PERSOONIA
Published by the Rijksherbarium / Hortus Botanicus, Leiden
Volume 14, Part 4, pp. 465–474 (1992)

THE GENUS ELMERINA (TREMELLALES), WITH ACCOUNTS OF TWO SPECIES FROM QUEENSLAND, AUSTRALIA

DEREK A. REID*

This paper constitutes a survey of the genus *Elmerina* Bres., species of which are shown to possess tremelloid basidia. *Elmerina* is regarded as an older name for *Aporpium* Bond. & Sing., making necessary the following new combinations: *E. africana*, *E. borneensis*, *E. caryae*, *E. caryae* f. *macropora*, *E. dimidiata*. Detailed accounts are given of *E. cladophora* and *E. borneensis* as they occur in Australia; brief accounts are given of the remaining species.

During the naming of a large collection of 200 fungi from Queensland made between November 1891 and April 1892 by G. Podenzana, two gatherings of *Elmerina borneensis* (Jülich) Reid, and a single specimen of *E. cladophora* (Berk.) Bres. were detected. The former has not, hitherto, been reported from Australia, while the latter was only recently listed from the region by Parmasto (1984). Since both species are still poorly known in Australia, and since species of *Elmerina* often change very markedly in appearance on drying, it is to be hoped that anyone finding either of these two taxa will publish full accounts of the fresh material together with observations on basidial morphology and spore data taken from spore prints.

Elmerina is a very unusual genus in that the species have the appearance of typical polypores or bracket fungi, which may be either resupinate and *Poria*-like, or pileate. Despite this outward similarity they are unrelated to the polypores; they are Heterobasidiomycetes with cruciately septate, tremellaceous basidia, and their relationship is with the Jelly Fungi.

The genus was first reported from Australasia when Cunningham (1947) described *Poria corydalina* Cunn. based on New Zealand material. This was subsequently shown to be synonymous with the almost cosmopolitan *Elmerina caryae* (Schw.) Reid. Later McNabb (1964) published a full description of the New Zealand collections. However, there appears to be no further reports from Australia of this or any other species of *Elmerina* until Parmasto recorded the presence of *E. cladophora* from Northern Queensland and New South Wales.

ELMERINA Bres.

Elmerina Bres. *in* Ann. Mycol. 10: 507. 1912.
Elmeria Bres. *in* Hedwigia 51: 318. 1912 (nec Rydb. 1905; nec Ridl. 1909).
Aporpium Bond. & Sing. *in* Mycologia 36: 67. 1944.

Fructifications pileate or resupinate, poroid; when pileate upper surface smooth, tomentose, velutinate or hispid. Pore surface creamy buff, pinkish buff or pale brown, bruising

* Botany Department, University of Pretoria, Hillcrest 0002, South Africa.

brown on handling in some species. Pores angular to hexagonal, from fairly small, 0.5–0.25 mm diam., to very large, 1.0–2.0 mm diam., to daedaleoid or almost lamellate, sometimes with conspicuous hyphal pegs projecting for up to 200 µm from the walls of the dissepiments and covering the pore mouths. Hyphal structure dimitic in most species. Skeletal hyphae dominating, 2–6 µm diam., unbranched, hyaline to pale yellowish, thick-walled to somewhat thin-walled in some taxa, sometimes highly refractive in KOH, in some taxa heavily encrusted at least in the hyphal pegs. Generative hyphae branched, hyaline, thin-walled with clamp-connections at the septa, but in certain species clamps may be sparse and exceptionally difficult to demonstrate. Hyphal pegs when present, sterile, formed of fascicles of elongated, thick-walled skeletal hyphae, which taper to a narrow base, about 2 µm wide, and enlarge to an obtuse often thin-walled clavate apex, which may be secondarily septate. These hyphae may be heavily crystal encrusted. Cystidia present or absent. When present thin-walled, hyaline, and either utriform or more often fusoid, but sometimes with a short acute side branch, or apically bifurcate resembling dacrymycetaceous basidia. Basidia 4-spored, initially ovate to obpyriform, or cylindric to clavate, often with a slight subterminal constriction, becoming cruciately and longitudinally divided, usually with a basal cell cut off by the septation of the basidium, and with a clamp-connection only at the base of this cell. This septation may involve the entire, or almost the entire initial of those species with ovate or obpyriform initials, in which latter situation there is a small basal cell, which may be easily overlooked, or in those species with strongly clavate or cylindric initials septation is restricted to the apical portion, resulting in a prominent, rather broad basal cell with the clamp-connection restricted to its base. Spores thin-walled, hyaline, non-amyloid, from allantoid 4.5–7.5 × 2.0–3.0 µm, or elliptic or ovate 6.0–8.0 × 3.5–5.0 µm, or 9.0–11.0 × 4.0–6.0 µm, to pyriform 8.0–10.0 × 5.0–6.0 µm.

