

Type studies in *Polyporaceae* 27. Species described by P. Ch. Hennings

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103 polypores described by P. Ch. Hennings have been examined based on the available types. Nineteen species are accepted, 63 species are reduced to synonymy, the types of 19 species could not be found, while two names are illegitimate. Two new combinations are proposed: *Tyromyces aquosus* (Henn.) Ryvarden and *Diplomitoporus daedaleiformis* (Henn.) Ryvarden. These two species are provided with descriptions, while published recent descriptions are referred to for the other 17 accepted species.

Key words: *Polyporaceae*, types, taxonomy, nomenclature, Berlin herbarium.

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Na základě studia dostupných typů bylo revidováno 103 druhů chorošů popsáných P. Ch. Henningsem. 19 druhů je akceptováno, 63 zařazeno do synonymiky, typy 19 druhů nebyly nalezeny, jména 2 druhů jsou ilegitimní. Jsou publikovány dvě nové kombinace: *Tyromyces aquosus* (Henn.) Ryvarden a *Diplomitoporus daedaleiformis* (Henn.) Ryvarden. Tyto dva druhy jsou podrobně popsány a u 17 dalších akceptovaných druhů jsou připojeny odkazy na již publikované revize.

INTRODUCTION

Paul Christoph Hennings (1841–1908) was a productive mycologist, who described besides other species 109 polypores, mostly from Africa and South America. Some of his types were examined by Bresadola (1916), who noted that a rather high number of them were taxonomic synonyms. One reason for this was that Hennings himself never travelled to the tropics and never visited any of the larger herbaria in Europe such as Leiden, Paris or Kew.

During the Second World War the Berlin herbarium, where Hennings worked from 1880 to 1908, was partly destroyed, and most of his types were lost. However, he had wisely sent many duplicates to some other herbaria, thus many of his types are preserved as isotypes. Hein (1988) compiled a list of all species described by Hennings, including information whether type material is present in the Berlin herbarium (B).

During my work in a number of American and European herbaria several isotypes of Hennings' polypores were discovered and examined. The results are included in the following list.

MATERIAL AND METHODS

The herbaria where type material was examined are abbreviated according to the Index Herbariorum (<http://sciweb.nybg.org/science2/IndexHerbariorum.asp>). The species are arranged alphabetically according to the specific epithet and include the genus in which Hennings described them. The place of publication for each species is given after Hein (1988) as a reference to further details on type locality, collecting date and collector. Finally the country of the type locality is given. Forms and varieties are excluded from the list. The accepted species are indicated in bold with a reference to a recent description.

RESULTS

albo-ater, *Polystictus* 1895: 92, Cameroon (S).

= ***Microporus albo-ater*** (Henn.) Kuntze. For a description, see Ryvarden & Johansen (1980: 434).

alutaceo-villosus, *Polystictus* 1905: 121, Cameroon (K, E).

= *Coriolopsis helvola* (Fr.) Ryvarden

amaniensis, *Poria*, 1905: 38, Tanzania (S).

= *Theleporus calcicolor* (Berk.) Ryvarden

Tyromyces aquosus (Henn.) Ryvarden, **comb. nov.**

(MycoBank MB800291)

Basionym. *Polyporus aquosus* Henn. Hedwigia 43: 199, 1904, São Paulo, Brazil (S).

Basidiocarp annual, pileate, flabelliform to spatulate, appanate to convex, 10–15 cm wide and long, 1.5–2 cm thick when fresh, collapsing to a few mm when dry, soft and sappy when fresh, rigid and brittle when dry, beige to isabelline when fresh, becoming pale reddish brown when dry, glabrous, azonate, smooth, pore surface white becoming discoloured beige to pale brown, pores angular, 2–3 per mm, tubes up to 1 cm deep, fragile when dry, context soft and fibrous, white to pale grey or brown, up to 2 cm thick when fresh, very thin when dried, stipe short and cylindrical, smooth, cream to wood-coloured, 1–2 cm thick and up to 3 cm long.

