

注目すべきニュージーランド産かん菌7種について

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New and noteworthy agarics from New Zealand

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Abstract

Seven New Zealand species of Agaricales which are interesting taxonomically or mycogeographically are treated. Among these *Hygrocybe miniatoaurantiaca* is described as a new species.

Key Words: Agaricales; New Zealand; new species; *Hygrocybe miniatoaurantiaca*.

Seven agarics reported in this paper were all collected in New Zealand during my mycological exploration in New Zealand and Tasmania in 1987.

In the following species descriptions, color notations within parentheses are from Kornerup and Wanscher (1967): e.g. 6A7 refers to plate 6, color block A7. Unless otherwise stated, the specimens are all preserved in the Herbarium of the National Science Museum, Tokyo (TNS). The holotype of *Hygrocybe miniatoaurantiaca* is deposited in the Herbarium, DSIR Plant Protection, Auckland (PDD).

Descriptions

1) *Camarophyllus pratensis* (Pers.: Fr.) Kummer var. *pratensis*, Führ. Pilzk. 117. 1871. Figs. 1 and 2

Pileus 1.5-4.5 cm broad, obtuse to convex with incurved margin, expanding to broadly convex or nearly plane with a low obtuse umbo; surface not viscid, glabrous to subfibrillose, orange (6A7-6B7, 6B6) when moist, fading to paler (5A2) when dry. Lamellae distant, decurrent, thick, light orange (6A4), 2.5-4 mm broad, more or less intervenose. Stipe 2-3 cm long, 3-9 mm thick, equal or tapering downward, orange white (5A2), subfibrillose, solid. Flesh thick at the disc, pale orange; taste mild, odor none.

Spores 6.5-7.5 × 4.5-6 μm, short-ellipsoid, subovoid, or subglobose, smooth, inamyloid. Basidia 30-40 × 7-7.5 μm, 4-spored. Pleuro- and cheilocystidia none. Gill trama of interwoven hyphae 2-7 μm diam. Pileus cuticle a poorly differentiated epicutis composed of repent, non-gelatinous hyphae 2-6.5 μm diam. Clamp connections present.

Habitat and distribution: On the ground in forest of *Leptospermum*, *Podocarpus*, etc., near the Lower Huia Reservoir, Waitakere Ranges, Auckland, 3 May 1987, Hongo, NZ-145. Northern Hemisphere, South America, New Zealand.

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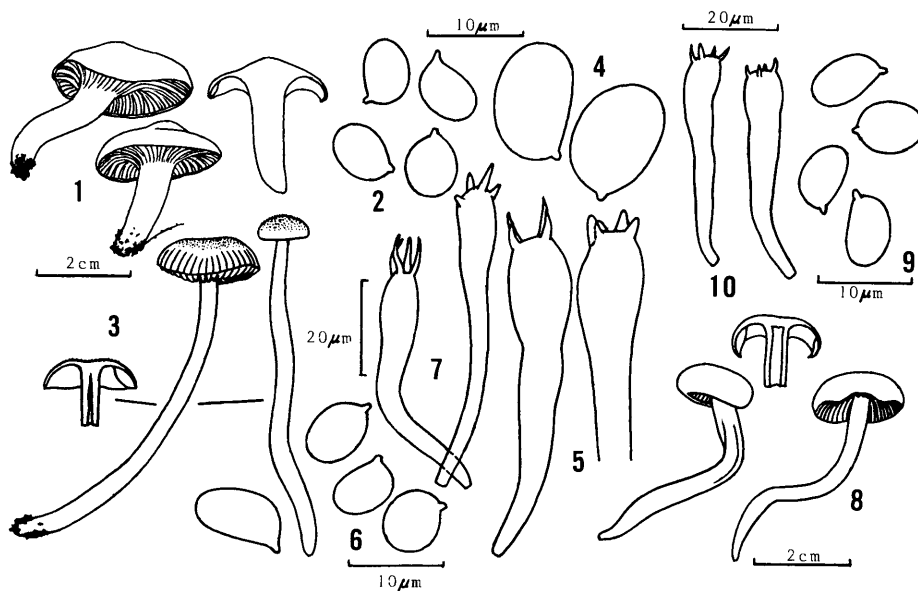
The above collection corresponds in all characters with collections from the Northern Hemisphere. Var. *gracilis* Horak (1973) from New Zealand differs in the deeper colors and the pronounced umbo on the cap, the slender habit of the basidiocarps and the somewhat smaller spores.