Type species: *Elmerina cladophora* (Berk.) Bres.

A small genus currently embracing about seven species. Accounts of the two species from Queensland follow.—

Elmerina cladophora (Berk.) Bres.—Fig. 1J

Hexagonia cladophora Berk. *in* J. Linn. Soc. (Bot.) 16: 47. 1877.
Scenidium cladophorum (Berk.) O. Kuntze *in* Rev. Gen. Pl. 3: 516. 1898.
Elmeria cladophora (Berk.) Bres. *in* Hedwigia 51: 319. 1912.
Elmerina cladophora (Berk.) Bres. *in* Hedwigia 53: 71. 1912.
Panus coriaceus Berk. & Br. *in* J. Linn. Soc. (Bot.) 14: 45. 1873. (Non Berkeley, 1872.)
Hexagonia flabelliformis Berk. *in* J. Linn. Soc. (Bot.) 16: 47. 1877.
Scenidium flabelliforme (Berk.) O. Kuntze *in* Rev. Gen. Pl. 3: 516. 1898.
Panus berkeleyi Sacc. & Cub. *in* Sacc. Syll. Fung. 5: 628. 1887.
Elmerina berkeleyi (Sacc. & Cub.) Petch *in* Ann. R. bot. Gdns Peradeniya 9: 129. 1924; see also Humphrey *in* Mycologia 30: 328. 1938.
Aporpium hexagonoides David & Jaquenoud *in* Gdns' Bull., Singapore 29: 151. 1976.

Sporophores spathulate or flabellate, to 6 cm diam., and to 1 cm in total thickness, narrowed behind to a small basal attachment, or rarely to a slightly elongated flattened strap-like base and then appearing rudimentarily stipitate; fruit-bodies frequently becoming enrolled on drying. Pileus when fresh whitish to cream and leathery, but hard, rigid and woody when dried and from yellowish brown to dark sandy or reddish brown with a rough scabrous surface of short erect or tangled gelatinous hairs which tend to form radial ridges or a reticulum toward the margin. These may be so dense that the pileus appears fibrillose in this region; in

