Synopsis Fungorum 26

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Editors address:
L. Ryvarden, Dept. of Biology, Univ. of Oslo
P.O. Box 1066, Blindern, N-0316 Oslo, Norway
leif.ryvarden@bio.uio.no
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Nomenclaturial novelties proposed in this volume:

New combinations on generic level:

New Species:

New combinations

Tropical distribution of species of Mycoaciella (Basidiomycotina)

Kurt Hjortstam
Målaregatan 12, SE-441 35 Alingsås, Sweden
and
Leif Ryvarden
Department of Botany, University of Oslo, P.O. Box 1066,
Blindern, NO-0316 Oslo, Norway

Abstract
A new combination *Mycoaciella dusenii* is proposed for *Hydnum dusenii* Henn., a species described from Cameroon. Distribution data is given for the species as well as a key is to the genus.

Mycoaciella badia (Pat.) Hjortstam & Ryvarden, Synopsis Fungorum 18:15, 2004.
Odontia badia Pat., J. Bot. (Morot) 11:342, 1897.
Phlebia badia (Pat.) Nakasone, Mycotaxon 81:478, 2002.

This species was erroneously reported from Brazil and Malawi by Hjortstam and Ryvarden (2004 and 2007). Following Nakasone (2002) the known distribution is Costa Rica, Iran, and USA (Florida). It is not known from any collected specimen by Ryvarden in South America and adjacent area.
According to Nakasone (loc.cit.) the species should be dimitic and is presumably the only difference from *Hydnum dusenii* Henn. It should, however be noted that the type of *Odontia badia* is rather poor and overgrown with hyphomycetous fungi and mature basidia were not observed (Nakasone loc.cit.).

Mycoaciella bispora (Stalpers) J. Erikss. & Ryvarden, Corticiaceae North Eur. 5:902, 1978.

Resinicium bisporum Stalpers, Persoonia 9:145, 1976.
Phlebia bispora (Stalpers) Nakasone, Mycotaxon 81:481, 2002.
Mycoacia bispora (Stalpers) Spirin & Zmitr., Nov. Syst. Plant. non Vasc., Acad. Scient. Rossica 37:183, 2004.
This species was originally described from France and so far not known from Neotropic or Palaeotropic areas. For further details about the distribution see Nakasone (2002).

Mycoaciella brunnea (Jülich) Hjortstam & Spooner, Kew Bull. 45:309, 1990.
Ceraceohydnum brunneum Jülich, Persoonia 10: 138, 1978.
Known from the type locality only (New Guinea). For further information, see Hjortstam, Spooner and Oldridge (1990).

Mycoaciella dusenii (Henn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Hydnum dusenii* Henn., Bot. Jahrb. Syst. 22:87, 1895.

Basidiome resupinate. Hymenophore hydnoid, ochraceous to brown. Subiculum thin, concolorous with the aculei or somewhat paler, usually cracking. Aculei conical, generally smooth, (0.75-)1-2.5 µm long, or even longer when growing vertically on the substratum, pale to often fairly dark brown. Hyphal system monomitic; all hyphae lacking clamp connections, aculeal hyphae in a dense tissue, hyaline, pale yellowish to pale brown, 2.5-3.5(-4) µm wide, strongly dextrinioid, at least in the upper part of the aculei. Cystidia often numerous, with a resinous cap, yellowish in KOH or turning yellowish brown, about 15-20 µm long with the cap of approximately (5-) 6-10 (-15) µm wide. Basidia 12-17(-20) x 4-5 µm with four sterigmata, without a basal clamp connection. Spores hyaline, ellipsoid, thin-walled, smooth, variable (4.5-)5(-6) x 2-2.25(-2.5) µm, inamyloid, indextrinoid and acyanophilous.

The species is fairly easy to recognize by the brownish basidiome with aculei normally 1-2.5 mm long, lacking clamp connections on hyphae and relatively short cystidia with resinous encrustation or cap.
Specimens examined: Cameroon (Kamerun), Febr. 1891, P. Dusen No. 92. Type specimen of *Hydnum dusenii* Henn. (S); Kenya, Western Prov., Kakamega Forest, ESE of Kakamega, alt. c. 1500 m, 25-27.I.1973, L. Ryvarden 9418 (det Hjortstam 1979 as *Hydnum dusenii*); Malawi, Southern Prov., Thyolo distr., Thyolo Mt. alt. 1100-1400 m, 13.III.1973, L. Ryvarden 11211; Brazil, São Paulo, Santos, Cananeia, Ilha do Cardoso, on wood, 2-5.II.1987, D, Pegler, K. Hjortstam and L. Ryvarden, Hjm 16759 (possibly also in Kew under the name *Mycoaciella flavomarginata* Hjortstam ined); São Paulo, Parque Estados das Fontes do

Ipiranga, on branches of deciduous wood, 16-24.I.1987, D. Pegler, K. Hjortstam and L. Ryvarden, L. Ryvarden 24315; Venezuela, Bolivar, Las Nieves, on dead hardwood, 12.VI.1995, L. Ryvarden 37729.

Mycoaciella hinnulea (Bres.) Hjortstam & Ryvarden, Mycotaxon 10:281, 1980.
Odontia hinnulea Bres., Annls mycol. (Berlin) 18:42, 1920.
Phlebia hinnulea (Bres.) Nakasone, Mycotaxon 81:484, 2002.
Distribution. Brazil (type locality), Ecuador, Venezuela, and Domenican Republic.

Key to the species

1. Clamp connections present, with or without cystidia 2
1. Clamp connections absent, cystidia present 4
2. Cystidia absent, but now and then with short irregular hyphal ends ..... **M. brunnea**
2. Cystidia present 3
3. Spores 4-5.5(-6) x 2.5-3 µm..... **M. bispora**
3. Spores 6-7 x 3-3.5 µm ..... **M. hinnulea**
4. Hyphal system dimitic ..... **M. badia**
4. Hyphal system monomitic ..... **M. dusenii**

References

Hjortstam, K. and Ryvarden, L. 2004. Tropical species of *Mycoaciella* (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 18:14-16.
Hjortstam, K. and Ryvarden, L. 2007. Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics, and the southern hemisphere. Synopsis Fungorum 22:27-146.
Hjortstam, K., Spooner, B. M. & Oldridge, S. G. 1990. Some Aphyllophorales and Heterobasidiomycetes from Sabah, Malaysia. Kew Bull. 45:303-322.
Nakasone, K. K. 2002. *Mycoaciella*, a synonym of *Phlebia*. Mycotaxon 81:477-490
Nakasone, K. K. 2003. Type studies of resupinate hydnaceous Hymenomycetes described by Patouillard. Cryptog. Mycol. 24:131-145.

A preliminary checklist of Aphyllophorales from the Seychelles

Kurt Hjortstam
Målaregatan 12, SE-441 35 Alingsås, Sweden
and
Leif Ryvarden
Department of Botany, University of Oslo, P.O. Box 1066,
Blindern, NO-0316 Oslo, Norway

Abstract
55 species of Aphyllophorales are reported from the Seychelles. *Diplomitoporus insularis* Ryvarden is described as new and the following new combinations are proposed : *Hydnophlebia omnivora* (Shear) Hjortstam & Ryvarden comb. nov. and *Peniophorella torquata* (G. Cunn.) Hjortstam & Ryvarden comb. nov.

Introduction
The Aphyllophorales of the Seychelles islands are not so well known, and the first written account on the fungi from the islands came as late as 2004 (Watling & Seaward 2004). The following preliminary checklist is based on this publication, the collections one of us (LR) made on 1-4. March 1995 on Mount Blanc, Mahe Island and the specimens recorded from the islands in the Kew Herbarium (see acknowledgements).
The specimens collected by Ryvarden were all from the locality given above , thus this information is not repeated in the following. They are indicated with a collection number starting with 35 and are deposited in The Herbarium of University of Oslo (O). Those reported by Watling and Seaward are indicated with WS, while those from the Kew herbarium are indicated with (K).

HYMENOCHAETACEAE

Coltricia montagnei (Fr. in Mont.) Murrill
Mycologia 12:13, 1920. - *Polyporus montagnei* Fr. In Mont., Ann. Sci. Nat. Bot. Ser. 2, vol. 1:341, 1836.
The species is widespread in the tropics and north to the warm temperate zone. It is probably ectomycorhizzal in its lifestyle. 35720.

Inonotus sideroides (Lév.) Ryvarden
Synopsis Fung. 21:127, 2005. - *Polyporus sideroides* Lév. Ann. Sci. Nat. Ser 3, no 2:182, 1844.
This is a rare Asian species, originally described from Java in Indonesia. 35768.

Phellinus contiguus (Fr.) Pat.
Essai Taxonomique p. 97, 1900. - *Polyporus contiguus* Fr. Syst. Mycol. 1:378, 1821.
This is a common and pantropical species extending its distribution to Central Europe, but not recorded from Scandinavia.

Phellinus discipes (Berk.) Ryvarden
Kew Bull. 31:88, 1976. – *Polyporus discipes* Berk., Hooker Lond. J. Botany 6: 499, 1847.
Silhoutte, Mont Corgat, on *Terminalia* sp. 18. July 2000, leg. J. Gerlach (K).

Phellinus gilvus (Schw.) Pat.
Essai Taxonomique p. 97, 1900. – *Boletus gilvus* Schw. Fungi Carolin.Serior. II:70, 1822.
A pantropical and very common species. 35634.

POLYPORACEAE
Ceriporia viridans (Berk. & Broome) Donk
Medd. Bot. Mus. Univ. Utrecht 9:171,1933. – *Polyporus viridians* Berk. & Broome, Ann. Mag. Nat. Hist. Ser. 3, no 7:379, 1861.
The species is cosmopolitan with a variable colour and several species have been described on basis of this colour variation. 35654A

Ceriporia xylostromatoides (Berk.) Ryvarden,
Prelim. Poly pore fl. East Africa p. 276, 1980. – *Polyporus xylostromatoides* Berk., Lond. J. Bot. 2:637, 1843.

This is a pantropical species although with a certain spore variation and it may indeed represent a complex of closely related species. 35722

Ceriporiopsis mucida (Pers.;.Fr.) Gilbn. & Ryvarden
Mycotaxon 22:364, 1985.- *Polyporus mucidus* Pers.:Fr. Syst. Mycol. 1:382, 1821.
A cosmopolitan species, for comments eee L.H. Larsson (2001).

Diplomitoporus insularis Ryvarden nova sp.
Ad *Diplomitoporus crustulinus* Bresadola, sed sporae globosae (allantoideae in *D. crustlinus*)
Holotype: Seychelles, Mahe, Copelia, Val Riche, 1. March 1995, on hardwood stick, Ryvarden 35678 in Herb O.
Basidiocarps annual, resupinate, up to 1 mm thick, 10 cm long and about 1 cm wide, adnat and hard, margin narrow and white, pore surface whitish to very pale ochraceous, pores round, 5-6 per mm in the central part, slghtly irreguar in sloping parts and then elongated to about 1 mm, tubes concolourous with pore surface, up to 1 mm deep, context white and hardly visible.
Hyphal system dimitic; generative hyphae with clamps, thinwalled, hyaline, 2-3 µm in diam; skeletal hyphae predominant, solid to thick-walled, hyaline, negative in Melzer's reagent, 2-3 µm in diam.
Cystidia none.
Basidia clavate, 4-sterigmate, 13-15 x 5-7 µm, with a basal clamp.
Basidiospores globose, hyaline, smooth, negative in Melzer's reagent, (3.5) 4-5 µm in diameter**.**
Substrata. On branch of a hardwood tree.
Distribution. Known only from the type locality.
Remarks. The species is recognized by its small globose spores.

Lentinus cladopus Lév.
Ann. Sci. Nat. Bot. Ser. 3, vol 2:174, 1844.
This is a paleotropical species known from East Africa and throughout tropical Asia.
35674.

Nigroporus vinosus (Berk.) Murrill
Bull. Torrey Bot. Cl. 32:361, 1905 . – *Polyporus vinosus* Berk. Ann. Mag. Nat. Hist. ser 2, no 11:195, 1852.
A pantropical and fairly common species. 35699.

Perenniporia tephropora (Mont.) Ryvarden,
Norw. J. Bot. 19:233, 1972. – *Polyporus tephroporus* Mont. Ann. Sci. Nat. Ser. 3, vol 4:358, 1845.
A pantropical species and rather common. Easily recognized because of its greyish to black colour and dextrinoid skeletal hyphae. 35662

Rigidoporus dextrinoideus Johansen & Ryvarden
Trans. Br. Mycol. Soc. 72:195, 1979.
This is a rare species which has not been recollected since it was described based on collections from Kenya and Tanzania. It is easy to recognize by it dextrinoid hyphae, a unique characteristic in the genus. 35808, 35710 and 35685.

Rigidoporus undatus (Pers.:Fr.) Donk
Persoonia 5:115, 1967. – *Polyporus undatus* Pers. Fr. Elench. Fung. 1:111, 1828.
A cosmopolitan species, but not common. 35663

Schizopora flavipora (Cooke) Ryvarden
Mycotaxon 23:186, 1985. – *Poria flavipora* Cooke, Grevillea 15:25, 1886.
A widespread species . It has been described several times as new from almost all continents and it may that it is a complex of species present. 35644.

Schizopora paradoxa (Fr.) Donk..
Persoonia 5:76, 1967. – *Polyporus paradoxus* Fr. Syst. Mycol. 1:424, 1821.
A common cosmopolitan species. 35665.

Skeletocutis lenis (P. Karsten) Niemelä
Karstenia 31:23, 1991. – *Physisporus lenis*, P. Karsten in Rabenh. Wint. Fungi Europ. Et Exer. No 3527, 1886.
This is a very widespread and common cosmopolitan species recognized by its lunate basidiospores and apically encrusted hyphal ends. Its position in *Skeletocutis* seems to be deviating compared with the other species in the genus. 35742.

Tinctoporellus epimiltinus (Berk. & Broome) Ryvarden
Trans Br. Mycol. Soc. 73:128, 1979. – *Polyporus epimiltinus* Berk. & Broome, J. Linn. Soc. 14:54, 1873. 35685.

Trichaptum biforme (Fr.) Ryvarden
Norw. J. Bot. 19:273, 1972. – *Polyporus biforme* Fr., Linnaea 8:496, 1833.
A cosmopolitan species extending its distribution to Fennoscandia. 35647.

Trichaptum byssogenum (Jungh.) Ryvarden,
Norw. J. Bot. 19:237, 1972. - *Polyporus byssogenus* Jungh., Praemissa in floram cryptogamicam Javae insulae (Batavia): 43, 1838.
A pantropical sepcies and rather common. 35647.

