

Short Communication

Materials for the fungus flora of Japan (57)*

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Two microfungi are described as new to Japan: *Amauroscopsis reticulatus* (Amauroascaceae, Ascomycetes), isolated from forest soil in Kamakura, has not been recorded since it was originally found and is characterized by yellow to orange-red ascomata with undifferentiated peridial hyphae and globose ascospores with contorted ridges appearing irregularly punctate-reticulate; and *Hobsonia mirabilis* (helicosporous hyphomycete), isolated from the cut stem of a thistle in Hachijo-jima, is characterized by gelatinous sporodochia and hyaline, tortuously coiled conidia.

Key Words—*Amauroscopsis*; ascomycetes; helicosporous hyphomycetes; *Hobsonia*; Japan.

120. *Amauroscopsis reticulatus* (Kuehn et Goos) Guarro et Gené, Mycotaxon 45: 174. 1992. Figs. 1–4
 ≡ *Pseudoarachniotus reticulatus* Kuehn et Goos, Mycologia 52: 40. 1960.

≡ *Amauroascus reticulatus* (Kuehn et Goos) von Arx, Persoonia 6: 375. 1971.

Colonies on potato-carrot agar (PCA) growing rather slowly, attaining a diam of 25–27 mm in 14 d at 25°C, more or less floccose, plane, thin, consisting of a submerged vegetative mycelium, producing abundant ascomata in central colony areas, overgrown by a loose network of aerial hyphae, Orange to Brownish Red (M. 6A7-9C8, Kornerup and Wanscher, 1978) or Scarlet (Rayner, 1970); reverse Light Orange to Reddish Brown (M. 6A5-9E8) or Red (R). Colonies on YpSs agar growing rapidly, attaining a diam of 46–48 mm in 14 d at 25°C, more or less funiculose, radially sulcate, consisting of a thin basal felt, Light Orange (M. 5A4) or Salmon (R); ascomata abundantly produced on the basal felt, gradually forming a continuous thick layer, overgrown by a loose aerial network; reverse Light Orange (M. 5A4) or Pale Luteous (R). Colonies on phytone yeast extract agar growing more rapidly, attaining a diam of 55–58 mm in 14 d at 25°C, floccose, radially sulcate, Light Orange to Orange (M. 6A4-6) or Rosy Buff (R); ascomata not produced; reverse Pale Orange to Orange (M. 5A3-6B7) or Salmon (R).

Ascomata often confluent, globose to subglobose, mostly 600–800 µm in diam, but often forming a continuous layer up to 3 mm or more, sometimes depressed above, yellow to orange-red, consisting of ascus clusters with well-developed networks of reddish pigmented hyphae which are undifferentiated from surrounding veg-

etative mycelium, maturing within 14–21 d; peridial hyphae hyaline to light colored, branched and anastomosed, septate, thin-walled, smooth to asperulate, 1.5–5 µm in diam, encrusted by reddish granules, often terminating by an enlargement. Asci 8-spored, hyaline to yellow, subglobose to ovoid or pyriform, 10–16 × 9–12 µm, evanescent. Ascospores pale yellow to yellowish brown, globose to subglobose, 5–6 µm in diam (incl. ridges), thick-walled, with contorted ridges appearing irregularly punctate-reticulate.

Vegetative mycelium consisting of hyaline, branched, thin-walled, smooth or asperulate, septate, 1–3 µm diam hyphae; racquet hyphae present; ascomatal initials arising as morphologically similar lateral branches of the same hypha or separate hyphae, which soon coil several times. Anamorph lacking.

Weakly cellulolytic.

At 37°C, growth is nil.

Distribution: Honduras, Japan, Thailand.

