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Taxonomic study of Japanese Corticiaceae (Aphylophorales) VII

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Abstract Four corticioid fungi (Basidiomycota), collected from Tottori Prefecture, are reported as new records from Japan. They are *Bulbillomyces farinosus*, *Melzericium rimosum*, *Sistotremella cystidiolophora*, and *Tubulicrinis orientalis*. Their morphological descriptions, illustrations, and remarks based on the Japanese specimens are provided.

Key words Basidiomycota · New to Japan · Taxonomy

In this article, four species belonging to the family Corticiaceae *sensu lato* (Basidiomycota) are reported as new records from Japan based on specimens collected in Tottori Prefecture. In the description, color names in double quotation marks are from Rayner (1970). Methods of microscopic observation are those described in Maekawa (1993). All the specimens described here are deposited in the herbarium of the Tottori Mycological Institute (TMI).

Bulbillomyces farinosus (Bres.) Jülich, Persoonia 8:69, 1974. Fig. 1

≡ *Kneiffia farinosa* Bres., Ann. Mycol. 1:105, 1903.

Basidiomata resupinate, adnate, at first in small patches and then effused, ceraceous, 50–200 µm thick; hymenial surface grayish white, smooth; margin concolorous with the

hymenial surface, thinning out indeterminately. Context in vertical section subhyaline, membranous. Hyphal system monomitic; hyphae 2–4.5 µm in diameter, smooth, thin-walled, nodose-septate; cystidia (lamprocystidia) conical to subcylindrical tapering toward the apex, 50–80 × 8–10 µm, smooth, at first thin-walled and then thick-walled (up to 3 µm), with a basal clamp, projecting up to 60 µm beyond the hymenial surface, heavily encrusted except sometimes for the basal part; basidia suburniform, 24–28 × 6–7 µm, with a basal clamp, producing 4 sterigmata, containing oily drops; basidiospores ellipsoid, 6.5–7.5 × 4.5–5.5 µm, smooth, slightly thick-walled (up to 0.5 µm), nonamyloid.

Specimens examined: TMI25395 and 25488 on decaying and decorticated branches of a broad-leaved tree, Megano (altitude 600 m), Hatto-cho, Yazu-gun, Tottori Pref., Oct. 24, 2001, collected by B. Nordén.

Remarks: The lamprocystidia, suburniform basidia, and ellipsoid, slightly thick-walled basidiospores measuring 6.5–7.5 × 4.5–5.5 µm are distinct in *B. farinosus*. In addition, this species produces an anamorph, *Aegerita candida* Pers.: Fr. (bulbils), associated with its basidiomata. The bulbils are ellipsoid, subglobose to globose, white, 50–300 µm in diameter, and composed of thin- to thick-walled (up to 1 µm) hyphae, 3–13 µm in diameter, and their surface cells are subglobose to pyriform. According to Eriksson and Ryvarden (1976), the habitat of *B. farinosus* is decayed, soaked wood on shores of lakes and brooks or in depressions that are water-filled during wet periods. The Japanese specimens were also collected from such a biotope. This species appears to be widely distributed from temperate to tropical zones.

Melzericium rimosum Bononi & Hjortstam in Hjortstam & Bononi, Mycotaxon 28:8, 1987. Fig. 2

Basidiomata resupinate, adnate, at first orbicular and then becoming confluent, 40–100 µm thick; hymenial surface grayish-white to pale cream-white, smooth, sometimes finely cracked; margin concolorous with the hymenial surface, thinning out indeterminately, partly pruinose under the lens (×20). Context in vertical section subhyaline, submembranous. Hyphal system monomitic; hyphae 1.5–

