

Type studies of the polypores described by E. J. H. Corner from Asia and West Pacific Areas II*. Species described in *Gloeophyllum*, *Heteroporus*, *Microporellus*, *Oxyporus*, *Paratrichaptum*, and *Rigidoporus*

Tsutomu Hattori**

Forestry and Forest Products Research Institute, Tsukuba, Ibaraki 305–8687, Japan

Accepted for publication 18 October 2000

Identifications of 29 species of polypores described by Corner were made by type examinations. *Laetifomes* gen. nov. is proposed, typified by *Rigidoporus flammans*. The following new combinations are proposed: *Abortiporus zonatus*, *Antrodiella flava*, *Laetifomes flammans*, *Oligoporus perplexus*, *Trichaptum vinaceibrunneum* and *Tyromyces sublacunosus*. The following names are accepted in the original genera: *Microporellus fuliginosus*, *M. pahangensis*, *M. subumbonatus*, *Rigidoporus adnatus*, *R. erectus* and *R. incarnatus*. The following names are considered synonyms: *Heteroporus kinabaluensis*, *Microporellus brunneus*, *M. nigripes*, *Rigidoporus albiporus*, *R. ochraceicinctus*, *R. parvulus*, *R. patellarius*, *R. sulphureus*, *R. suppileatus*, *R. trametoides* and *R. vinaceus*. The following species are dubious because of their poor or sterile conditions: *Heteroporus odoratus*, *Microporellus labyrinthiformis*, *Oxyporus lilaceus* and *Rigidoporus hypobrunneides*. No authentic specimens were traced for *Microporellus grandiporus* and *Paratrichaptum accuratum*. Descriptions and line drawings are given for most of the accepted species.

Key Words—E. J. H. Corner; polypores; Southeast Asia; type specimens.

This is the second part of the type studies of polypores described by E. J. H. Corner from Southeast Asia and Pacific areas. Species described in the genera *Gloeophyllum* Karst., *Heteroporus* Lázaro, *Microporellus* Murrill, *Oxyporus* Donk, *Paratrichaptum* Corner, and *Rigidoporus* Murrill by Corner (1987, 1992) are examined.

Materials and Methods

Type specimens of the species described by Corner (1987, 1992) are examined macro- and microscopically. Descriptions and line drawings based on dried specimens are given for most of the accepted species. Colors of basidiocarps are described according to Kornerup and Wanscher (1981). Information from living and dried specimens collected in Pasoh Forest Reserve, West Malaysia was also incorporated for some species. Herbaria where specimens are deposited are abbreviated according to Holmgren et al. (1990).

Identities and descriptions

Gloeophyllum vinaceibrunneum Corner, Beih. Nova Hedwig. 86: 66 (1987). Fig. 1
Holotype: MALAYSIA, Borneo, Mt Kinabalu, Mesilau,

1700 m alt., 28 Jan. 1964, leg. E. J. H. Corner (E).

Accepted as *Trichaptum vinaceibrunneum* (Corner) Hattori comb. nov. (Basionym indicated above.)

Basidiocarps effused-reflexed to sessile, imbricated, pileus applanate, semicircular to elongated. Pileus surface tomentose, sulcate with thick tomentose zones, cinnamon [5–6 C 4–5; vinaceous fuscous brown according to Corner (1987)], partly darker, margin thin and acute. Hymenophore irpicoid, light brown [5–6 D 5–6; vinaceous fuscous brown according to Corner (1987)], up to 3 mm deep, (1–) 2–3/mm. Context fibrous spongy, leathery near the tubes, light brown (6 D 4–5) to dark brown (6 E 4–5) near the hymenophore, without a crust.

Trama hyphae dimitic: generative hyphae 1.5–2.5 μm wide, hyaline, thin- to slightly thick-walled, with clamp connections; skeletal hyphae yellow, thick-walled, IKI-, 2–3.5 μm wide, occasionally with secondary septa. Context hyphae similar to trama hyphae. Hymenial cystidia abundant, slightly thick-walled, apically encrusted, pale brown, 25–45 \times 5–7.5 μm . Basidia cylindrical, 4-sterigmate, 18–30 \times 4–5 μm . Basidiospores allantoid, hyaline, thin walled, IKI-, 6–7 \times 1.2–1.8 μm .

Remarks: For the time being, I place this species in *Trichaptum* Murrill because of the vinaceous color shade that is unknown in *Gloeophyllum*, irpicoid hymenophore and abundant hymenial cystidia with apical encrustation, though the type of rot is unknown. Colored cystidia are also seen in *Porostereum* Pilát defined by Hjortstam and

*I, Hattori, T., Mycoscience 41: 339–349, 2000.

** E-mail: hattori@ffpri.affrc.go.jp

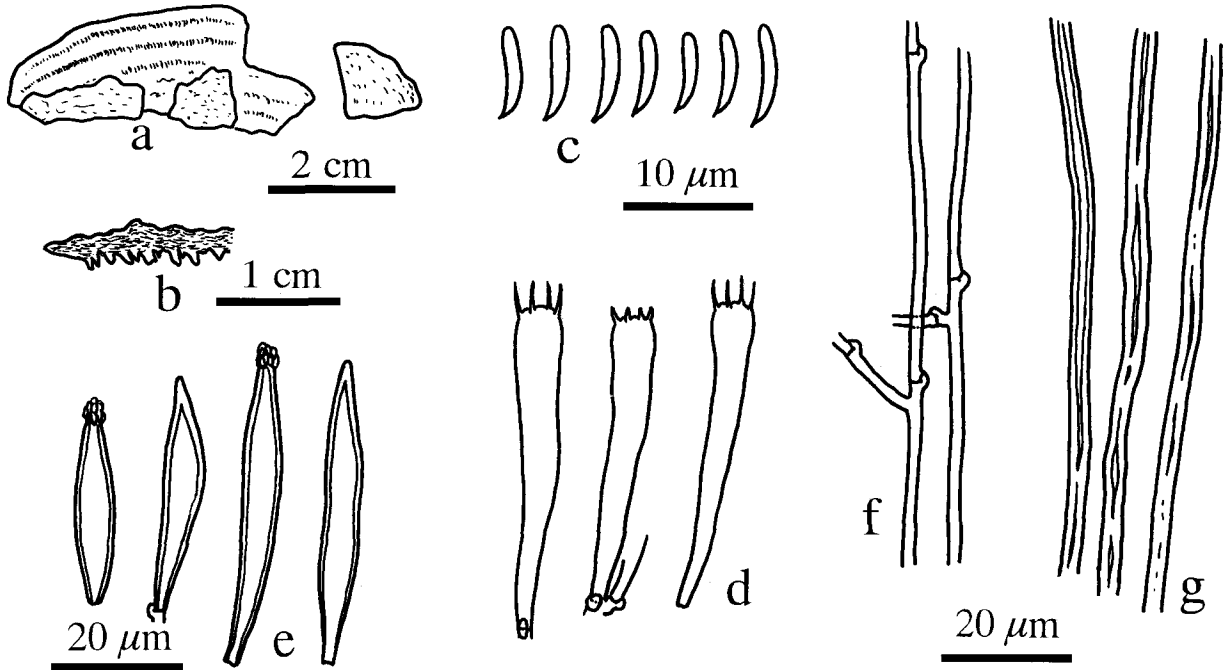


Fig. 1. Structures of *Trichaptum vinaceibrunneum* from basidiocarps (from holotype).
 a. Basidiocarps. b. Vertical section of basidiocarp. c. Basidiospores. d. Basidia. e. Hymenial cystidia. f. Generative hyphae from context. g. Skeletal hyphae from context.

