

## NOTES ON EUROPEAN POLYPORES—I

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In an attempt to bring the nomenclature of several European polypores up to date *Datronia* gen. nov. is published to obtain a correct name for *Antrodia* P. Karst. sensu Murrill; and several new specific combinations are made, viz. with *Datronia* (2), *Antrodia* P. Karst. emend. (6), *Rigidoporus* Murrill (3), *Oxyporus* (Bourd. & G.) Donk (1), *Phellinus* Quél. (1). In a few cases annotations are attached to names in current use or to recombinations.

*Cartilosoma* Kotl. & Pouz. is reduced to the synonymy of *Antrodia*.

The few unconnected notes assembled in this paper are an attempt to bring the nomenclature of several European polypores up to date. In a few cases I had already pointed out the necessity for adjustment several years ago in publications; in other instances I practised the use of certain new names in correspondence or in the field. I have been asked to publish these new names and it was difficult not to comply. It must be understood that the following notes do not pretend to be exhaustive. As far as possible taxonomic discussions have been avoided: these are reserved for future occasions.

### *Datronia* Donk, gen. nov.

MISAPPLICATION.—*Antrodia* P. Karst. sensu Murrill in Bull. Torrey bot. Cl. 32: 345. 1905.

Polyporaceae. Fructificatio epixyla, annua, peltata et appressa substrato citoque affixa (resupinata), margine determinato, effuso-reflexa, vel sessilis, saepius confluens. Pileus velutinoso-tomentoso, zonato. Hymenophorum tubulatum, unistratum, poris minutis vel mediis, saepe valde irregularibus. Contextus tenuis, dilute brunneus, sat coriaceus, tomento strato tenui nigrescente separatus. Hyphae contextus aut tenuiter tunicatae, hyalinae, fibulatae, aut crasse tunicatae, aseptatae, parietibus hypharum amplissimarum dilute coloratis, aliae tenuiores interdum repetito ramosae; parietes hypharum tomenti crassi, distincte colorati. Sporae cylindricae, mediae (8-11  $\mu$  longae), hyalinae; parietes tenues, laeves. — Typus: species representata No. 962.206-141 ("Netherlands, Zuid-Holland, Vogelenzangse Bos, leg. M. A. Donk 11,401") sub nomine "*Trametes mollis* (Sommerf.) Fr."

This generic description is an abbreviated one, since for the present it is my intention only to publish validly the new generic name. The genus itself has been accepted by several contemporary authors. The following specific recombinations are proposed:

**Datronia mollis** (Sommerf.) Donk, *comb. nov.*; basionym, *Daedalea mollis* Sommerf., *Suppl. Fl. lapp.* 271. 1826: Fr., *Elench.* 1: 71. 1828, non *Daedalea mollis* (Pers.) Fr., *Obs. mycol.* 1: 107. 1815 (devalidated name), non *Daedalea mollis* Velen. 1922.

**Datronia epilobii** (P. Karst.) Donk, *comb. nov.*; basionym, *Trametes epilobii* P. Karst. in *Notis. Sällsk. Fauna Fl. fenn. Förh.* 9: 361. 1868.

SYNONYMS.—*Polyporus planus* Peck in *Rep. New York St. Mus.* 31: 37. 1879, non *Polyporus planus* Wallr., *Fl. crypt. Germ.* 2: 602. 1833. — *Polystictus planus* (Peck) Cooke in *Grevillea* 14: 84. 1886. — *Coriolus planellus* Murrill in *Bull. Torrey bot. Cl.* 32: 649. 1906. — *Fide* Romell (1911: 24) = *Polyporus stereoides* Fr. [sensu Romell]; *fide* Bresadola (1920: 68) = "*Trametes Kmetii* Bres."

*Trametes stereoides* var. *kmetii* Bres. in *Atti R. Accad. Agiati* III 3: 92. 1897. — *Trametes kmetii* (Bres.) Bres. in *Annls mycol.* 18: 68. 1920. — *Fide* Romell (1911: 24) = *Polyporus stereoides* Fr. [sensu Romell].

MISAPPLICATION.—*Polyporus stereoides* Fr. *sensu* Romell in *Ark. Bot.* 11 (3): 23. 1911. — *Fide* Romell, l.c. & Lloyd (1916b: 14) = *Trametes stereoides* var. *kmetii* Bres.

This species is now often called *Polyporus stereoides* Fr. per Fr. or *Antrodia stereoides* (Fr. per Fr.) Bond. & Sing. in agreement with a suggestion by Romell (1911: 23):

"This plant should probably be considered as the true and original *Pol. stereoides* of Fries. The name is well adapted as the habit very much resembles a *Stereum*. It agrees exactly with a specimen from Femsjö in the herb. of Fries so named. The label is written by Rob. Fries, and Elias Fries probably suggested the name or at least approved it, so that the specimen can be held authentic. If this specimen were the only one, the question might be considered settled in spite of the statement »ad truncos abiernos» which may be correct, though more probably is a mistake since nobody else, so far as I know, has found this plant on conifers but only on deciduous trees.<sup>1</sup> There is, however, also another authentic specimen (with a label written by El. Fries himself) but this belongs to *Pol. cervinus* Pers. (*Daedalea mollis* Somme., *Trametes mollis* Fr.), a species which is really closely allied, though in my opinion specifically distinct . . ."