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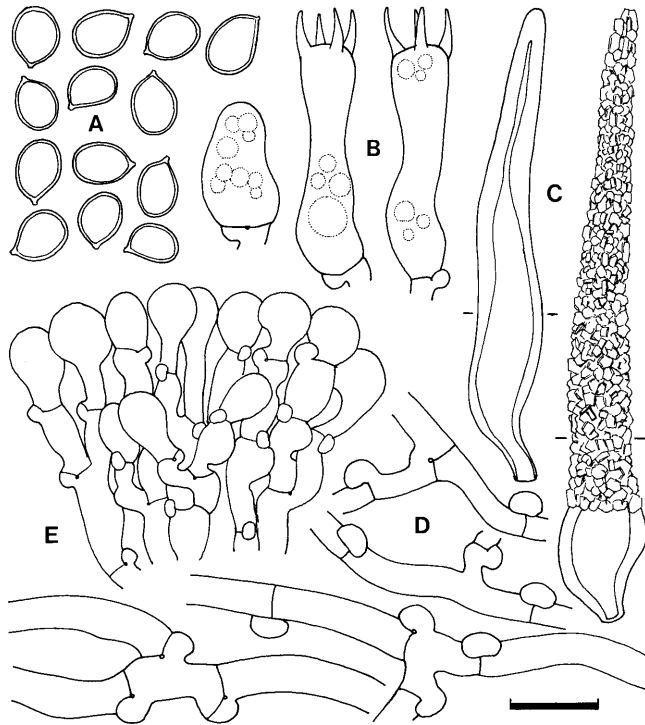


Fig. 1. *Bulbillomyces farinosus* (TMI25395). **A** Basidiospores. **B** Basidia and an immature basidium. **C** Cystidia (lamprocystidia), one (left) in median view to show the wall thickness. Short bars indicate the level of the hymenial surface. **D** Subicular hyphae. **E** Part of a bulbil. Bar 10 μ m

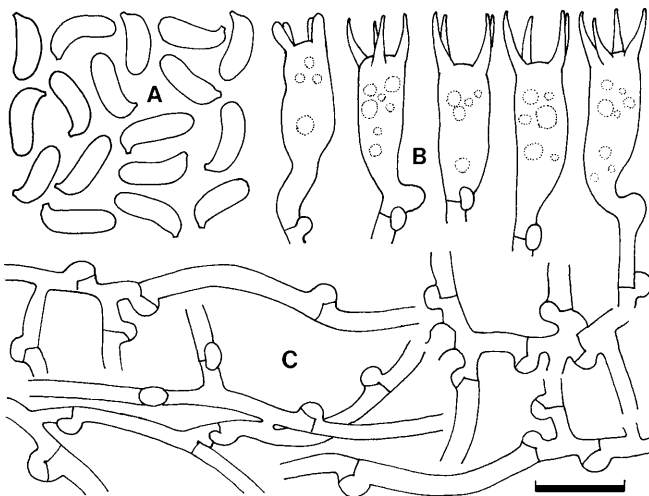


Fig. 2. *Melzerium rimosum* (TMI25484). **A** Basidiospores. **B** Basidia. **C** Subicular hyphae. Bar 10 μ m

3 μ m in diameter, smooth, thin-walled, nodose-septate, sometimes branching at right angles in the subiculum; cystidia lacking; basidia terminal or rarely lateral (pleural), varied in shape, usually clavate with a stalklike base, 12.5–25 \times 5.5–6 μ m, with a basal clamp, producing usually 4 sterigmata, sometimes with oily drops; basidiospores cylindrical to suballantoid, mostly with a suprahilar depression, 7–8(–8.5) \times 2.5–3 μ m, smooth, thin-walled, amyloid.