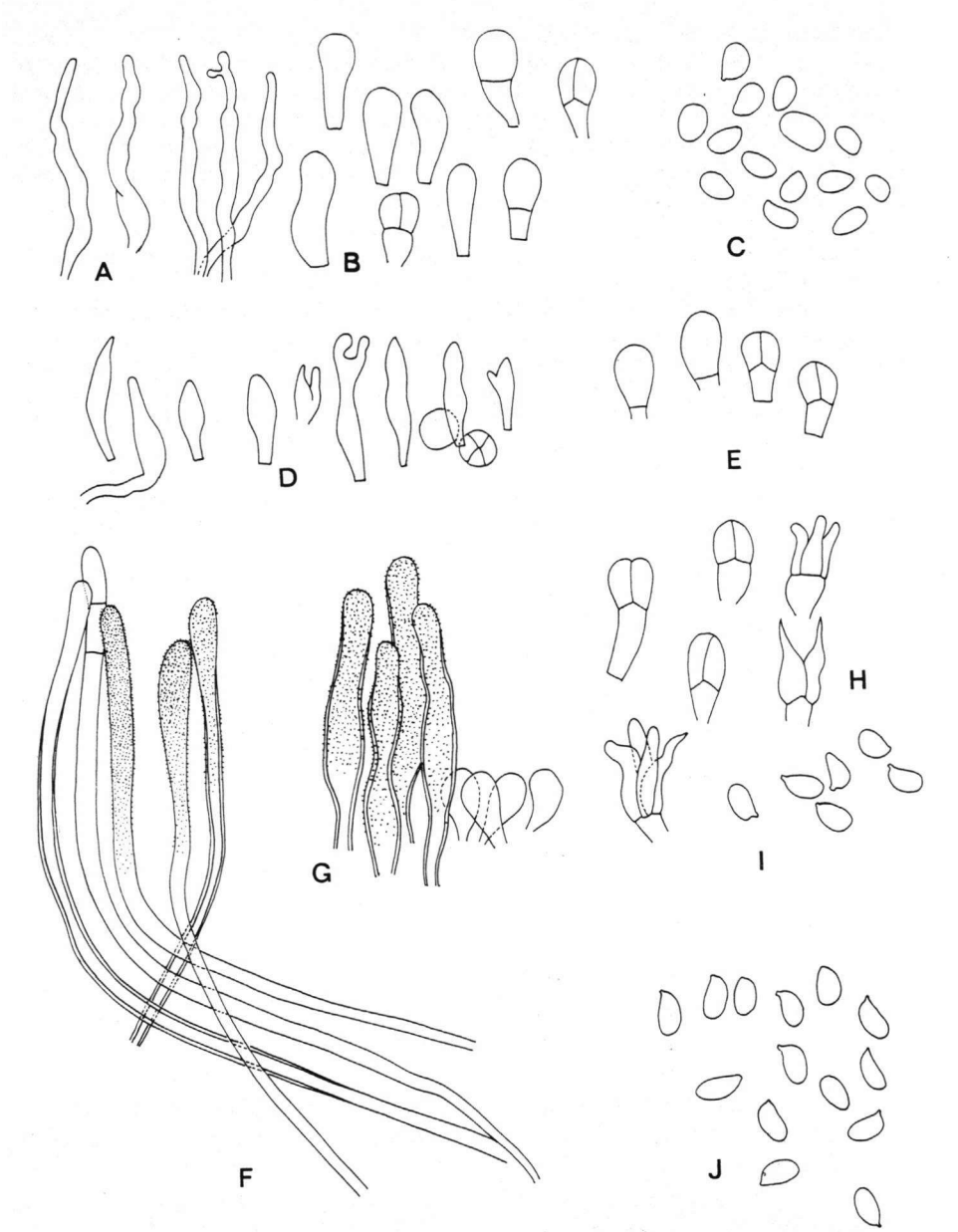

Fig. 1A–G. *Elmerina borneensis*.—A. Cystidia. — B. Basidia in various stages of development. — C. Spores (A–C, from holotype). — D. Cystidia and two basidia on far right. — E. Basidia. — F. Encrusted hyphae from hyphal pegs, two with encrustation not shown (D–F, from *Podenzana 54*). — G. As previous (from *Podenzana 55*). — H, I. *E. holophaea* (from *Parmasto 102279*). — H. Basidia. — I. Spores. — J. *E. cladophora*, spores (from *Lawrence 78-74*). All × 666.

other fruit-bodies the surface may be glabrescent with only scattered scabrous hairs, or with dense hairs only in the basal portion. Pores pale ochraceous cream or concolorous with the pileus, angular to 1 mm wide, or large radially elongate and hexagonal, to more compressed and almost lamellate near the margin; dissepiments bearing conspicuous pointed hair-like hyphal pegs or bristles, as do the pore mouths which often appear densely bristly. Flesh to 0.5 cm thick, pale dull yellowish brown, fibrous; cuticle lacking. Hyphal structure dimitic. Skeletal hyphae dominating in the context, unbranched, to 5.5 µm diam., subhyaline to hyaline, glassy and refractive, varying from solid to thick-walled with a narrow lumen. Generative hyphae fairly abundant, to 3.3 µm diam., branched, hyaline, with thin to slightly thickened walls and clamp-connections at the septa. Hyphal pegs to 150 µm long and 65 µm wide, of heavily crystal encrusted, thick-walled, agglutinated skeletal hyphae. Basidia varying from cylindric to clavate with a slight subapical constriction, to 30 × 10 µm, on maturity the apical portion becoming cruciately septate and 4-partite, such that a well defined, broad stalk cell, with a clamp at its base is differentiated. Spores 8.0–9.2 × 4.5–5.0 µm, thin-walled, hyaline, non-amyloid and elliptic (fide Parmasto (1984) fusoid-ellipsoidal, with a large apiculus, 8.0–10.2(–10.5) × 4.8–5.8 µm sometimes adhering in groups of 2–4).