The fact that Fries himself depicted *Trametes mollis* = *Datronia mollis* under the name *Polyporus stereoides* (Fries, 1884: 86 pl. 187 f. 3), in addition to the existence of a specimen labelled by Fries himself as *Polyporus stereoides*, apparently induced Bresadola (1897: 32) and a few other authors to apply the name *Polyporus stereoides* to the species that here is called *Datronia mollis*. The interpretation that Romell preferred is of a later date and would be acceptable only if it were better founded than Bresadola's. This is not the case: there are sufficient elements in the original description to cause strong doubt about the suggested identity of the fungus: compare, "... pileo . . . zonato griseo, poris . . . difformibus albis . . . Proximus *P. abietino*. . . zonis depressis . . . Ad truncos abiernos. . ." Moreover, the specimen that Romell invoked in support of his conception cannot be called really 'authentic' without misgivings. For all these reasons I feel obliged to reject the name *P. stereoides* as a nomen dubium. It may be recalled that Overholts (1953: 377) also preferred another name for this species: he called it *Polyporus planellus* (Murrill) Overh.

The species that Romell called *Polyporus stereoides* received at least three priorable

<sup>1</sup> Overholts (1953: 378) reported of *Polyporus planellus*, "one collection noted on *Thuja*".

specific names; in chronological order these are *Trametes epilobii* P. Karst. 1868 (fide Lowe 1956: 122), *Polystictus planus* (Peck) Cooke 1886 ( $\equiv$  *Coriolus planellus* Murrill 1906), and *Trametes kmetii* (Bres.) Bres. 1920. The earliest of these is used above as basionym for the correct name.

#### ANTRODIA P. Karst.

*Antrodia* P. Karst. in Meddn Soc. Fauna Fl. fenn. 5: 40 "1880" (reprint dated 1879). — Lectotype (cf. Donk in Persoonia 1: 186. 1960): *Trametes serpens* (Fr. per Fr.) Fr.

*Coriolellus* Murrill in Bull. Torrey bot. Cl. 32: 481. 1905. — Holotype: *Trametes sepium* Berk. *Cartilosoma* Kotl. & Pouz. in Česká Mykol. 12: 101, 103. 1958. — Holotype: *Trametes subsinuosa* Bres.

GENERIC DESCRIPTION.—See Sarkar in Canad. J. Bot. 37: 1258. 1959.

Several years ago Donk (1960: 186–187) concluded that the type species of *Antrodia* P. Karst. 1879 could not be *Trametes mollis* (Sommerf.) Fr. When Karsten emended the genus he referred this species back to *Daedalea* Pers. per Fr. and retained *Trametes serpens* in it as the only Finnish representative, which was selected as type. This species is now placed in *Coriolellus* Murrill 1905 by some authors who favour more natural genera in the Polyporaceae. If such a generic taxon is to be upheld its correct name should be *Antrodia*. Moreover, as long as *T. mollis* is excluded from *Antrodia*, the genus that now bears this generic name must be renamed. Since *Antrodia* P. Karst. sensu Murrill appears to be worth retaining as a distinct genus, it is rechristened above as *Datronia* Donk.

*Coriolellus* Murrill was introduced for some thin, "semi-resupinate" species of *Trametes*, with *Trametes sepium* Berk. as type. This genus was taken up by Bondartsev & Singer (1941: 60) and some later authors, but it was too vaguely characterized and too heterogeneous to be even of much practical use, until Sarkar (1959) provided a sharper definition and emended it. Sufficient new information has accumulated to conclude that the precise limits of *Coriolellus* = *Antrodia* will have to be extended, but for the moment it must be admitted that the limits of the genus have not yet been sufficiently explored and that the exact scope of the genus, therefore, is not yet known. Until more is known about several of the species not treated by Sarkar and that apparently should be included, I propose new names only for the ascertained core and one or two additions.

***Antrodia albida*** (Fr. per Fr.) Donk, *comb. nov.*; basionym, *Daedalea albida* Fr., Obs. mycol. 1: 107. 1815 ("albilla") per Fr., Syst. mycol. 1: 338. Jan. 1, 1821, non *Daedalea albida* Purton 1821, non *Daedalea albida* Schw. 1822.

***Antrodia heteromorpha*** (Fr. per Fr.) Donk, *comb. nov.*; basionym, *Daedalea heteromorpha* Fr., Obs. mycol. 1: 108. 1815 per Fr., Syst. mycol. 1: 340. 1821.

***Antrodia malicola*** (B. & C.) Donk, *comb. nov.*; basionym, *Trametes malicola* B. & C. in J. Acad. nat. Sci. Philadelphia II 3: 209. 1856.

***Antrodia ramentacea*** (B. & Br.) Donk, *comb. nov.*; basionym, *Polyporus ramentaceus* B. & Br. in Ann. Mag. nat. Hist. V 3: 210. 1879. — This was identified by

Reid & Austwick (1963: 310) with *Cartilosoma subsinuosa* (Bres.) Kotl. & Pouz. 1958 ≡ *Coriolellus subsinuosus* (Bres.) Bond. & Sing. 1941 ≡ *Trametes subsinuosa* Bres. 1903.

*Coriolellus salicinus* (Bres.) Bond. 1953. — *Trametes salicina* Bres. in *Annls mycol.* 19: 40. 1920. — There are apparently two species named '*Trametes salicina* Bres.' One of these was published in 1920 (see above). Its syntypes came from three regions: "in regione tridentina . . . in Bohemia (Bubak) et Suecica (Romell)." The other species is *Trametes salicina* Bres. ("in litteris") *apud* Egeland in *Nyt Mag. Naturv.* 52: 166. 1914 in which only two collections from Norway are mentioned. The precise relation and typification of these two names needs further study.