Hyphal system monomitic; generative hyphae with clamps, thin-walled, 3–12 μm wide and collapsed when dry.

Cystidia or other sterile hymenial elements absent.

Basidia clavate, 4-sterigmate, 10–25 \times 5–9 μm .

Basidiospores oblong, ellipsoid to oval, 8–10(12) \times 3.5–4.5 μm .

Substrata. Dead deciduous wood.

Distribution. Known only from São Paulo in Brazil.

Remarks. The species is recognised by its fairly large pores, stipitate basidiocarps and long spores. The monomitic hyphal system with clamped generative hyphae and spores not reacting in Melzer's reagent seem to indicate that *Tyromyces* is the proper genus for this rare species.

atro-albus, *Fomes* 1900: 144, Indonesia (NY, S).

= *Datronia scutellata* (Schw.) Gilb. & Ryvarden

atrosanguinea, *Hexagonia* 1897: 545, Cameroon (S).

= *Hexagonia glaber* (P. Beauv.) Ryvarden

aurantio-carnescens, *Poria*, 1899: 11, Germany (NY, FH).

= *Ceriporia viridans* (Berk. & Broome) Donk

aureo-marginatus, *Polyporus* 1895: 89, Cameroon.

= *Phellinus gilvus* (Schw.: Fr.) Pat., teste Bresadola (1920: 223).

auriscalpioides, *Fomes* 1904: 82, Brazil (BPI).

= *Amauroderma praetervisum* (Pat.) Torrend

bambusicola, *Polyporus* 1901: 326, India (NY).

= ***Coltricia bambusicola*** (Henn.) D.A. Reid. For a description, see Ryvarden & Johansen (1980: 103).

baumannii, *Polyporus* 1897: 546, Togo (S).

= *Polyporus grammocephalus* Berk.

bipindiensis, *Hexagonia* 1905: 122, Cameroon (S, K).

= *Polyporus cucullatus* Mont., teste Bresadola (1916: 231).

bipindiensis, *Favolus* 1901: 43, Cameroon (S).

= *Polyporus grammocephalus* Berk.

bomfimensis, *Fomes* 1904: 175, Brazil, leg. Ule 2759.

brenningii, *Polyporus* 1897: 201, Columbia (BPI).

= *Fomitopsis nivosa* (Berk.) Gilb. & Ryvarden

buettneri, *Polyporus* 1888: 129, Gabon (S).

= *Porogramme fuligo* (Berk. & Broome) Ryvarden

cachoeirasensis, *Polyporus* 1904: 177, Brazil (S).

= *Amauroderma calcigenum* (Berk.) Torrend

celebicus, *Polystictus* 1900: 12, Indonesia, Celebes, leg. Sarasin. Type not found.

cinero-umbrina, *Poria* 1908: 19, Comoren (S).

= *Perenniporia tephropora* (Mont.) Ryvarden

cinnamomeo-squamosulus, *Polyporus* 1901: 43, Cameroon (K, PC, E).

= ***Echinochaete cinnamomeo-squamulosa*** (Henn.) D.A. Reid. For a description, see Ryvar den & Johansen (1980: 319).

comorensis, *Fomes* 1908: 24, Komoren, 1903. Type not found.

cremeo-tomentosus, *Fomes* 1904: 175, Brazil. 1900 leg. Ule. Type not found.

cryptomeriae, *Polystictus* 1905: 160, Japan (S).

= *Trametes hirsuta* (Fr.) Lloyd

Diplomitoporus daedaleiformis (Henn.) Ryvar den, **comb. nov.**

(Mycobank MB800290)

Basionym. *Poria daedaleiformis* Henn., Bot. Jahrb. Syst. 28: 321, 1900.

Tanzania, Usambara, June 1893, leg. Holst (S).

Basidiocarps annual, resupinate, up to 1 mm thick and about 0.5 cm long and 0.3 cm wide, separable, margin almost absent, white to pale yellowish brown; pore surface cream-coloured, pores angular, 3–5 per mm, in parts slightly irregular and elongated, tubes concolorous with pore surface, subiculum thin and white.