Specimens in K.—QUEENSLAND: Kuranda, *G. Podenzana 34*, March 1892; Claudie River, near Iron Range, *J.F. Lawrence 78-74; 78-80; 78-116*, 19–25 July 1978. — NEW SOUTH WALES: On long fallen log in rainforest, Coffs Harbour, *H.J. Cann*, 12 April 1960; Moonpar State Forest, Dorringo, coll. & det. *A. Wood*, 26 Aug. 1959. Also from Australasia. — NEW CALEDONIA: La Crouen, *B. Huguénin N.C. 64296*, 5 June 1964. — SOLOMON ISLANDS: Reef Islands, Otelo Village. — NEW BRITAIN: Keravat, Gazelle Peninsula, 200 m alt., *P.A. Wright FM 448*, 8 March 1968.

Additional gatherings.—PHILIPPINES: Malamon Island, Challenger, 4 Feb. 1875 (holotype of *Hexagonia cladophora*), Luzon, Province of Rizal, Bosoboso, Maximo Ramos, July 1906, Bureau of Science No. 1213. det. Bresadola; Philippine Island Plants distributed by *A.D.E. Elmer 11176*, Island of Mindanao, District of Davao, Todaya (Mt. Apo), July 1909; Mindanao, District of Zamboanga, *H.S. Yates*, Nov. 1919, Bureau of Science Nos. 35964, 35965. — INDIA: Malanur, St. Marys Estate, Palni Hills, Madras Pres., 3000 ft alt., Rev. *G. Foreau 239*, 4 Aug. 1934.

In addition to the above collections *E. cladophora* has been listed and figured from Indonesia: Irian Jaya (Dutch New Guinea) by Imazeki (1952: pl. VII, fig. 18) as *E. foliacea*, but this record should more probably refer to *E. cladophora*, and Parmasto (1984) records it from Vietnam, Sri Lanka, and India (Tamil Nadu State).

Hosts.—Bresadola (1912) cites it on *Dipterocarpus vernicifluus* and Parmasto (1984) as occurring on *Dipterocarpus* sp.

From a comparison of the above account of *E. cladophora* with that of *Aporpium hexagonoides* David & Jaquenoud–a species described from material collected in Singapore–it is clear that they are conspecific. However, when the latter fungus was published there was no suggestion that *Elmerina* Bres. was a genus of Heterobasidiomycetes with tremelloid basidia and polyporoid hymenophore, and consequently there was no reason for David & Jaquenoud (1976) to consider it in relation to their proposed new taxon. However, once it was established that the type of *Elmerina* i.e. *E. cladophora* had tremelloid basidia, it was clear that there was nothing on which to separate the two taxa, especially when Parmasto (1984) found the spore size of *E. cladophora* to be 8.0–10.2(–10.5) × 4.8–5.8 µm, which compares well with the measurements given by David & Jaquenoud (1976) i.e. 9–11 × 4–5 µm for *A. hexagonoides*, and even more so with the measurements of Setliff & Ryvarden (1982) who found the range on the holotype of this species to be somewhat broader i.e. 9–11 × 4–6 µm.

Elmerina borneensis (Jülich) Reid, *comb. nov.*—Fig. 1A–G

Aporpium borneensis Jülich *in* J. Linn. Soc. (Bot.) 81: 45. 1980 (basionym).