Ryvarden (1989). However, cystidia seen in *Porostereum* spp. are skeletocystidia arising from the trama or hymenial cystidia of metuloid type.

This species is characterized by the colored hymenial cystidia, long allantoid basidiospores, and long cylindrical basidia within *Trichaptum*.

Heteroporus flavus Corner, Beih. Nova Hedwig. 86: 71

(1987). Fig. 2
 Holotype: MALAYSIA, Pahang, Tembeling, 9 Nov. 1930.

Accepted as *Antrodiella flava* (Corner) Hattori comb. nov. (Basionym indicated above.)

Basidiocarps sessile to effused-reflexed, often imbricated, pileus dimidiate to flabelliform, applanate. Pileus surface velutinous to almost glabrous, partly with irregu-

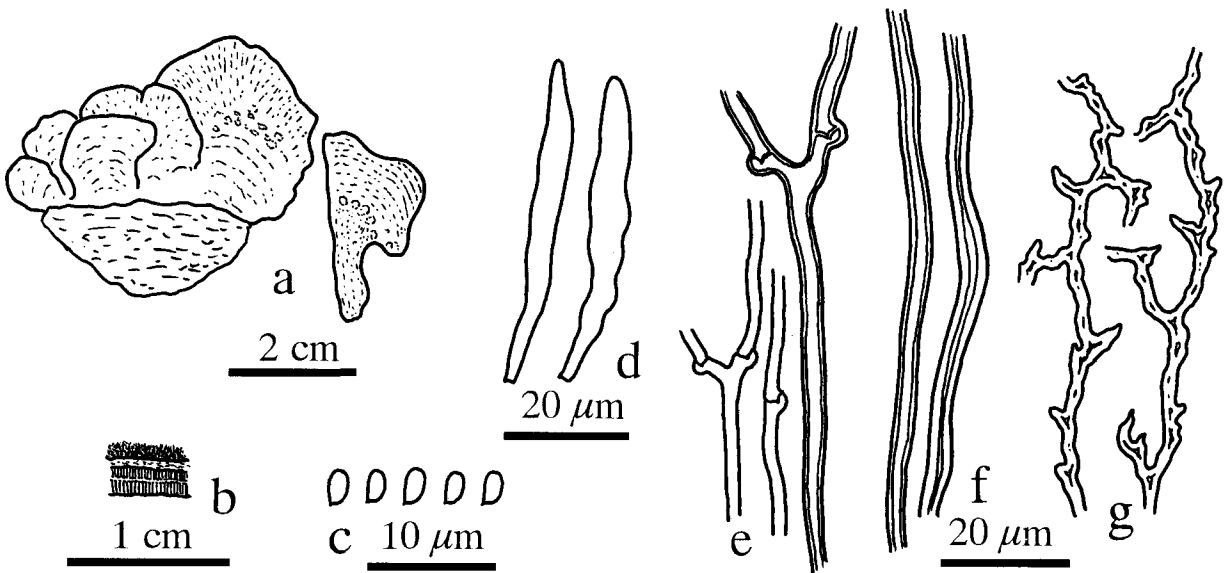


Fig. 2. Structures of *Antrodiella flava* from basidiocarps (from holotype).
 a. Basidiocarps. b. Vertical section of basidiocarp showing tomentum, context, and 2-layered tubes. c. Basidiospores. d. Hymenial gloeocystidia. e. Generative hyphae from trama. f. Skeletal hyphae from trama. g. Binding hyphae from trama.

lar warts, radially wrinkled near the margin, light yellow (4-5 A 4-5), darker (5-6 A 5-6) near the base. Pileus margin thin and acute, entire. Pore surface pale orange (5 A-B 3-4), pores angular, 8-10/mm. Context soft corky, with soft fibrous tomentum, brittle, pale orange (5 A 2-3). Tubes often 2-layered, each up to 1.5 mm deep, concolorous with the context.

Trama hyphae trimitic: generative hyphae thin- to thick-walled, with clamp connections, IKI-, 2-5 μm wide; skeletal hyphae thick-walled, hyaline to pale yellow, rarely branched; binding hyphae thick-walled to almost solid, occasionally to conspicuously branched, up to 3 μm wide. Skeletal and binding hyphae may be taken as generative hyphae because of the infrequent occurrence of clamp connections. Context hyphae monomitic to sub-dimitic: generative hyphae thin- to thick-walled, almost straight, hyaline to pale yellow, 2.5-4.5 μm wide. Hymenial gloeocystidia hyaline, up to 5 μm wide, but often difficult to see. Basidiospores ellipsoid, hyaline, thin-walled, IKI-, 2-2.5 \times 1.5-2 μm .

Remarks: Corner (1987) placed most polypores with gloeocystidia or gloeoplerous hyphae in *Heteroporus*, but gloeocystidia occur in various genera of polypores (Ryvarden, 1991). The hyphal system of *H. flavus* is difficult to define. I described the context hyphae as monomitic to subdimitic, but partly it is almost dimitic in other specimens. On the other hand, trama hyphae might be taken as monomitic, though I described them as trimitic. The hyphal system of *Antrodiella* Ryvarden & I. Johans. was defined as dimitic (Ryvarden and Johansen, 1980), but I put *H. flavus* into *Antrodiella* because of its tiny basidiospores, thin and light-colored basidiocarps, and occurrence on well-decomposed substrates.

This species is common in Pasoh on well-decomposed, white rotted wood that frequently becomes soily by termite nesting. Pileus color of the Pasoh specimens is almost white to light yellow when fresh, becoming yellow or brownish after drying. The species is characterized by small yellowish pileus when dried, thin and soft corky context with soft tomentum, tiny and ellipsoid basidiospores, and hymenial gloeocystidia.

Heteroporus kinabaluensis Corner, Beih. Nova Hedwig. 86: 73 (1987).

Holotype: MALAYSIA, Borneo, Mt Kinabalu, alt. 1700 m, 21 Aug. 1961, leg. E. J. H. Corner. Two specimens were mixed in the holotype. Glabrous basidiocarps placed in a paper bag by myself are selected as lectotype here.

For the time being, I consider it a synonym of *Antrodiella zonata* (Berk.) Ryvarden as defined by Ryvarden (1992). This is a very variable species (Hattori and Zang, 1995) that may be split into several species in the future. The lectotype of *H. kinabaluensis* is characterized by the almost glabrous and pale orange (5 A 3-4) pileus surface, irregular but not purely irpicoid hymenophore, and oblong ellipsoid (3.5-4.5 \times 2.5-3.2 μm) basidiospores. Occurrence of gloeocystidia is inconspicuous.