Trametes hirsuta (Fr.) Pilat
Atl. Champ. Europe 3:265, 1939. - *Polyporus hirsutus* Fr. Syst. Mycol. 1:367, 1821.
A widespread species, but far more common in temperate areas than in the tropics. 35633

Trametes pocas (Berk.) Ryvarden
Mycotaxon 20:351, 1984. – *Polyporus pocas* Berk. J. Linn. Soc. Bot 16: 51, 1878.
This is a paleotropical species and fairly common in the semiarid areas of East Africa. It reminds one of the temperate *T. hirsuta*, but is pure white and has larger pores. 35653.

STEREACEAE

Podoscypha fulvonitens (Berk.) D. Reid
Beiheft Nova Hedwigia 18:176, 1965. – *Stereum fulvo-nitens* Berk., Ann. Mag. Nat. Hist. Ser. II, 9:198, 1852.
This is a variable species with a pantropical distribution and one of the most common stipitate Stereum seen in the tropical forest. 35683

Stereum ostrea (Blume & Nees:Fr.) Fr.
Epicrisis syst. Mycol. P. 547, 1838. – *Thelephora ostrea* Blume & Nees: Fr. Elenchus Fung. 1: 175, 1828.
S. ostrea has repeatedly been described as new based on macromorphological features, which have NO value as systematic characters in this variable and common pantropical species. 35660, 35673

SPECIES OF UNKNOWN FAMILY AFFILIATION

Grammothele fuligo (Berk . & Broome) Ryvarden
Trans. Br. Mycol. Soc. 73:15, 1979. – *Polyporus fuligo*, Berk. & Broome, J. Linn. Soc. Bot. 14:53, 1875.
The species is pantropical and restricted to palms. 36765..

Grammothele lineata Berk. & M. A. Curtis,
J. Linn. Soc. Bot. 10:327, 1868.
The species is pantropical, but not common. 35796

Theleporus cretaceus Fr.
Kungl. Vet. Akad. Meddel. 11:138, 1848.
This is a very rare species originally described from Natal in South Africa. It is characterized by a resupinate poroid white basidiocarp with irregular pores, often with split walls and pointed protuberances from the pore walls or pore bottoms. The type (S) is sterile, but the specimen from Seychelles was fertile with hyaline, thin walled spores 7-8 x 2.5-3 um and without reaction in Melzer's reagent. 35712.

CORTICIACEAE

Aleurodiscus mirabilis (Berk. & M.A. Curtis) Höhn.,
Sber. Akad. Wiss. Wien, Math.-naturw. Kl., Abt. 1 118: 818, 1909. - *Psilopezia mirabilis* Berk. & M.A. Curtis, J. Linn. Soc., Bot. 10(no. 46):364, 1868.
Originally described from Cuba and a pantropical species.
35763.

Asterostroma cfr. **cervicolor** (Berk. & M.A. Curtis) Massee,
J. Linn. Soc. Bot. 25:155, 1889. - *Corticium cervicolor* Berk. & M.A. Curtis, Grevillea 1: 179, 1873.
The specimen has warted to spiny spores and relatively long subicular asterosetae.
35695.

Athelopsis bispora (Boidin & Gilles) Hjortstam & Ryvarden.,
Synopsis Fungorum 23:57, 2007. - *Sphaerobasidium bisporum* Boidin & Gilles, Bull.Soc.Mycol. France 105:150, 1989.
This is an easily recognized species due to the two-sterigmate basidia and long, narrow spores, previously known from Venezuela and from the originally locality in Reunion.
It is believed to be connected with palm, bamboo, and ferns.
35749 (on bamboo).

Athelopsis lembospora (Bourdot) Oberw.,
Persoonia 7:3, 1972. - *Corticium lembosporum* Bourdot, Rev. Sci. Bourb. 23:10, 1910.
A world-wide species and preferably on different kinds of ferns.
35655 (fern)

Brevicellopsis allantospora (Hjortstam & Ryvarden) Hjortstam & Ryvarden, Synopsis Fungorum 25:15, 2008. - *Brevicellicium allantosporum* Hjortstam & Ryvarden, Mycotaxon 12:170, 1980.
Initially described from Tanzania and only recorded from the Tropics (Brazil, Colombia, Venezuela, Ecuador, and Borneo).
35772.

Conferticium cfr. **ravum** (Burt) Ginns & G.W. Freeman, Bibl. Mycol. 157:31, 1994.
Corticium ravum Burt, Ann. Mo. Bot. Gard. 13:251, 1926.
The below specimen seems to be most closely related to *C. ravum*, but has slightly smaller spores, approximately 5-6 µm long. As far as can seen from the specimen the hyphae are without clamp connections. Not known from subtropical as well as from tropical areas. If correct the species was reported from Australia by Cunningham (1963) sub *Corticium amyloideum* G.Cunn. nom.nov. He described, however the spores as smooth and up to 7-9 µm long.
35641

Crustodontia chrysocreas (Berk. & M. A.Curtis) Hjortstam & Ryvarden, Synopsis Fungorum 20:36, 2005. - *Corticium chrysocreas* Berk. & M.A. Curtis, Grevillea 1:178, 1873.
In its wide sense pantropical. 35637, 35703.

Epithele nikau G. Cunn.,
Trans. R. Soc. New Zeal. 83: 629, 1956.
From original description by G. Cunningham.
Basidiome, membranous, adnate, effused, forming irregular areas to 15 x 5 cm, hymenophore white, becoming cream, velutinate under a lens, even, not creviced; margin thinning out, concolorous, adnate. Context white, 25-70 µm thick, basal layer of parallel skeletal hyphae, occupying about half the context, intermediate layer scanty, of branched hyphae mainly ascending, and embedding masses of crystals which may be absent; skeletal hyphae 3-3.5 µm diam., lumen capillary, hyaline, scantily branched, aseptate; generative hyphae 2-2.5 µm diam., walls 0.25 µm thick, hyaline, branched, septate, with clamp connex-

ions. Hymenial layer to 30 µm deep, a close palisade of basidia and paraphyses interrupted by the erumpent fascicles. Basidia at first cylindrical, becoming somewhat cucurbitiform with inflated bases, 24-30 x 8-10 µm, 4-spored, projecting; sterigmata stout, arcuate, to 12 µm long. Paraphyses subclavate or as often elliptical, to 20 x 10 µm. Fascicles arising from the basal layer, projecting for the greater part of their length, 8-10 per mm, subulate with broad bases and bluntly acuminate or rounded apices, 150-205 x 30-50 µm, composed of 50-110 skeletal hyphae sometimes tapering, where exposed coated with fine crystals and in old specimens often enmeshed in irregular hyphal sheaths. Spores clavate-naviculate, apices bluntly rounded, bases apiculate, 12-16 x 5-6.5 µm, walls smooth, hyaline, 0-2 µm thick; often adhering in fours.
The species is recognizable by its dimitic hyphal system and fairly narrow spores, it is known from Gabon (Boidin and Lanquetin 1983), Equatorial Africa and Reunion (Boidin and Gilles 1988). In UPS and GBG there is a specimen from Java, Nyman No. F.105. In addition knew from Guadeloupe as *Epithele guadelupense* Boidin & Lanq., which should be a synonym (Boidin and Gilles loc.cit.).
It should further be noted that *Epithele nikau* is the generic type of *Skeletohydnum* Jülich, a genus primarily based by the dimitic hyphal system.
35753, 35784 (both on bamboo).

Hjortstamia monomitica (G. Cunn.) Hjortstam & Ryvarden,
Synopsis Fungorum 20:38, 2005. - *Duportella monomitica* G. Cunn., Trans. R. Soc. New Zeal. 85: 98, 1957.
This is a little known species and originally described from New Zealand. *Hjortstamia perplexa* (D.A. Reid) Boidin & Gilles from Australia seems closely related, but with somewhat larger spores.
35692.

Hydnophlebia chrysorhizon (Torr.) Parmasto,
Eesti NSV Tead. Akad. Toim. Biol. 16:384, 1967. - *Hydnum chrysorhizon* Torr., Eaton Manual Bot. 3:309, 1822.
Following the check-list by Hjortstam and Ryvarden (2007), this is a moderately rare species in tropical areas. In addition to the above list it is also noted from Puerto Rico by N.W. Legon 1998 (pers. com.).35705, 35787.

Hydnophlebia omnivora (Shear) Hjortstam & Ryvarden comb. nov.
Basionym: *Hydnum omnivorum* Shear, J. Agric. Res. 30:476, 1925.
Not in the collections from Seychelles, but is a similar species to *Hydnophlebia chrysorhizon* and should be placed in the same genus and consequently the

new combination is proposed above. For remarks and description, see Burdsall (1985). Originally described from USA (Texas) and has been noted from the Tropics in USA (Florida) by Ginns and Lefebvre (1993) and from Uruguay by Martinez and Nakasone (2005). So far known not reported elsewhere.

Hypochnicium cystidiatum Boidin & Gilles,
Cah. Maboké 9:90, 1971.
The specimen cited below fits well to *H. cystidiatum* and belongs in the *H. punctulatum*-complex. The type of the former has spores average 5-6 µm across and globoid. In the type of *H. punctulatum* they are ellipsoid to globoid, 7.5-9 x 6-6.5(-8.5) µm. There are at least three other species described with similar small spores as in *H. cystidiatum* viz.: *H. aotearoae* Paulus, Nilsson & Hallenb., *H. caucasicum* Parmasto, and *H. cremicolor* (Bres.) Nilsson & Hallenb. See further Nilsson and Hallenberg (2003) and Paulus, Nilsson and Hallenberg (2007).
H. cystidiatum has also been reported with some doubt from Venezuela by Hjortstam, Ryvarden and Iturriaga (2005). See also Boidin and Gilles (2000) for a key to species of *Hypochnicium*.
35739 (on bamboo).

Laxitextum bicolor (Pers.:Fr.) Lentz,
U.S. Dept. Agric. Monogr. 24:19, 1955. - *Thelephora bicolor* Pers.:Fr., Syst. Mycol. 1:438, 1821.
Presumably this is a pantropical species, but less collected south of the equator. The below specimen differs slightly from the concept by more pronounced ellipsoid spores. *Stereum pannosum* Cooke, Grevillea 8:56, 1879 is possibly the same as *L. bicolor*, but should be re-studied. The latter was described from New Zealand, and in the original description two specimens were mentioned, Dunedin 315 and Waitake 342 (both in K).
35698.

Lindtneria trachyspora (Bourdot & Galzin) Pilát,
Studia Botanica Čechoslavaca 1:72, 1938. - *Poria trachyspora* Bourdot & Galzin, Hymen. de France p. 659, 1928.
This species is mainly recorded on well rotten deciduous wood and previously not reported from The Pacific. From Tropical areas it is known from USA, Florida (Ginns and Lefebvre 1993), Costa Rica (Carranza-Morse 1992), and Tanzania.
35723.

Megalocystidium afibulatum (G. Cunn.) Boidin et al.,
Bull. trimest. Soc. mycol. Fr. 113:60, 1997. - *Corticium afibulatum* G. Cunn., Trans. R. Soc. New Zeal. 82:296, 1954.
Brief description:
Basidiome resupinate, effuse, fairly thick, cream-coloured, indistinctly rimose. Hyphal system monomitic, hyphae in a dense tissue, without clamp connections. Gloeocystidia 30-50(-80) µm long, in the upper part thin-walled, protruding above the basidia, positive (blackish) in sulphovanillin. Basidia with four sterigmata. Spores globoid to more commonly ellipsoid, thin-walled, obviously finely ornamented, at an average 6-7 x 4 µm, amyloid.
This species has been detailed described by Boidin, Lanquetin and Gilles (1997). We agree with the above authors that the spores are finely ornamented and this should preferably be observed in Melzer´s reagent. *M. afibulatum* lacks clamp connections as is also the case with *M. wakullum* (Burds. et al.) E. Larss. & K.H. Larss. The latter has, however differently shaped smooth spores, 8-10 x 3-3.5 µm. All other species in *Megalocystidium* Jülich have clamp connections at all septa. 35717.

Peniophorella rudis (Bres.) K.H. Larsson,
Mycological Research 111:192, 2007. - *Odontia rudis* Bres., Annls mycol. (Berlin)18: 42, 1920.
This is possibly a pantropical species and microscopically reminiscent of *Peniophorella praetermissa* (P. Karst.) K.H. Larss., but distinctly odontioid. Stephanocysts not always observed.
35642, 35672, 35708, 35717/B, 37732.

Peniophorella torquata (G. Cunn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Corticium torquatum* G. Gunn. Trans. R. Soc. New Zeal. 82:283, 1954.
Holotype: New Zealand, Auckland, J.M. Dingley, PDD No. 5035 (portion in K).
Hyphoderma torquatum (G. Cunn.) Boidin & Berthet, Cah. Maboké 4: 43, 1966.
A species generally treated as a synonym of *Peniophorella praetermissa* (P. Karst.) K.H. Larsson (see Stalpers 1985). *Corticium torquatum* seems to be very near *P. praetermissa*, but as it is described from the southern hemisphere we are of the opinion that specimens from the area should be scrutinized in forthcoming studies of the species complex. The specimens below are thin and not in proper state, but have spores slightly smaller than normal. Thereis also only one type of cystidia, usually obovate and such were mentioned by Cunningham in the description. Stephanocysts have not been observed.
35733, 35776.

Phanerochaete australis Jülich,
J. Linn. Soc. Bot. 81:43, 1980.
This species was described from Borneo and is not uncommon in South America (Brazil, Colombia, Ecuador, and Venezuela). This is not the same as *Corticium flavocarneum* Petch, as previously assumed (see Hjortstam 1985). It is obviously a synonym of *Rhizochaete radicata* (Henn.) Greslebin et al., a conclusion we came to after having re-examined the type (Sri Lanka, Hakgala, April 1915, No. 4672, Kew)
35640, 35804.

Schizopora flavipora (Berk. & M.A. Curtis ex Cooke) Ryvarden,
Mycotaxon 23:186, 1985. - *Poria flavipora* Berk. & M.A. Curtis ex Cooke, Grevillea 15:25, 1886.
A taxon seemingly described several times and by most authors regarded a cosmopolitan species. It is highly variable and there is, however, a need for further investigation.
35644.

Scopuloides subgelatinosa Nakasone,
Cryptog. Mycol. 24:143, 2003. - *Odontia subgelatinosa* Pat., Bull. Soc. Mycol. France 40: 33, 1924.
Patouillards name is an invalid homonym of *Odontia subgelatinosa* (Berk. & Broome) Cooke & Quel., Clav. syn. Hym. Eur. p. 206, 1878. We suggest that *S. subgelatinosa* Nakasone shall be regarded as a nom. nov.
The description and illustration by Nakasone (op.cit) fits our specimens almost in all respects. Most of the spores are small, about 3 x 1.75 µm, while some are very slightly larger, up to 3.5-4 x 2 µm. An important characteristic seems to be the configuration of the aculei. They are almost smooth, never somewhat fragile and velutinous or fimbriate as in *S. rimosa* (Cooke) Jülich. The whole fungus is hard and gelatinous. So far known, never collected outside Vietnam.
35666 (with spores), 35689, 35727 (with spores), 35738, 35771, 35782 (rather poor).