*Trametes sepium* Berk. in *Lond. J. Bot.* 6: 322. 1847.—European mycologists now follow Bresadola (1908: 40), who reduced *Trametes sepium* to *Trametes albida* (Fr. per Fr.) Fr.; in later work he was less explicit when he stated that although *T. sepium* was perhaps merely a straw-coloured form of *T. albida* (Bresadola, 1932: *pl.* 1022; "videtur forma straminea") he depicted both. Lloyd (1916a: 5) did not agree because he considered *T. albida* a too imperfectly known species: "... I can see no resemblance whatever to Fries' figure, and this is all that is known of *Daedalea albida*." This may be one of the reasons why American authors still ignore Bresadola's identification and cling to the name *T. sepium*, or one of its recombinations. There is little force in Lloyd's argument because it would seem that he confused *T. albida* and *T. serpens*; Fries's description of the former is rather detailed for that time, but he published no figure of it in 1815. He did publish a protologue figure of the latter. Mycologists are reminded of the existence of at least two earlier names given to the American fungus: viz. *Polyporus favescens* Schw. 1832, *vide* Lloyd (1913: 9) and Overholts (1923: 214); and *Polyporus rhododendri* Schw. 1832, *vide* Overholts (1923: 221).

**Antrodia serialis** (Fr.) Donk, *comb. nov.*; basionym, *Polyporus serialis* Fr., *Syst. mycol.* 1: 370. 1821.

*Antrodia serpens* (Fr. per Fr.) P. Karst. in *Meddn Soc. Fauna Fl. fenn.* 5: 40 "1880" (reprint dated 1879). — *Polyporus serpens* Fr., *Obs. mycol.* 2: 265 *pl.* 6 *f.* 2. 1818 *per* Fr., *Syst. mycol.* 1: 340. 1821.

*Antrodia sinuosa* (Fr.) P. Karst. in *Meddn Soc. Fauna Fl. fenn.* 6: 10. 1881. — *Polyporus sinuosus* Fr., *Syst. mycol.* 1: 381. 1821. — This species has occasionally been identified with *Polyporus vaporarius* "Fr.", for instance by Lundell (1936: 23 No. 248). The species Lundell had in mind is *Poria vaporarius* Pers. *sensu* Fr. (1821: 382; as *Polyporus*) & Romell (1911: 25), a misapplied name, as was recognized by Persoon, who renamed Fries's fungus *Polyporus incertus* Pers. 1825; while Romell (1926: 24) renamed it *Poria friesii* Romell and *Poria silvestris* Romell, both provisional names, of which the latter was validly published as *Poria silvestris* (Romell) *ex* Baxter 1932. Even if one were inclined to go so far as to accept a 'new' species *Polyporus vaporarius* 'Fr. (non Pers.)' it should be recalled that it was "*Poria vaporaria* Fr. S.M." that was first reduced to the synonymy of *Poria sinuosa* (Fr.) Cooke, the basionym of which (*Polyporus sinuosus*) was simultaneously published; this reduction was made by Bourdot & Galzin (1925: 232; as a subspecies).

**Antrodia variiformis** (Peck) Donk, *comb. nov.*; basionym, *Polyporus variiformis* Peck in *Rep. New York St. Mus.* 42: 122. 1889.

## RIGIDOPORUS Murrill

*Rigidoporus* Murrill in Bull. Torrey bot. Cl. 32: 478. 1905. — Holotype: *Polyporus micromegas* Mont. [sensu Murrill].

Up till now this genus has been used for more or less distinctly pileate species, although some of these may form strictly resupinate fruitbodies. The generic limits will need to be extended also to include some so-called 'resupinate' species which for some time have been treated in a distinct genus under the misapplied names *Podoporia* and *Physisporinus*.

*Physisporinus* P. Karst. 1889 is based on an as yet undetermined species which was identified as *Poria vitrea* Pers. According to the key to the genera of Polyporaceae, Karsten (1889: 286) differentiated the genus from *Physisporus* by the "Fruktlagret skildt från hymenoforet" (fruit-layer separated from basal layer). The generic name was taken up in Pilát (1939: 247) as the correct name for *Podoporia* P. Karst. sensu Donk, certainly in error (Donk, 1960: 256).

*Podoporia* P. Karst. 1892 ("Pileus resupinatus membranaceus, lacticolor, substrato tuberculo centrali, stipitiformi adfixus. . .") was based on *Podoporia confluens* P. Karst., which offers another unsolved problem: this species also is not yet definitely identified. The generic name was taken up by Donk (1933: 158) who misapplied it because (following von Höhnelt, 1909: 442) he indentified the type species with *Poria sanguinolenta*. The genus in this faulty emendation has been accepted by several mycologists, either under the name *Podoporia* or under the equally misapplied name *Physisporinus* P. Karst. by Pilát, as has been mentioned above.

The following resupinate European species are transferred to *Rigidoporus*.

***Rigidoporus nigrescens*** (Bres.) Donk, *comb. nov.*; basionym, *Poria nigrescens* Bres. in Atti R. Accad. Agiato III 3: 83. 1897.

***Rigidoporus sanguinolentus*** (A. & S. per Fr.) Donk, *comb. nov.*; basionym, *Boletus sanguinolentus* A. & S., Consp. Fung. nisk. 257. 1805 (devaliated name) ≡ *Polyporus sanguinolentus* (A. & S.) per Fr., Syst. mycol. 1: 383. 1821.

***Rigidoporus vitreus*** (Pers. per Fr.) Donk, *comb. nov.*; basionym, *Poria vitrea* Pers. in Annln Bot. (ed. Usteri) 15: 14. 1795 & Obs. mycol. 1: 15. 1796 (devaliated name) ≡ *Polyporus vitreus* (Pers.) per Fr., Syst. mycol. 1: 381. 1821.

The species I have in mind is now identified with either *Poria vitrea* "Fr." or *P. undata*.