2) *Hygrocybe firma* (Berk. & Br.) Singer, Sydowia **11**: 355. 1957; Hongo, Mem. Fac. Educ., Shiga Univ. **33**: 37. 1983. Figs. 3-7

Pileus 1-2 cm broad, at first hemispherical to convex, then applanate or slightly depressed; surface not viscid, minutely tomentose to scurfy squamulose, chrome orange (6A8-6A5), fading to pale orange when old, often translucent striate toward the margin. Lamellae adnate to subdecurrent, 3-4 mm broad, distant, waxy, light orange (5A5-6A5). Stipe 7-8.5 cm long, 2-4 mm thick, equal or tapering below, paler than the color of the pileus, often flexuose, stuffed to hollow. Flesh thin, pale orange; taste mild, odor none.

Spores 10-13(-17.5) × 7-9 μm, broadly ellipsoid, smooth, forming on larger basidia 55-65 × 9-12 μm; spores 5.5-8.5 × 3.5-5.5 μm, ellipsoid to ovoid, forming on smaller basidia 38-51 × 6-7.5 μm; all spores inamyloid; all basidia 4-spored. Gill trama parallel, hyphae 2.5-12 μm diam. Pleuro- and cheilocystidia none. Pileus cuticle a well developed trichodermium, composed of repent to erect hyphae, 7-18 μm diam., sometimes forming fascicles. Clamp connections present.

Habitat and distribution: In forest litter, Okarito State Forest, Westland, 25 Apr. 1987,



FIGS. 1 and 2. *Camarophyllus pratensis*. Fig. 1. Basidiocarps. Fig. 2. Spores. FIGS. 3-7. *Hygrocybe firma*. Fig. 3. Basidiocarps. Fig. 4. Macrospores. Fig. 5. Large basidia. Fig. 6. Microspores. Fig. 7. Small basidia. FIGS. 8-10. *Hygrocybe miniatoaurantiaca*. Fig. 8. Basidiocarps. Fig. 9. Spores. Fig. 10. Basidia.

Hongo, NZ-068 ; on the ground in forest of *Nothofagus fusca* (Hook. f.) Oerst. and *N. menziesii* (Hook. f.) Oerst., Kiko Road, Kaimanawa State Forest Park, Taupo, 7 May 1987, Hongo, NZ-176. Widespread in the tropics, also in Japan and New Zealand.

A beautiful pantropical species, characterized by the dimorphous basidia and basidiospores. It is very variable in the spore size and the color of the basidiocarps.

3) *Hygrocybe miniatoaurantiaca* Hongo, sp. nov. Figs. 8-10

Pileo 1.5-3.5 cm lato, e hemisphaerico convexo demum applanato, viscido, innato fibrilloso, miniato-aurantiaco, marginem versus pallidiori ; lamellis distantibus, e adnato subdecurrentibus, albidis, 2.5-4 mm latis, intervenosis ; stipite 3.5-6 cm longo, 3-5 mm crasso, attenuato basim versus, saepe compresso, flexuoso, albido vel pileo pallidiori, cavo ; carne alba, odore saporeque nullo ; sporis 6-8.5(-10) × (4-)4.5-5(-6) μm , e ellipsoideo ovoideis, inamyloideis ; cystidiis nullis ; hyphis fibulatis. **Holotypus** : Spragg's Bush, Waitakere Ranges, Auckland, 19 Apr. 1987, Hongo, NZ-017 (PDD).