Subulicystidium longisporm (Pat.) Parmasto,
Conspectus syst. corticiacearum: (Tartu) p. 121, 1968. - *Hypochnus longispora* Pat., Journ. Bot. (Morot) 8:221, 1894.
In its broad sense a common species world-wide. 35687.

Trechispora verruculosa (G. Cunn.) K.H. Larss.,
Nordic J. Bot. 16:98, 1996. - *Odontia verruculosa* G. Cunn., Trans. Roy. Soc. New Zealand 86:80, 1959.
This is possibly a rare species or confused with other odontioid trechisporas. See further K.H. Larsson (1996). 35770.

Tubulicium dussii (Pat.) Oberw. ex Jülich,
Persoonia 10:335, 1979. - *Hypochnus dussii* Pat., Bull. Soc. mycol. Fr. 15:202, 1899.
T. dussii is a pantropical species and apparently occurs exclusively on ferns. The spores are about 7-9 x 2.5-3.5 µm
35656/B (on bamboo).

Tubulicium raphidosporum (Boidin & Gilles) Oberw. et al.,
Rev. Biol. Trop. 45:1313, 1998. - *Tubulicium vermiferum* ssp. *raphidosporum* Boidin & Gilles, Bull. trimest. Soc. Mycol. Fr. 102:283, 1986.
The specimen is rather poor, but the spores, though few, are somewhat straight and not with the typical vermicular appearance as *T. vermiferum* (Bourdot) Oberw. ex Jülich.
Specimens: 35739/B, 35740 (both on bamboo).

Tubulicrinis calothrix (Pat.) Donk,
Fungus 26:26, 1956. - *Corticium calothrix* Pat., Cat. Rais. Pl. Cel. Tunisie p. 59, 1897.
A species originally described from Tunisia and proportionately common in boreal areas. For subtropical and tropical distribution see Hjortstam and Ryvarden (2007).35789.

Xenasma rimicolum (P. Karst.) Donk,
Fungus 27:26, 1957. *Corticium rimicolum* P. Karst., Hedwigia 35: 45, 1896.
In its broad sense a world-wide species. The basidia of the below specimen have mainly 2-3 sterigmata.35680.

Xylodon stratosus (Hjortstam & Ryvarden) Hjortstam & Ryvarden,
Synopsis Fungorum 23:101, 2007. - *Hyphodontia stratosa* Hjortstam & Ryvarden, Mycotaxon 64:236, 1997.
The species is known from the type in Kenya and previously reported from Colombia and Venezuela, see Hjortstam and Ryvarden (2007).
35661, 35754, 35755.

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Dr. P. Roberts of Kew Gardens has kindly sent us a list of specimens of Aphyllophorales deposited in the Kew Herbarium, London, England. We are grateful for his help in this matter which has been a valuable contribution to the checklist. Dr. R. Watling of Edinburgh has kindly sent us a reprint of his paper on the fungi of Indian Ocean Islands, whch has been very helpful.

References

Boidin J. and Gilles G. 1988. Basidiomycetes Aphyllophorales de l'ile de la Réunion. X Complements aux genres traites anterieurement (1 partie). Bull. Soc. Mycol. Fr. 104:59-72.
Boidin, J. & Gilles, G. 2000. Basidiomycetes Aphyllophorales de L'ile de la Reunion. XX. Le genre *Hypochnicium* Eriksson. Bull. Soc. mycol. Fr. 116:159-172.
Boidin, J. and Lanquetin, P. 1983. Basidiomycetes Aphyllophorales Epitheloides Etales. Mycotaxon 16:461-499.
Boidin, J., Lanquetin, P. and Gilles G. 1997. Le Genre *Gloeocystidiellum* sensu lato (Basidiomycotina). Bull. Soc. mycol. Fr. 113:1-80.
Burdsall, H. H. 1985. A contribution to the taxonomy of the Genus *Phanerochaete* (Corticiaceae, Aphyllophorales). Mycologia Mem. 10, 165 pp.
Carranza-Morse, J. 1993. Pore fungi of Costa Rica III. Mycotaxon 48:45-57.
Cunningham, G. H. 1963. The Thelephoraceae of Australia and New Zealand. N.Z. Dep. sci. industr. Res. Bull. 145, 359 pp.
Ginns, J. & Lefebvre, M. N. L. 1993. Lignicolous Corticioid Fungi (Basidiomycota) of North America. Mycol. Mem. 19:1-247.
Hjortstam, K. 1985. Two new genera and some new combinations of corticioid fungi (Basidiomycotina, Aphyllophorales) from tropical and subtropical areas. Mycotaxon 54:183-193.
Hjortstam, K. and Ryvarden, L. & Iturriaga, T. 2005. Studies in corticioid fungi from Venezuela II (Basidiomycotina, Aphyllophorales), Synopsis Fungorum 20:42-78
Hjortstam, K. and Ryvarden, L. 2007. Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics, and the southern hemisphere. Synopsis Fungorum 22:27-146.
Larsson, K. H. 1996. New species and combinations in *Trechispora* (Corticiaceae, Basidiomycotina). Nordic Journ. Bot. 16:83-98.
Martinez, S. & Nakasone, K.K. 2005. The genus *Phanerochaete* (Corticiaceae, Basidiomycotina) sensu lato in Uruguay. Sydowia 57:94-101.

Nilsson, R. H., Hallenberg, N. 2003. Phylogeny of the *Hypochnicium punctulatum* complex as inferred from ITS sequence data. Mycologia 95 (1):54-60.
Paulus, B., Nilsson, R. H., Hallenberg, N. 2007. Phylogenetic studies in *Hypochnicium* (Basidiomycota), with special emphasis on species from New Zealand. New Zealand Journal of Botany 45:139-150.
Stalpers, J. A. 1985. Type studies of the species of *Corticium* described by G.H. Cunningham. New Zealand Journ. Bot. Bot. 23:301-310.
Watling, R. & Seaward, M. R. D. 2004. Some fungi of Indian Ocean Islands. Bot. J. Scotl. 56:65-84, 2004.

Some new and interesting polypores from United States

Leif Ryvarden
Biological institute, P.O. Box 1045, Blindern
N-0316 Oslo, Norway, leif.ryvarden@bio.uio.no

Abstract
Skeletocutis brunneomarginata Ryvarden us described as new, *Perenniporia cremeopora* Decock & Ryvarden is reported as new to United States while *Wrightoporia cylindrospora* Ryvarden is reported for first time since is was described.

Introduction.
In 2004 Department of Biology, Duke University arranged a collecting trip in Great Smoky Mountains national Park on behalf of the All Taxa Inventory for the park. I was kindly invited to join the arrangement which preceded the yearly congress of American Mycology in Ashville, North Carolina.
Totally 130 specimens were collected and all of them except a few of the most common ones, are deposited in The herbarium of Department of Botany, University of Tennessee (TENN). Obviously most of the recorded species are widespread in Eastern United States and in the following only a new and some interesting species are reported.

Junghuhnia undigera (Berk.) Ryvarden
Mycotaxon 20:359, 1984. - *Polyporus undigerus* Berk. J. Linn. Soc. Bot. 20:317, 1868.
Basidiocarps annual, pileate, effused reflexed or dimidiate to almost laterally stipitate, single or in imbricate clusters, , tough when fresh, fragile when dry, upper surface ochraceous with a pink tint when fresh, drying tan to sand coloured or pale straw coloured, azonate to narrowly zonate, adpressed velutinate to soft, up to 2-3 cm long and wide, pore surface ochraceous with a pink tint when fresh,, drying tan to sand coloured or straw coloured, pores angular, 5-7 per mm,

with thin, entire dissepiments, slight irregular on sloping parts of the basidiocarp, subiculum cream coloured to ochre or sand coloured, fibrous, up to 1 mm thick, tube layer concolorous and continuous with the subiculum, up to 2 mm thick.
Hyphal system dimitic, subicular generative hyphae thin-walled, with clamps, rarely branched, 2-4 µm in diam, subicular skeletal hyphae thick-walled, hyaline, nonseptate, rarely branched, 2-4 µm in diam, tramal hyphae similar.
Cystidia scattered, thick-walled, cylindrical to clavate, encrusted apically or almost smooth with a papillae, 40-100 x 5-12 µm, completely imbedded or projecting to 30 µm, most common in the dissepiments.
Basidia clavate, 4-sterigmate, 12-18 x 4-5 µm, with a basal clamp.
Basidiospores broadly ellipsoid to ovoid, hyaline, smooth, negative in Melzer's reagent, 4-5 x 3.5-4 µm.
Substrata. Dead wood of hardwoods.
Distribution. Known from Cuba and Puerto Rico, but will probably be found more widely in the Caribbean area.
Remarks. The diagnostic characters of *J. undigerus* are the imbricate pilei and the fairly large subglobose spores.
Specimen examined: USA, Tennessee, Great Smoky National Park, Ramsay Cascade Trail, 13 July 2004, on dead hard wood log, Ryvarden 46569 (O, TENN). New to United States.

Perenniporia cremeopora Decock & Ryvarden
Mycologia 92(2): 355, 2000. New to United States.
The resupinate polypore was originally described based on a collection from the Dominican Republic and is characterized by a cream coloured pore surface and dextrinoid, truncate and thick walled basidiospores, 4-5 x 3.2-3.8 µm. It has later also been found in Venezuela.
Specimen examined: USA, Tennessee, Great Smoky National Park, Ramsay Cascade Trail, 13 July 2004, on dead hard wood log, Ryvarden 46546 (O, TENN).

Perenniporia ellipsospora Ryvarden & Gilbertson
Mycotaxon 19:140, 1984.
This is a rather rare species know from a handful on localities in Eastern United States.
It has been recorded from both hardwoods and coniferous wood, thus the substrate given below is rather unique.
Specimen examined: USA, Tennessee, Great Smoky National Park, Snake Den Ridge Trail, 14 July 2004, on dead fruits of *Platanus occidentalis* L., Ryvarden 46591 (O, TENN).

Skeletocutis brunneomarginata Ryvarden nova species
Ad *Skeletocutis kühneri* A. David, sed subiculum et margine brunneo.
Holotype: North Carolina, Asheville, Bent Creek Experimental Forest, 18 July 2004, on *Quercus* sp., L. Ryvarden 46614 TENN. Isotypes in O and HFR.
Basidiocarp annual, resupinate, effused, adnate up to 3 mm thick, soft when fresh, resinous hard when dry, pore surface cream ochraceous and in parts slightly discoloured brown when dry where touched, margin distinct up to 3 mm wide, inner parts towards the pore surface narrow and white, then fluffy to cottony adpressed and cinammon brown, out parts deep brown with agglutinated hyphae as distinctly radiating fibrills or fibers, in parts raised and pointed, pores angular, thin- walled and 5-6 per mm, tubes more or less concolorous with the pore surface, up to 3 mm deep, context thin and cinnamon,
Hyphal system dimitic, generative hyphae thin-walled and with clamps, 2. -3 um wide, skeletal hyphae dominating in the basidiocarp, thick-walled to solid, hyaline, but slightly tinted pale yellowish brown in the margin, in the dissepiments finely encrusted.
Basidiospores allantoid, smooth, IKI- and 3-3.5 x 0.8-1 µm.
Basidia 7-8 x 3-4 µm with 4 sterigmata.
Cystidiols present in hymenium, smooth and pointed and in size as basidia.
Substrata. Found only on *Quercus* sp.
Distribution. Known only from the type locality.
Remarks. This is a remarkable species with its brown margin with a variable structure from being white and soft to minutely bristle like with agglutinated hyphae fibers. This should make it easy to recognize with a handlens in the field. Microscopically it almost identical with *S. kühneri* as remarked by Otto Miettinen at Helsinki University.

Wrightoporia cylindrospora Ryvarden
Nordic J. Botany 2: 147, 1982, second known collection.
This resupinate species was originally described based on a collection from Maryland, made by Dr. C. Davidson in 1960 on a dead log of a *Quercus* sp. As indicated in the epithet, the species is characterized by cylindrical amyloid spores and slight dextrinoid skeletal hyphae, the latter a common feature in *Wrightoporia*. The amyloid reaction is slight, thus most easily seen when the spores is accumulated in the pores.
Specimen examined: USA, Tennessee, great Smoky National Park, Ramsay Cascade Trail, 13 July 2004, on dead hard wood log, Ryvarden 46552 (O, TENN).

Studies in Neotropical polypores 26
A new species of *Trametes* and revisitation of an old

Leif Ryvarden
Biological Institute, P.O. Box 1045, Blindern, N-0316 OSLO, Norway. leif.ryvarden@bio.uio.no
&
M. Catherine Aime
Department of Plant Pathology and Crop Physiology, Louisiana State University Agricultural Center, Baton Rouge, LA 70803, USA.
&
Timothy J. Baroni
SUNY-College at Cortland, Dept. Biological Sciences, P.O. Box 2000, Cortland, NY 13045, USA.

Abstract
Trametes globospora Ryvarden & Aime is described as new based on its globose basidiospores. *Daedalea microsticta* Cooke is shown to be a taxonomic synonym of *Trametes ochroflava* Cooke, which is fully described. A key to the Neotropical species of *Trametes* is provided as are 11 additions to the Belize checklist of polyporoid fungi.

Key words: Belize, corticioid fungi, Doyle's Delight, fungal taxonomy, Polyporales, polyporoid fungi, wood-inhabiting fungi

Introduction
Recently Ryvarden (2007) provided the first catalogue of Neotropical polypores in Belize (formerly British Honduras), including several new species collected from Doyle's Delight in the Maya Mountains of Belize in 2001 and 2002. Since then additional collecting in the same region has been conducted resulting in the addition of 11 species of wood-inhabiting fungi to the Belize checklist, including one, *Trametes globospora*, that is herein described as new.

Recent DNA investigations of select species in the genus *Daedalea* prompted a re-examination of the type of *D. Microsticta*, revealing that it is a taxonomic synonym of *Trametes ochroflava.* Thus, an updated description of the latter is given.

Materials and Methods

Collecting in Belize was done in August 2007 on Doyle's Delight, the highest peak in the Maya Mountains of Belize (general area N 16º 29' 18.1, W 089º 02' 49.8). Herbarium designations are as follows: O – University of Oslo Mycology Herbarium; LSUM – Louisiana State University Bernard Lowy Mycological Herbarium.