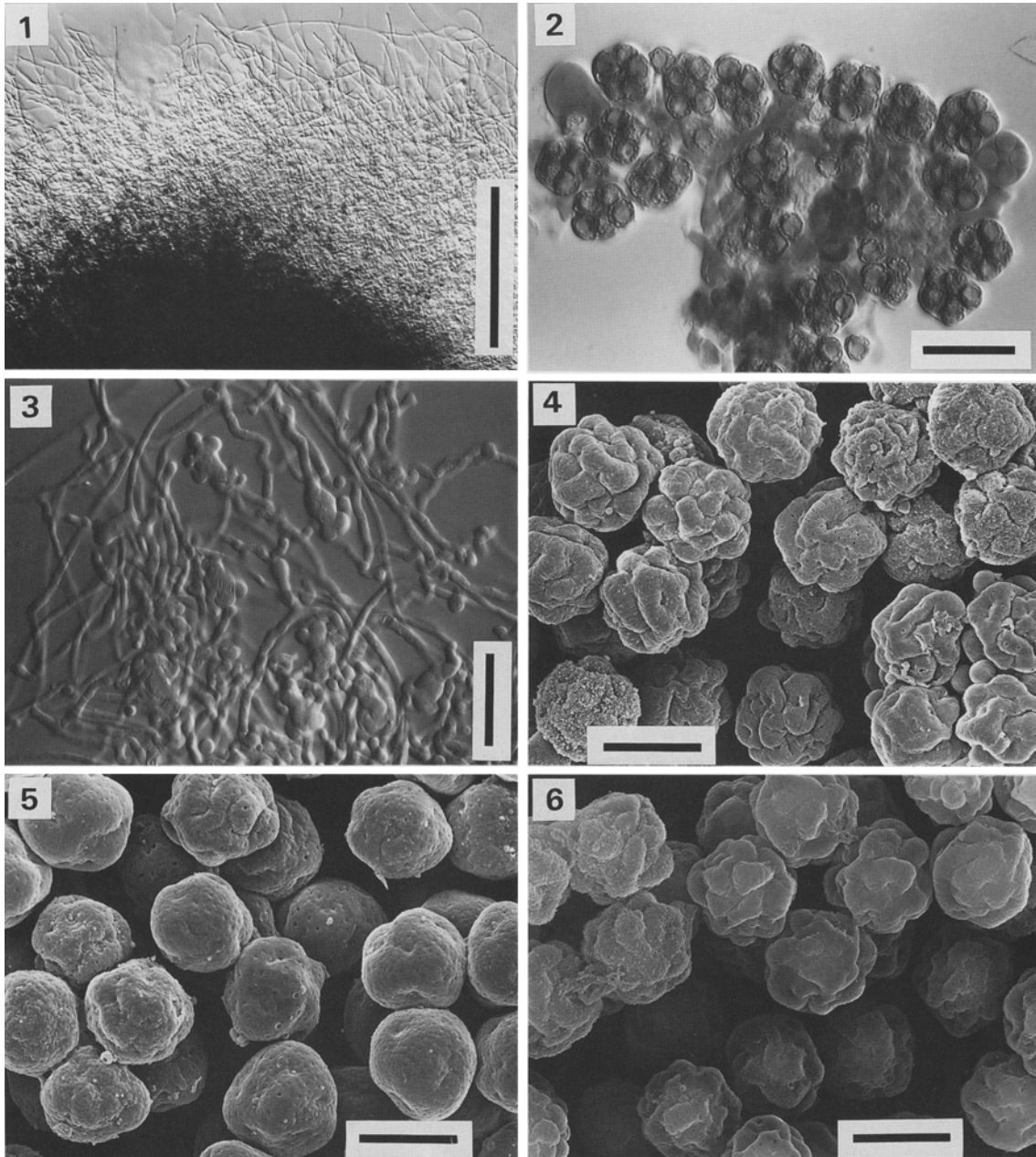
Specimen examined: SUM 3132, a dried culture isolated from forest soil, Sugimotoji, Kamakura-shi, Japan, 30 June 1995, col. S. Uchiyama. The dried specimen has been deposited with the Natural History Museum and Institute, Chiba, Japan (CBM).

Specimens examined for comparison: *A. reticulatus* strain ATCC 14045, isolated from banana rhizosphere soil in Honduras, July 1958, by R. D. Goos (Fig. 5 in this paper); strain SUM 3124, a culture isolated from palm-plantation soil, Phuket, Thailand, 12 Dec. 1996, col. S. Uchiyama, which had been misidentified as *Amauroascus niger* Schroeter (cited previously in Mycoscience 40: 292. 1999. Fig. 6 in this paper.).