Pileus 1.5-3.5 cm broad, hemispherical to convex, becoming nearly plane in age ; surface viscid, innately fibrillose, reddish orange (7A8-7A6) on the disc, paler (7A3-6A3) toward the margin. Lamellae distant, adnate to subdecurrent, thick, whitish, 2.5-4 mm broad, edges even, intervenose. Stipe 3.5-6 cm long, 3-5 mm thick, attenuated below, often compressed, glabrous, flexuose, whitish or slightly tinted like the color of the pileus, hollow. Flesh thin, white ; taste and odor not distinctive.

Spores 6-8.5(-10) × (4-)4.5-5(-6) μm , ellipsoid to ovoid, smooth, inamyloid. Basidia 38-49 × 5.5-8 μm , 4-spored. Cheilo- and pleurocystidia none. Pileus cuticle an ixocutis of radial, repent, gelatinous hyphae 1.3-4 μm diam., with orange content. Clamp connections present.

Habitat and distribution : Amongst litter under *Leptospermum*, *Podocarpus*, *Agathis*, etc., Spragg's Bush, Waitakere Ranges, Auckland, 19 Apr. 1987, Hongo, NZ-017 (in PDD, **Holotype**). New Zealand.

The viscid flame scarlet cap, the whitish gills, and the almost whitish, slender stem are the important diagnostic characters of this species. It differs from *H. venusta* Hongo in the viscid cap and in having slightly broader spores.

4) *Hygrocybe* aff. *pantoleuca* (Hongo) Hongo, Mem. Fac. Educ., Shiga Univ. **32** : 91. 1982. Figs. 11-13

Pileus 1.5-3 cm broad, obtusely conical, then plano-convex, often with a low, broad umbo, in age splitting radially ; surface white, becoming slightly creamy at the center, silky, subviscid when wet. Lamellae nearly free, distant, thick, more or less intervenose, white, edges even or eroded. Stipe 2.5-5 cm long, 3-5 mm thick, slightly tapering upward, often compressed, white, silky, hollow. Flesh white, fragile.

Spores 6-7.5(-8.5) × 4-4.5(-4.8) μm , ellipsoid to ovoid, smooth, inamyloid. Basidia 30-40 × 6.5-8 μm , 4-spored. Cheilo- and pleurocystidia none. Gill trama of subparallel hyphae 2-10.5 μm diam., lactifers scattered. Pileus cuticle an ixocutis of radial, repent,

gelatinous hyphae 2–5 μm diam. Clamp connections not found.

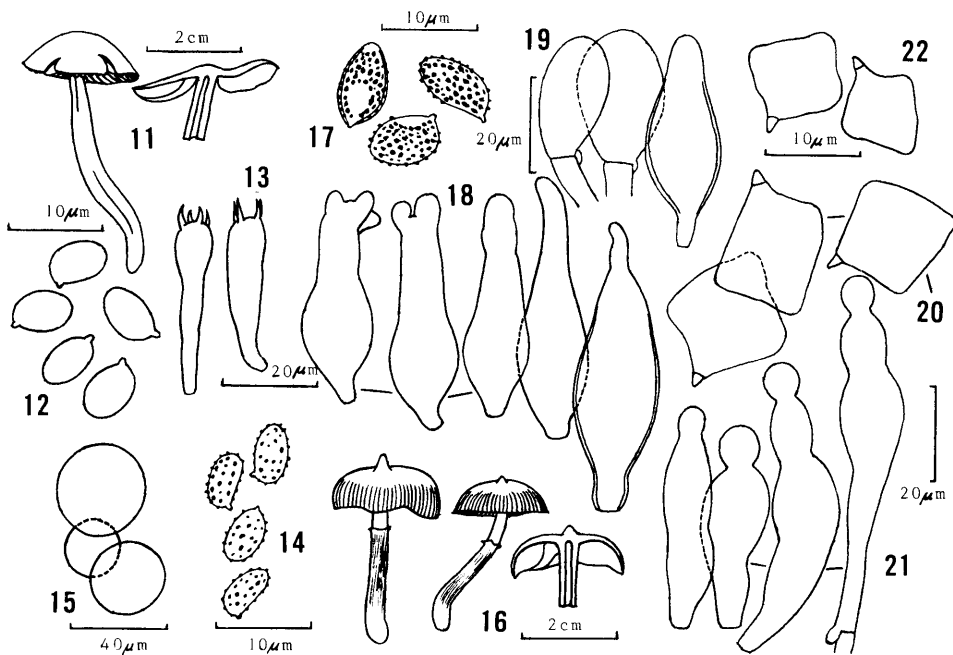
Habitat: On the ground in forest of *Nothofagus fusca*, *N. menziesii*, etc., Kiko Road, Kaimanawa State Forest Park, Taupo, 7 May 1987, Hongo, NZ-169.

