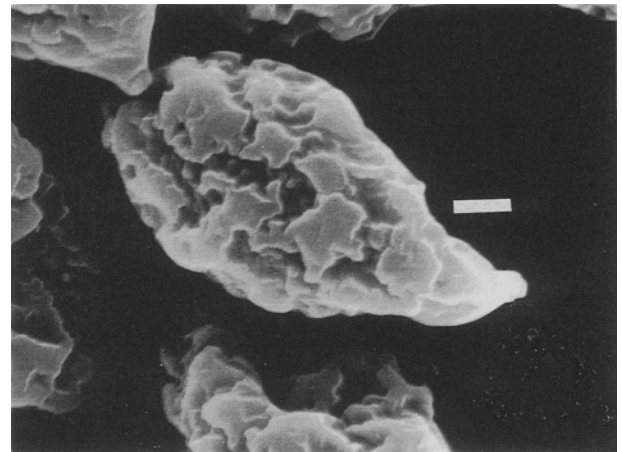


Fig. 2. *Cortinarius purpurascens* var. *largusoides* (SM9709063N) Basidiospore (SEM). Scale bar: 1 μm .

a



b



Fig. 3. a. *Cortinarius purpurascens* var. *largusoides* (SM9709063N), (left and middle: two cross sections of mature basidiocarps; right: a mature basidiocarp). b. *Cortinarius herpeticus* var. *fageticola* (SM9210101N), (left: a cross section of a mature basidiocarp; right: a mature basidiocarp).

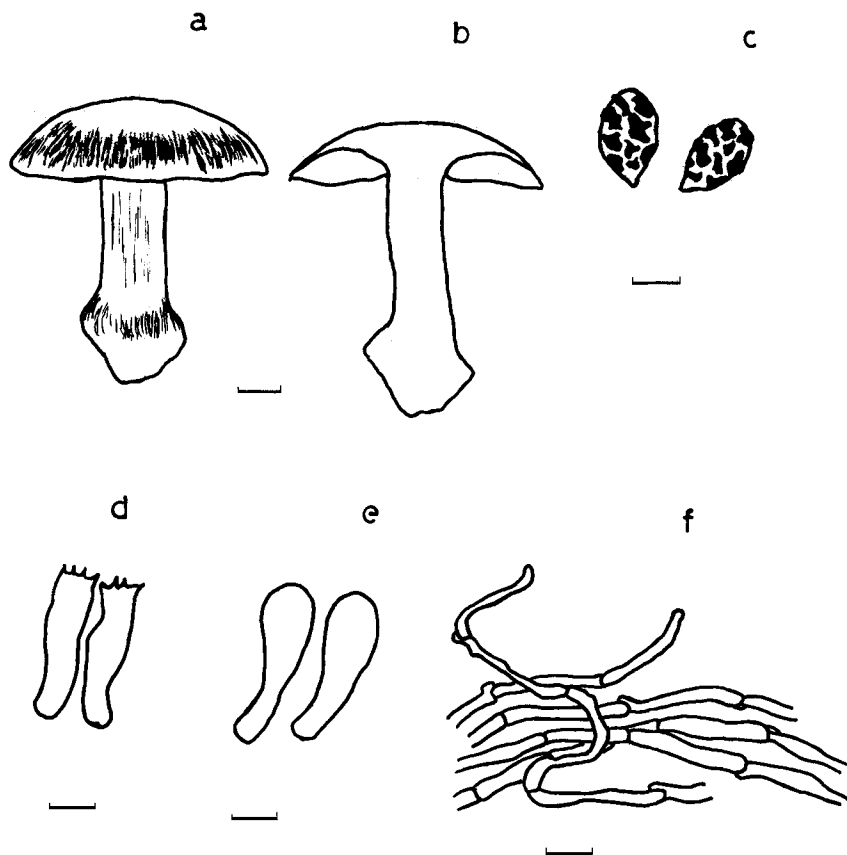


Fig. 4. *Cortinarius herpeticus* var. *fageticola* (SM9210101N). a. Mature basidiocarp, b. Cross section of basidiocarp, c. Basidiospores, d. Basidia, e. Cheilocystidia, f. Pileus surface hyphae. Scale bars: a, b=1 cm; c=5 μm ; d=10 μm ; e=10 μm ; f=20 μm .

ica var. *grosseserrata* forest in October.

Distribution: New to Japan (Niigata). Known from Europe.

Specimens examined: SM9210101N, Shitada, Sanjo-shi, Niigata Pref. in deciduous forest (*Q. mongolica* var. *grosseserrata*, *F. crenata*), 10 Oct. 1992; SM9010101N, Happodai, Nagaoka-shi, Niigata Pref. in

similar forest, 10 Oct. 1990; SM9610061N, Doin, Tochio-shi, Niigata Pref. in deciduous forest (*Q. serrata*, *Q. mongolica* var. *grosseserrata*), 6 Oct. 1996. All specimens were collected by S. Miyauchi.

Japanese name: buna-fusentaké

From the above macro- and microscopic characteristics, this variety is identified as *Cortinarius herpeticus* var. *fageticola*. It is clearly separated from the group of *C. purpurascens* by the absence of a colour change of lamellae and context when pressed or injured. *Cortinarius herpeticus* var. *fageticola* has often been confused with *C. pseudopurpurascens* Hongo. But the former is distinguished by its smaller spores and the yellowish green mycelia around the pileus surface. *Cortinarius herpeticus* var. *fageticola* also resembles *C. largus* Fr. and *C. nemorensis* (Fr.) Britzelmayr. It is easily distinguished from the two species by the absence of a colour change with iodine solution.

Literature cited

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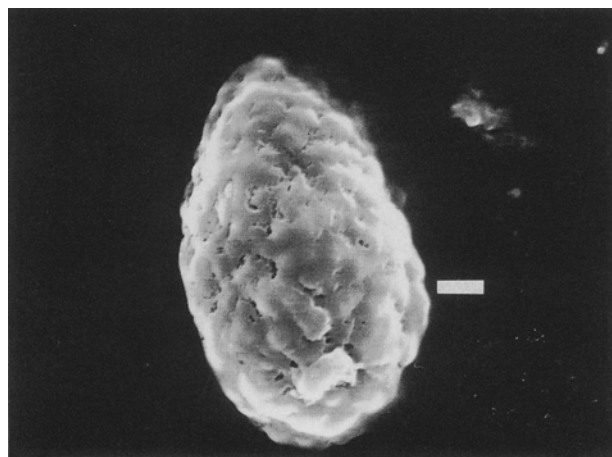


Fig. 5. *Cortinarius herpeticus* var. *fageticola* (SM9210101N). Basidiospore (SEM). Scale bar: 1 μm .