Taxonomy

Trametes globospora Ryvarden et Aime sp. nov.
Ad Trametes lactinea *(Berk.) Patouillard, se sporae globosae, 4.5-6 µm in diametro (ellipsoideae et 4-7.5 x 2.2-3 µm in* T. lactinea*).*

Typus: Belize. Maya Mountains. M.C. Aime 3413. (LSUM; ISOTYPE O).
Basidiomata annual, solitary, pileate, broadly attached, 6 cm long and 3 cm wide from base to margin and up to 2.8 cm thick at the base, chalky white, soft and flexible when fresh, woody hard when dry; pileus dimidiate to semicircular, applanate, glabrous, smooth, azonate and white; margin entire and slightly bent when dry; pore surface chalky white, pores round to slightly angular and regular, about 4-5 per mm, tubes concolorous with pore surface, up to 8 mm deep at the base; context up to 2 cm thick at the base, pure white, a duplex, the lower part up to 1.8 cm thick at the base with a distinct radial structure, the upper part, of looser consistency with no distinct structure and easily distinguished from the lower part.
Hyphal system trimitic; generative hyphae clamped, hyaline and thin-walled, 3-6 µm in diameter; skeletal hyphae abundant, hyaline, thick-walled to nearly solid, 3-7 µm wide in the tubes; binding hyphae also abundant in the context, hyaline, tortuous and irregularly branched, mostly solid, 3-5 µm wide in the main stem.
Basidia not seen.
Basidiospores globose, hyaline, smooth, thin-walled and without reaction in Melzer's reagent.
Substrata. On dead hardwood log.

Specimens examined. Belize; Cayo District, Maya Mountains, Doyle's Delight, N 16º 29' 20.0, W 089º 02' 46.2, 3368' elev., on trail to waterfall, 23 Aug 2007, M.C. Aime 3413, (Holotype LSUM; Isotype O).

Distribution. Known only from the type locality.
Remarks. In the field *T. globospora* may be mistaken for a *Tyromyces* species due its chalky white color and fleshy aspect. However, *T. globospora* has a trimitic hyphal structure, unlike *Tyromyces* in which almost all species are monomitic. The globose spores easily distinguish *T. globospora* from other species of *Trametes*, which, for the most part, have cylindrical to ellipsoid spores.

Key to the Neotropical species of *Trametes*

1. Pores regular, 1-3 per mm or larger, lamellate, daedaeloid, semi labyrinthine or lacerate to almost hydnoid 2
1. Pores regular, 3-8 per mm, round to angular, more or less entire 6

2. Upper surface more or less glabrous 3
2. Upper surface hirsute to hispid 4

3. Hymenophore often lamellate or pores sinuous to daedaeloid in parts; cystidia absent; common species ..... ***T. elegans***
3. Pores angular 1-4 mm wide; finely encrusted cystidia present ..... ***T. cystidiata***

4.Basidiocarp thin and flexible, rarely above 3 mm thick ..... ***T. villosa***
4.Basidiocarp hard and rigid, up to 1.5 cm thick 5

5. Context duplex with a distinct black zone at least close to the base; hymenophore split and almost hydnoid; spores 4.5-5.5 µm long ..... ***T. maxima***
5. Basidiocarp up to 2 cm wide, often effused reflexed, homogenous to duplex but without a black zone; hymenophore regular, to slightly daedaeloid, about 1 mm wide; spores 7-9 µm long ..... ***T. cervina***

6. Pileus hirsute to tomentose; context duplex, often with a black line between tomentum and context at least close to the base 7
6. Pileus adpressed velutinate and dull to subshiny or soon becoming glabrous except for margin; context homogeneous although a cuticle may develop from the base with age 9

7. Pileus usually strongly multizonate, often in different colors with alternating tomentose and glabrous zones; pore surface white becoming pale tan with age ..... ***T. versicolor***
7. Pileus azonate or with zones in different colours of white to ochraceous, never with black zone below the tomentum 8

8. Pileus tomentose in zones, white to buff or pale brown; pores angular, often slightly elongated radially; spores ellipsoid, 5-6 x 3-4 µm..... ***T. pavonia***
8. Pileus finely adpressed velutinate, becoming almost glabrous with age, white, pale tan or pale cinnamon; pores round to regular; spores cylindrical, 4.5-6 x 2-2.5 µm ..... ***T. membranacea***

9. Pores 1-3 per mm.....10
9. Pores 3-7 per mm.....11

10. Spores 10-15 µm long; skeletal hyphae dextrinoid ..... ***T. frustrata***
10. Spores 4-7 µm long; skeletal hyphae not dextrinoid ..... ***T. lactinea***

11. Cuticle dark reddish, brown, or blackish spreading from the base.....12
11. No cuticle spreading from the base; upper surface white or ochraceous becoming unevenly pale brown with age 14

12. Upper surface becoming greyish and black from base ..... ***T. cingulata***
12. Upper surface becoming tan, brown, or reddish from base or in zones.....13

13. Upper surface usually zonate with variable colours in brown shades; hyphal tips in the hiymenium not pointed ..... ***T. ectypa***
13. Upper surface azonate, becoming reddish from the base; sharply pointed hyphal ends in the hymenium ..... ***T. cubensis***

14. Context pale pinkish to cafe au lait, red to brownish in KOH but fading to a dark spot 15
14. Context white to ochraceous or cork coloured 17

15. Spores 8-9 x 2.8-3.5 µm; pores 3-4 per mm, angular..... ***T. supermodesta***
15. Spores smaller; pores 5-7 per mm 16

16. Basidiocarp flat and flexible; upper surface soft velvety to glabrous in zones; spores 1.5-2 µm wide ..... ***T. modesta***
16. Basidiocarp elongated semicircular, 5-20 mm thick; upper surface azonate and glabrous; spores 2.5-3 µm wide..... ***T. roseola***

17. Pores 3-4 per mm, often slightly irregular; spores cylindrical 18
17. Pores 4-5 per mm, more or less round; spores globose to ellipsoid 19

18. Basidiocarp effused reflexed; pileus flexible and papery thin; spores 7-10 µm long ..... ***T. cotonea***
18. Basidiocarp single, sessile to dimidiate; pileus tough, up to 6 mm thick; spores 6-7 µm long ..... ***T. marianna***

19. Pore surface uneven and crested; pileus yellow to pale orange .. ***T. ochroflava***
19. Pore surface even; pileus whitish 20

20. Spores ellipsoid 3-4 x 2.5-3 µm ..... ***T. ellipsospora***
20. Spores globose, 4.5-6 µm in diameter ..... ***T. globospo***ra

Clarifications

Trametes ochroflava Cooke Grevillea 9:12, 1880.
Daedalea microsticta Cooke, Grevillea 10: 122, 1882.
Trametes obstinatior Corner, Beih. Nova Hedwigia 97:41, 1989.
Basidiomata annual, pileate, applanate, dimidiate, imbricate, single up to 10 cm wide and long and 2 cm thick, upper surface yellow to ochraceous, smooth to tuberculate, glabrous and then dull, pore surface ochraceous, pores angular 3-5 per mm, uneven and ridged, but in parts slightly irregular and up to 1 mm wide, tubes more or less concolorous with the pore surface up to 12 mm deep, context whitish to ochraceous, 5-12 mm thick and without crust.
Hyphal system trimitic; generative hyphae thin-walled, hyaline, with clamps, 2-4 µm wide; skeletal hyphae straight, pale pink to yellow, thick-walled, but usually with a distinct lumen, 2-5 µm in diam, not swelling in KOH; binding hyphae scarce in the context, sparingly branched, more common and more densely branched in the dissepiments, thick-walled to solid, 2-4 µm wide.
Basidiospores hyaline, smooth, thin-walled and without reaction in Melzer's reagent, 5-6 x 2.5-3 µm.
Substrata. Dead hardwood trees.
Specimens examined: Brazil, Rio de Janeiro, Glaziou, sine nr. (K) type of *Daedalea microsticta* Cooke, same, Glaziou 11769 (K), type of *Trametes ochroflava* Cooke.
Distribution. Widespread in the neotropics; specimens have been seen from Honduras, Cuba, Costa Rica, Brazil, Trinidad, Mexico and Jamaica.
Remarks. The species is recognized by the smooth, glabrous pale yellow-orange pileus and the fairly large, in parts irregular, pores.

Updates to the checklist of polyporoid taxa from Belize

Ryvarden (2007) provided a preliminary checklist of 192 polypores and related wood-inhabiting species of fungi from Belize. In addition to the new species

described in this paper we report an additional 10 new records of polyporoid and corticioid fungi for the country. All collections were made during the August 2007 expedition to Doyle's Delight; vouchers are maintained in O and LSUM: **Abundisporus subflexibilis** (Berk. & M.A. Curtis) Parmasto (22 Aug 2007, single on dead branch, MCA 3406); **Flabellophora obovata** (Jungh.) Núñez & Ryvarden (21 Aug 2007, troops on wood, MCA 3387); **Flaviporus brownei** (Humb.) Donk (25 Aug 2007, underside of decayed log, MCA 3429); **Ganoderma nitidum** Murrill (20 Aug 2007, log, coll. Colin Young and Bruce Holst, MCA 3384); **Lentinus crinitus** (L.) Fr. (21 Aug 2007, on partially buried wood in disturbed area at "helipad", MCA 3388); **Perenniporia neofulva** (Lloyd) Ryvarden (19 Aug 2007, large diameter branch in litter, MCA 3359); **Phlebia chrysocreas** (Berk. & M.A. Curtis) Burds. (22 Aug 2007, wet, well-decayed log, MCA 3408); **Stromatoscypha fimbriata** (Pers.) Donk (25 Aug 2007, effused over dead leaves and branches in litter, MCA 3433); **Trechispora farinacea** (Pers.) Liberta (19 Aug 2007, decorticated log, coll. Peter Kovarik, MCA 3365); **Tyromyces caesioflavus** (Pat.) Ryvarden (21 Aug 2007, branch in litter, MCA 3399).

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Literature Cited
Ryvarden, L. 2007. Studies in neotropical polypores 23. New and interesting wood-inhabiting fungi from Belize. Synopsis Fungorum 23:32-50.

A checklist of names in Hyphodontia sensu stricto - sensu lato and Schizopora with new combinations in Lagarobasidium, Lyomyces, Kneiffiella, Schizopora, and Xylodon

Kurt Hjortstam
Målaregatan 12, SE-441 35 Alingsås, Sweden
and
Leif Ryvarden
Department of Botany, University of Oslo, P.O. Box 1066,
Blindern, NO-0316 Oslo, Norway

Introduction

The genus *Hyphodontia* has during the last decades been enlarged with a number of taxa that do not fit the original concept. *Hyphodontia* J. Erikss. (1958) in its strict sense is restricted to seven species, Hjortstam and Ryvarden (2002) and Hjortstam, Ryvarden and Iturriaga (2005). Therefore some older generic names have been re-introduced, for example *Kneiffiella* P. Karst. typified with *Hydnum barba-jovis* Bull.:Fr., and *Lyomyces* P. Karst. typified with *Thelephora sera* Pers. (selected).

Several other genera are also accepted to include species formerly described in *Hyphodontia* viz.; *Alutaceodontia* (Parmasto) Hjortstam & Ryvarden; *Chaetoporellus* Singer; *Fibrodontia* Parm.; *Lagarobasidium* Jülich; *Palifer* Stalpers & P.K. Buchanan; *Rogersella* Liberta & Navas; and *Schizopora* Velen.

The genus *Xylodon* (Pers.) Gray was re-introduced by Hjortstam and Ryvarden (2007) and they added some new combination viz.: *Xylodon australis, X. bugellensis, X. lanatus, X. pruni, X. stratosus*, and a new species was described, *Xylodon tenellus*.

The below combinations are an attempt to keep species united that have common macro- and micromorphology jointly.

Species in Xylodon

Xylodon adhaerisporus (E. Langer) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia adhaerispora* E. Langer, Bibl. Mycol. 154:32, 1994.
Known distribution. Réunion.
The species should be recognized by its odontioid basidiome with short aculei, semicapitate to almost subulate cystidia, and somewhat peculiar spores, often glued together in pairs or groups of 3-5, ellipsoid-allantoid, with the broadest part near apiculus.
There is a fine illustration in E. Langer (op.cit.).

Xylodon apacheriensis (Gilb. & Canf.) Hjortstam & Ryvarden comb. nov.
Basionym: *Poria apacheriensis* Gilb. & Canf., Mycologia 65:1117, 1973.
Known distribution: USA (Arizona).
Not with certainty known elsewhere and easily confused with *X. niemelaei*, but has slightly larger (broader) spores. Other species with a similar characteristics are *X. gracilis*, *X. hallenbergii*, and X. *taiwaniana* whereas *X. poroideoefibulata* is separated by lacking clamp connections.

Xylodon asperus (Fr.) Hjortstam & Ryvarden comb. nov.
Basionym: *Grandinia aspera* Fr., Hym. europ. p. 627, 1874.
A species reported from the tropical zone several times, se for example Hjortstam and Ryvarden (2007), but still we do not believe its occurrence in these geographical areas. It is, hovewer with certainty connected to *Xylodon*. E. Langer (1994) designated a lectotype: Norway, on *Fagus sylvatica*, Leg. Blytt, Herb. E. Fries.

Xylodon bisporus (Boidin & Gilles) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia bispora* Boidin et Gilles, Bull. Soc. Mycol. Fr. 119:4, 2003.
Known from the type only in France on *Staehelina* (Compositae). A smooth species with fusiform cystidioles and basidia with two sterigmata and seems to be near *X. juniperi*, which also was indicated in the original description.

Xylodon borealis (Kotir. & Saaren.) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia borealis* Kotir. & Saaren., Ann. Bot. Fenn. 37:259, 2000. For distribution see Kotiranta and Saarenoksa (op.cit.). Note also *X. nudisetus* below.

Xylodon bresinskyi (E. Langer) Hjortstam & Ryvarden comb. nov.

Basionym: *Schizopora bresinskyi* E. Langer, Hoppea, Denschr. Regensb. Bot. Ges. 61:230, 2000.
A poroid and monomitic species seemingly near to *X. spathulatus*. Known from Germany on *Fagus sylvatica*.

Xylodon brevisetus (P. Karst.) Hjortstam & Ryvarden comb. nov.
Basionym: *Kneiffia breviseta* P. Karst., Hedwigia 25: 232, 1886.
This is as *H. aspera* reported from tropical areas, but seems doubtful in most cases. It is a well known species in temperate area and recently Kotiranta and and Saarenoksa (2000) gave an adequate definition of the species. See also E. Langer (1994) who mentioned it from Tanzania. It should, however, be included in the same genus as *H. aspera*.