Macroscopically and microscopically this collection agrees in many points with Japanese collections except for the absence of clamp connections. It is close to *H. mavis* (Stevenson) Horak from which it is distinguished by the somewhat viscid cap and the smaller spores.

5) *Melanophyllum echinatum* (Roth: Fr.) Singer, Lilloa **22**: 436. 1951; Hongo, Mem. Fac. Educ., Shiga Univ. **26**: 28. 1976. Figs. 14 and 15

Spores 5–7 \times 2.8–3.3 μm , ellipsoid to oblong-ellipsoid, finely asperulate, pale sepia brown under the microscope. Basidia 4-spored. Cheilo- and pleurocystidia none. Pileus and stipe covered by velar remnants consisting of globose to subglobose cells 23–44 \times 20–42 μm , filled with gray brown dissolved pigment. Clamp connections present.

Habitat and distribution: On rich soil in forest (under *Leptospermum*), Eaves Bush Reserve, Orewa, Auckland, 20 Apr. 1987, Hongo, NZ-029. East Asia, New Guinea, Europe, North Africa, North and South America, New Zealand.



FIGS. 11–13. *Hygrocybe* aff. *pantoleuca*. Fig. 11. Basidiocarps. Fig. 12. Spores. Fig. 13. Basidia. FIGS. 14 and 15. *Melanophyllum echinatum*. Fig. 14. Spores. Fig. 15. Sphaerocytes. FIGS. 16–19. *Galerina patagonica*. Fig. 16. Basidiocarps. Fig. 17. Spores. Fig. 18. Pleurocystidia. Fig. 19. Cheilocystidia. FIGS. 20 and 21. *Entoloma hochstetteri*. Fig. 20. Spores. Fig. 21. Pseudocystidia. FIG. 22. *Entoloma aeruginosum*: spores.

A widely distributed species, easily recognizable by the mealy-granular, dirty brown cap and stem, and the vinaceous red gills.

6) *Galerina patagonica* Singer, Sydowia **8**: 140. 1954; Smith and Singer, The genus *Galerina* Earle. 263. 1964; Horak, Cript. Fl. Tierra del Fuego **11**: 332. 1979.

Figs. 16-19

Pileus 1.5-3 cm or more broad, conico-campanulate to convex when young, expanding to plane, frequently with a pointed umbo; surface glabrous, raw Sienna (6D7) when moist, hygrophanous, pale ochraceous when faded, translucent striate when moist. Lamellae subdistant, adnate to subdecurrent, finally seceding, cinnamon, ± 5 mm broad. Stipe 3-4.5 cm long, 2-4 mm thick, equal or slightly enlarged downward, pale brown (6C5) above, dark brown (6E7) below, with a thin coating of whitish fibrils below the ring, pruinose at the apex, hollow. Ring membranous, persistent. Flesh concolorous with surface, thin in the pileus; taste mild, odor slight.