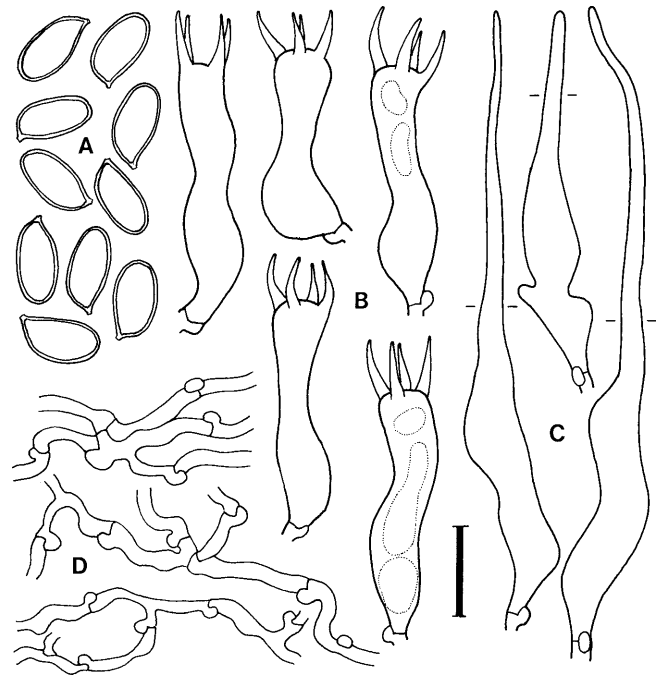


Fig. 3. *Sistotremella cystidiolophora* (TMI25483). **A** Basidiospores. **B** Basidia. **C** Cystidia. Short bars indicate the level of the hymenial surface. **D** Subicular hyphae. Bar 10 μ m

Specimen examined: TMI25484 on a rotten stump of *Pinus densiflora*, Mt. Kyusho, Tottori City, Tottori Pref., Nov. 11, 2001, collected by B. Nordén.

Remarks: This species is characterized by its terminal or rarely lateral basidia and cylindrical to suballantoid, amyloid basidiospores measuring 7–8(–8.5) \times 2.5–3 μ m. It is distinguishable from *M. udicola* (Bourdot) Hauerlev, which is the type species of the genus, and *M. bourdotii* Jülich in the shape and size of basidiospores, viz. *M. udicola* has ellipsoid, bean- or kidney-shaped basidiospores measuring 6–10(–12) \times 3–4.5 μ m (Eriksson and Ryvarden 1976) and those of *M. bourdotii* are ellipsoid, distinctly constricted in the middle part, 8–10.5 \times 4–5 μ m (Jülich 1976). *Melzerium rimosum* is known only from Brazil (Hjortstam and Bononi 1987), and therefore the Japanese specimen represents the first record of this species outside the type locality.

Sistotremella cystidiolophora Boidin & Gilles, Cryptogam. Mycol. 15:137, 1994.

Fig. 3
Basidiomata resupinate, adnate, forming small patches, thin; hymenial surface pale grayish-white to pale cream-white, smooth, somewhat pruinose; margin concolorous with the hymenial surface, thinning out indeterminately, sometimes pruinose under the lens (\times 20). Context in vertical section subhyaline, ceraceous. Hyphal system monomitic; hyphae 1–3 μ m in diameter, smooth, thin-walled, nodose-septate; cystidia sinuous, lanceolate, becoming narrower toward the apex, 40–75 \times 5.5–6.5 μ m, projecting up to 45 μ m beyond the hymenial surface, thin-walled or sometimes slightly thick-walled (up to 0.5 μ m) at the under half; basidia urniform, 22–28 \times 5–7 μ m, with a