Xylodon candidissimus (Berk. & M.A. Curtis) Hjortstam & Ryvarden comb. nov.
Basionym: *Kneiffia candidissima* Berk. & M.A. Curtis Hooker's J. Bot. 1:237, 1849.
Holotype: U.S.A. South Carolina, on *Juniperus virginiana*, Ravenel, Curtis No. 1791 (K).

Brief description of the type:
The specimen is not as poor as stated by Hjortstam and Ryvarden (1997), some part of the type is fairly good though on a superficial view young. The hymenophore is soft and distinctly odontioid, with dense, but rarely crowded aculei, mainly 6-8/mm, individual aculeus more or less conical, smooth or apically slightly fimbriate. Hyphal system monomitic. Basal hyphae fairly thick-walled, approximately up to 4 µm wide, subhymenial hyphae thin-walled, short-celled, about of the same width. All hyphae with clamp connections. Hyphal ends in the aculei usually strongly encrusted, some subcapitate and reminiscent of cystidia. Cystidia in the subhymenial layer few, subcapitate or capitate and up to 20 µm long, some more or less subulate. Basidia 20-25 µm long with four sterigmata. Spores hyaline, thin-walled, smooth, (5.5-)6-6.5 x 3.75-4 µm, a few up to 7 x 4 µm, sometimes glued together in pairs or groups of 3-4, acyanophilous.

Originally described from a single specimen (Curtis No. 1791) and appeared a second time in Grevillea 1:147, 1873, with Berk. & Rav. as the authors and two specimens were mentioned, No. 1376 Car. inf. and No. 1791, Ravenel.

There are two sheets in the type-cover and additionally 17 collections at Kew.

On the type-sheet there is a specimen from Alabama leg. Peters with label No. 32, on *Juniperus virginiana*. It is rather poor, but a few spores have been observed (5-6 x 3.75-4 µm), basidia or cystidia not seen, but it looks very much the same as the holotype. Another specimen on the same sheet (No. 131) in ligno Juniper, Aiken, S. Car. is poor, and very probably not the same as the type. On another sheet there is No. 1376 which seems to be the same as the type. A second specimen on this latter sheet, on *Magnolia grandiflora*, representing a phlebioid fungus, probably similar or the same as *Phlebia livida* (Pers.:Fr.) Bres. A third specimen (Rav. 147) is from S. Carolina on *Cornus* and is obviously *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvarden. All remaning specimens in Kew are on *Juniperus virginiana* and look very much of *Hyphodontia crustosa* or allied.

For illustration of the species, see E. Langer (1994).
It is slightly disturbing that the type is from *Juniperus* and the specimens below are all from bamboo, palm or deciduous wood.

Specimens seemingly within the concept.
Argentina, Misiones, Dpto San Ignacio, Salto Tabay, on palm, 10.XII.1990, O. Popoff 1003 (dupl. Hjm Priv.Herb.). Brazil, São Paulo, Cananeia, Ilha do Cardoso, on palm debris, 2-5.II.1987, K. Hjortstam 16787 (dupl. Hjm Priv.Herb., also in K sub *Hyphodontia agglutinospora* ined. or *H. candidissima*). Colombia, Magdalena, Sierra Nevada de Santa Marta, Reserva Forestal San Lorenzo, 2300, 2100, 1900m, on palm, 17-19.VI.1978, L. Ryvarden 15937 (O and dupl. Hjm Priv.Herb.).

Specimens cfr.
The main differences are the configuration of the fruitbody and size of the spores.
Argentina, Misiones, Iguazu Nacional Parque, Cataratas de Iguazu, on deciduous wood, 1-5.III.1982, L. Ryvarden 19731/B (O and dupl. Hjm Priv.Herb). Brazil, São Paulo, Vale do Paraiba, Campos do Jordão, Parque Estados de Campos do Jordão, on deciduous wood on the ground, 28.I.1987, D. Pegler, K. Hjortstam, and L. Ryvarden, Hjm 16644 (dupl. Hjm Priv.Herb., also in K.) Colombia, Dep.)Cundinmarcha, Paramo, Summa Paz 3800 m, about 70 km S of Bogota, 7.VI.1978, L. Ryvarden 15654 (O, dupl. Hjm Priv.Herb.).

Xylodon capitatus (G. Cunn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Odontia capitata* G. Cunn., Trans. R. Soc. New Zeal. 86:74, 1959.
Known distribution: New Zealand, Australia.

The type is not traced in Kew, but there is a specimen from Australia, Victoria, Royston road above Rubicorn, on *Euaclyptus* twig. K. and G. Beaton 25.III, 1976 K.92. This specimen is hydnoid, soft, yellowish in KOH, with capitate and conspicuous cystidia. Unfortunately spores were not detected, otherwise the specimen corresponds with the original description and illustration. In the protologue the spores were described as ellipsoid, 5-6 x 4-4.5 µm.

Xylodon crassisporus (Greslebin & Rajchenb.) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia crassispora* Greslebin & Rajchenberg, Mycologia 92:1157, 2000.
This is a somewhat unique species in the genus due to the very soft basidiome and thick-walled, cyanophilous spores.
Known distribution: Argentina (Tierra del Fuego).

Xylodon crustosoglobosus (Hallenb. & Hjortstam) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia crustosoglobosa* Hallenb. & Hjortstam, Mycotaxon 57:119, 1996.
Known distribution: Argentina (Rio Negro).

Xylodon crustosus (Pers.:Fr.) Chevall., Fl. gén. env. Paris (Paris) 1:272, 1826.
Known distribution: USA (Florida and Mississippi), Brazil, and Taiwan. See Further Hjortstam and Ryvarden (2007).

Xylodon gracilis (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia niemelaei* ssp. *gracilis* Hjortstam & Ryvarden, Synopsis Fungorum 20:64, 2005.
Known distribution: Venezuela.
A species on palm and fern with almost the same microscopical characteristics as *X. niemelaei*, but separated by somewhat elongated pores, 2-4/mm and spores normally 4.5-5.5(-6) x 3.75-4(-4.5) µm.

Xylodon hallenbergii (Sheng.H. Wu) Hjortstam & Ryvarden comb. nov. Basionym: *Hyphodontia hallenbergii* Sheng H. Wu Mycologia 93:1020, 2001. This species seems to be near *Xylodon niemelaei* and known from the holotype only.

Xylodon hastifer (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia hastifer* Hjortstam & Ryvarden, Mycotaxon 64:234, 1997.

Known distribution: Argentina (Iguazu).

Xylodon juniperi (Bourdot & Galzin) Hjortstam & Ryvarden comb. nov.
Basionym: *Corticium serum* var. *juniperi* Bourdot & Galzin, Bull. Soc. Mycol. France 27:246, 1911. *Hyphodontia juniperi* (Bourd. & Galzin) J. Erikss. & Hjortstam, Corticiaceae North Eur. 4:666, 1976.
Known distribution: A world wide species? In the tropic zone at least from Colombia and Africa.

Xylodon knysnanus (Van der Byl) Hjortstam & Ryvarden comb. nov.
Basionym: *Odontia knysnana* Van der Byl, Ann. Univ. Stellenbosch A 12:9, 1934.
Known distribution: At least South Africa and Tanzania.

Xylodon lenis Hjortstam & Ryvarden nom. nov.
Basionym**:** *Hyphodontia mollis* Sheng H. Wu, Acta Bot. fenn. 142:95, 1990.; non *Xylodon mollis* (Berk. & M.A. Curtis) Kuntze, Revis. gen. pl. (Leipzig) 3:541, 1898.
Known distribution: Taiwan.

Xylodon lutescens (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia lutescens* Hjortstam & Ryvarden, Mycotaxon 25:558, 1986.
Known distribution: Argentina (Iguazu). Not accepted in *Hyphodontia* by E. Langer (1994), but at present we unite the species in *Xylodon* as it has similarities with both *X. asperus* and *X. brevisetus*.

Xylodon nespori (Bres.) Hjortstam & Ryvarden comb. nov.
Basionym: *Odontia nespori* Bres., Annls Mycol. (Berlin), 18:43., 1920.
Known distribution: USA (Florida), Canary Islands, Kenya, Tanzania, Taiwan. See further E. Langer (1994) and Hjortstam and Ryvarden (2007).

Xylodon nesporina (Hallenb. & Hjortstam) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia nesporina* Hallenb. & Hjortstam, Mycotaxon 57:121, 1996.
Known distribution: Argentina. According to Greslebin and Rajchenberg (2000) a common species in the Patagonian Andes forest of Argentina.

Xylodon niemelaei (Sheng H. Wu) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia niemelaei* Sheng H. Wu, Acta Bot. Fenn. 142: 98, 1990.

Known distribution: Taiwan, Argentina, Colombia, and Cameroon.
The species is similar to *X. apacheriensis*, but with narrower spores.

Xylodon nothofagi (G. Cunn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Poria nothofagi* G. Cunn. N.Z. Dept. sci. industr. Res. Bull. 164:261, 1965.
Known distribution: New Zealand.
There is a fine description and illustration in E. Langer (1994) and he also pointed out the similarity of *X. apacheriensis* and *X. niemelaei*. Compare also *X. syringae* which has similar spores.

Xylodon nudisetus (Warcup & P.H.B. Talbot) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia nudiseta* Warcup & P.H.B. Talbot, Trans. Br. Mycol. Soc. 46:468, 1963.
Known distribution: Australia, Taiwan.
It should be noted that about 50 specimens from Australia are known, nearly all in worm tunnels.
It is also to be noted that *Hyphodontia borealis* Kotir. & Saaren. has been described from Finnish material with small differences from the concept of *X. nudisetus*.

Xylodon poroideoefibulatus (Sheng H. Wu) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia poroideoefibulata* Sheng H. Wu, Mycologia 93:1021, 2001.
Known distribution: Taiwan.
A clampless species and placed in *Xylodon* depending on similar microstructures as cystidia, basidia, and spores.

Xylodon pruniaceus (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia pruniacea* Hjortstam & Ryvarden, Synopsis Fungorum 18:25, 2004.
Known distribution: Tanzania.

Xylodon rimosissimus (Peck) Hjortstam & Ryvarden comb. nov.
Basionym: *Odontia rimosissima* Peck, Ann. Rept. New York St. Mus. 50:114, 1897 (1898).
Known distribution: According to Langer (1994) a cosmopolitan species. Not with certainty known from the tropic areas. See also *X. verruculosus* below.

Xylodon rudis (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia rudis* Hjortstam & Ryvarden, Mycotaxon 64:235, 1997.
Known distribution: Colombia.
The species is possibly semidimitic, but otherwise with similarity to the concept of *Xylodon*.

Xylodon scopinellus (Berk.) Hjortstam & Ryvarden comb.nov.
Basionym: *Hydnum scopinellum* Berk., Fl. Nov. Zeal. 2:181, 1855.
Known distribution: New Zealand.
Basidiome resupinate, ochraceous. Hymenophore odontioid, aculei about 4/mm, apically fimbriate, approximately 0-1-0.25 mm long. Hyphal system monomitic; basal hyphae moderately thick-walled, 3-4 µm wide, in the apical part of the aculei slightly encrusted, subhymenial hyphae thin-walled, all hyphae hyaline and with clamp connections. Cystidia, or hyphal ends, subclavate, mostly in the apical part of the aculei. Basidia 12-15 x 4 µm, with four sterigmata. Spores smooth, suballantoid, 4.5-5(-6) x 1.25-1.5(-1.75) µm.
Not with certainty known outside New Zealand. For further information and illustration see Cunningham (1959).

Xylodon serpentiformis (E. Langer) Hjortstam & Ryvarden com. nov.
Basionym: *Hyphodontia serpentiformis* E. Langer, Trans. Mycol. Soc. Japan 33:404, 1992.
Known distribution: Taiwan and Canary Islands, both from the original description.

Xylodon submucronatus (Hjortstam & Renvall) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia submucronata* Hjortstam & Renvall, Edinb. J. Bot. 55:481, 1998.
Known distribution: Tanzania.
Xylodon spathulatus (Schrad.:Fr.) Kuntze is a similar species, but *X. submucronatus* has almost conical aculei and the spores are narrowly ellipsoid, 5-5.5 x 3-3.5 µm.

Xylodon subscopinellus (G. Cunn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Odontia subscopinella* G. Cunn., Trans. Roy. Soc. New Zeal. 86:72, 1959.
Known distribution: New Zealand, Australia.
Our concept is based on the original description and a specimen by G. Beaton, Acheron Way near Marysville, Victoria (Australia), on fallen *Eucalyptus* twig.

K. and G. Beaton 1.VI.1976 (K). This specimen fits the original description and illustration by Cunningham.

Xylodon syringae (E. Langer) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia syringae* E. Langer, Mycotaxon 67:182, 1998. According to Langer (op.cit.) similar to *X. nothofagi*, but differs primarily by constricted cystidia.

Xylodon taiwanianus (Sheng.H. Wu) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia taiwaniana* Sheng H. Wu, Mycologia 93:1023, 2001. This species approaches *X. niemelaei*, but is described with somewhat narrower spores.

Xylodon tenuicystidius (Hjortstam & Ryvarden) Hjortstam & Ryvarden comb. nov. Basionym: *Hyphodontia tenuicystidia* Hjortstam & Ryvarden, Mycotaxon 28:17, 1987. This is not a species of *Hyphodontia* s.s. and for the time being placed in *Xylodon*. Still only known from Argentina (Iguazu) and possibly Brazil.

Xylodon tuberculatus (Kotir. & Saaren.) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia tuberculata* Kotir. & Saaren., Ann. Bot. Fenn. 37:272, 2000. There is a comprehensive original description and illustration and the species should be fairly easy to recognize. Not known outside Europe.

Xylodon verruculosus (J. Erikss. & Hjortstam) Hjortstam & Ryvarden comb. nov.
Basionym: *Hyphodontia verruculosa* J. Erikss. & Hjortstam, Corticiaceae North Eur. 4:681, 1976.
The species in its narrow sense is not known from the tropic zone and perhaps not conspecific with *X. rimosissimus* above. A further study and re-examination of the type of the latter seems necessary.

Checklist of names in Hyphodontia s.s. and s.l., either placed in synonymy, retained status or combined into other genera

abieticola (Bourdot & Galzin) J. Erikss., Symb. bot. ups. 16:104, 1958. Accepted as ***Kneiffiella abieticola*** *(Bourd. & Galzin)* Jülich & Stalpers.
africana Ryvarden Bull. Jard. Bot. Nat. Belg. 48:88, 1978. = ***Fibrodontia brevidens***.
alienata (S. Lundell) J. Erikss., Symb. bot. ups. 16:104, 1958. Accepted as ***Kneiffiella alienata*** (S. Lundell) Jülich & Stalpers.