Hyphal system dimitic; generative hyphae with clamps, thin-walled, hyaline, 2–4 µm in diam.; skeletal hyphae predominant, solid to thick-walled, hyaline, negative in Melzer's reagent, 2–5 µm in diam.

Cystidia not observed.

Dendrohyphidia present among the basidia, apically with 2–6 small protuberances, hyaline, up to 28 µm long and with a clamp at the base.

Basidia 15–25 × 4–6 µm, clavate, 4-sterigmate and with a basal clamp.

Basidiospores 5–7(8) × 2.5–3.5 µm, cylindrical to fusiform, smooth, hyaline, negative in Melzer's reagent.

Substrata. Not indicated, but presumably on dead hardwood.

Distribution. Known only from the type locality.

Remarks. The species should be rather easy to recognise because of the dimitic hyphal system, the dendrohyphidia and the cylindrical to fusiform basidiospores. More collections are desirable since the small type hardly covers the natural variation of the species.

dahlianus, *Polystictus* 1898: 77, New Guinea.

= *Trametes menziesii* (Berk.) Ryvar den, teste Bresadola (1916: 224).

dahlii, *Fomes* 1898: 76, New Guinea, tiny fragment in BPI.

= *Ganoderma chalceum* (Cooke) Steyaert

delicatula, *Poria*, 1904: 44, Tanzania (S).

= ***Dichomitus delicatulus*** (Henn.) Masuka & Ryvar den. For a description see Masuka & Ryvar den (1999: 1129).

dielsii, *Polyporus* 1903: 75, Australia (S, BPI).

- = *Piptoporus portentosus* (Berk.) G. Cunn., teste Cunningham (1965: 106).
dusenii, *Poria*, 1895: 88, Cameroon (S).
- = *Trichaptum byssogenum* (Jungh.) Ryvarden
eichelbaumii, *Polyporus* 1905: 109, Tanzania (S).
- = *Pachykytospora papyracea* (Schw.) Ryvarden
eichelbaumii, *Poria*, 1905: 109, Tanzania, Amani, leg. Eichelbaum 73a. Type not found.
- ekunduensis*, *Polystictus* 1895: 91, Cameroon (S).
- = ***Coriolopsis ekunduensis*** (Henn.) A. David & Rajchenb. For a description see David & Rajchenberg (1992: 142).
- ellisiana*, *Trametes* 1895: 92, Sierra Leone (S, NY).
- = *Coriolopsis telfairii* (Klotzsch) Ryvarden
emini, *Fomes* 1893: 24, Tanzania (S).
- = ***Humphreya eminii*** (Henn.) Ryvarden. For a description, see Ryvarden & Johansen (1980: 95).
- favolooides*, *Polyporus* 1897: 546, Cameroon (PC).
- = *Polyporus arcularius* Fr.
- ferrugineo-velutina*, *Poria*, 1905: 59, Brazil (FH).
- = *Phellinus detonsus* (Fr.) Ryvarden
- fischeri*, *Polystictus* 1897: 546, Tanzania (S).
- = *Datronia caperata* (Berk.) Ryvarden
- flabellato-lobatus*, *Polyporus* 1898: 500, New Guinea (PC).
- = *Trametes menziesii* (Berk.) Ryvarden
- gilvoides*, *Polyporus* 1897: 201, Brazil (BPI).
- = *Inotus pseudoradiatus* (Pat.) Ryvarden
- glaziovii*, *Polyporus* 1892: 15, Brazil (B, S, K).
- = *Laetiporus persicinus* (Berk. & M.A. Curtis) Gilb.
- goetzei*, *Polyporus* 1901: 255, Tanzania (S).
- = ***Lignosus goetzii*** (Henn.) Ryvarden. For a description, see Ryvarden & Johansen (1980: 407).
- gogolensis*, *Polyporus* 1894: 27, New Guinea. Type not found.
- gollanii*, *Polystictus* 1901: 327, India, Siwalak Range, leg. Gollan no. 187. Type not found.
- guaitecasensis*, *Polyporus* 1900: 319, Chile, Patagonia, leg. Dusen 68.
- = ***Bondarzewia guaitecasensis*** (Henn.) J.E. Wright. For a description, see Rajchenberg (2006: 104).
- haeuslerianus*, *Fomes* 1896: 305, New Zealand, Auckland. Type not found. Based on the description, Cunningham (1965: 271) suggested that it could be *Ganoderma australe* (Fr.) Pat.
- hildebrandtii***, ***Ganoderma*** 1889: 69, Comoren Island, Seychelles (S). See Moncalvo & Ryvarden (1995: 176) for a description.