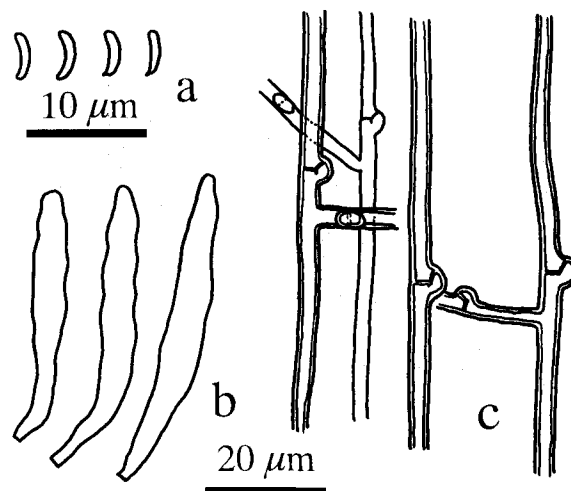


Fig. 3. Structures of *Oligoporus perplexus* from basidiocarps (from holotype).

a. Basidiospores. b. Gloeocystidia. c. Generative hyphae from trama.

Heteroporus odoratus Corner, Beih. Nova Hedwig. 86: 74 (1987).

Holotype: SOLOMON IS., Kolombangara, alt. 700 m, 7 Sep. 1965, leg. E. J. H. Corner.

The holotype is badly moldy, but probably a *Tyromyces* sp.

Heteroporus perplexus Corner, Nova Hedwig. 55: 125 (1992). Fig. 3

Holotype: MALAYSIA, Borneo, Mt Kinabalu, alt. 1700 m, 22 Apr. 1964, leg. E. J. H. Corner (E).

Accepted as *Oligoporus perplexus* (Corner) Hattori comb. nov. (Basionym indicated above.)

Basidiocarps resupinate. Pore surface light orange (5 A 4), pores angular to sinuous, partly split then almost irpicoid, (0.5-) 1-2/mm, dissepiments eroded. Context almost lacking. Tubes up to 4 mm deep, brittle.

Trama hyphae monomitic: generative hyphae thin- to thick-walled, with clamp connections, IKI-, 2-3.5 μm wide, often branched with right angles. Hymenial gloeocystidia abundant, hyaline, up to 6 μm wide. Basidiospores sparsely seen and no spores attached to basidia, allantoid to lunate, hyaline, IKI-, 3-4 \times 1-1.5 μm .

Remarks: I include this species in *Oligoporus* Bref. because a fragment of decayed wood attached to the basidiocarp is brown-rotted. Among the *Oligoporus* spp. with gloeocystidia, this species is characterized by resupinate basidiocarps and large pores.

Heteroporus sublacunosus Corner, Beih. Nova Hedwig. 86: 76 (1987). Fig. 4

Holotype: SOLOMON IS., Guadalcanal, Tsuva, 9 Nov. 1965, leg. E. J. H. Corner (E).

Accepted as *Tyromyces sublacunosus* (Corner) Hattori comb. nov. (Basionym indicated above.)

Basidiocarps sessile, applanate. Pileus surface mostly rough with conspicuously branched fibrils, partly velvety, azonate, pale orange (5 A 3). Pileus margin ob-

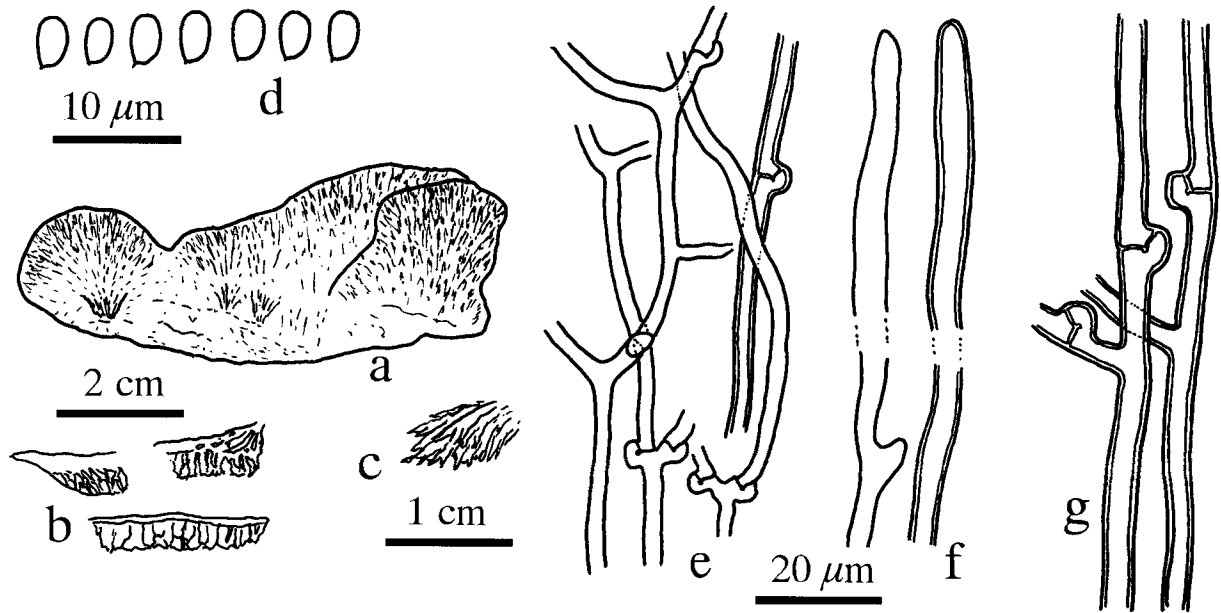


Fig. 4. Structures of *Tyromyces sublacunosus* from basidiocarps (from holotype).

a. Basidiocarp. b. Vertical section of basidiocarps. c. Branched fibrils on pileus surface. d. Basidiospores. e. Generative hyphae from trama. f. Gloeoplerous hyphae from context. g. Generative hyphae from context.

tuse, entire. Pores angular, 0.5–2/mm, dissepiments thin and mostly entire. Context fibrous-spongy, grayish orange (5 B 3–4), without a crust. Tubes up to 5 mm deep, fragile.

Trama hyphae monomitic: generative hyphae thin- to thick-walled, with clamp connections, hyaline, IKI-, 2–5 μm wide; gloeoplerous hyphae abundant, hyaline, up to 6 μm wide. Context hyphae monomitic: generative

hyphae mostly thick-walled, 2.5–6 μm wide, otherwise similar to trama hyphae. Hymenial cystidia not seen, but tips of the gloeoplerous hyphae often project into hymenium. Basidiospores ellipsoid, hyaline, thin-walled, IKI-, 3.5–4.5 (–5) × 2.5–3.5 μm.