Sporophores poroid, resupinate, forming irregular adnate patches to 6 cm diam., with abrupt margin, which is poroid to the extreme edge. Pores 1–2 mm diam., inclined to be slightly smaller toward the margin, conspicuously angular or hexagonoid, buff to greyish buff or brownish buff, to 4 mm deep, with numerous hyphal pegs up to 150 µm long, projecting from the walls of the dissepiments, and fringing densely the pore mouths. Context exceedingly thin, almost nil. Hyphal structure dimitic. Generative hyphae, 2–4 µm wide, thin-walled, hyaline, branched with clamp-connections, which are sparse and very difficult to demonstrate. Skeletal hyphae, 2.0–5.5 µm, thick-walled, hyaline or yellowish, unbranched, with a broad to narrow lumen often enlarged to 8.5 µm at the clavate ending. Hyphal pegs comprising fascicles of heavily encrusted skeletal hyphae with thick walls, which thin out toward the slightly enlarged clavate apex, and which may be secondarily septate; these hyphae range from 2 µm wide near the base, to 4.0–8.5 µm wide at the apex. Basidia 16–20 × 8–9 µm, thin-walled, hyaline, at first more or less strongly clavate, becoming cruciately septate in the apical portion resulting in the differentiation of a broad, well defined stalk cell with a clamp at its base. Cystidia present and sometimes abundant in the hymenium as thin-walled, hyaline, fusoid or utriform bodies, 20.0–35.0 × 4.0–6.5 µm; occasionally these organs may develop an acute side branch, or may divide apically resulting in a structure resembling a dacrymycetaceous basidium. Spores not seen.

Specimens in K.—QUEENSLAND: Kuranda, *G. Podenzana 54, 55*, March 1892.

Also studied.—BORNEO: Sarawak, Gunong Mulu National Park, Camp 2, c. 500 m alt., *W. Jülich 78-2902*, 22 March 1978 (holotype of *E. borneensis*, L).

The Podenzana specimen from Queensland matches closely the holotype of *E. borneensis*, a description of which follows.—

Sporophore incomplete, in excess of 5 cm in length, 2.5 cm in width, resupinate, entirely adnate to the extreme margin. Pores angular, 1–2 mm in diam., buffy brown, darker in places, extending to the very margin and there somewhat smaller; dissepiments bearing long pointed bristle-like hyphal pegs as do the pore mouths. Hyphal structure dimitic, as in the Queensland material. Hyphal pegs to 150 µm long, comprising thick-walled encrusted skeletal hyphae. Basidia: hypobasidia thin-walled, hyaline, clavate, sometimes with a slight subterminal constriction, 21.0–26.0 × 6.5–8.75 µm, becoming cruciately septate and 4-partite in the apical portion, resulting in the formation of a broad, well defined stalk cell. Mature basidia 17.0–18.0 × 8.75–10.0 µm. Cystidia or paraphyses some elongated, thin-walled, hyaline, vermiform elements in the hymenium to 50 µm long, with somewhat enlarged base 3–5 µm wide, narrowing to 2 µm wide at the apex. Similar elements in the Podenzana collections as well as in various collections of *E. cladophora*. Spores pyriform 8–10 × 5–6 µm (fide Jülich, 1980); 6.5–8.5(–11.0) × 4.0–5.75(–8.0) µm, thin-walled, hyaline, mostly elliptic to pip-shaped.

While trying to name these collections from Queensland with the keys and synopses to species of *Elmerina* Bres. (= *Aporpium* Bond. & Sing.) published by Ryvarden & Johansen (1980), Setliff & Ryvarden (1982), it became clear that *E. borneensis* and *E. cladophora* were very closely related and that apart from the resupinate versus the pileate habit there was little to separate them. The occurrence of both taxa at Kuranda, Queensland also makes one wonder if they are merely different expressions of the same species; the microscopic features including

spore size of the two fungi are much the same viz: 8–11 × 4–6 µm for *E. cladophora* and 8–10 × 5–6 µm for *A. borneensis* (fide Jülich, 1980).

Having established the heterobasidiomycetous nature of *Elmerina* Bres. it is necessary to consider its relationships with *Aporpium* Bond. & Sing. Certainly the resupinate habit is of no taxonomic value in trying to maintain the two genera, for *A. africanum* Ryv. can be resupinate or effuso-reflexed, while *A. borneensis* is microscopically so similar to *E. cladophora* as to make one wonder if they are perhaps just variations in growth form of a single species, since spore characters and basidial morphology are virtually indistinguishable in these two taxa.

