

## THE STROBILOMYCETACEAE OF INDONESIA

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(With six Text-figures)

*Strobilomyces nigricans* Berk., and *Boletellus emodensis* (Berk.) Sing. are new records for Indonesia. *Porphyrellus dictyotus* Boedijn is proposed as a new species.

The family of the Strobilomycetaceae, first established by Gilbert (2) and later much extended by Singer (4), was hitherto represented in Indonesia only by three species belonging to three different genera. I can add now three more species, bringing the total number to six and the number of genera to four.

Short diagnoses are provided for every species, in which colour notes followed by (R) were made with the aid of R. Ridgway, "Color standards and Color nomenclature". Of all the species mentioned in this paper, except *Boletellus obscure-coccineus* (Höhn.) Singer, material mostly preserved in alcohol will be found in the Herbarium of the Botanical Garden, Bogor, Indonesia.

### STROBILOMYCES Berk.

*Strobilomyces* Berk. in Hook. J. Bot. & Kew Gdn Misc. 3: 77. 1851.

### STROBILOMYCES POLYPYRAMIS Hook. f. apud Berk.

*Strobilomyces polypyraxis* Hook. f. apud Berk. in Hook. J. Bot. & Kew Gdn Misc. 3: 78. 1851.

Pileus at first hemispherical, then expanding, up to 8 cm in diam., dirty brown, completely covered by nearly black, floccose, angular scales; in the young stage a veil extends from the pileus to the stipe; this veil is also covered by floccose scales; cap margin in older stages appendiculate with the remains of the veil. Tube-layer 6-8 mm high, decurrent on the stipe, brown. Pores at first pure white, afterwards brown, 1-1.5 mm in diam. Flesh floccose and spongy, dirty white, becoming dark bistre on exposure to the air. Stipe long and slender, often somewhat sinuous, solid, sulcate-striate, brown, covered with dark floccose scales, 7-12 cm long, 10-12 mm broad. Basidia 4-spored, 35-45 × 14-15 μ. Spores broadly ovoid, red-brown, covered with irregular, nearly black tubercles, which are often confluent, giving rise to short, sometimes branched, ridges and a crest near the top of the spore; 9-14 × 7-10 μ. Cystidia vesicular, 50-58 × 12-17 μ. — In old age and after conservation (alcohol) the whole fungus takes a dull black colour.

Java, Bogor, Botanical Garden, collector unknown (BO).

The type from Sikkim was studied at the Kew Herbarium.

### STROBILOMYCES NIGRICANS Berk.

*Strobilomyces nigricans* Berk. in Hook. J. Bot. & Kew Gdn Misc. 4: 139. 1852.

Pileus convex, with appressed angular scales, 4–5 cm in diam., greyish brown, about Wood Brown (R), with the scales dull black, margin appendiculate with remnants of the veil. Tubes up to 10 mm long, grey near Drab (R). Pores at first whitish, soon grey, between Smoke Grey and Light Greyish Olive (R). Flesh up to 7 mm thick near the stipe, rapidly diminishing in width near the margin; colour grey near Drab Grey (R). Stipe, solid, with an elongated reticulum of black fibres, 5–6 cm long, 7–14 mm broad, about the same colour as the cap. Basidia club-shaped, 4-spored,  $33\text{--}46 \times 13\text{--}19 \mu$ ; sterigmata conical, 5–8  $\mu$  long, 1.5–3  $\mu$  broad at the base. Spores globose to subglobose, brown, with an irregular network of rather high bands,  $13\text{--}15 \times 10\text{--}13.5 \mu$ ; hyaline border 1–3  $\mu$ , in places only 0.5  $\mu$  high. Cystidia fusiform, colourless,  $57\text{--}62 \times 17\text{--}21 \mu$ . — Whole fungus turning coal black after conservation in alcohol.

Java, Tjibodas, September 1929, *K. B. Boedijn 10.724* (BO); April 1952, *F. K. M. Steup* (BO).

The type of this species from Khasia was studied at the Kew herbarium.

#### HEIMIELLA Boedijn

*Heimiella* Boedijn in *Sydowia* 5: 216. 1951.