Persoon's phrase runs: "inaequaliter lateque effusa, aquoso-pallida [-albida in 1801], undulata, subinterrupta; poris obliquis." This and the additional information supplied ("... super truncos nonnunquam ad spithamam effusa, interrupta, hinc inde etiam subtuberculosa; substantia subcartilaginea; superficie aquosa, quasi hyalina") in my opinion leaves little doubt about the identity of the fungus. When Fries revaliated the name his phrase ran: "effusus, carnosus, undulatus, albidus, subhyalinus, poris minimis" while his descriptive note started thus, "Late & inaequaliter effusus . . ."

Bresadola (1903: 78) considered the fungi described by Persoon and Fries to be

different and he identified Fries's conception with *Poria undata* (Pers.) Cooke. He added: "*Poria vitrea* Pers. forte distincta, at ego frustra hucusque identitatem comprobare potui." Donk (1933: 159) accepted this verdict and called Fries's fungus "*P[odoporia] vitrea* (Fr., non Pers.!) Donk." I have since gone into this matter once more. The first conclusion is that Persoon's protologue could very well have been based on the same fungus that Bresadola called *Poria undata*. The second is that there is such a close agreement between Persoon's and Fries's descriptions that it can easily be defended that Fries (who did not exclude Persoon's fungus) had the same species in mind; he thought Persoon's phrase sufficiently to the point to incorporate it almost completely in his own account. Hence, the type (in the absence of a Friesian specimen) should be, rather, that of Persoon. The third conclusion is that Persoon left no type. Compare the remark by Bresadola (1897: 85) in connection with *Poria vitrea* Pers. sensu Bres. (since long reduced to *Poria vulgaris* sensu Bres. = *Poria byssina* "Pers." sensu Romell), "Exemplaria authentica *Poriae vitreae* non vidi neque in herbario persooniano ne que in herbario friesiano." As far as I have been able to reconstruct the course of events Bresadola studied a specimen that was labelled thus, "*Poria vitrea?*" (written by Persoon); this specimen he annotated, "Non typus Persoonii! = *Polyporus chioneus* Fr. var. *resupinatus*."

Later Fries (1828: 119) broadened the description considerably. Other authors applied the name *Poria vitrea* to some other species. Of these, Karsten's interpretation mentioned above has as yet not been identified. All these divergent interpretations dropped out of current use: there is little reason left to consider the name *Poria vitrea* a nomen ambiguum. It might be considered a nomen dubium, but judging from both Persoon's and Fries's descriptions it is, in my opinion, sufficiently evident what species they had in mind.

#### OXYPORUS (Bourd. & G.) Donk

*Oxyporus* (Bourd. & G.) Donk, Rev. niederl. Homob.-Aphyll. 2: 202. 1933. — Monotype: *Polyporus connatus* Weinm.

***Oxyporus latemarginatus*** (Dur. & Mont. ex Mont.) Donk, *comb. nov.*; basionym, *Polyporus latemarginatus* Dur. & Mont. ("Fl. Alg. ined.") ex Mont., Syll. Crypt. 163. 1856. — *Fide* Lowe (1963: 455) this is an earlier name for *Poria ambigua* Bres.

*Chaetoporus philadelphiae* Parmasto in Notul. syst. Sect. crypt. Inst. Komar. 12: 237 fs. 1, 4, plate f. 2. 1959. — This may be another species of *Oxyporus*. It should be compared with *Poria millavensis* (Bourd. & G.) Overh.

#### PHELLINUS Quél.

*Phellinus* Quél., Ench. Fung. 172. 1886. — Lectotype (cf. Donk in *Persoonia* 1: 253. 1960): *Polyporus rubriporus* Quél.

***Phellinus viticola*** (Schw. apud Fr.) Donk, *comb. nov.*; basionym, *Polyporus viticola* Schw. ("in litt.") apud Fr., Elench. 1: 115. 1828.

If not conspecific this species is in any case closely allied to *Phellinus isabellinus*. (Fr.) Bourd. & G.

*Boletus superficialis* Schw. 1822 is considered by Overholts and Lowe to be the same species as *Polyporus viticola* and this name would have had to be taken up as basionym for the correct name had Fries not reduced it in the starting-point book (1828: 115) to the synonymy of *Polyporus viticola* (as variety).

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**PARAPHELARIA, A NEW GENUS OF AURICULARIACEAE  
(BASIDIOMYCETES)**

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Recent collections from the Solomon Islands show that *Aphelaria amboinensis* (Lév.) Corner is an auriculariaceous fungus of coriaceous consistency, devoid of hymenium, but with the basidia immersed longitudinally in the superficial tissue. Re-named *Paraphelaria ambonensis* (Lév.) nov. gen., comb. nov., it is a parallel both to *Aphelaria* and to *Tremellodendron*.

*Aphelaria* is the most undistinguished of branched clavarioid genera. It lacks clear pigmentation; its spores have no ornamentation and seem very variable in shape and size even within specific limits; its simple hyphae do not inflate and, generally, are devoid of clamps. Yet, it turns out to be, perhaps, the most critical. It leads to *Tremellodendron* through *Tremellodendropsis*, the basidia of which are more or less intermediate between the homobasidium and the *Tremella*-basidium (Corner, 1966). Now I add an *Auricularia*-basidium for which the new genus *Paraphelaria* is created. In effect, Homobasidiomycetes, Tremellaceae, and Auriculariaceae converge in this clavarioid form, where they are distinguishable only by the basidium. These three main groups are, of course, represented also by resupinate, stereoid, hydroid, and even polyporoid forms, most of which in the Heterobasidiomycetes have gelatinous fruit-bodies, and by this means the beginner soon learns to distinguish *Calocera* (Dacryomycetaceae) from *Clavaria*. He becomes so impressed with the gelatinous nature of heterobasidiomycetes that he forgets the correspondence in growth-form with the homobasidiomycetes which, in the case of the clavarioid is the central from which the rest are derived, either by elaboration or by degeneration (Corner, 1964: 234). The fruit-bodies of *Aphelaria*, *Paraphelaria*, *Tremellodendropsis*, and *Tremellodendron* have, however, dry thick-walled hyphae and, consequently, a coriaceous texture which removes, thereby, this barrier to comparison. It is impossible to distinguish them except by minute microscopy; they inherit the branched seaweed-form and are not convergent in this respect, but divergent in sporangial mechanism (Church, 1919: 58). *Tremellodendropsis* shows, perhaps, how the *Tremella*-basidium has been derived from the unseptate basidium of *Aphelaria*. It is possible that an intermediate with *Paraphelaria* exists for, as this genus shows, the mycological resources of the world are far from being exploited.