Basidial morphology and development is also very similar for both genera. In *Elmerina*, the type species *E. cladophora* has cylindric to elongate-clavate hypobasidia with cruciate septation restricted to the apical portion, resulting in the formation of a prominent stalk cell with a clamp-connection at its base. In the type species of *Aporpium–A. caryae*, the hypobasidium is 'ovate to pyriform, cruciate-septate, ..., with a basal cell cut off by the septation of the basidium and with a clamp-connection at the base of this cell', according to Macrae (1955). This account suggests that the type of basidial development in *Aporpium* is very similar to that of *Elmerina*. The only differences seem to be that in *A. caryae* (1) the hypobasidium is ovate to pyriform, while in *E. cladophora* it is cylindric to elongate-clavate and (2) the stalk cell in *A. caryae* of necessity owing to the shape of the hypobasidium, is much

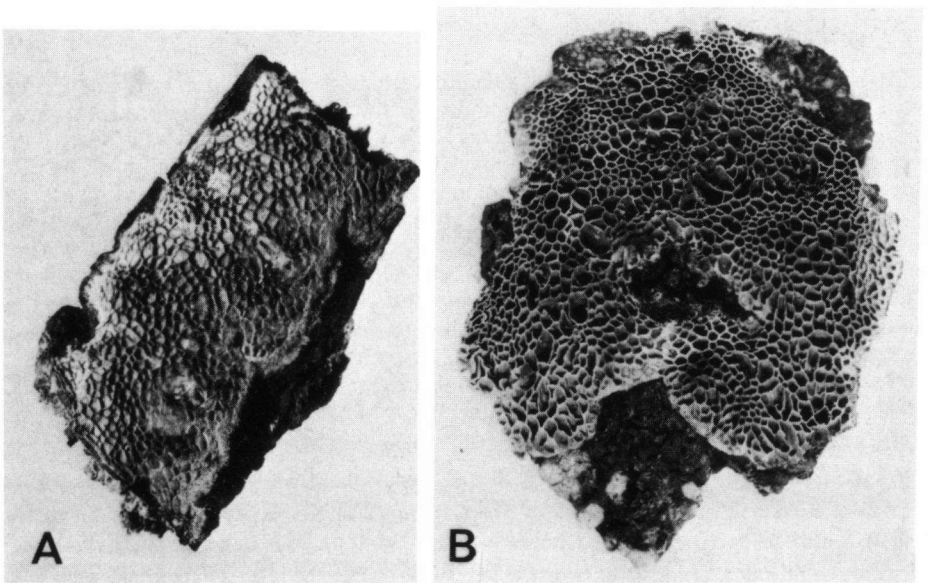

Fig. 2A, B. *Elmerina borneensis*, sporophores (A, holotype; B, *Podenzana 54*).

shorter than in *E. cladophora*. So it would seem that *Aporpium* Bond. & Sing. should be relegated to synonymy under *Elmerina* Bres. The only other author who has commented on a possible relationship between these two genera is Corner (1989) whose observations were in a sense prophetic.

Corner (l.c.) wrote 'Sterile specimens of *Elmerina* seem indistinguishable from *Aporpium*. The resemblance is astonishing, not only in the wide pores tending to become daedaleoid, but in the dimitic construction and hyphal pegs which are abundant in *A. hexagonoides*. The immature basidia of this species are clavate and, so far as I have been able to make out, merely furrowed longitudinally near the apex at maturity as I have figured for *Tremellodendropsis* (Corner, Monogr. *Clavaria*, 1950, 193, under *Aphelaria*)'. He added that he had not seen fur-rowed basidia in *E. cladophora*. Finally he indicated that he thought 'the basidia of *Elmerina* need further study because it is difficult to believe that two daedaleoid polypores, so similar in most respects, should be the outcome of two independent classes of basidiomycete.'

In relegating *Aporpium* to synonym under *Elmerina* a number of new combinations become necessary. These are proposed below, and at the same time the opportunity has been taken to provide brief descriptions of the other species of the genus.—

SYNONYMY AND ACCEPTED SPECIES OF ELMERINA

Elmerina africana (Ryv.) Reid, *comb. nov.*

Aporpium africanum Ryv. *in* Norw. J. Bot. 22: 25. 1975 (basionym).