Note: The only prior record of *A. reticulatus* is from Honduras, where it was isolated from the rhizosphere soil of cultivated banana (*Musa sapientum* L.). The species is easily distinguished from *A. perforatus* Guarro et al.,

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Figs. 1–6. *Amaurascopsis reticulatus* (1–4: SUM 3132; 5: ATCC 14045; 6: SUM 3124).

1. A marginal part of ascoma. 2. Asci. 3. Ascromatal initials. 4–6. Ascospores (SEM). Scale bars: 1 = 200 μm ; 2, 3 = 20 μm ; 4–6 = 5 μm .

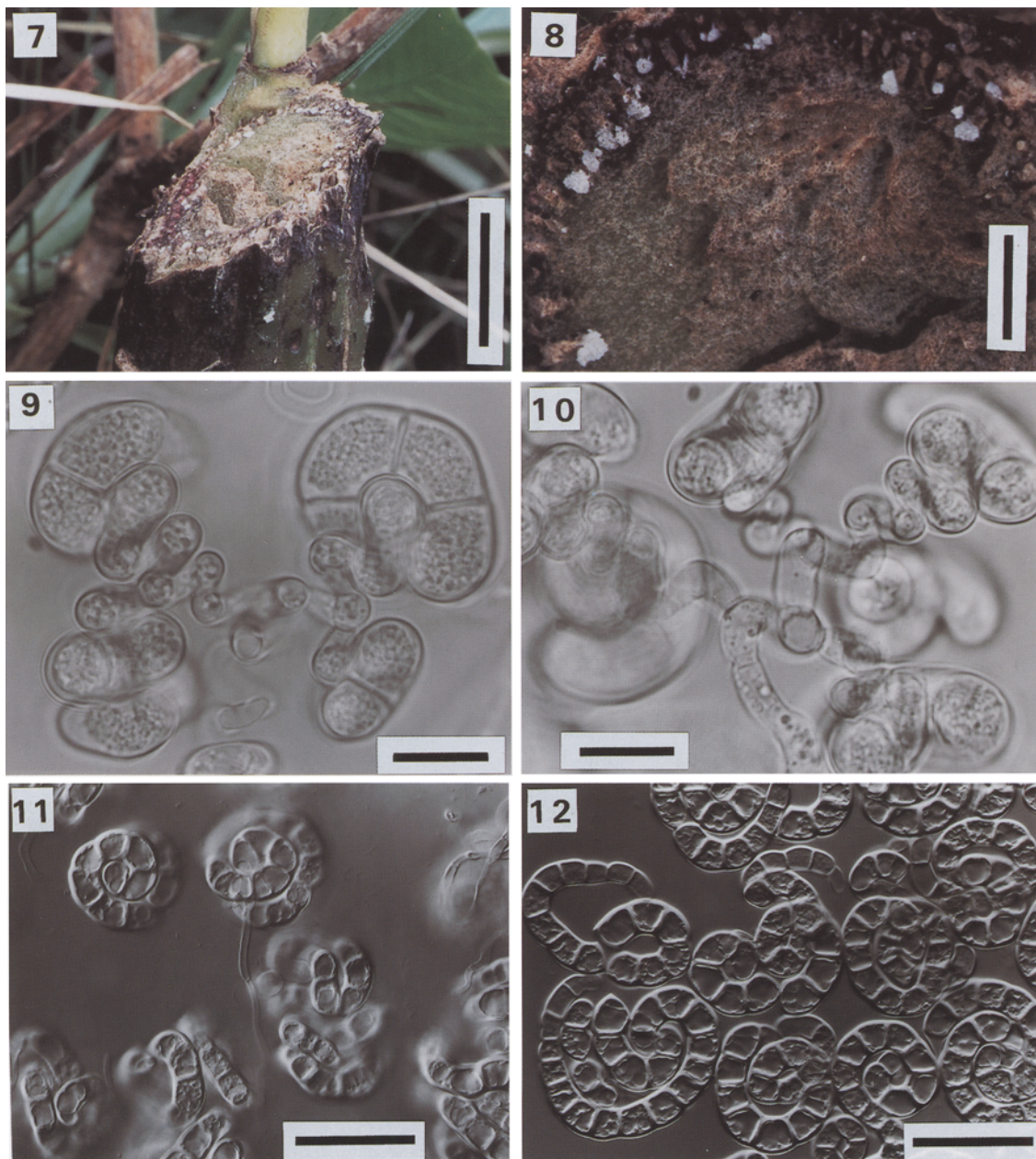
the type species of the genus, by the absence of peridial hyphae and lack of growth at 37°C (Guarro et al., 1992). In addition, *A. perforatus* has a *Chrysosporium* anamorph.