- holstii*, *Polystictus* 1895: 57, Tanzania (B).
= *Microporus incomptus* (Afzel. ex Fr.) Kuntze
- humphreyi*, *Polyporus* 1898: 280, Jamaica (NY).
= *Polyporus tricholoma* Mont.
- ikenoi*, *Polystictus* 1902: 737, Japan, leg. Ikeno 96 (BPI).
= *Trichaptum biforme* (Fr.) Ryvar den
- illicicola*, *Polyporus* 1902: 39, Japan (K).
= *Phellinus gilvus* (Schw.: Fr.) Pat.
- introstuppeus*, *Fomes* 1892: 343.
= nomen illeg., non *Fomes introstuppeus* (Berk. & Cooke) Saccardo 1888.
- irpicoides*, *Daedalea* 1898: 501, New Guinea, leg. Kärnbach 96. Type not found.
- jamaicensis*, *Polystictus* 1898: 280, Jamaica (S, NY).
= *Trametes villosa* (Fr.) Kreisel
- jamaicensis*, *Daedalea* 1898: 281, Jamaica.
= *Gloeophyllum mexicanum* (Mont.) Ryvar den, teste Bresadola (1920: 230).
- janseanus*, *Polyporus* 1900: 11, Indonesia, leg. Nyman Java 1898. Type not found.
- lamellosa*, *Poria*, 1902: 35, Tanzania (S).
= ***Gloiothele lamellosa*** (Henn.) Bres. For a description, see Boidin & Gilles (2000: 370).
- lauterbachii*, *Fomes* 1898: 499, New Guinea (S).
= *Polyporus grammacephalus* Berk.
- lauterbachii*, *Favolus* 1894: 32, New Guinea, leg. Lauterbach, 1084, 1060, 1172.
Type not found.
- madagascariensis*, *Lenzites* 1893: 30, Madagascar, leg. Braun 1891. Type not found.
- marmellosensis*, *Polyporus* 1904: 178, Brazil.
= *Amauroderma calcigenum* teste Bresadola (1916: 225).
- minutulus*, *Fomes* 1895: 88, New Guinea (S, FH).
= *Perenniporia inflexibilis* (Berk.) Ryvar den
- munsae*, *Polystictus* 1898: 285, C. Africa (S).
= *Hexagonia glabra* (P. Beauv.) Ryvar den
- musashiensis*, *Fomes* 1902: 737, Japan, leg. Ikeno 91 (B).
= *Pyrrhoderma adamantinum* (Berk.) Imazeki
- niam-niamensis*, *Hexagonia*** 1891: 348, Sudan/Tschad, leg. Schweinfurth (S).
For a description, see Ryvar den & Johansen (1980: 372).
- novo-guineensis*, *Favolus* 1892: 7, New Guinea (S).
= *Polyporus grammacephalus* Berk.
- novo-guineensis*, *Polyporus* 1889: 6, New Guinea (K).
= ***Diacanthodes novo-guineensis*** (Henn.) O. Fidalgo. For a description, see Ryvar den & Johansen (1980: 309).
- ochrocroceus*, *Polyporus* 1900: 145, Indonesia.