*Aphelaria amboinensis* has been a puzzle; the scant herbarium-material seems sterile. In 1965, during the expedition sent by the Royal Society of London to the Solomon Islands, I met repeatedly among the surface roots which build a tussock at the base of the short trunks of the palm *Areca macrocalyx* a large *Aphelaria*. The palm forms a conspicuous undergrowth in the broader, wetter, lowland valleys of the forest; possibly every one becomes infected by the fungus which fruits copiously in the appropriate season when heavy rains follow a dry spell. Yet, I was unable with a hand-lens to detect any hymenium, regardless of the size or age of the fruit-body. I thought that the fungus must be *A. amboinensis* and, aggravated by this apparent frustration, I collected in formalin-alcohol much material of all ages from several localities, as well as dried material. Examination of this has now shown me that the fungus lacks, indeed, a hymenium, but that it produces in the outer layer, *c.* 100  $\mu$  thick, of its branches longitudinal, transversely septate basidia the sterigmata of which reach the surface by growing between the *Aphelaria*-hyphae and vary, accordingly, very much in length; there is no mucilaginous covering to the surface. This is the only clavarioid fungus known to me, without a hymenium of basidia perpendicular to the surface. The young basidia are, clearly, the gloeocystidial branches which I described from the herbarium-material when I transferred the species to *Aphelaria*. Unfortunately, I have been unable to find any germinated spores.

### **Paraphelaria** Corner, *gen. nov.*

Receptacula clavarioidea erecta flabellato-ramosa, multifida v. dichotoma, floccoso-fibrillosa coriacea, haud gelatinosa, hymenio vix evoluto. Sporae albae aseptatae leves. Basidia auriculiformia, subclavata v. subcylindrica, plerumque recta, sine probasidio, in cellulis 4 transverse septata, longitudinalia, superficialia v. in textu superficiali immersa. Cystidia nulla. Hyphae monomiticae afibulatae, haud inflatae, plus minus crasse tunicatae, hyalinae. — Typus: *Thelephora amboinensis* Lév.

### **Paraphelaria amboinensis** (Lév.) Corner, *comb. nov.*

*Thelephora amboinensis* Lév., *T. funalis* Lév., *T. scoparia* Lév., in *Annls Sci. nat. (Bot.)*, ser. III, 2: 207, 208. 1844. — *Lachnocladium funale* (Lév.) Sacc., *L. scoparium* (Lév.) Sacc., *Syll. Fung.* 6: 739. 1888. — *Aphelaria amboinensis* (Lév.) Corner in *Ann. Bot.*, ser. II, 17: 348. 1953.

Erect, -15 cm. high, sparingly to much branched, white, then drab or isabelline, finally pale fuliginous from the base upwards (attacked by a pyrenomycete); trunk 1-6 cm  $\times$  2-15 mm, becoming strigoso-villous and set with acicular abortive branches; main branches in massive fruit-bodies becoming strigoso-villous; branches

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#### EXPLANATION OF FIGURE 1

Fig. 1. *Paraphelaria amboinensis*, a large fruit-body (RSS 706B), a young fruit-body (left, RSS 712), and a depauperate fruit-body (right, RSS 708);  $\times$  1.5.



Fig. 1

multifid-flabellate below with the axils 2–8 mm wide, narrower and dichotomous above, 1–2.5 mm wide, uneven, rugulose, often twisted and confluent, the tips obtuse then elongate and subulate, finely penicillate, without evident hymenium, but fertile on all sides: smell none.

On the ground in lowland forest; Java, Amboina, Aru Islands, Solomon Islands (generally among the short aerial roots of *Areca macrocalyx*).

Spores  $19\text{--}25 \times 5.5\text{--}7.5 \mu$ , ellipsoid-subcylindric or subarcuate, obtuse, thin-walled, not amyloid, shortly apiculate, with finely guttulate contents. Basidia  $90\text{--}125 \times 6\text{--}9 \mu$ , the cells  $20\text{--}30 \mu$  long, densely guttulate-oleaginous; sterigmatic processes  $10\text{--}100 \times 3\text{--}3.5 \mu$ , dilating distally  $4\text{--}5 \mu$  wide, short on the superficial basidia, longer on the immersed, the acicular tip  $2\text{--}4 \mu$  long. Hyphae  $3\text{--}8 \mu$  wide, the walls thickening  $0.5 \mu$ , becoming  $1\text{--}2.5 \mu$  thick in the old tissue, drying pale brownish ochraceous but hyaline in the living state, longitudinal, entwined, the cells  $25\text{--}160 \mu$  long, sometimes with intercalary or subterminal vesicular swellings  $9\text{--}15 \mu$  wide, the branches constricted on origin, contents hyaline; growing hyphal tips  $2\text{--}3.5 \mu$  wide, multiguttulate, soon vacuolate, loose and spreading at the ends of the branches of the fruit-body.