Hyphodontia altaica Parmasto, Conspectus syst. corticiacearum: (Tartu) p. 211, 1968.
Kneiffiella altaica (Parmasto) Hjortstam & Ryvarden comb. nov. Basionym as indicated above. This is a short spored species, reminiscent of *K. subalutacea*.
alutacea (Fr.) J. Erikss., Symb. bot. ups. 16:104, 1958. Accepted as ***Alutaceodontia alutacea*** (Fr.) Hjortstam & Ryvarden.
alutacea var. *mamillaecrinis* J. Erikss. & Hjortstam, Svensk Bot. Tidskr. 63:230, 1969. = ***Alutaceodontia alutacea***.
Hyphodontia alutaria (Burt) J. Erikss., Symb. bot. ups. 16:104, 1958. = ***Hyphodontia*** s.s.
Hyphodontia arguta (Fr.) J. Erikss., Symb. bot. ups. 16:104, 1958 = ***Hyphodontia*** s.s.
barba-jovis (Bull.:Fr.) J. Erikss., Symb. bot. ups. 16:104, 1958. Generic type of ***Kneiffiella***.
Hyphodontia bisterigmata Boidin et Gilles, Bull. Soc. Mycol. Fr. 119:5, 2003. Known from Réunion only, on bamboo and *Rubus*. A smooth species with somewhat subulate cystidioles and for the present time we prefer to place it in *Lyomyces*. The following combination is proposed: ***Lyomyces bisterigmatus*** (Boidin & Gilles) Hjortstam & Ryvarden comb. nov. Basionym as indicated above.
boninensis (S. Ito & S. Imai) N. Maek., Rept. Tottori Mycol. Inst. 31:9, 1993. According to Maekawa (op.cit.) it resembles *Hyphodontia sambuci* but with somewhat fusoid cystidia. The following combination is proposed: ***Lyomyces boninensis*** (S. Ito & S. Imai) Hjortstam & Ryvarden comb. nov. Basionym: *Corticium boninense* S. Ito & S. Imai, Trans. Sapporo Nat. Hist. Soc. 16:131, 1940. Known from Japan only.
brevidens (Pat.) Ryvarden, Occ. papers Farlow Herb. 18:9, 1983. Accepted as ***Fibrodontia brevidens*** (Pat.) Hjortstam & Ryvarden.
burtii (Peck) Gilb. Petersen (Ed.), Evol. high. Basid. 300, 1971. = ***Xylodon crustosus***.
byssoidea (H. Furuk.) N. Maek., Rept. Tottori Mycol. Inst. 31:12, 1993. This seems to be a species of *Kneiffiella*. It lack clamp connections and has resemblance to *Kneiffiella tetraspora* (S.S. Rattan) Hjortstam & Ryvarden. The following combination is proposed: ***Kneiffiella byssoideus*** (H. Furuk.) Hjortstam & Ryvarden comb. nov. Basionym: *Odontia byssoidea* H. Furuk., Bull. Gov. Forest Exp. Sta. 261:18, 1974.
capitata (Boidin & Gilles) Hjortstam, Mycotaxon 42:151, 1991.
This is a species of neither *Xylodon* nor *Hyphodontia*. After a re-examination of a portion of the type it seems rather a species of an epitheloid genus with sterile pegs. At present the taxon is retained in ***Pteridomyces***. Known from Réunion only.

cineracea (Bourdot & Galzin) J. Erikss. & Ryvarden, Corticiaceae North Eur. 4:629, 1976. Accepted as ***Kneiffiella cineracea*** (Bourdot & Galzin) Jülich & Stalpers.
comptopsis Burds. & Nakasone, Mycologia 73:460, 1981. Accepted as ***Peniophorella comptopsis*** (Burds. & Nakasone) K.H. Larss.
cunninghamii Greslebin & Rajchenb., Mycologia 92:1157, 2000. This is a nom. nov. for *Odontia capitata* G. Cunn. non *Hyphodontia capitata* (Boidin & Gilles) Hjortstam. See *Xylodon capitatus* above.
curvispora J. Erikss. & Hjortstam, Svensk Bot. Tidskr. 63:224, 1969. Accepted as ***Chaetoporellus curvisporus*** (J. Erikss. & Hjortstam) J. Erikss. & Hjortstam.
Hyphodontia decorticans Greslebin & Rajchenb., Mycotaxon 65:205, 1997. ***Kneiffiella decorticans*** (Greslebin & Rajchenb) Hjortstam & Ryvarden comb. nov. Basionym as indicated above.
detritica (Bourdot) J. Erikss., Symb. bot. ups. 16:104, 1958. Accepted as ***Lagarobasidium detriticum*** (Bourdot) Jülich.
efibulata J. Erikss. & Hjortstam, Svensk Bot. Tidskr. 63:226, 1969. Accepted as ***Kneiffiella efibulata*** (J. Erikss. & Hjortstam) Jülich & Stalpers.
efibulata f. *tetraspora* S.S. Rattan, Bibl. Mycol. 60:335, 1977. Accepted as ***Kneiffiella tetraspora*** (S.S. Rattan) Hjortstam & Ryvarden.
Hyphodontia erastii Saaren. & Kotir., Ann. Bot. Fenn. 37:267, 2000. Should be united with *Lyomyces* and represents a species with almost the same microstructures as in *L. sambuci*. The following combination is proposed: ***Lyomyces erastii*** (Saaren. & Kotir.) Hjortstam & Ryvarden comb. nov. Basionym as indicated above.
erikssonii (Galán & J. E. Wright) Hjortstam & Ryvarden, Synopsis Fungorum 20:63, 2005. = ***Hyphodontia*** s.s.
fimbriaeformis (Berk. & M. A. Curtis) Ginns & Lefebvre, Mycol. Mem. 19:88, 1993. = ***Xylodon spathulatus***.
Hyphodontia fimbriata Sheng H. Wu, Acta Bot. fennica 142:90, 1990. This seems to be near the concept of *Xylodon*. The following combination is proposed: ***Xylodon fimbriatus*** (Sheng H. Wu) Hjortstam and Ryvarden comb. nov. Basionym as indicated above.
flavipora (Berk. & M.A. Curtis ex Cooke) Sheng H. Wu, Mycotaxon 76:54, 2000. Accepted as ***Schizopora flavipora*** (Berk. & M.A. Curtis ex Cooke) Ryvarden.
floccosa (Bourdot & Galzin) J. Erikss., Symb. bot. ups. 16:104, 1958. For the time being accepted as ***Kneiffiella floccosa*** (Bourdot & Galzin) Jülich & Stalpers, though extremely similar to *Kneiffiella subalutacea*.
formosana Sheng H. Wu & Burds., Acta Bot. Fenn. 142:91, 1990. = ***Botryodontia cirrata*** (Hjortstam & Ryvarden) Hjortstam.

gamundiae Greslebin & Rajchenb., Mycologia 92:1159, 2000. At present accepted as ***Palifer gamundiae*** (Greslebin & Rajchenb.) Hjortstam & Ryvarden. See further *P. verecunda*.
gossypina (Parmasto) Hjortstam, Mycotaxon 39:416, 1990. Generic type of ***Fibrodontia*** Parmasto.
granulosa (Pers.:Fr.) Bernicchia, Riv. Micol. 31:180, 1988. At present accepted as ***Dichostereum granulosum*** (Pers.:Fr.) Boidin & Lanq.
granulosa (Pers.:Fr.) Ginns & Lefebvre, Mycol. Mem. 19:88, 1993. This is a superfluous combination.
griseliniae (G. Cunn.) E. Langer, Bibl. Mycol. 154:120, 1994. Accepted as ***Rogersella griseliniae*** (G. Cunn.) Stalpers.
halonata J. Erikss. & Hjortstam. See *Hastodontia* below.
hariotii (Bres.) Parmasto, Conspectus syst. corticiacearum: (Tartu) p.122, 1968. = ***Lyomyces sambuci*** (Pers.) P. Karst.
hastata (Litsch.) J. Erikss. See *Hastodontia* below.
hjortstamii Greslebin & Rajchenb., Mycologia 92:1160, 2000. At present accepted as ***Palifer hjortstamii*** (Greslebin & Rajchenb.) Hjortstam & Ryvarden. See further *P. verecunda*.
Hyphodontia incrustata Kotir. & Saaren., Symb. Bot. fennici 43:304, 2006. This is not a species of *Hyphodontia* s.s., but according to description and illustration it fit the concept of *Lyomyces*. The following combination is proposed: ***Lyomyces incrustatus*** (Kotir. & Saaren.) Hjortstam & Ryvarden. Basionym as indicated above.
intermedia (Bourdot & Galzin) Parmasto, Conspectus syst. corticiacearum: (Tartu) p. 125, 1968. Very likely the same as ***Kneiffiella floccosus*** or ***K. subalutaceus***.
irpicoides (P. Karst.) Burds. & M. J. Larsen, Mycotaxon 17:515, 1988. = ***Kneiffiella barba-jovis***.
lageniformis H. Lin & Z. C. Chen, Taiwania 35:86, 1990. According to E. Langer (1994) the same as ***Hyphodontia arguta***.
latitans (Bourdot & Galzin) Ginns & Lefebvre, Mycol. Mem. 19:89, 1993. Generic type of ***Chaetoporellus***.
latitans (Bourdot & Galzin) E. Langer, Bibl. Mycol. 154:145, 1994. A superfluous combination.
laxa (Burt) Y. Hayashi, Bull. Gov. For. Exp. Sta. Meguro 260:52, 1974. Accepted as ***Lyoathelia laxa*** (Burt) Hjortstam & Ryvarden, Synopsis Fungorum 18:11, 2004.
longicystidiosa S. S. Rattan, Bibl. Mycol. 60:340, 1977. Accepted as ***Hypochnicium longicystidiosum*** (S.S.Rattan) Hjortstam. The alternative is possibly *Lagarobasidium*.

magnacystidiata Linds. & Gilb., Mycotaxon 5:315, 1977 = ***Lagarobasidium detriticum*** (Bourdot) Jülich.
Hyphodontia magnifica Greslebin & Rajchenb., Mycologia 92:1160, 2000. ***Lagarobasidium magnificum*** (Greslebin & Rajchenb.) Hjortstam & Ryvarden comb. nov. Basionym as indicated above. Known distribution: Argentina (Tierra del Fuego) on *Drimys winteri* J.R. Forst. & G. Forst. See also *Hyphodontia rickii* below.
microspora J. Erikss. & Hjortstam, Corticiaceae North Eur. 4:651, 1976. Accepted as ***Kneiffiella microspora*** (J. Erikss. & Hjortstam) Jülich & Stalpers.
mollis Sheng H. Wu, Acta Bot. fenn. 142:95, 1990. See *Xylodon lenis* above.
mucronata (H. Furuk.) Sang H. Lin & Z. C. Chen, Taiwania 35:87, 1990. = ***Peniophorella rudis*** (Bres.) K.H. Larss.
nikolajevae Parmasto, Conspectus syst. corticiacearum: (Tartu) p.213, 1968. = ***Lagarobasidium detriticum*** (Bourdot) Jülich
nivea (Bres.) J. Erikss., Symb. bot. ups. 16:104, 1958. A species generally treated as a synonym of ***Hyphoderma litschaueri*** (Burt) J. Erikss. & Å. Strid.
nongravis (Lloyd) Sheng H. Wu, Mycotaxon 76:59, 2000. Seems to be the same as **S*chizopora flavipora*** (Berk. & M.A. Curtis ex Cooke) Ryvarden.
ochroflava (Pat.) Nakasone, Cryptog. Mycol. 24:138, 2003. According to the description by Nakasone a ***Hyphodontia*** s.s. near to *H. arguta*. Known from the type specimen in Vietnam only.
orasinusensis Gilb. & M. Blackw., Mycotaxon 33: 382. 1988 = ***Kneiffiella stereicola*** *(Bres.) Nakasone*.
ovispora (Corner) T. Hatt., Mycoscience 44:271, 2003. A species of *Schizopora*, seemingly near *S. flavipora*. The following combination is proposed: ***Schizopora ovispora*** (Corner) Hjortstam & Ryvarden comb. nov. Basionym: *Tyromyces ovisporus* Corner, Nova Hedwigia 55:146, 1992. According to Hattori (op.cit.) a common species both in Malaysia and subtropical areas of Japan.
pallidula (Bres.) J. Erikss., Symb. bot. ups. 16:104, 1958. Generic type for ***Hyphodontia***.
Hyphodontia palmae Rick ex E. Langer, Bibl. Mycol. 154:177, 1994. ***Kneiffiella palmae*** (Rick ex. E. Langer) Hjortstam & Ryvarden comb. nov. Basionym as indicated above.
papillosa (Fr.) J. Erikss., Symb. bot. ups. 16:104, 1958. A taxon of uncertain application, see further Eriksson and Ryvarden (1976).
paradoxa (Schrad.:Fr.) E. Langer & Vesterholt, Nord. Journ. Bot. 16:211, 1996. Accepted as ***Schizopora paradoxa*** (Schrad.:Fr.) Donk
pilaecystidiata (S. Lundell) J. Erikss., Symb. bot. ups. 16:104, 1958. This was not accepted by E. Langer (1994) in *Hyphodontia* and not a species s.s in the genus. See *Deviodontia* below.

propinqua Hjortstam, Mycotaxon 17:553, 1983. = ***Hyphodontia subdetritica*** S. S. Rattan
Hyphodontia pumilia Greslebin & Rajchenb., Mycologia 92:1162, 2000. Mainly because the thick-walled and cyanophilous spores we propose the following combination: ***Lagarobasidium pumilium*** (Greslebin & Rajchenb.) Hjortstam & Ryvarden comb. nov. Basionym as indicated above.
radula (Pers.:Fr.) E. Langer & Vesterholt, Nord. Journ. Bot. 16:212, 1996. Accepted as ***Schizopora radula*** (Pers.:Fr.) Hallenb.
rickii (Hjortstam & Ryvarden) Greslebin & Rajchenb., Mycologia 92:1161, 2000. *Lagarobasidium magnificum* is extremely similar to this species and this was also pointed out by Greslebin and Rajchenberg (2000). We propose the new combination: ***Lagarobasidium rickii*** (Hjortstam & Ryvarden) Hjortstam & Ryvarden. Basionym: *Hypochnicium rickii* Hjortstam & Ryvarden, Mycotaxon 15:271, 1982. The species was originally described from southern Brazil, but also known from Argentina (Iguazu) and Tanzania.
sambuci (Pers.) J. Erikss., Symb. bot. ups.16:104, 1958. Accepted as ***Lyomyces sambuci*** (Pers.) P. Karst.
setulosa (Berk. & M.A. Curtis) Maas G., Persoonia 7:567, 1974. Of unknown possession, but at present accepted as ***Steccherinum setulosum*** (Berk. & M.A. Curtis) L.W. Mill.
sphaerospora (N. Maek.) Hjortstam, Synopsis fungorum 15:12, 2002. = ***Hyphodontia*** s.s.
Hyphodontia stipata (Fr.) Gilb., Evol. High. Basidiom. 300, 1971. = It is generally treated as a synonym of ***H. arguta***.
Hyphodontia subalutacea (P. Karst.) J. Erikss., Symb. bot. ups. 16:104, 1958. Accepted as ***Kneiffiella subalutacea*** (P. Karst.) Jülich & Stalpers.
subdetritica S.S. Rattan, Bibl. Mycol. 60:343, 1977. = ***Hyphodontia*** s.s.
subiculoides (Lloyd) Sheng H. Wu, Mycotaxon 76:651, 2000. = ***Schizopora flavipora*** (Berk. & M.A. Curtis ex Cooke) Ryvarden.
subspathulata (H. Furuk.) N. Maek., Rep. Tottori mycol. Inst. 31:16, 1993. According to the description and illustration by Maekawa (op.cit.) we consider this as a synonym of ***Xylodon spathulatus*** (Schrad.:Fr.) Kuntze.
tenuicystidia Hjortstam & Ryvarden, Mycotaxon 25:558, 1986. Invalid name, holotype not mentioned. See *Xylodon tenuicystidius* above.
tetraspora (S.S. Rattan) Hjortstam, Windahlia 17: 58, 1987. Accepted as ***Kneiffiella tetraspora*** (S.S. Rattan) Hjortstam & Ryvarden.
tomentosa (Berk. & M.A. Curtis) Hjortstam, Mycotaxon 39:416, 1990. Accepted as ***Fibrodontia tomentosa*** (Berk. & M.A.Curtis) Hjortstam & Ryvarden.
tropica Sheng H. Wu, Mycotaxon 76:62 2000. Not validly published, holotype not mentioned. See *Schizopora ovispora* above.