- = *Piloporia albomarginata* (Zipp. ex Lév.) Núñez, teste Bresadola (1916: 226).
oleicola, *Fomes* 1891: 343, Ethiopia (B).
 = *Phellinus rimosus* (Berk.) Pilát
paulensis, *Fomes* 1904: 202, Brazil.
 = *Amauroderma angustum* (Berk.) Torrend, teste Bresadola (1916: 228).
preussii, *Ganoderma* 1891: 342, Cameroon (S).
 = ***Amauroderma preussii*** (Henn.) Steyaert. For a description, see
 Ryvarden & Johansen (1980: 80).
preussii, *Favolus* 1897: 545, Cameroon, leg. Preuss. Type not found.
pseudoconchatus, *Fomes* 1908: 23, Comoren Islands, 1903. Type not found.
pseudosinuosa, *Poria* 1908: 20, Madagascar, 1904. Type not found.

puttemansii*, *Polyporus 1904: 200, São Paulo, Brazil, leg. A. Puttemanns,
 1903 (K). *Hedwigia* 43: 200, 1904. Accepted in the genus.

Basidiocarps annual, centrally to laterally stipitate; pileus infundibuliform, seldom spathulate, up to 10 cm in diam. and 2–5 mm thick, upper surface finely velutinous under a lens, but becoming glabrous, ochraceous to beige, pore surface beige, pores circular to angular, 1–2 per mm, elongated towards the stipe and there up to 1.5 cm long, but not decurrent; stipe up to 3 cm long, 4–10 mm thick, finely velutinous, dark brown to dark chestnut, tubes and context pale ochraceous and 2 mm thick.

Hyphal system dimitic; generative hyphae clamped, 3–6.5 µm wide, forming a cutis in the stipe and pilear surfaces; skeletal binding hyphae with abundant branching, 2–6 µm wide.

Basidia 20–25 × 6–10 µm.

Basidiospores cylindrical, hyaline, 8–10 × 3–4 µm.

Substrata. On dead hardwoods.

Distribution. Besides the type locality in Brazil also reported from the French Antilles (David & Rajchenberg 1992: 308).

Remarks. Undoubtedly, this species is related to *P. virgatus*, but is separated by a paler pileus, larger pores and narrower spores.

radiato-scruposus, *Polystictus* 1905: 59, Brazil, leg. Ule 2799 (S).

= *Amauroderma sprucei* (Pat.) Torrend

raduloides, *Polyporus* 1893: 25, Tanzania (S).

= ***Tyromyces raduloides*** (Henn.) Ryvarden. For a description, see
 Ryvarden & Johansen (1980: 612).

rhizomatophorus, *Fomes* 1893: 202, Brazil, Glaziou. Type not found.

rufo-cinerascens, *Polystictus* 1898: 501, New Guinea, leg. Kärnbach 1893.

= *Earliella scabrosa* (Pers.) Gilb. & Ryvarden, teste Bresadola (1916: 227).