Solomon Islands collections from the Warahito River, San Cristobal: RSS 706 (19 July 1965), 706A (1 Aug. 1965), 706B (2 Aug. 1965), 708 (20 July 1965, on bare earth, branched only near the base with simple subulate branches  $6\text{ cm}$  long), 712 (20 July 1965), 766 (24 July 1965).

The pyrenomycete, which develops among the superficial hyphae of the trunk and old branches, was immature in my specimens. My notes are: perithecia  $50\text{--}70 \mu$  wide, black, subglobose, not rostrate, glabrous except for a fringe of short, unicellular, subclavate hairs with fuliginous walls,  $15 \times 3\text{--}4.5 \mu$ , around the ostiole; mycelial hyphae  $1\text{--}2.5 \mu$  wide, short-celled, with brown walls.

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#### EXPLANATION OF FIGURES 2, 3

Fig. 2. *Paraphelaria amboinensis*, part of the fertile surface of a branch in longitudinal section,  $\times 700$ .

Fig. 3. *Paraphelaria amboinensis*, young and old basidia, hyphae, and (right) a young basidium before septation and the apex of a growing hypha from a branch-tip,  $\times 700$ ; mature spores, spores developing on sterigmata, and a hyphal branch,  $\times 1400$ .

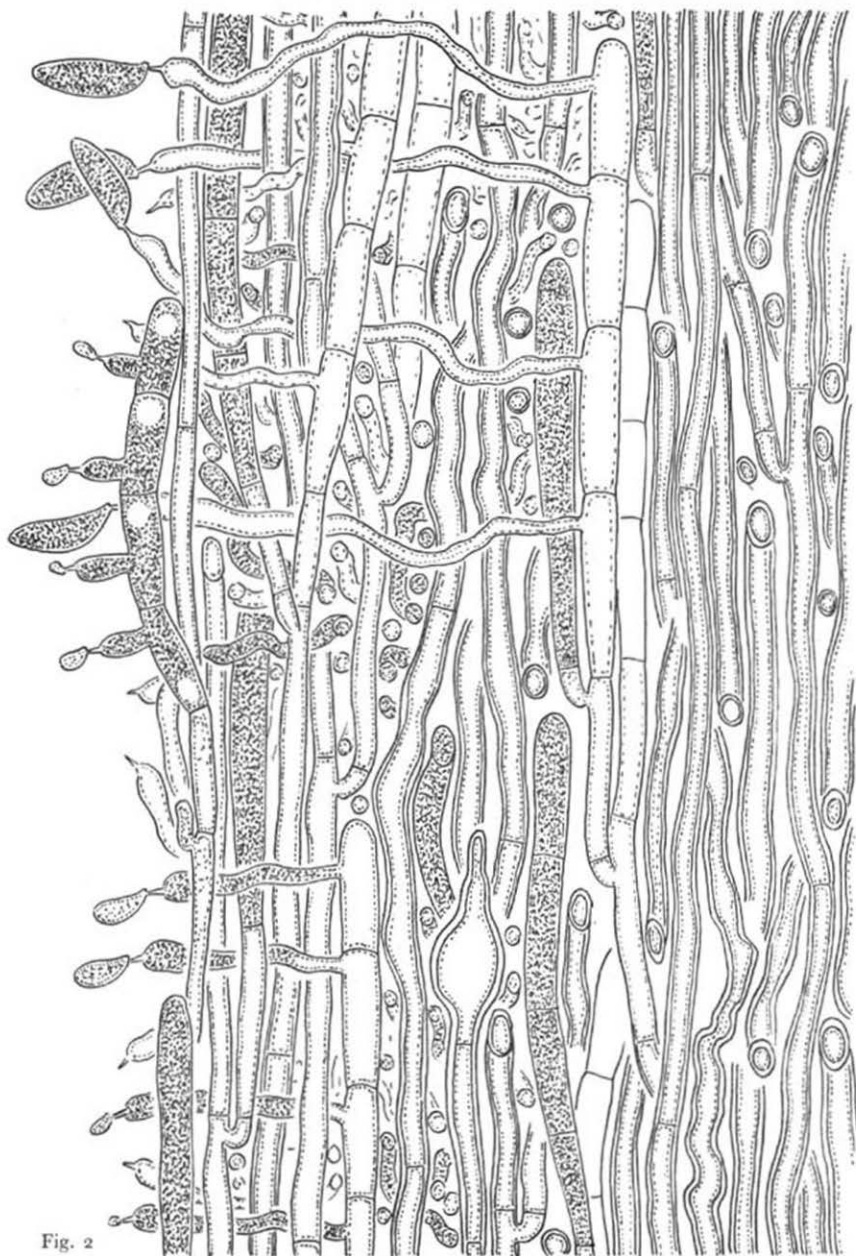


Fig. 2

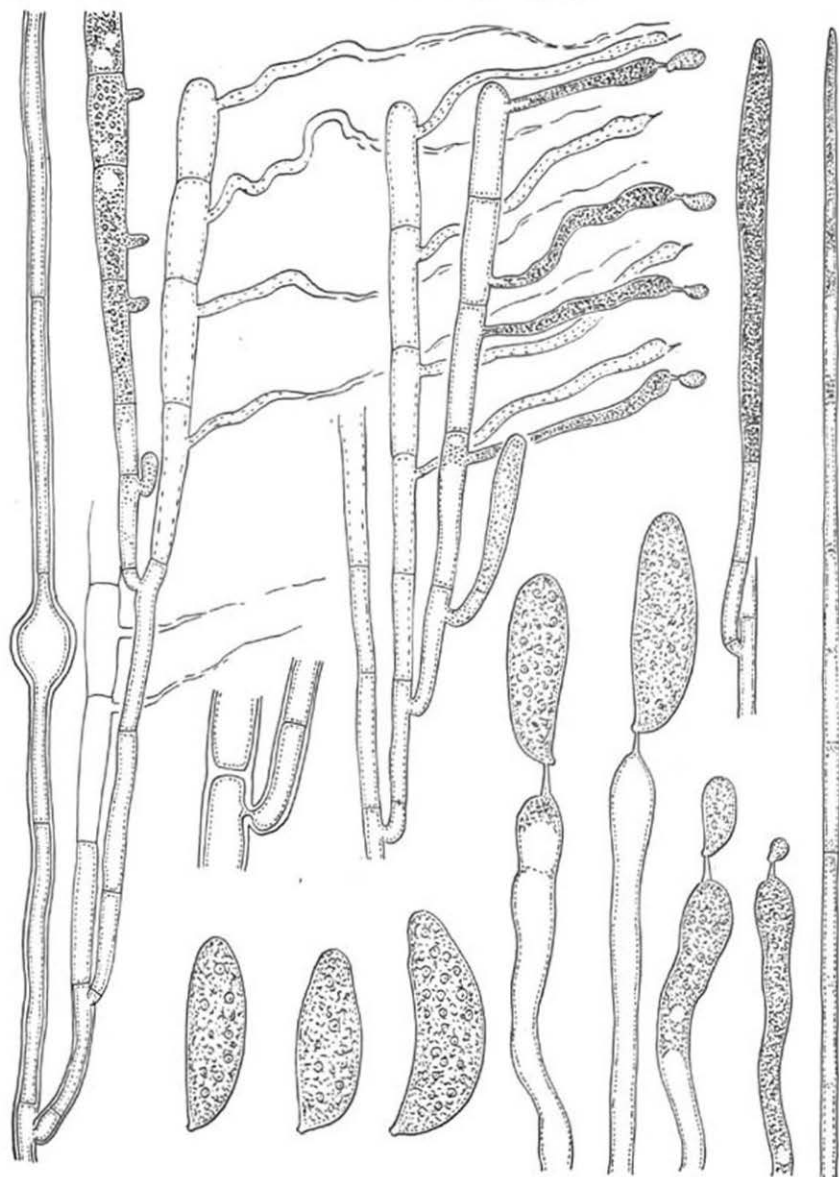


Fig. 3

## REVIEWS

G. H. CUNNINGHAM, *Polyporaceae of New Zealand* (New Zealand Department of Scientific and Industrial Research. Bulletin 164. Dec. 2, 1965) Pp. 304, 457 text-figures, 7 text-plates. Price £ 3-10-0 (New Zealand currency).

When Dr. Cunningham died in 1962 the manuscript of this monograph was still uncompleted. Miss J. M. Dingley, with the assistance of her staff, undertook to make it ready for publication. The result is a well-edited companion-volume to the previously published "The Theleporaceae of Australia and New Zealand".

Only species are included 'authentic' specimens of which were examined. Under a section "Unknown and Rejected Species" a long list of names is given "of species listed by earlier workers but of which specimens have not been available for study, are not in the region, or which were based on faulty identifications".

There can be no doubt that a work of this kind ought to be in the hands of every mycologist who is concerned with the polypores not only of New Zealand, but also of the neighbouring regions, especially Australia and the Pacific Islands. Another important feature is the revised taxonomic arrangement that has been worked out. The author has built up a system of the polypores that deviates in many respects from other contemporaneous systems. This, and the fact that many species are restricted to New Zealand and Australia, provide other sources of interest to all mycologists who are engaged in working out a natural classification of the polypores on a world-wide basis.