#### HEIMIELLA RETISPORA (Pat. & Baker) Boedijn

*Boletus retisporus* Pat. & Baker in *J. Straits Br. Asiat. Soc.* 78: 72. 1918. — *Boletellus retisporus* (Pat. & Baker) E. J. Gilb., *Les Bolets* 108. 1931 (alternative name, *Strobilomyces retisporus*). — *Heimiella retispora* (Pat. & Baker) Boedijn in *Sydowia* 5: 217. 1951.

Pileus at first bell-shaped, often with an umbo, then expanding and margin locally reflexed, 5.5–8 cm in diam.; surface smooth, seldom cracking in some places; pale brown, darker in the centre. Tubes easily separable from the pileus, up to 1 cm long near the middle, up to 5 mm near the margin of the cap. Pores cream colour, at first rounded, afterwards more or less elongated and up to 0.5 mm in diam. Flesh pale yellowish, about 6 mm thick near the stipe, 1 mm near the margin. Stipe long, solid, rugose, with more or less swollen base, brown, much darker than the pileus; 11–20 cm long, 1.5–3 cm broad at the base, 7–18 mm in the middle. Basidia club-shaped, 4-spored,  $31\text{--}41 \times 14\text{--}17 \mu$ ; sterigmata conical, 2.5–5  $\mu$  long, 2–2.5  $\mu$  broad at the base. Spores subovoid, dirty yellow to pale brownish yellow, reticulate, the reticulum consisting of raised, colourless bands of different height and often interrupted and irregular;  $15\text{--}18 \times 9\text{--}11 \mu$ ; hyaline border 1–1.5  $\mu$ , near the base of the spore sometimes up to 3  $\mu$  broad. Cystidia flask-shaped, thin-walled, necks of varying length, often slightly undulating or constricted,  $53\text{--}74 \times 11\text{--}14 \mu$ , necks 4–6  $\mu$  broad.

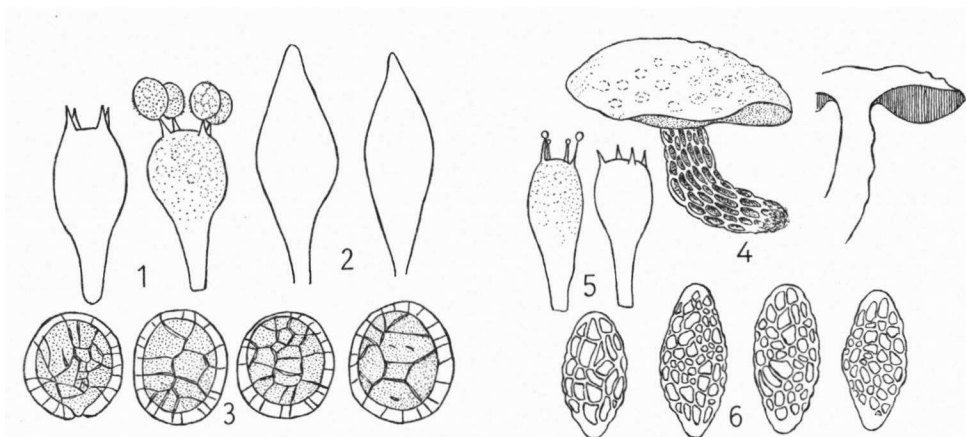
Java, Bogor, Botanical Garden, collector unknown (BO).

#### PORPHYRELLUS E. J. Gilb.

*Porphyrellus* E. J. Gilb., *Les Bolets* 99. 1931.

#### *Porphyrellus dictyotus* Boedijn, *nov. spec.*

Pileus 6–7 cm latus, convexus, tessellatus, albidus, squamulis melleis. Tubuli 10 mm longi, poris 1 mm diam., sordide roseis. Caro pallida, 9 mm crassa. Stipes solidus, profunde lacunosus-favosus, sordide luteus, 5.5–6 cm longus, 14–16 mm crassus. Basidia tetraspora, clavata,  $36\text{--}40 \times 12.5\text{--}14 \mu$ . Sporae brunneae, fusoidae, irregulariter reticulatae,  $14\text{--}19 \times 6\text{--}8 \mu$ .



Figs. 1-3. *Strobilomyces nigricans* Berk.: 1—basidia; 2—cystidia; 3—spores.

Figs. 4-6. *Porphyrellus dictyotus* Boedijn: 4—fructifications, one in section; 5—basidia; 6—spores.