Remarks: Corner (1987) described the occurrence of skeletal hyphae in this species, but I treated them as gloeoplerous hyphae here. I include this species in

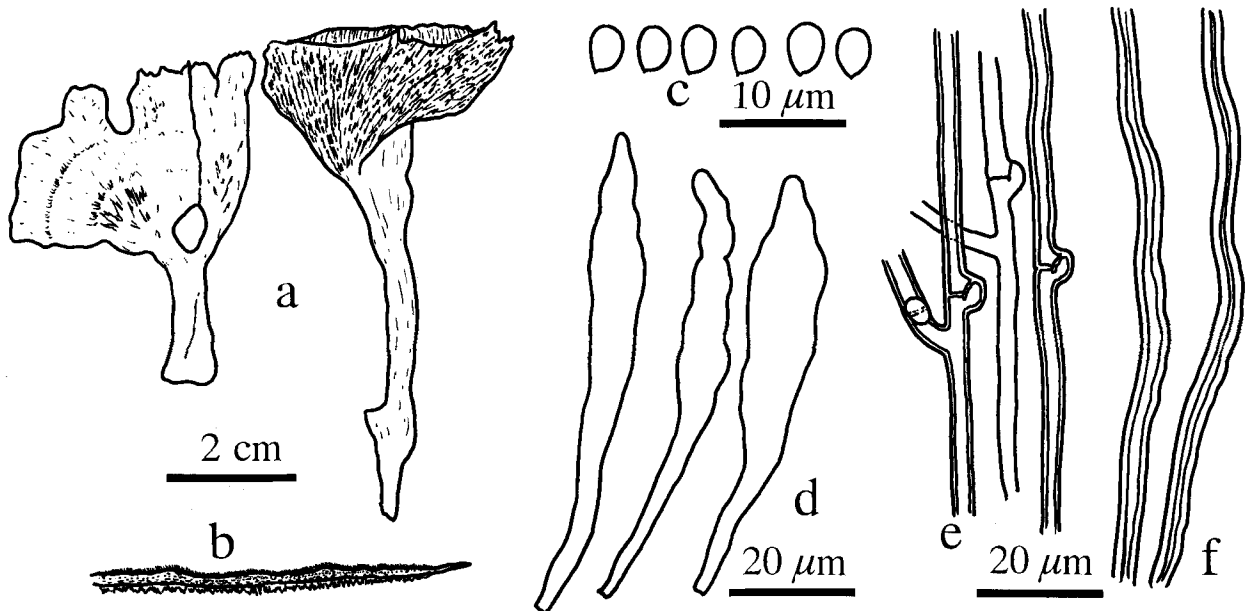


Fig. 5. Structures of *Abortiporus zonatus* from basidiocarps (from holotype).

a. Basidiocarps. b. Vertical section of basidiocarp. c. Basidiospores. d. Hymenial gloeocystidia. e. Generative hyphae from context. f. Skeletal hyphae from context.

Tyromyces Karst. tentatively because of the fibrous and pale-colored context and monomitic hyphal system, though the type of rot is unknown. The species is characterized by the branched fibrils on pileus, large and angular pores, and abundant gloeoplerous hyphae.

Heteroporus zonatus Corner, Beih. Nova Hedwig. 86: 79 (1987). Fig. 5

Holotype: MALAYSIA, Pahang, Tembeling, 17 Nov. 1930, leg. E. J. H. Corner (E).

Accepted as ***Abortiporus zonatus*** (Corner) Hattori comb. nov.

Basidiocarps centrally to laterally stipitate, pileus thin and applanate, flabelliform to semicircular or circular. Pileus surface velutinous, smooth or partly rough with mycelial tufts, partly radially fibrous, grayish orange (5 B 5). Pileus margin thin and acute, brittle, entire or eroded. Hymenophore almost lamellate, partly poroid, pale orange (5 A 3-4), pores 2-4/mm, dissepiments thin, deeply eroded. Stem cylindrical, glabrous, concolorous with the pileus surface. Context duplex: upper zone soft spongy, light orange (5 A 5); lower zone corky, light brown (6 D 5-6), up to 1.5 mm thick, without a crust. Tubes brittle, up to 1.5 mm deep.

Trama hyphae dimitic: generative hyphae hyaline, thin walled, with clamp connections, 1.5-5 μm wide; skeletal hyphae hyaline, thick-walled to almost solid, 1-1.5 μm wide; gloeoplerous hyphae hyaline, up to 6 μm wide. Context hyphae dimitic: generative hyphae thin- to thick-walled, up to 5 μm wide; skeletal hyphae thick-walled, up to 5 μm wide. Gloecystidia abundant, hyaline, up to 80 μm long and 15 μm wide. Basidiospores short ellipsoid, hyaline, thin-walled, 1KI-, 3.5-4.5 \times 2.8-3.5 μm . Chlamydospores not detected.

Remarks: This is apparently allied to *A. biennis* (Bull.:

Fr.) Singer, but separated because of its almost lamellate hymenophore and shorter basidiospores.

Microporellus brunneus Corner, Beih. Nova Hedwig. 86: 97 (1987).

Holotype: MALAYSIA, Pahang, Fraser's Hill, 17 May 1930, leg. E. J. H. Corner (E).

This is a young specimen of *Amauroderma rugosum* (Blume & Nees : Fr.) Torrend.

Microporellus fuliginosus Corner, Beih. Nova Hedwig. 86: 109 (1987).

Holotype: MALAYSIA, Borneo, Mt Kinabalu, alt. 1700 m, leg. E. J. H. Corner (E).

Accepted as *M. fuliginosus*.

The holotype was regarded as representing only a form of *M. burkillii* (Lloyd) Corner auct. Corner with very few cystidia and brownish pileus surface after examining several specimens of *M. burkillii* auct. Corner from Pasoh that are variable in the color shade of basidiocarps and occurrence of cystidia. However, the holotype of *Polyporus burkillii* Lloyd (BPI, US0302174!) is not a *Microporellus* sp. but a *Polyporus* sp. as suggested by Ryvarden (1990). Therefore, *M. fuliginosus* is the correct name for *M. burkillii* auct. Corner. For a detailed description, see Corner (1987) as *M. burkillii*.

Microporellus grandiporus Corner, Beih. Nova Hedwig. 86: 110 (1987).

Holotype and other specimen not traced in E.

Microporellus labyrinthiformis Corner, Beih. Nova Hedwig. 86: 116 (1987).

Holotype: SOLOMON IS., Kolombangara, alt 800 m, 3 Sep. 1965, leg. E. J. H. Corner (E).

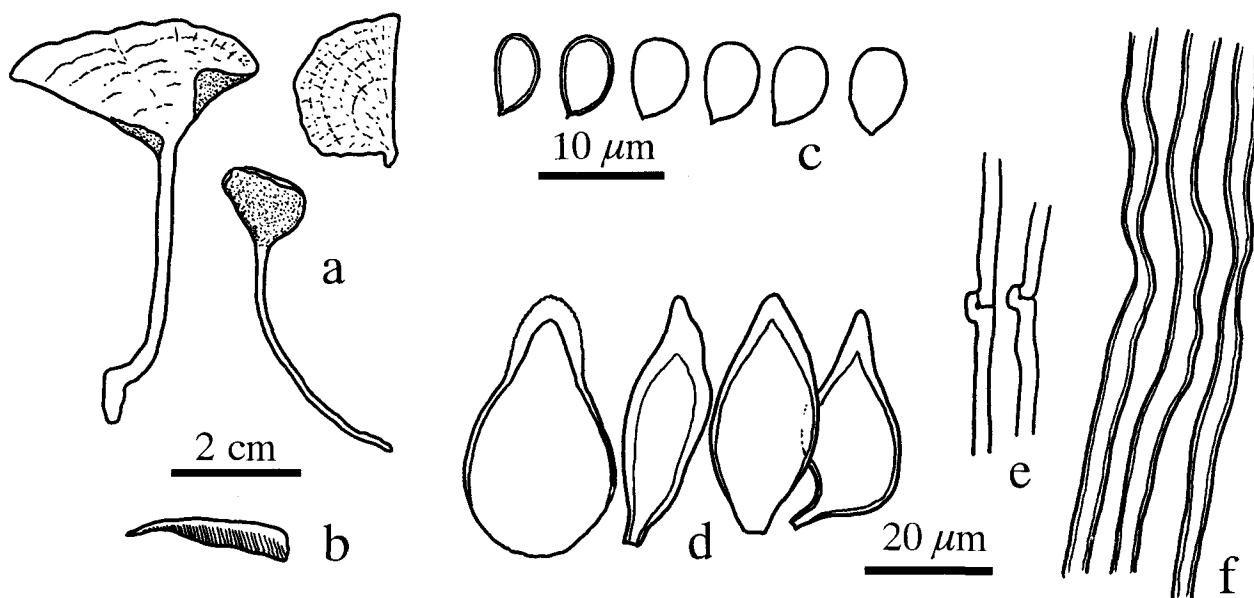


Fig. 6. Structures of *Microporellus pahangensis* from basidiocarps (from holotype).