This is not to say that there is no room for criticism. In my opinion the line-drawings are in many cases misleading and even incorrect. One of their shortcomings is the spore drawings. It would seem as though it escaped the monographer's attention that the basidiospores of the hymenomycetes, including the polypores, are characteristically asymmetrical in side-view and that at their base they terminate in an apiculus rather than in a narrow, disrupted tube or band (as is the case in many gastromycetes) or else that they have no apiculus at all. Certain errors are presumably due to faulty composition of the original part-drawings with the result that instead of being a help a number of figures will certainly hinder correct determinations. Highly schematic drawings, where accurate ones might be expected may lead to considerable hesitation in determining specimens. Figure 54 (*Phellinus melanoporus*), moreover, cannot be explained without taking it as drawn from a misdetermination.

A mainstay of the classification adopted is the hyphal structure. Often this is decisive for characterizing a genus, but sometimes genera are admitted in which several types of hyphal structures occur (*Polyporus*). In more than one case an oversimplified description of the hyphal structure is given. From Cunningham's descriptions and drawings no outsider would suspect that the schematic and didactical conceptions that make the various, generally recognized types of hyphal structure easy to understand are actually rarely encountered without complications in the

form of additional features that are also of importance. This tendency to neglect such complications may be one of the reasons why some of the genera have become even more artificial than in certain previous classifications. A case about which specialists may perhaps differ is the incorporation in *Polyporus* of the genus *Abortiporus* (*Heteroporus*). They will regret that there is no discussion on the new genus *Flabellophora* in which a comparison is drawn with certain species of *Rigidoporus*. In *Grifola* several other species are incorporated that are currently kept widely separated like, for instance, species of *Laetiporus* and *Bondarzewia*. The emendations of *Trichaptum*, *Heterobasidion*, *Flaviporus*, *Pseudofavolus*, and *Osmoporus* are no improvement on the current restricted conceptions; in fact I would consider them all very heterogeneous. The transfer of the *Polyporus gramocephalus* group into *Tyromyces* is astonishing and the simplified description of *Amauroderma* as dimitic with binding hyphae misleading. To keep *Fuscoportia*, as emended by Cunningham, generically distinct from certain species of *Phellinus* (like *P. gilvus* and *P. torulosus*), is, with our present knowledge, possible only if two artificial genera are favoured where one would suffice, especially if the second genus is made less comprehensible by the introduction of such species as *Polyporus albomarginatus* and *P. bicolor*.