Sporophores resupinate to effuso-reflexed, forming small narrow pilei to 4 cm diam., and to 1 cm radius, the surface uniformly pale brown and slightly tomentose. Pores angular, 1–2 per mm, pale brown; tubes to 5 mm deep. Flesh to 1 mm thick, white, felty, soft. Basidia ovate to obpyriform to 15 µm wide resembling those of *E. caryae*. Spores broadly ellipsoid to ovoid, 6.0–8.0 × 3.5–5.0 µm.

Distribution.—Known only from East Africa where it is the commonest member of the genus.

Elmerina berkeleyi (Sacc. & Cub.) Humphrey

See *E. cladophora*.

Elmerina borneensis (Jülich) Reid

See above.

Elmerina caryae (Schw.) Reid, *comb. nov.*

Polyporus caryae Schw. *in* Trans. Am. phil. Soc. II, 4: 159. 1832 (basionym).
Poria caryae (Schw.) Cooke *in* Grevillea 7: 1. 1878.
Aporpium caryae (Schw.) Teix. & Rog. *in* Mycologia 47: 410. 1955.

Sporophores resupinate. Pores (1–)2–4 per mm (Macrae, 1955; McNabb, 1964; Ryvarden & Johansen, 1980; Setliff & Ryvarden, 1982), 4–6 per mm (Teixeira & Rogers, 1955)

white to light brown. Basidia 7.5–10.0 × 4.5–7.0 µm (15 × 8 µm, Ryvarden & Johansen, l.c.; Setliff & Ryvarden, l.c.), ovate to obpyriform, cruciate septation involving most of the hypobasidium; basal cell very short, sometimes seemingly absent (see Teixeira & Rogers, l.c.). Spores allantoid, 4.5–7.5 × 2.0–3.0 µm.

Distribution.—Almost cosmopolitan. A detailed account of New Zealand material has been provided by McNabb (1964).

Elmerina caryae forma **macropora** (Kom.) Reid, *comb. nov.*

Tyromyces resinascens (Rom.) Bond. & Sing. f. *macroporus* Kom. *in* Not. syst. Sect. crypt. Inst. bot. Acad. Sci. USSR 12: 255. 1959 (basionym).

Aporpium caryae f. *macroporum* (Kom.) Kom., A key to the Polyporaceae of Byelorussia (transl.): 68. 1964.

Differs from the type form in larger pores measuring 0.25–1.0(–1.2) mm in width.

Elmerina cladophora (Berk.) Bres.

See above.

Elmerina dimidiata (David) Reid, *comb. nov.*

Aporpium dimidiatum David *in* Bull. trimest. Soc. mycol. Fr. 90: 179. 1974 (basionym).

Sporophores pileate. Pilei small, dimidiate, to 2 cm radius, imbricate, hard, rigid, with upper surface whitish and slightly tomentose toward the margin, elsewhere glabrous and pale ochraceous or slightly orangey, but darker with red-brown tints at the base. Pore surface greyish white, bruising brown. Pores 6–8 per mm. Basidia ovoid to obpyriform or clavate, 7–12 × 5–8 µm. Spores 5.0–6.0 × 3.3–5.0 µm (fide Setliff & Ryvarden, 1982); 5.0–5.5 × 3.0–3.5 µm (fide David, 1974), oblong ellipsoid, more or less depressed.

Distribution.—Guadeloupe (French West Indies). A collection very similar to *E. dimidiata* has also been collected in Singapore (David & Jaquenoud, 1976; Setliff & Ryvarden, 1982).

Setliff & Ryvarden (l.c.) comment on the strong similarity of the holotype to such true polypores as *Fomitopsis supina* (Fr.) Ryv. and *Trametes cubensis* (Mont.) Sacc. and they discuss the possibility that *E. dimidiata* is not a heterobasidiomycete but a true polypore parasitized by a *Tremella* or a *Basidiodendron*.

Elmerina foliacea Pat.

See under *E. holophaea* (Pat.) Parm.