a. Basidiocarps. b. Vertical section of basidiocarp. c. Basidiospores. d. Hymenial cystidia. e. Generative hyphae from context. f. Skeletal hyphae from context.

Basidiospores were not detected in the holotype. This represents probably an abnormal form of *Microporellus* sp. or *Flabellophora* sp.

Microporellus nigripes Corner, Beih. Nova Hedwig. 86: 117 (1987).

Holotype: MALAYSIA, Borneo, Mt Kinabalu, alt. 1700 m, 5 Feb. 1964, leg. E. J. H. Corner (E).

This is a laterally stipitate form of *M. fuliginosus*.

Microporellus pahangensis Corner, Beih. Nova Hedwig. 86: 118 (1987). Fig. 6

Holotype: MALAYSIA, Pahang, Tembeling, 15 Nov. 1930, leg. E. J. H. Corner (E).

Accepted as *M. pahangensis*.

Basidiocarps laterally stipitate, pileus applanate, flabelliform to semicircular. Pileus surface glabrous to matt, subshiny, light orange (5 A 3-4) near the margin, light brown (6 C-D 4-5) near the base. Pileus margin thin and acute. Pore surface grayish orange (5 B 4), pores angular, (2-) 3-4/mm, dissepiments thin. Stem glabrous, pale brown. Context fibrous leathery, tough, somewhat flexible, pale orange (5 A 2-3), up to 2 mm deep. Tubes slightly fragile, up to 5 mm thick.

Trama hyphae dimitic: generative hyphae sparse, hyaline, with clamp connections, 1.5-4 μm wide; skeletal hyphae hyaline, unbranched, thick-walled, distinctly dextrinoid, 2-6 μm wide. Context hyphae dimitic: skeletal hyphae flattened, dextrinoid, up to 7.5 μm wide. Cystidia thick-walled near the apex, hyaline, 25-40 \times 10-25 μm . Basidiospores drop shaped, hyaline, slightly thick-walled, weakly dextrinoid, 6-7.5 (-8) \times 3.5-5 μm .

Remarks: This species is related to *M. fuliginosus* and *M. violaceocinerascens* (Petch) David & Rajchenberg with similarly thick-walled cystidia. *Microporellus pahangensis* is separated from *M. fuliginosus* by more

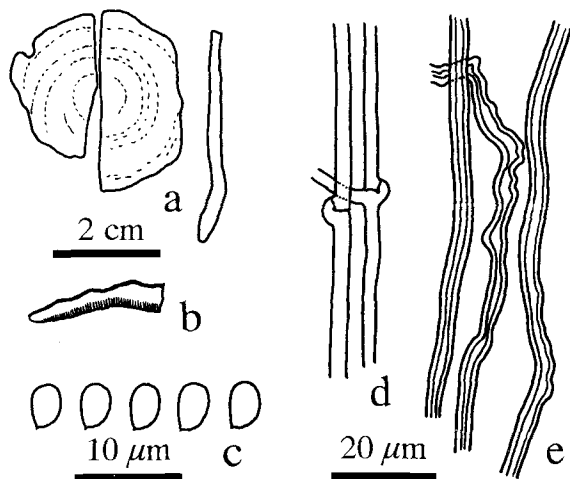


Fig. 7. Structures of *Microporellus subumbonatus* from basidiocarps (from holotype). a. Basidiocarp. b. Vertical section of basidiocarp. c. Basidiospores. d. Generative hyphae from context. e. Skeletal hyphae from context.

brownish and subshiny pileus, larger pores, lack of lilac color on pore surface, and more leathery context. From *M. violaceocinerascens* it is separated by lack of sclerotium and smaller basidiospores.

Microporellus subumbonatus Corner, Beih. Nova Hedwig. 86: 121 (1987). Fig. 7

Holotype: MALAYSIA, Johore, Gunong Panti, Aug. 1929, leg. E. J. H. Corner (E).

Accepted as *M. subumbonatus*.

Basidiocarp centrally stipitate, pileus applanate, circular. Pileus surface glabrous to matt, sulcate, light brown (6 C-D 5-6) with darker zones (7-8 F 8). Pileus margin dull, almost entire. Pore surface white, pores round, 9-10/mm, dissepiments thick, entire. Stem surface as pileus surface. Context fibrous chalky, white (5 A 1-2), up to 3 mm thick, with a thin black crust. Tubes white, up to 1 mm thick.

Trama hyphae dimitic: generative hyphae, hyaline, thin-walled, with clamp connections, 1.5-2.5 μm wide; skeletal hyphae hyaline, occasionally branched, thick-walled to almost solid, distinctly dextrinoid, 1.5-3.5 μm wide. Context hyphae dimitic: generative hyphae 2-3 μm wide; skeletal hyphae dextrinoid, 2.5-4.5 μm wide. Cystidia absent. Basidiospores short ellipsoid, hyaline, thin- to slightly thick-walled, weakly dextrinoid, 3.8-5.2 \times 2.5-3.5 μm .

Remarks: This species is characterized by a white, fibrous and chalky context, a centrally stipitate basidiocarp and short basidiospores.

Oxyporus lilaceus Corner, Beih. Nova Hedwig. 86: 132 (1987).

Holotype: SOLOMON IS., Guadalcanal, Nuhu, 5 Nov.

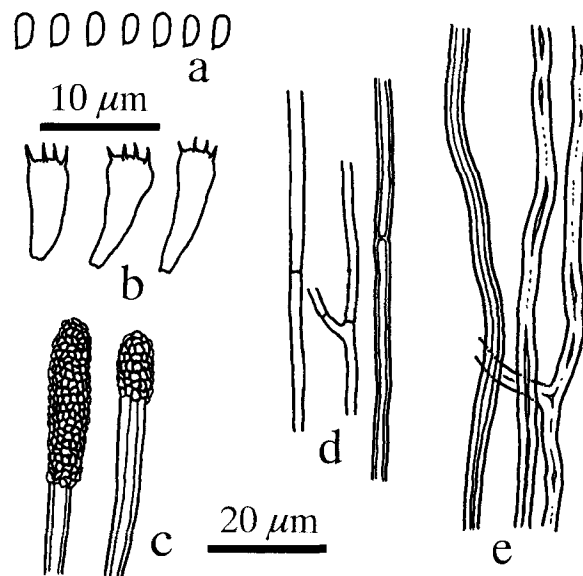


Fig. 8. Structures of *Rigidoporus adnatus* from basidiocarps (from holotype). a. Basidiospores. b. Basidia. c. Encrusted cystidial hyphae. d. Generative hyphae from trama. e. Skeletal hyphae from trama.