There are more points that are likely to evoke discussion, but for me the principle advantage of this work is that it has brought together so much information that was widely scattered in the literature and that it gives detailed information on many species occurring in a part of the world from which material is only poorly represented in most of the herbaria of Europe.

M. A. DONK

ALEXANDER H. SMITH & S. M. ZELLER, *A preliminary account of the North American species of Rhizopogon* (Memoirs N.Y. bot. Gdn, vol. 14 no. 2. 1966). Pp. 177, 95 figures, 8 plates (of which 2 in colour). Price \$ 10.00.

For a mycologist interested in such intriguing and mysterious things as hypogeous fungi, but practically never so fortunate as to find one, this "Preliminary account" is a cause for utter amazement, for it deals with no less than 137 species, several of which seem to have been collected by the basketful. Only four species have names with a familiar European ring.

At first sight one may be inclined to doubt the wisdom of distinguishing so many species, the more so since several are separated on the basis of what seems to be mere chemical differences. It appears, however, that not all of the characters used are chemical in nature. Moreover it should be borne in mind that in certain parts of the United States some genera abound in species, both in phanerograms and in fungi, so that perhaps it is not surprising if the genus *Rhizopogon* follows this example.

Although S. M. Zeller is indicated as co-author, the classification is A. H. Smith's, as is the discussion of the value of each character used. This discussion is exemplary in its thoroughness, reflecting Smith's endeavour to find new ways of delimiting the

species. The same trend is also noticeable in the specific descriptions, which give a wealth of detail. There are, however, a few objections.

On page 21 Smith states that "One does record what he observes . . ." and it is certainly true that Smith observed a great deal, but it cannot be denied that some of the information is presented rather unequally. The description of the basidia of *R. anomalus* takes two and a half lines, that of the basidia of *R. semireticulatus* is finished in three words. Of the two species *R. subbadius* and *R. pedicellus*, only the  $\text{FeSO}_4$ -reaction of the former is recorded. There seems little use in mentioning that a columella is lacking (e.g. in *R. lutescens*) if not a single word is said concerning the columella in other species of the same subsection (e.g. in *R. ochraceisporus*, *R. vinicolor*). Spore ornamentation does not seem to be a character of great importance in *Rhizopogon*. If, however, the spores are clearly stated to be smooth, it would be both logical and preferable to find this word in the same place in the spore descriptions. It would make comparison so much easier. In *R. semireticulatus*, for instance, "smooth" is to be found at the very beginning of the sentence, in *R. subgelatinosus* at the very end.

Although more remarks of the same tenor could be made, these examples should suffice. They are minor blemishes, but they could better be corrected, as they detract from the merits of the work.

A final remark is called for: the use of the word "paraphyses" is most unfortunate.

A judgement on the taxonomic value of this monograph can be given only by those to whom its use is a matter of daily routine.

R. A. MAAS GEESTERANUS

REID, D. A., *Coloured illustrations of rare and interesting Fungi I* (Supplement to Nova Hédwigia **11**. J. Cramer, Lehre, 1966) Pp. 32, 14 text-figures, 8 coloured plates. Price D.M. 25.—.

For the knowledge of the larger fungi, especially the fleshy ones, published coloured plates are of great importance. It is much easier to form a mental picture of the fruitbodies from a good plate than from even an extensive description. Thus nothing can take the place of coloured plates as a means of communication among mycologists. Unfortunately the number of species of which no adequate coloured plates are available is rapidly increasing. Modern technics have not brought us less expensive methods of colour-printing.

This all makes it very opportune that Dr. Reid has started a series of coloured plates of larger fungi of which either no or else only almost inaccessible plates have thus far been published. In this first fascicle eleven species are represented and extensively described. Four of these are new, viz. *Boletus leonis* (= *B. leoninus* sensu auct. non Pers.), *Laccaria purpureo-badia*, *Lepiota marriagei*, and *L. hymenoderma*. The other species depicted are *Boletus queletii*, *B. lignicola*, *B. rubinus*, *Lepiota rhodorhiza*, *L. ochraceofulva*, and *Amanita nauseosa* (transferred from *Lepiota*).



The coloured plates are of a good quality. On Plates 2 and 4 the figures are placed somewhat far apart. Perhaps it would have been possible to include pictures of two or three more species at nearly the same expense. The descriptions are written in a narrative style, which makes them pleasant to read, but a bit time-consuming when it comes to searching for particular information. A case in point is the presence or absence of clamps. In some cases this character is not mentioned at all and it is not clear whether clamps have not been observed or whether the character has merely been neglected. The descriptive terms for colours are apparently adopted from Ridgway but this is not mentioned.

It is somewhat astonishing to find that the new *Lepiota marriagei* has been described without a word about the reaction of the spores in Melzer's solution. Data on the reaction of Cresyl Blue on the spores have been omitted for all species of *Lepiota*. The colour of the spore-print is lacking in several descriptions. Hardly anything is said about the type of soil at the localities, while at times the descriptions of the vegetation of the habitat are rather poor.

Apart from these few minor short-comings, this publication nevertheless meets high demands and the author and publisher alike are to be praised for their initiative. It is to be hoped that many fascicles will follow. However, if it is really the intention that this series reaches the average mycologist the price of the reprints will have to be considerably reduced. Perhaps this could be achieved by printing a greater number of copies, to be sold in cooperation with the regional mycological societies.

C. BAS