Spores $7.5-9.5 \times 4.5-5.5 \mu\text{m}$, subamygdaliform, verrucose, with a well-marked plage, rusty-fulvous in KOH. Basidia $18-24 \times 5.5-7.5 \mu\text{m}$, 4-spored. Pleurocystidia $36-58 \times 13.5-18.5 \mu\text{m}$, fusoid-ventricose, narrowed above, often with two or three obtuse projections arising from the apex, hyaline, thin-walled or walls slightly thickened. Cheilocystidia $17-52 \times 7.5-19 \mu\text{m}$, versiform and usually clavate, vesiculose, or fusoid-ventricose, thin-walled or sometimes slightly thick-walled. Gill trama of parallel hyphae $2-16 \mu\text{m}$ diam. Pileus surface a repent epicutis of hyaline to yellowish hyphae $2-5.5 \mu\text{m}$ diam. Clamp connections present.

Habitat and distribution: On fallen trunk of *Dacrydium cupressinum* Lamb., Ianthe State Forest, Westland, 23 Apr. 1987, Hongo, NZ-051. South America, Southeast Australia, New Zealand.

This is one of the mycogeographically noteworthy fungi as Horak (1983) indicated. It is characterized by its peculiar pleurocystidia. In the above collection both pleuro- and cheilocystidia show a tendency to become more or less thick-walled.

7) *Entoloma hochstetteri* (Reichardt) Stevenson, Kew Bull. **16**: 233, pl. 5 fig. 7. 1962.

Figs. 20 and 21

Spores $12.5-15.5 \times 12-15 \mu\text{m}$, cuboid, pale stramineous under the microscope. Basidia $43-55 \times 13.5-18.5 \mu\text{m}$, 4-spored. Cheilocystidia absent. Pseudocystidia of tramal origin present at least on the edge of the lamellae, $35-70 \times 5.5-16 \mu\text{m}$, subfusoid to subclavate, often strangulated, with a rounded apex, thin-walled, with a brownish plasmatic pigment. Gill trama regular of parallel hyphae $4.5-20.5 \mu\text{m}$ diam. Clamp connections present.

Habitat: On the ground in broad-leaf forest mixed with *Podocarpus*, Kauri Grove Track, Waitakere Ranges, Auckland, 19 Apr. 1987, Hongo, NZ-002; among deep moss, under *Dacrydium*, Gillespies Beach Road, Westland National Park, 24 Apr. 1987, Hongo, NZ-054.

Horak (1975) considered this species and also Japanese *E. aeruginosum* Hiroe to be conspecific with *E. virescens* (Berk. & Curt.) Horak from the Bonin Islands. As I have not

yet examined the type specimen of the Bonin species, I am not at present in a position to say anything about synonymy between *E. virescens* and the other two species. But as for *E. hochstetteri* and *E. aeruginosum*, I came to the conclusion that they are better treated as separate taxa, owing to differences in the spore size and the shape of the pseudocystidia. My notes on the microscopical characters of one specimen of *E. aeruginosum* (Hongo 5376 in Hongo Herb.) are as follows: Spores $10.5-12.5 \times 9.5-12 \mu\text{m}$, cuboid, pale stramineous under the microscope (Fig. 22). Basidia $34-47 \times 12-15 \mu\text{m}$, 4-spored. Pseudocystidia $66-95 \times 9.5-17.5 \mu\text{m}$, numerous on the edge of the lamellae, subcylindric to clavate, thin-walled. Clamp connections present.

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摘 要

注目すべきニュージーランド産褶菌7種について

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ニュージーランド産の分類学的、菌類地理学的に興味ある以下の褶菌類7種を報告した。うち1種は新種である。*Camarophyllus pratensis* var. *pratensis*, *Hygrocybe firma*, *H. miniatoaurantiaca* Hongo, sp. nov., *H. aff. pantoleuca*, *Melanophyllum echinatum*, *Galerina patagonica*, *Entoloma hochstetteri*.