Pileus convex 6-7 cm in diam., cracking in rather wide-spaced wart-like scales, nearly white, the scales dirty brownish, about Honey Yellow (R). Tubes strongly sinuate decurrent, about 10 mm high, diminishing in length near the stipe and the margin. Pores about 1 mm wide, dirty pink, about Vinaceous Fawn to Fawn Color (R). Flesh pale, about 9 mm thick near the stipe. Stipe cylindrical 5.5-6 cm long, 14-16 mm broad, alveolate-lacunose, the alveolae 3-9 mm long, dirty yellow, about Chamois (R). Basidia clavate, 4-spored,  $36-40 \times 12.5-14 \mu$ ; sterigmata conical,  $4-6 \mu$  long,  $1-2 \mu$  broad at the base. Spores brown, about Cinnamon to Sayal Brown (R), fusoid, with an irregular network of low ridges,  $14-19 \times 6-8 \mu$ . — In alcohol the whole fructification takes a rose colour.

Java, Tjiseureuh, Gunung Limo, September 1935, *K. B. Boedijn* 15.054 (type; BO).

#### BOLETELLUS Murr.

*Boletellus* Murr. in *Mycologia* 1: 10. 1909.

#### BOLETELLUS EMODENSIS (Berk.) Sing.

*Boletus emodensis* Berk. in Hook. J. Bot. & Kew Gdn Misc. 3: 48. 1851. — *Boletellus emodensis* (Berk.) Sing. in *Ann. mycol.*, Berl. 40: 18. 1942.

*Strobilomyces annamiticus* Pat. in *Bull. Soc. mycol. France* 25: 6. 1909.

*Strobilomyces porphyrius* Pat. & Baker in *J. Straits Br. Asiat. Soc.* 78: 72. 1918.

Pileus convex 3-9 cm in diam., covered with scales, red, about Deep Hellebore Red (R) but a trifle paler, with the scales Corinthian Purple to Dark Corinthian Purple (R). Veil red, about Corinthian Red (R), in the young stage surrounding the whole cap and the top of the stipe, later forming an appendiculation on the margin of the pileus. Pores subangular, dark yellow, about Olive Ocher to Olive Yellow (R), turning blue-green by pressure. Flesh yellowish, strongly blueing when cut. Stipe cylindrical, up to 10 cm long, 1 cm broad, dirty brown, about Wood Brown (R), changing to red, about Corinthian Red (R) near the apex. Basidia clavate, 4-spored,  $40-60 \times 10-14 \mu$ . Spores elongate-ellipsoid, olive brownish,

between Isabella colour and Ecu Olive (R), striate in longitudinal direction with low ridges,  $15-20 \times 8-10 \mu$ . Cystidia fusiform, of about the same length as the basidia.

Java, Tjiseureuh, Gunung Limo, September 1935, *K. B. Boedijn 15.056* (BO).

*Strobilomyces porphyrius* Pat. & Baker I have placed as a synonym, as I cannot see any real differences from the present species.

**BOLETELLUS OBSCURE-COCCINEUS (Höhn.) Sing.**

*Boletus obscure-coccineus* Höhn. in S. B. Akad. Wiss. Wien (Math.-nat. Kl., Abt. I) **123**: 88. 1914. — *Boletellus obscure-coccineus* (Höhn.) Sing. in *Farlowia* **2**: 127. 1945.

Pileus dry, granular felted, 6-7 cm in diam., dark carmine red. Pores yellow with often a greenish hue, about 1.5 mm in diam. Tubes about 1 cm long, diminishing in length near the stipe. Flesh 1 cm thick, of a pale colour, not blueing on exposure to the air. Stipe cylindrical, 10 cm long, 12-13 mm broad, attenuated near the base, pale carmine red, provided with red striae. Basidia 4-spored,  $30-42 \times 8.5-12.5 \mu$ . Spores long-ellipsoid, honey coloured, striated by the presence of longitudinal low ridges,  $16-21 \times 6-8 \mu$ . Cystidia clavate, mucronate,  $60-100 \times 12-24 \mu$ .

Java, Tjibodas, 1908, *F. X. R. von Höhnel* (BO).

Description after von Höhnel (l.c.), and Singer (l.c.).

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