- saharanpurensis*, *Polyporus* 1901: 325, India, leg. Gollan 175. Type not found.
- schweinfurthianus*, *Polyporus* 1898: 285, Central-Africa, leg. Schweinfurth.
= *Boletus* sp. Teste Bresadola (1916: 227).
- setulosa*, *Poria*, 1900: 321, Tanzania (S).
= ***Dichomitus setulosus*** (Henn.) Masuka & Ryvardeen. For a description, see Ryvardeen & Johansen (1980: 45).
- squamulosus*, *Polyporus* 1895: 57, Tanzania, leg Holst. Type not found.
- stuhlmannii*, *Hexagonia* 1893: 29, Tanzania (S).
= *Hexagonia pobeguinii* Har.
- styracicola*, *Trametes* 1902: 40, Japan, leg. Fukubara 49, on *Styrax*, 1900.
= *Trametes versicolor* (L.: Fr.) Pilát
- styracina*, *Daedalea* 1900: 269, Japan (BPI).
= ***Daedaleopsis styracina*** (Henn. & Shirai) Imazeki. For a description, see Núñez & Ryvardeen (2000–01: 269).
- subamboinensis*, *Fomes* 1904: 175, Brazil (BPI, FH).
= *Ganoderma multiplicatum* (Mont.) Pat.
- subbulbipes*, *Polystictus* 1904: 201, Brazil, leg. Hammer 956 (BPI).
= *Amauroderma sprucei* (Berk.) Torrend
- subflamellum*, *Polystictus* 1895: 91, Cameroon, leg. Dusen 57. Type not found.
- subobliqua*, *Poria* 1905: 108, Tanzania, leg. Eichelbaum no. 20 (S).
The type consists of tiny pieces of a resupinate, sterile, strongly contaminated, blackish polypore. The name should be excluded from further consideration.
- subpictilis*, *Polystictus* 1898: 500, New Guinea.
= *Corioloopsis sanguinaria* (Jungh.) Teng, teste Bresadola (1916: 227).
- subporiformis*, *Polystictus* 1905: 121, Cameroon, Zenker 2000a (S).
= *Datronia brunneoleuca* (Berk.) Ryvardeen
- sycomori*, *Trametes* 1891: 347, Yemen (B, FH).
= *Corioloopsis polyzona* (Pers.) Ryvardeen
- tomohoniensis*, *Polyporus* 1900: 11, Indonesia (S).
= *Polyporus philippinensis* Berk.
- tsugicola*, *Hydnum* 1900: 268, Japan (S).
= ***Echinodontium tsugicola*** (Henn. & Shirai) Imazeki. For a description, see Núñez & Ryvardeen 2000–01: 287.
- turbo*, *Polystictus* 1908: 22, Madagascar, 1904. Type not found.
- usambarensis*, *Poria* 1905: 108, Tanzania (S).
= *Phellinus ferruginosus* (Schrad.: Fr.) Pat.
- vaporarius*, *Polyporus* 1899: 126, Germany.
= nomen illegit., non *Polyporus vaporarius* (Pers.) Fr. 1818.
- versicolor*, *Fomes* 1903: 75, Australia (B, S).
= *Phellinus rimosus* (Berk.) Pilát
- vibecinoides*, *Polyporus* 1897: 546, Tanzania (S).

- = *Polyporus tenuiculus* (P. Beauv.) Fr.
voeltzkowii, *Poria* 1908: 19, Madagascar (K).
- = *Perenniporia* sp. The type is sterile and its identity cannot be determined before a fertile specimen is collected.
- warburgianus*, *Fomes* 1900: 10, Indonesia, leg. Sarasin (S).
- = *Whitfordia scopulosa* (Berk.) Núñez & Ryvarden
- zenkeri*, *Polystictus* 1901: 42, Cameroon (S).
- = *Polyporus tenuiculus* (P. Beauv.) Fr.

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REFERENCES

- BOIDIN J., GILLES G. (2000): Basidiomycètes Aphyllophorales de l'île de la Réunion. XXI – suite. – *Mycotaxon* 75: 357–387.
- BRESADOLA G. (1916): Synonymia et adnotanda mycologica. – *Ann. Mycol.* 14: 221–242.
- BRESADOLA G. (1920): Selecta mycologica. – *Ann. Mycol.* 18: 26–70.
- CUNNINGHAM G.H. (1965): *Polyporaceae* of New Zealand. – *Dep. Sci. Indust. Research Bull.* 164: 1–304.
- DAVID A., RAJCHENBERG M. (1992): West African polypores: New species and combinations. – *Mycotaxon* 45: 131–148.
- HEIN B. (1988): Liste über Arten und infraspezifischen Taxa von *P. Hennings*. – *Englera* 10: 1–374.
- MASUKA A., RYVARDEN L. (1999): *Dichomitus* in Africa. – *Mycol. Research* 103: 1126–1130.
- MONCALVO J.M., RYVARDEN L. (1995): *Ganoderma hildebrandii*, a forgotten species. – *Mycotaxon* 56: 175–180.
- NÚÑEZ M., RYVARDEN L. (2000–01): East Asian Polypores. – *Synopsis Fung.* 13 & 14: 1–522.
- RAJCHENBERG M. (2006): Los poliporos (Basidiomycetes) de los Bosques Andino Patagonica de Argentina. – *Bibl. Mycol.* 201: 1–300.
- RYVARDEN L., JOHANSEN I. (1980): A preliminary polypore flora of East Africa. – 636 p. Oslo.