1965, leg. E. J. H. Corner (E).

This might be a distinct species in *Oxyporus*, but I leave it as *Oxyporus* sp. because it is sterile and cystidia are not developed. It resembles *O. cuneatus* (Murrill) Aoshima in its small, spongy and cuneate basidiocarps, but pores in *O. lilaceus* are more irregular and smaller (3–5/mm) than in *O. cuneatus* (2–3 (–4)/mm).

Paratrichaptum accuratum Corner, Beih. Nova Hedwig. 86: 137 (1987).

Holotype or other specimens not traced in E.

Ryvarden (1991) accepted *Paratrichaptum* Corner as a distinct genus.

Rigidoporus adnatus Corner, Beih. Nova Hedwig. 86: 155 (1987). Fig. 8

Holotype: MALAYSIA, Sarawak, Kuching, 25 Sep. 1961, leg. E. J. H. Corner (E).

Accepted as *R. adnatus*.

Basidiocarp fully resupinate. Pore surface pale orange (5 A 4), pores angular, 5–7/mm, dissepiments thin, partly split. Context almost lacking. Tubes pale orange (5 A 4), corky-horny. Substratum stained (reddish brown/7 C 7–8) as in *Tinctoporellus epimiltinus* (Berk. & Broome) Ryvarden.

Trama hyphae dimitic: generative hyphae hyaline, thin- to slightly thick-walled, simple septate, 1.5–2.5 μm wide; skeletal hyphae hyaline, occasionally branched, thick-walled to almost solid, IKI-, 2–4.5 μm wide. Cystidial hyphae abundant in the trama, frequently projecting into hymenium, heavily encrusted, 5–8 μm wide. Basidiospores long ellipsoid, hyaline, thin-walled, IKI-, 2.2–3.2 \times 1.5–1.8 μm .

Remarks: This species is characterized by reddened substrata, encrusted cystidial hyphae, and small basidiospores.

Rigidoporus albiporus Corner, Nova Hedwig. 55: 127 (1992).

Holotype: SINGAPORE, Botanic Garden, 5 Nov. 1943, leg. E. J. H. Corner (E).

This is *Ceriporia leptoderma* (Berk. & Broome) Ryvarden with small pores (5–7/mm), narrow hyphae with conspicuous branching, ovoid basidiospores (4.5–5.5 \times 2.8–3.5 μm), and lack of cystidia. For a description, see Ryvarden and Johansen (1980).

Rigidoporus erectus Corner, Beih. Nova Hedwig. 86: 162 (1987). Fig. 9

Holotype: SOLOMON IS., Kolombangara, 29 Aug. 1965, leg. E. J. H. Corner (E).

Accepted as *R. erectus*.

Basidiocarp laterally stipitate, pileus applanate, spathulate. Pileus surface villose, sulcate, brown (6 D–E 7). Pileus margin obtuse, almost entire. Pore surface grayish orange (5 B 3), pores angular, 10–12/mm, dissepiments thin and entire. Stem surface as pileus surface. Context horny-corky, pale orange (5 A 3–4), with a thin agglutinated crust. Tubes brown (6 D–E 7), –1/3 mm deep.

Trama hyphae monomitic: generative hyphae hyaline, thin- to slightly thick-walled, simple septate, 2–3.5 μm wide, IKI-. Context hyphae monomitic: generative hyphae thin- to thick-walled, 2–3.5 μm wide, some hyphae distinctly inflated, up to 40 μm wide. Cystidiolae abundantly present, ventricose to cylindrical, mammillate, 10–18 \times 3–5 μm . Basidiospores ellipsoid, hyaline, thin walled, IKI-, 3–4.2 \times 2.5–3 μm .

Remarks: Stipe of the type specimen might be abnormally developed. This species is similar to *R. defibulatus* (Reid) Corner, but distinct in its purely monomitic hyphal system, conspicuously inflated context hyphae, and smaller basidiospores.

Rigidoporus flammas Corner, Beih. Nova Hedwig. 86: 164 (1987). Fig. 10

Holotype: SOLOMON IS., Kolombangara, alt. 800 m, 7 Sep. 1965, leg. E. J. H. Corner (E).

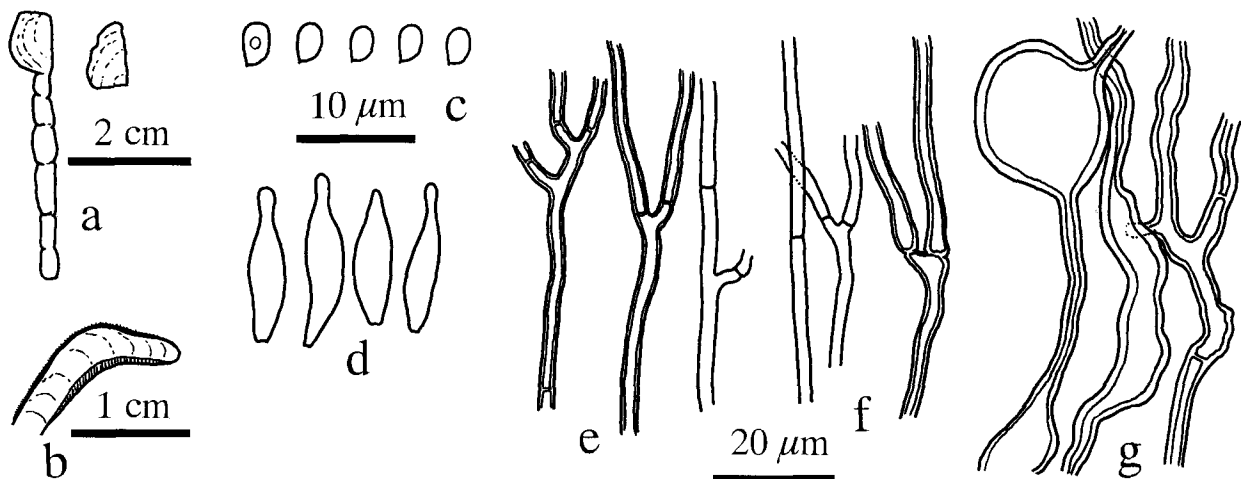


Fig. 9. Structures of *Rigidoporus erectus* from basidiocarps (from holotype).

a. Basidiocarps. b. Vertical section of basidiocarp. c. Basidiospores. d. Cystidiolae. e. Generative hyphae from trama. f. Generative hyphae from context. g. Inflated hyphae from context.