Elmerina holophaea (Pat.) Parm.—Fig. 1H, I

Lentinus holophaeus Pat. *in* Bull. trimest. Soc. mycol. Fr. 23: 76. 1907.
Elmerina holophaea (Pat.) Parm. *in* Nova Hedw. 39: 107. 1984.
Elmerina foliacea Pat. *in* Philipp. J. Sci., Bot. 10: 93. 1915.

Sporophores pileate, solitary or imbricate, dimidiate to flabellate, sessile, rarely with short, lateral stipe to 1.5 cm long, 1 cm wide. Pileus (2.5–)4–10 × (2.5–)5–18 cm, 2–4 cm thick, cottony fleshy, drying rigid, upper surface indistinctly zonate, with thick villose cover of tufted hairs, 2–3 mm long, more dense and longer at base of pileus, near margin almost radially arranged, in dry condition strigose and rough, buff or cinnamon-ochraceous. Context rosy-buff, upper portion almost spongy. Hymenophore lamellate; lamellae sometimes anastomosing, sometimes almost daedaleoid toward base of fruit-body, 5–6 per cm at pileal margin, light buff to whitish. Hyphal structure incompletely dimitic (pseudodimitic). Skeletal hyphae with slightly thickened or thick walls, 3–6.5 µm diam. Generative hyphae few, thin-walled, sparingly branched with rare clamps, 3–5 µm diam. Some skeletals terminate in the lamellar edge as cystidioid elements with bluntly narrowed tips. Hyphal pegs usually numerous, to 180 µm long, 15–55 µm wide of parallel agglutinated hyphae. Basidia broadly clavate, 30–38 × 9–12 µm. Spores (9.5–)10.0–13.5(–14.0) × 5.5–8.0(–8.3) µm (measured from a spore print), ellipsoid or elongate-obovate, with one side slightly flattened, and with a large apiculus.

Hosts.—*Betula costata, Populus, Quercus mongolica* a.o.

Distribution.—Far Eastern Russia (Manchurian Province of the Eastern Asiatic Holarctis), Vietnam, and Philippines. It should be noted that Parmasto's material of *E. holophaea* from Far Eastern Russia: Bolschechechtshirski apud urben Chabarovsk, Kljutsh Levyi, *E. Parmasto 102279*, 1 Sept. 1979, has heterobasidiomycetous basidia.

Elmerina unguliformis Corner *in* Beih. Nova Hedw. 96: 30. 1989.

Sporophores sessile, ungulate subconchate, dependent. Pileus to 1.5 cm radius, inoderm, subrugulose, fawn-brown with white margin. Lamellae to 1.5 cm deep, poroid, anastomosing, then shortly lamellate, distant, at intervals of 1–2 mm near the margin, pale wood brown with white edge, drying blackish brown. Context 0.5 mm thick, almost wholly trabecular, coriaceous, brownish, drying blackish brown and cartilaginous. Hyphal structure in flesh predominantly monomitic; generative hyphae, 1–3 µm wide, clamped; in dissepiments dimitic with skeletal hyphae 2.5–3.5 µm wide, with walls to 1 µm thick, unbranched. Surface of pileus of adpressed, radiating, subagglutinated, thin-walled hyphae, without fasciculate processes. Cystidia and hyphal pegs none. Basidia 20–28 × 8–10 µm, clavate; sterigmata 4. Spores 9.5–11.0 × 4.0–5.0 µm, smooth, hyaline, subcylindric, thin-walled and neither amyloid nor dextrinoid.

Distribution.—Known only from the holotype material collected in Borneo, Mt. Kinabalu, Mesilau, 1700 m alt., 22 Aug. 1961.

There is no indication that the species has heterobasidiomycete-type basidia and it may well not belong in *Elmerina* Bres.

EXCLUDED SPECIES

Elmerina setulosa (P. Henn.) Bres. *in* Annls mycol. 10: 507. 1912
= *Grammothele setulosa* (P. Henn.) Ryv., in Ryvarden & Johansen, 1980.

Elmerina vespacea (Pers.) Bres. *in* Hedwigia 53: 71. 1912
= *Lenzites vespacea* (Pers.) Ryv., see Ryvarden *in* Norw. J. Bot. 19: 232. 1972.

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