Hyphodontia tubuliformis Sheng H. Wu, Mycotaxon 95:185, 2006. ***Kneiffiella tubuliformis*** (Sheng.H. Wu) Hjortstam & Ryvarden comb. nov. Basionym as indicated above. For the time being we accept this species in *Kneiffiella*, but it should be noted that both *Kneiffiella palmae* and *K. microspora* are extremely similar.
verecunda (G. Cunn.) Hjortstam & Ryvarden, Mycotaxon 64:237, 1997. Accepted as ***Palifer verecunda*** (G. Cunn.) Stalpers & P.K. Buchanan. Possibly a species fairly isolated and the three other combined taxa in the genus need further studies.
wrightii Hjortstam & Ryvarden, Mycotaxon 25: 560 1986. At present accepted as ***Palifer wrightii*** (Hjortstam & Ryvarden) Hjortstam & Ryvarden. See further *P. verecunda*.

Checklist of names in Schizopora

apacheriensis (Gilb. & Canf.) Gilb. & Ryvarden, North Amerian Polypores Vol. 2:704, 1987. See ***Xylodon apacheriensis*** above.
bresinskyi Langer. See ***Xylodon bresinskyi*** above.
carneolutea (Rodway & Cleland) Kotl. & Pouzar, Ceska Mykol. 33:21, 1979. Generally considered the same as ***Schizopora flavipora*** (Berk. & M.A. Curtis ex Cooke) Ryvarden. Originally it was described from Australia.
cystidiata A. David & Rajchenb., Mycotaxon 45:140, 1992. Of unknown application, possibly related to *Poriodontia* Parmasto.
flavipora (Berk. & M.A. Curtis ex Cooke) Ryvarden, Mycotaxon 23:186, 1985. Accepted in ***Schizopora***.
hypolateritia (Berk. ex Cooke) Parmasto, Conspectus syst. corticiacearum: (Tartu) p. 123, 1968. Generally considered the same as ***Schizopora flavipora***. Originally described from Sri Lanka.
nothofagi (G. Cunn.) P.K. Buchanan & Ryvarden. See ***Xylodon nothofagi*** above.
paradoxa (Schrad.) Donk, Persoonia 5:76, 1967. Generic type of ***Schizopora***.
phellinoides (Pilát) Domański, Acta Soc. Bot. Pol. 38:255, 1969. Generally considered the same as **Schizopora flavipora**.
radula (Pers.) Hallenb., Mycotaxon 18:308, 1983. See ***Schizopora radula*** above.
roseotingens Hjortstam & Ryvarden, Mycotaxon 20:142, 1984. It was originally described from Nepal. Of uncertain application, possibly near *Steccherinum*.
subiculoides (Lloyd) Ryvarden, Norweg. J. Bot. 19: 236, 1972. Generally considered the same as ***Shizopora flavipora***.
trametoides Núñez, Mycotaxon 68:158. 1998. Accepted in ***Schizopora***.

trichiliae (Van der Byl) Ryvarden, Prel. Polyp. Fl. East Africa p. 553, 1980. Originally descrbed from South Africa and generally considered the same as ***Schizopora flavipora***.
versipora (Pers.) Teixeira, Rev. Brasil Bot. 9:44, 1986. Considered the same as ***Schizopora paradoxa***.

Species described in Hyphodontia of unknown applications

Hyphodontia alba Sheng H. Wu, Acta Bot. fenn. 142:85, 1990.
This is not a species *Hyphodontia* s.s. Of uncertain application, but possibly a species near *Hyphoderma* or *Lyomyces* P. Karst. It is known from but the holotype.

Hyphodontia albicans (Pers.) Parmasto Conspectus syst. corticiacearum: (Tartu) p. 123, 1968.
This is a species with uncertain application, but according to E. Langer (1994) synonymous with *H. crustosa.*

Hyphodontia aloha Gilb. & Adask., Mycotaxon 49:377, 1993. According to the description and illustration this fungus is reminiscent of *Fibrodontia brevidens* or *F. gossypina*.

Hyphodontia crassa Sang H. Lin & Z. C. Chen, Taiwania 335:81, 1990. Of unknown application, perhaps a species of *Steccherinum*, see further E. Langer (1994).

Hyphodontia dimorphae H. Lin & Z. C. Chen, Taiwania 35:84, 1990.
This is not a species of *Hyphodontia* s.s. which already was indicated by Langer (1994). According to the description and illustrations it seems near *Scopuloides*.

Hyphodontia macrescens (Banker) Ginns & Lefebvre Mycol. Mem. 19:89, 1993. Of unknown application, but possibly near *X. crustosus*.

Hyphodontia pelliculae (H. Furuk.) N. Maek., Rept. Tottori Mycol. Inst. 31:14, 1993. See further Maekawa (op. cit.) for a more recent description and illustration. It should be noted that his interpretation differs slightly from the original publication by Furukawa (1974), where the spores are illustrated almost fusiform. It is perhaps a species of *Xylodon*?

Additional proposal

Deviodontia (Parmasto) Hjortstam & Ryvarden comb. nov. Basionym: *Hyphodontia* subg, *Hyphodontia* sectio *Deviodontia* Parmasto, Conspectus syst. corticiacearum: (Tartu) p. 125, 1968. Generic type: *Odontia pilaecystidiata* S. Lundell. Generitype specimen: Sweden, Uppland, Alsike , "Rickebasta träsk", NW part of the fen, 28. X. 1938, Seth Lundell No. 1463 (UPS).

Brief description
Basidiome resupinate, adnate. Hymenophore hydnoid or sometimes raduloid. Aculei mainly conical to cylindrical. Hyphal system monomitic; hyphae thin walled or with a slight wall thickening, with clamp connections fibulate. Cystidia often numerous, distinctly capitate, thinwalled. Basidia more or less clavate, somewhat constricted, with four sterigmata and basal clamp connection. Spores ellipsoid, smooth, thinwalled, inamyloid, indextrinoid, acyanophilous.

Deviodontia pilaecystidiata (S. Lundell) Hjortstam & Ryvarden comb. nov. Basionym: *Odontia pilaecystidiata* S. Lundell, Fungi exs. Suec. fasc. 43-44:24, No. 2146, 1953.
Known distribution. Specimens seen from Europe only.

Hastodontia (Parmasto) Hjortstam & Ryvarden comb. nov. Basionym: *Hyphodontia* subg. *Hyphodontia* sectio *Corticiodontia* subsectio *Hastodontia* Parmasto, Conspectus syst. corticiacearum: (Tartu) 122, 1968. Generic type: *Peniophora hastata* Litsch. Generitype specimen (Lectotype): *In truncis putridis Coniferarum et in asseribus Piceae excelsae*. Apud "Kreit", 18.VIII. 1919 (W).

Brief description
Basidiom resupinate, adnate. Hymenophore smooth slightly tuberculate. Hyphal system monomitic; hyphae distinct, thin-walled or becoming thick-walled, all hyphae with clamp connections. Cystidia of two kinds 1) numerous subulate cystidia, often with a globe of resinous matter 2) enclosed and constricted. Basidia subcylindrical, somewhat constricted, with four sterigmata and a basal clamp connection. Spores cylindrical to subcylindrical, smooth, thinwalled, inamyloid, indextrinoid, acyanophilous.

Following new combinations are proposed:
Hastodontia hastata (Litsch.) Hjortstam & Ryvarden comb. nov. Basionym: *Peniophora hastata* Litsch., Österr. Bot. Zeitschr. 77:130, 1928.
Known from the Northern hemisphere.

Hastodontia halonata (J. Erikss. & Hjortstam) Hjortstam & Ryvarden comb. nov. Basionym: *Hyphodontia halonata* J. Erikss. & Hjortstam, Svensk Bot. Tidskr. 63:227, 1969.
Known distribution. Northern Europe and E. Langer (1994) mentioned also Caucasus.

Brief descriptions of genera treated in the list above

Alutaceodontia (Parmasto) Hjortstam & Ryvarden
Synopsis Fungorum 15:7, 2002.
Basidiome resupinate, effused. Hymenophore odontioid with fairly small aculei. Hyphal system monomitic; hyphae distinct, with clamp connections. Cystidia arising from the subiculum or from the subhymenial layer, in the upper part thin-walled, aseptate and constricted. Basidia subclavate, with four sterigmata. Spores allantoid, smooth, thin-walled.

Chaetoporellus Singer
Mycologia 36:66, 1944.
Basidiomes resupinate. Hymenophore poroid or hydnoid; hyphal system monomitic; hyphae with clamp connections. Cystidia cylindric, thin-walled or more commonly thick-walled, smooth or encrusted. Basidia clavate, with four sterigmata. Spores strongly curved, of small dimension, thin-walled, hyaline.

Fibrodontia Parmasto
Conspectus syst. corticiacearum: (Tartu) pp.174, 1968.
Basidiome resupinate, loosely adnate, soft but fibrous. Hymenophore odontioid, with dense, mor or less cylindrical aculei. Hyphal system subdimitic or dimitic; all hyphae with clamp connections. Cystidia absent, but especially in the aculei with subcapitate hyphal ends. Basidia suburniform, with 4 sterigmata. Spores ellipsoid, thin-walled, hyaline.

Hyphodontia J. Erikss.
Symb. bot. ups. 16:101, 1958.
Basidiome resupinate. Hymenophore hydnoid to smooth. Hyphal system monomitic; hyphae in the subiculum sometimes weakly dextrinoid and with a distinct cyanophilous reaction. All hyphae with clamp connections. Cystidia of two kinds, 1) septocystidia, at least capitulate and often apically encrusted, constricted and with two or more septa with a clamp connection each, 2) lagenocystidia, apically strongly encrusted. Basidia subcylindric, basally with a slight thickened

wall, with four sterigmata, often with a dextrinoid reaction. Spores subglobose to ellipsoid, thin-walled, hyaline.

Kneiffiella P. Karst.
Bidr. Känned. Finl. Nat. Folk 48:371, 1889.
Basidiome resupinate. Hymenophore smooth to more commonly odontioid or hydnoid. Hyphal system monomitic or sometimes treated as subdimitic owing to the skeletoid hyphae or cystidia in the aculei; hyphae thin to moderately thick-walled, with clamp connections or partially with simple septa or totally without clamp connections. Cystidia often numerous, thick-walled and arising from the subiculum. Basidia with four, exceptionally with two sterigmata, with or without a basal clamp connection. Spores generally subglobose to ellipsoid, thin-walled, hyaline.

Lagarobasidium Jülich
Persoonia 8:84, 1974.
Basidiome resupinate. Hymenophore smooth to odontioid. Hyphal system monomitic; hyphae thin to moderately thick-walled, sometimes cyanophilous, with clamp connections. Cystidia almost tubular, thin-walled or rarely thick-walled. Basidia with four sterigmata, with a basal clamp connection. Spores thick-walled, hyaline, cyanophilous.

Lyomyces P. Karst.
Rev.mycol. 3:23, 1881.
Basidiome resupinate. Hymenophore smooth or rarely granular to odontioid. Hyphal system monomitic; subicular hyphae thin-walled or often with a slight wall thickening, normally encrusted with crystalline material, with clamp connections. Cystidia of one or two kinds, variable, capitate, cylindric or almost subulate. Basidia narrowly clavate, suburniform, with four sterigmata. Spores globoid, ellipsoid to cylindric, thin-walled or with a slight thickened wall and often with a weak cyanophilous reaction.

Palifer Stalpers & P. K. Buchanan
N.Z. Jl Bot. 29:339, 1991.
Basidiome resupinate, effused, arachnoid to submembranaceous. Hymenophore smooth to ornamented. Hyphal system monomitic; hyphae hyaline, with clamp connections. Leptocystidia straight, cylindrical, protruding, originating from basal hyphae. Lamprocystidia small, originating in the trama, encrusted. Basidia with four sterigmata. Spores ellipsoid to cylindric, thin-walled, hyaline.

Rogersella Liberta & Navas
Can.J.Bot. 56:1777, 1978.
Original description.
Frutification effused, thin, subceraceous to chalky or farinose, white or cream colored to yellowish, margin thinning; hyphal system monomitic, hyphae fibulate, the walls not or slightly cyanophil-ous, crystalline material abundant in the context; cystidia cylindrical to capitate; basidia sub-cylindrical to suburniform, with four sterigmata; basidiospores hyaline, globose to ellipsoid, the wall thin or slightly thickened, smooth or asperulate, non amyloid, not or slightly cyanophilous.

Schizopora Velen.
Ceské Houby p. 638, 1922.
Basidiome resupinate to pileate. Hymenophore poroid or with irregular teeth. Hyphal system dimitic or subdimitic. Generative hyphae with clamp connections. Cystidia or cystidioles generally of capitate appearance. Basidia with four sterigmata. Spores broadly ellipsoid, more rarely cylindric, hyaline, thin-walled.