121. *Hobsonia mirabilis* (Peck) Linder, Ann. Mis. Bot. Gard. **16**: 340. 1929; Martin, Brittonia **11**: 98–101. 1959; Goos, Mycologia **72**: 605. 1980. Figs. 7–12
 = *Helicomycetes mirabilis* Peck, NY State Mus. Rept. **34**: 46. 1881.
 = *Hobsonia gigaspora* Berk., in Masee, Ann. Bot. **5**:

509. 1891.

= *Hobsonia ackermannii* Pat., Bull. Soc. Mycol. France **18**: 185. 1892.

Colonies on the natural substrate white, effuse, bearing punctiform or verrucoid gelatinous sporodochia. Conidiomata sporodochial, milky white, up to 2 mm in diam, gelatinous when fresh, consisting of micronematous conidiophores and numerous conidia. Conidiophores arising from sporodochia, hyaline, slender, branched or unbranched, septate, smooth-walled, 3–4 μm in diam at the middle. Conidiogenous cells



Figs. 7–12. *Hobsonia mirabilis* (SUM 3150).

7. Habit on cut stem of thistle. 8. White gelatinous sporodochia on the cut stem. 9, 10. Conidiogenous structures from culture, showing development of young conidia. 11. Mature conidia. 12. Conidial filaments. Scale bars: 7=25 mm; 8=50 mm; 9, 10=10 μm ; 11, 12=50 μm .

monoblastic, integrated, terminal, determinate, coiled or contorted, delimited from the conidiophores by a transverse septum. Conidia borne in mucoid masses, solitary, hyaline to pale yellow, tortuously coiled in three dimensions or irregularly to form tangled knots, 44–80 μm in diam, thick and smooth-walled, often guttulate; filaments helicoid, transversely multiseptate, 10–16 μm in diam, with a rounded tip.

Vegetative mycelium consisting of hyaline, branched, septate, smooth-walled, often guttulate, 2–4 μm diam hyphae.

Colonies on PCA or potato-dextrose agar (half strength) spreading broadly, attaining a diam of 85 mm or more in 14 d at 25°C, plane, thin, with vegetative mycelium submerged, producing loose, more or less floccose aerial hyphae; conidiomata abundantly produced as a slimy mass, smaller than those on the natural substrate; reverse uncolored.

At 37°C, growth is nil.

Distribution: USA, Central America, Venezuela, Hawaii, Japan.

Specimen examined: SUM 3150, on the cut stem of

a thistle (*Cirsium hachijoense* Nakai), Hachijo-machi, Tokyo-to, Japan, 7 June 1998, col. S. Uchiyama. The dried specimen on the natural substrate has been deposited with CBM.

Note: Among the helicosporous hyphomycetes producing tortuous-type conidia (Goos, 1987), *Hobsonia* is somewhat similar in appearance to *Zalerion* Moore et Meyers. However, *Zalerion* is separated on the basis of its dark grayish olive or olivaceous brown colony, mononematous conidiophores, mid to dark brown conidia with a broad point of the attachment, and its occurrence from marine environments (Goos, 1985). *Hobsonia mirabilis* is a widely distributed species, being found from the subtropical and tropical Americas (USA, Central America and Venezuela) to Hawaii on a very wide range of substrates such as rotten wood, decaying culms, stems, leaves, litter of various plants (e.g., bamboo, banana, palm, etc.). Two other species of *Hobsonia* are lichenicolous and known from rather cold climatic regions in Europe and Canada (Lowen et al., 1986).

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