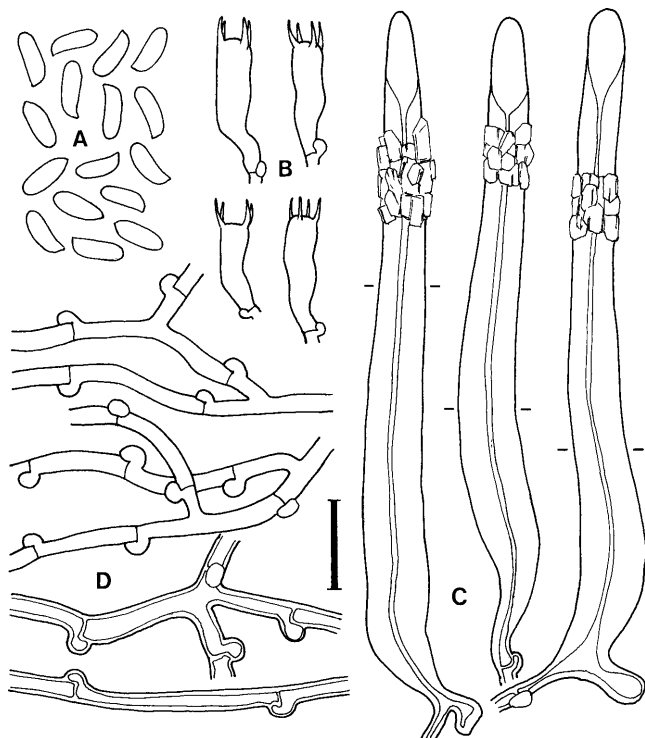


Fig. 4. *Tubulicrinis orientalis* (TMI25481). **A** Basidiospores. **B** Basidia. **C** Cystidia (lyocystidia). **D** Subicular hyphae. Short bars indicate the level of the hymenial surface. **D** Subicular hyphae. Bar 10 μm

basal clamp, producing 4 sterigmata, sometimes with oily drops; basidiospores narrowly ellipsoid to subcylindrical, $8.5\text{--}10.5 \times 4.5\text{--}5.5 \mu\text{m}$, smooth, slightly thick-walled (up to $0.5 \mu\text{m}$), nonamyloid, positive to cresyl blue.

Specimen examined: TMI25483 on decaying stems of *Scirpus* sp., Kokoge, Tottori City, Tottori Pref., Nov. 13, 2001, collected by B. Nordén.

Remarks: The major diagnostic characteristics of *S. cystidiolophora* are the lanceolate cystidia, urniform basidia with 4 sterigmata and narrowly ellipsoid to subcylindrical, slightly thick-walled, cresyl blue-positive basidiospores measuring $8.5\text{--}10.5 \times 4.5\text{--}5.5 \mu\text{m}$. The Japanese specimen, TMI25483, is the second report of *S. cystidiolophora*, previously reported only from Réunion Island in the Indian Ocean (Boidin and Gilles 1994).

Tubulicrinis orientalis Parmasto, Eesti NSV. Tead. Akad. Toim. Ser. Biol. 16:393, 1967. Fig. 4

Basidiomata resupinate, adnate, effused, $40\text{--}150 \mu\text{m}$ thick; hymenial surface pale cream to "Primrose," smooth, some-

times cracked, hispidulous under the lens ($\times 20$); margin concolorous with the hymenial surface, thinning out indeterminately. Context in vertical section subhyaline, membranous. Hyphal system monomitic; hyphae $2\text{--}3.5 \mu\text{m}$ in diameter, smooth, thin- to slightly thick-walled (up to $0.75 \mu\text{m}$), nodose-septate; cystidia (lyocystidia) subfusiform to subcylindrical with an obtuse apex, $65\text{--}90 \times 6\text{--}8.5 \mu\text{m}$, smooth, thick-walled, with a capillary lumen; the capillary lumen expands abruptly to form a cylindrical apical bulb, with a basal clamp, generally projecting up to $60 \mu\text{m}$ beyond the hymenial surface, sometimes encrusted at the upper part except for the apex, amyloid; basidia narrowly clavate, $11\text{--}16 \times 3.5\text{--}4 \mu\text{m}$, with a basal clamp, producing 4 sterigmata; basidiospores cylindrical to subballantoid, $5\text{--}6 \times 1.5\text{--}2 \mu\text{m}$, smooth, thin-walled, nonamyloid.

Specimen examined: TMI25481 on a rotten stump of *Pinus densiflora*, Mt. Kyusho, Tottori City, Tottori Pref., Nov. 11, 2001, collected by B. Nordén.

Remarks: This species was known from Primorsk and Chabarovsk in Russia (Parmasto 1967). It is morphologically similar to *T. gracillimus* (D.P. Rogers & H.S. Jacks.) G. Cunn., which is a widespread species covering large regions of the temperate zone as well as the tropics. However, *T. orientalis* differs from *T. gracillimus* in the size of basidiospores, viz. the latter has larger basidiospores, usually $6.5\text{--}8 \times 1.5\text{--}2 \mu\text{m}$ (Maekawa 1993). Hjortstam et al. (1988) noted that *T. orientalis* and *T. gracillimus* were very close and might be conspecific. To reveal the relationship between *T. orientalis* and *T. gracillimus*, intercompatibility tests between the two species and investigations of their DNA sequences are necessary.

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