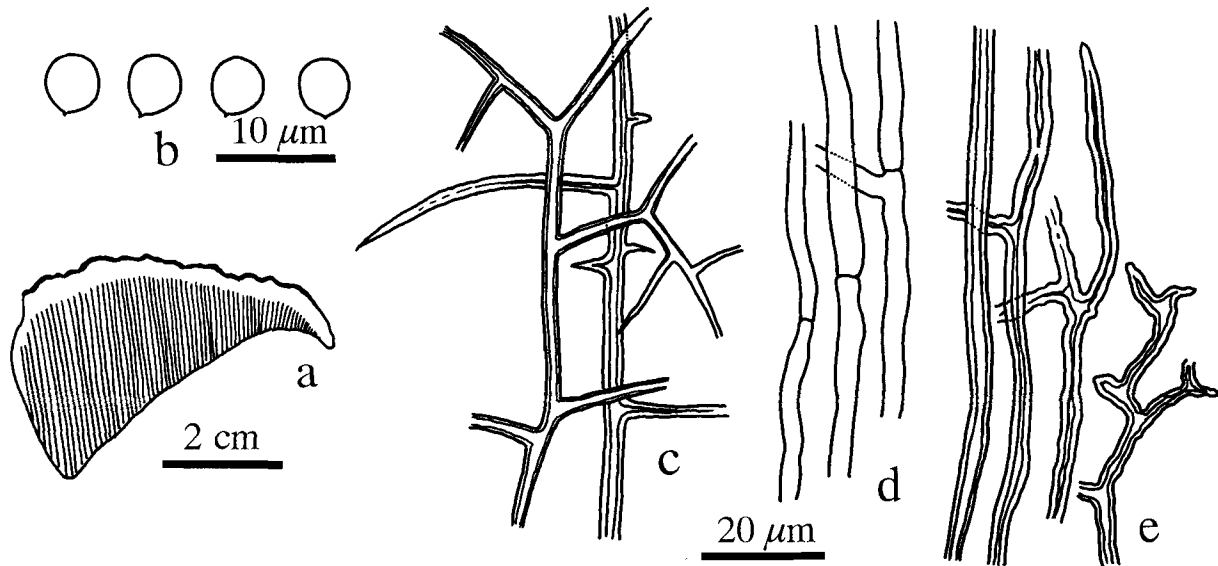


Fig. 10. Structures of *Laetifomes flammans* from basidiocarp (from holotype).

a. Vertical section of basidiocarp. b. Basidiospores. c. Binding hyphae from trama d. Generative hyphae from context. e. Binding hyphae from context.

Accepted as *Laetifomes flammans* (Corner) Hattori.

Basidiocarp sessile, pileus triquetrous. Pileus surface glabrous, slightly sulcate, irregularly rough, grayish brown (7 E-F 5-6) to almost black. Pileus margin entire, inrolled. Pore surface light brown (6 C-D 5-6), but this may be because of contamination, pores round, 8-10/mm. Context chalky, fragile, orange (5 A-B 6), up to 5 mm thick, with an agglutinated crust up to 1 mm thick. Tubes grayish orange (5 B 4), chalky and fragile.

Trama hyphae dimitic: generative hyphae hyaline, thin-walled, simple septate, 2.0-10.0 µm wide; binding hyphae hyaline, with sword-like side branches, thick-walled, IKI-, up to 6 µm wide. Context hyphae dimitic: generative hyphae as in trama hyphae; binding hyphae occasionally to conspicuously branched, hyaline, IKI-, up to 6 µm wide. Cystidia absent. Basidiospores subglobose, hyaline, thin-walled, IKI-, 5-6 × 4.5-5.5 µm.

Remarks: The holotype is badly moldy, but still shows a distinctive chalky and orange context, thick crust, dimitic hyphal system with binding hyphae and simple septate generative hyphae. Tubes of the holotype are moldy and no basidium is seen, therefore 'basidiospores' indicated above might be conidia of contaminants.

Laetifomes Hattori, gen. nov.

Basidiocarpium sessile. Contextus cretaceus, aurantius, crustosus. Hymenophorum tubulare, cretaceum. Systema hypharum dimiticum; hyphae generativae fibulatae, hyalinae; hyphae ligativae hyalinae, in trama ramis ensiformibus praeditae, haud dextrinoideae. Cystidia nulla. Sporae subglobosae, haud dextrinoideae.

Typus generis: *Rigidoporus flammans* Corner.

Basidiocarps sessile. Context chalky, orange, with an agglutinated crust. Hymenophore tubular, pores regular. Hyphae dimitic: generative hyphae simple septate, hyaline; binding hyphae hyaline, with sword-like

branches in the trama, occasionally to conspicuously branched in the context, IKI-. Cystidia lacking. Basidiospores subglobose, IKI-.

Etymology: Latin, *laetus*=bright, *fomes*=a generic name.

Laetifomes flammans (Corner) Hattori comb. nov. (Basionym: *Rigidoporus flammans* Corner, Beih. Nova Hedwig. 86: 164 (1987).)

Remarks: This is similar to *Macrohyporia* I. Johans. & Ryvarden and *Wolfiporia* Ryvarden & Gilb. with dimitic hyphal system with simple septate generative hyphae and binding hyphae. However, generative hyphae of *L. flammans* are not conspicuously wide as in *Macrohyporia* spp. and *Wolfiporia* spp. and binding hyphae of *L. flammans* are more prominent. Also, a vivid orange, and chalky context is not known in these two genera.

Laetifomes is more similar to *Laetiporus* Murrill in its hyphal characters and yellowish coloration. However, *Laetiporus* spp. have annual, soft and fleshy basidiocarps while *L. flammans* is perennial with a distinct crust. A vivid orange context after drying is also unknown in *Laetiporus*. Type of rot is unknown.

Rigidoporus hypobrunneides Corner, Beih. Nova Hedwig. 86: 165 (1987).

Holotype: MALAYSIA, Pahang, Cameron Highland, 31 July 1934, leg. E. J. H. Corner (E).

Hymenium developed, but most of the spore-like structures seen are conidia of contaminants. For the time being I leave it as a *Rigidoporus* sp.

Rigidoporus incarnatus Corner, Beih. Nova Hedwig. 86: 169 (1987). Fig. 11.

Holotype: INDONESIA, Sumatra, Brastagi, alt. 1700 m, 7 Sep. 1931, leg. E. J. H. Corner (E).

Accepted as *R. incarnatus*.

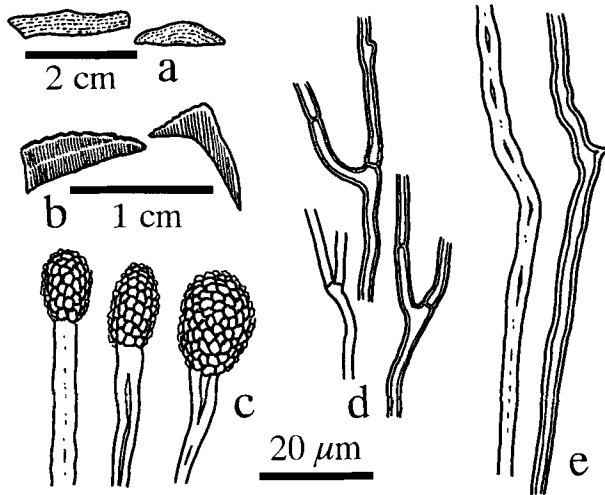


Fig. 11. Structures of *Rigidoporus incarnatus* from basidiocarps (from holotype).

a. Basidiocarps. b. Vertical section of basidiocarps. c. Encrusted cystidial hyphae. d. Generative hyphae from trama. e. Skeletal hyphae from trama.

Basidiocarps effused-reflexed. Pileus surface glabrous to matt, sulcate, dark brown (7 F 8), paler (6 B-C 2-3) near the margin. Pileus margin acute, entire. Pore surface light orange (5 A-B 4), pores round to angular, 7-8/mm, dissepiments entire. Context up to 0.5 mm thick, light orange, with a thin agglutinated crust. Tubes stratified, light orange, horny corky.

Trama hyphae dimitic: generative hyphae hyaline, thin-walled, simple septate, 1.5-3 µm wide; skeletal hyphae hyaline, unbranched, thick walled to almost solid, IKI-, 2.5-5 µm wide. Cystidial hyphae abundant in the trama, encrusted with crystals. Basidiospores (?) sparsely seen, short ellipsoid, hyaline, IKI-, 2.5-3.5 × 2-2.5 µm. Basidia not seen.

Remarks: I am not convinced that the spore-like structures I observed are really basidiospores. Corner (1987) described that basidiospores are abundant. In some cases, basidiospores are not abundantly seen in old specimens, and the pieces of holotype I examined might be not fully matured. Here, I accept his description of basidiospores. This species may be taken for an effused-reflexed form of *R. vinctus* (Berk.) Ryvarden or a small form of *R. lineatus* (Pers.) Ryvarden, but is distinguished by the presence of agglutinated crust and small ellipsoid basidiospores.

Rigidoporus ochraceicinctus Corner, Nova Hedwig. 55: 128 (1992).

Holotype: MALAYSIA, Pahang, Tembeling, 21 Nov. 1930, leg. E. J. H. Corner (E).

This is *Macrohyporia dictyopora* (Cooke) I. Johans. & Ryvarden with conspicuously branched binding hyphae in the context. For a description, see Ryvarden and Johansen (1980).

Rigidoporus parvulus Corner, Beih. Nova Hedwig. 86: 178 (1987).

Holotype: NEW GUINEA, Edie Creek, alt. 1800 m, 13 Sep. 1960, leg. E. J. H. Corner (E).

For the time being I include it as a form of *Rigidoporus lineatus* (Pers.) Ryvarden. As suggested by Quanten (1997), occurrence of encrusted cystidial hyphae in the trama was overlooked in the original description (Corner, 1987). Apical encrustation of hymenial cystidia was also overlooked. A condensed description of the holotype of *R. parvulus* is as follows: Pileus small, imbricated, multizonate. Hymenial cystidia abundant, thin-walled, apically encrusted, mammillated cystidioles not seen, encrusted cystidial hyphae scattered in the trama. Basidiospores 4-4.5 × 3.5-4.5 µm.

Rigidoporus patellarius Corner, Beih. Nova Hedwig. 86: 179 (1987).

Holotype: MALAYSIA, Borneo, Mt Kinabalu, Mesilau, alt. 1700 m, 20 Jan. 1964, leg. E. J. H. Corner.

This is a form of *R. lineatus* probably developed on the underside of the substratum. A condensed description of the holotype is as follows. Basidiocarps resupinate to pendent. Encrusted cystidial hyphae abundant in the trama, cystidioles abundant, hymenial cystidia not seen. Basidiospores subglobose, 5-6.5 × 4-5.5 µm.

Rigidoporus sulphureus Corner, Beih. Nova Hedwig. 86: 180 (1987).

Holotype: SOLOMON IS., Guadalcanal, Mt Popomanasiu, alt. 1800 m, 27 Oct. 1965, leg. E. J. H. Corner (E).

Occurrence of clamp connections was overlooked in the original description. This represents *Flaviporus brownii* (Pers.) Donk, with yellow pore surface, encrusted hyphae in the trama, and tiny ellipsoid basidiospores. For a description of this species see Ginns (1980).

Rigidoporus suppileatus Corner, Beih. Nova Hedwig. 86: 181 (1987).

Holotype: MALAYSIA, Borneo, Mt Kinabalu, Liwagu, alt. 1300 m, 7 Sep. 1961, leg. E. J. H. Corner (E).

Occurrence of encrusted cystidial hyphae was overlooked. This is a slightly reflexed form of *Rigidoporus vinctus* (Berk.) Ryvarden with subglobose basidiospores, dimitic hyphal system and cystidial hyphae in the trama.

Rigidoporus trametoides Corner, Beih. Nova Hedwig. 86: 182 (1987).

Holotype: SOLOMON IS., Guadalcanal, Gallego, 6 July 1965, leg. E. J. H. Corner (E).

Cystidioles are not seen, but this is a form of *Rigidoporus microporus* (Fr.) Overeen with subglobose basidiospores and lack of encrusted cystidial hyphae and hymenial cystidia.

Rigidoporus vinaceus Corner, Beih. Nova Hedwig. 86: 184 (1987).

Holotype: MALAYSIA, Johore, Mawai, 9 Sep. 1934, leg. E. J. H. Corner (E).

Hymenium and basidiospores not seen. It is proba-

bly a weathered specimen of *R. microporus*.

Acknowledgements- I wish to express my greatest thanks to Dr. R. Watling and the other staff of the Royal Botanic Garden Edinburgh for their kind hospitality during my stay in Edinburgh. I am grateful to the curator of the National Fungus Collections (BPI) for loan of the type material of *P. burkillii*.

Literature cited

- Corner, E. J. H. 1987. Ad Polyporaceas IV. The genera *Daedalea*, *Flabellophora*, *Flavodon*, *Gloeophyllum*, *Heteroporus*, *Irpex*, *Lenzites*, *Microporellus*, *Nigrofomes*, *Nigroporus*, *Oxyporus*, *Paratrichaptum*, *Rigidoporus*, *Scenidium*, *Trichaptum*, *Vanderbylia*, and *Steccherinum*. *Beih. Nova Hedwig*. **86**: 1–265.
- Corner, E. J. H. 1992. Additional resupinate non-xanthochroic polypores from Brazil and Malesia. *Nova Hedwig*. **55**: 119–152.
- Ginns, J. H. 1980. The genus *Flaviporus* Murrill (Polyporaceae). *Can. J. Bot.* **58**: 1578–1590.
- Hattori, T. and Zang, M. 1995. List of polypores collected in East China. *Bull. Natn. Sci. Mus., Tokyo, Ser. B* **21**: 95–105.
- Hjortstam, K. and Ryvarden, L. 1989. *Lopharia* and *Porostereum* (Corticaceae). *Synopsis Fungorum* **4**: 1–68.
- Holmgren, P. K., Holmgren, N. H. and Barnett, L. C. 1990. Index herbariorum part 1: the herbaria of the world. 8th ed. N. Y. Bot. Gdn, New York.
- Kornerup, A. and Wanscher, J. H. 1981. *Methuen handbook of colour*. Fletcher & Son Ltd, Norwich.
- Quanten, E. 1997. The polypores (Polyporaceae s.l.) of Papua New Guinea. *Opera Botanica Belgica* **11**: 1–352.
- Ryvarden, L. 1990. Type studies in the Polyporaceae 22. Species described by C. G. Lloyd in *Polyporus*. *Mycotaxon* **38**: 83–102.
- Ryvarden, L. 1991. Genera of Polypores, Nomenclature and Taxonomy. *Fungiflora*, Oslo.
- Ryvarden, L. 1992. On *Irpex zonatus*. *Bol. Soc. Argent. Bot.* **28**: 227–231.
- Ryvarden, L. and Johansen, I. 1980. A preliminary polypore flora of East Africa. *Fungiflora*, Oslo.