Xylodon (Pers.) Gray
Nat. arrang. Br. Pl. 1:649, 1821.
Sistotrema sect. *Xylodon* Pers., Syn. meth. Fung. 552, 1801.
Basidiomes resupinate. Hymenophore from almost smooth, grandinioid, tuberculate, raduloid to distinctly hydnoid, in some species poroid. Hyphal system monomitic; hyphae with clamp connections or more rarely simple septate. Cystidia or hyphal ends variable, smooth or encrusted, conical to more commonly with capitate appearance, rarely septate. Basidia normally with four sterigmata and a basal clamp connection. Spores generally thin-walled, almost globose to more commonly ellipsoid, cylindric or allantoid, hyaline.

Key to genera dealt with in this survey

Alutaceodontia, Chaetoporellus, Deviodontia, Fibrodontia, Hastodontia, Hyphodontia, Kneiffiella, Lagarobasidium, Lyomyces, Palifer, Rogersella, Schizopora, Xylodon.

1. Spores finely ornamented, hymenophore mainly odontioid ..... **Rogersella** Liberta & Navas
1. Spores smooth, hymenophore smooth, hydnoid to poroid .....**2**.

2. Spores thick-walled and cyanophilous (note *Xylodon crassisporus*.) ..... **Lagarobasidium**
2. Spores normally thin-walled, in some species no more than indistinctly thick-walled, but see *Xylodon crassisporus* **3**

3. Hyphal system dimitic or subdimitic **4**
3. Hyphal system monomitic **5**

4. Hymenophore poroid to irpicoid..... **Schizopora**
4. Hymenophore odontioid to hydnoid ..... **Fibrodontia**

5. With 1) lagenocystidia, rare in *H. pallidula* and 2) septate cystidia .....**Hyphodontia** s.s.
5. Without typical lagenocystidia.....**6**

6. Hymenophore smooth.....**7**
6 Hymenophore tuberculate to granular, odontioid, hydnoid, rarely poroid **9**

7. With two kinds of cystidia 1) subulate or capitate 2) moniliform ..**Hastodontia**
7. Not with this combination of characteristic **8**

8. With both lamprocystidia and leptocystidia.....**Palifer verecundus**
8. With capitate or subulate cystidia .....**Lyomyces**

9. Hymenophore poroid or hydnoid, cystidia tubular, spores strongly curved, 4-5 x 1-1.5 µm.....**Chaetoporellus**
9. Spores never strongly curved.....**10**

10. With both lamprocystidia and leptocystidia..... **Palifer**
10. Otherwise **11**

11. With thick-walled tubular cystidia ..... **Kneiffiella** (note some species without clamps)
11. Not with such cystidia **12**

12. Hymenophore strongly hydnoid, raduloid or semiporoid, with up to 2-5(-7) mm long aculei, cystidia distinctly capitate, rare species in the Northern Hemisphaere growing mainly on *Salix* sp. ..... **Deviodontia**
12. Not with this combination of characteristics **13**

13. Hymenophore almost smooth to odontioid, cystidia tubular, thin-walled, often constricted, spores allantoid ..... **Alutaceodontia**
13. Hymenophore sometimes smooth, more often granular to distinctly odontioid-hydnoid, rarely poroid, cystidia or cystidioles variable in appearance, spores ellipsoid, globoid or cylindrical ..... **Xylodon**

References

Cunningham, G. H. 1959. Hydnaceae of New Zealand Part II. The Genus *Odontia*. Trans. Roy. Soc. N.Z. 86:65-103.
Eriksson, J. 1958. Studies in the Heterobasidiomycetes and Homobasidiomycetes - Aphyllophorales of Muddus National Park in North Sweden. Symb. bot. ups. 16:1-172.
Eriksson, J. and Ryvarden, L. 1976. The Corticiaceae of North Europe. Vol. 4. *Hyphodermella – Mycoacia*. Fungiflora, Oslo, Norway.
Furukawa, H. 1974. Taxonomic Studies of the Genus *Odontia* and its Allied Genera in Japan. Bull. Gov. Exp. Sta. No. 261:1-87.
Gilbertson, R. L. 1962. Resupinate Hydnaceous Fungi of North America I. Type studies of species described by Peck. Mycologia 54:658-677.
Greslebin, A. G. and Rajchenberg, M. 2000. The genus *Hyphodontia* in the Patagonian Andes forest of Argentina. Mycologia 92:1155-1165.
Hjortstam, K. 1991. *Athelopsis* instead of *Pteridomyces* (Corticiaceae, Basidiomycetes). Mycotaxon 42:149-154.
Hjortstam, K. and Ryvarden, L. 1997. Corticioid species (Basidiomycotina, Aphyllophorales) from Colombia collected by Leif Ryvarden. Mycotaxon 64:229-241.
Hjortstam, K. and Ryvarden, L. 2002. Studies in tropical corticioid fungi (Basidiomycotina, Aphyllophorales) *Alutaceodontia*, *Botryodontia*, *Hyphodontia* s.s. and *Kneiffiella*. Synopsis Fungorum 15:7-17.
Hjortstam, K. and Ryvarden, L. 2007. Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics, and the southern hemisphere. Synopsis Fungorum 22:27-146.
Hjortstam, K. and Ryvarden, L. & Iturriaga, T. 2005. Studies in corticioid fungi from Venezuela II (Basidiomycotina, Aphyllophorales), Synopsis Fungorum 20:42-78
Kotiranta, H. and Saarenoksa, R. 2000. Three new species of *Hyphodontia* (Corticiaceae). Ann. Bot. Fenn. 37:255-278.
Langer, E. 1994. Die Gattung *Hyphodontia* John Eriksson. Bibl. Mycol. 154, 298 pp.

A taxonomic survey of the Peniophoraceae

Mathias Andreasen
mathias_tuborg@hotmail.com
&
Nils Hallenberg
nils.hallenberg@dpes.gu.se
Dept of Plant and Environmental Sciences
Box 461, S-405 30 Gothenburg, Sweden

Introduction

This work is a literature study of peniophoroid basidiomycetes, holding information about the genera *Peniophora*, *Duportella* and *Dendrophora* concerning species- and generic descriptions and distributions, all on a worldwide scale. Moreover, keys have been made to distinguish the different genera and species, and we have tried to get an overview over the molecular studies made on this group of fungi.

It is generally accepted that the genus *Peniophora* Cooke is a member of the *Corticiaceae* s.l. in its traditional sense (Wu 2003). Cortbase recognizes 78 species in *Peniophora*, 12 species in *Duportella* and 2 in *Dendrophora* (Cortbase 2008), but some species are little known and may just have been found once, while other ones are very closely related and difficult to distinguish even by use of the microscope. Nonetheless, the genus is well delimited and has strong support in phylogenetic studies based on molecular data. Future field studies around the world will undoubtly add still more species.

The family *Peniophoraceae* Boidin holds three genera (Boidin et al. 1991): *Peniophora*, *Duportella* and *Dendrophora* and these genera are closely related to each other, with only a few separating microscopical characters.

In this work we have tried to include all the species recognized by Cortbase. Detailed information on some species was, however, difficult to find, and a few old species names have been questioned and therefore neglected in this study. Therefore, this work includes 70 species of *Peniophora* but all the species of

Duportella and *Dendrophora*. We have chosen not to use any molecular data as basis for our keys, and the eight subgroups of the genus *Peniophora* identified here are strictly distinguished by macroscopial and microscopical characters.

Taxonomy, nomenclature and molecular support of the genus Peniophora

In 1879 Cooke proposed the genus *Peniophora* as a genus of *Corticiaceae* characterized by presence of metuloids (here called lamprocystidia, or encrusted cystidia). Following the creation of the genus *Peniophora*, Burt (1926) monographed the genus in America but included also corticioid species with non-metuloid cystidia, and until the publication by Slysh (1960) more than 100 species had been added. In Europe a manual to the European species was made by Bourdot and Galzin (1928) where they used the same broad generic concept as in America, but they also distinguished the section *Coloratae* within the genus, a section which later was to become *Peniophora sensu strico* in modern sense (Eriksson 1950). The general definition of the genus used by Burt (1926) and Bourdot & Galzin (1928) was very broad, including species with smooth resupinate fructifications, with encrusted or unencrusted cystidia in the hymenia, and cystidia could be either thin-walled or thick-walled. The presence of cystidia distinguished *Peniophora* from the genus *Corticium*. *Peniophora* was a gathering of a number of now known unrelated species into one big genus, sharing only a few distinct characters. John Eriksson points out that "The presence of cystidia in itself cannot be looked upon as a sign of natural relationship" and he suggests that these kind of cystidia is a protection structure for the basidia, and that the development of these structures has evolved from different parts, within the order and among other *Hymenomycetes* (Eriksson 1950).

John Eriksson published a taxonomical study with special reference to the Swedish species in 1950, where he established *Peniophora sensu-stricto*, in principle based on the section *Coloratae* proposed by Bourdot & Galzin. Jacques Boidin (1965) presented the French species, where he supported John Erikssons delimitation of the genus. The definition of the now standing *Peniophora* was established, but Boidin also distinguished the subgenera *Gloeopeniophora, Cryptochaete, Christodendrella, Duportella*, and *Peniophora*.

During the last 50 years, many of the earlier included species have been moved from the genus to other, newly created genera, and the overall definition of the genus has been furthermore specified.

Peniophora is presently a relatively well defined genus with a relatively strong support as a natural genus (Boidin et al. 1998). Studies using culture studies and crossing tests have been used extensively for species delimitations (Stalpers, 1978; Boidin & Lanquetin, 1984, 1990; Nakasone, 1990) and the few molecular studies on species counted to the genus, seem to conclude a convincingly close

relationship between the species, and that the genus seems to be natural and closely related to genus *Duportella* (Boidin et. al 1998, Hallenberg et. al 1996). These studies, together with Boidin (1994), try to divide the genus into 4 different phylogenetic groups, but these groups are not easily distinguished from each other by morphology. The treatment dealt with here aims to be of practical value in the determination of species, why the traditional subdivision based on morphology has been used.

Key to genera in Peniophoraceae *Boidin*

1. Dendrohyphidia brown, thick-walled, not encrusted. Basidiocarp effused-reflexed when well developed. **Dendrophora (p. 114)**
1. Dendrohyphidia absent or if present; hyaline or brownish only at the base, thin- to slightly thick-walled, typically with crystals. Basidiocarp effused. **2.**
2. Lamprocystidia brown over the entire length. Skeletals or skeletoid hyphae often present. **Duportella (p. 108)**
2. Lamprocystidia hyaline or only brown at the basal part. Skeletals or skeletoid hyphae absent. **Peniophora**

Genus Peniophora *Cooke*

Syn.: *Leiostroma* Fr., *Cryptochaete* P. Karst., *Sterellum* P. Karst., *Gloeopeniophora* Höhn. & Litsch.

Basidiocarp annual or perennial, resupinate, effused, membranaceous, ceraceous or coriaceous, adnate to rarely more loosely attached, thin- to rather thick, in section stratified or not. Margin indistinct to fibrillose, evanescent, but sometimes rolled-in when dry and old. Hymenial surface even to tuberculate, rarely raduloid or merulioid, reddish, orange, pink, violaceous, geyish, cream-colored to yellowish, ochraceous, brown or with vinaceous or lilaceous or grey tinges. Hyphal system monomitic or rarely seemingly dimitic. Hyphae hyaline, yellowish or brown, thin- to thickwalled, with or without clamps, walls gelatinized or not. Dendrohyphidia present in some species. Gloeocystidia fusiform, SA+ (sulfocystidia) or SA-, present or not. Lamprocystidia present in most species, conical to ellipsoid, ovoid or subcylindrical, thick- to thin-walled, often encrusted, hyaline to brown in the basal part. Basidia narrowly clavate to subcylindrical, sometimes flexuous, thin- to slightly thick-walled, with (2-)4 sterigmata. Spores hyaline, ellipsoid, cylindrical, allantoid, ovoid in one species, thin-walled, smooth, not amyloid, spore print mostly pink.

Substrate: saprophytic on wood or bark og angiosperms or gymnosperms.

Type species: *Thelephora quercina Pers. ex Fr. 1821*

Key to main groups

1. Dendrohyphidia present, often hyaline and may be difficult to see **Lycii-group**
1. Dendrohyphidia absent **2**
2. Hymenia with bright red to orange colors ..... **Incarnata-group**
2. Hymenia with nuances of cream, pinkish, yellowish, pale orange, purplish, brown, blackish or grey colors **3**
3. Spores ellipsoid or ovoid ..... **Scintillans-group**
3. Spores cylindrical or allantoid **4**
4. Spores up to 6 µm long .....**Molesta-group**
4. Spores longer **5**
5. Gloeocystidia absent or indistinct .....**Cinerea-group**
5. Gloeocystidia present and easily identified **6**
6. Gloeocystidia, at least some 9(10)-15 µm wide .....**Nuda-group**
6. Gloeocystidia slender, narrower than 9-10 µm **7**
7. Lamprocystidia 12-25 µm wide, ***or*** spores from 4 µm and wider..**Reidii-group**
7. Lamprocystidia 4-16 µm wide ***and*** spores narrower than 4 µm .....**Violaceolivida-group**

Groups

The following classification is made on basis of morphological characters and the groups, below, are based on the previous key. Each of the groups is further divided based on simple morphological characters.

Lycii-group

Without lamprocystidia

Peniophora gilbertsonii
Peniophora lilacea
Peniophora polygonia
Peniophora sphaerocystidiata
Peniophora tamaricicola

With lamprocystidia

Peniophora decorticans
Peniophora lycii
Peniophora meridionalis

Incarnata-group

Spores ellipsoid to narrow ellipsoid

Peniophora aurantiaca
Peniophora boidinii

Peniophora erikssonii
Peniophora proxima

Spores cylindrical to allantoid or pyriform
Peniophora incarnata
Peniophora laeta
Peniophora laurentii
Peniophora pseudoversicolor
Peniophora versicolor
Peniophora subpirispora

Scintillans-group
Peniophora crustosa
Peniophora dipyrenosperma
Peniophora laxitexta
Peniophora pruinata
Peniophora scintillans
Peniophora ovalispora

Molesta-group
Lamprocystidia up to 35 µm long
Peniophora adjacens
Peniophora bruneiensis
Peniophora duplex
Peniophora exima
Peniophora farlowii
Peniophora malaiensis
Peniophora molesta
Peniophora pithya

Lamprocystidia over 30 µm long
Peniophora fulvissima
Peniophora parvocystidiata
Peniophora taiwanensis

Cinerea-group
On angiosperms
Peniophora cinerea
Peniophora colorea

Peniophora limitata
Peniophora manshurica
Peniophora quercina
Peniophora rufomarginata
Peniophora seymouriana
Peniophora spathulata

On gymnosperms
Peniophora junipericola
Peniophora piceae

Nuda-group

Gloeocystidia thick-walled (1.5-3 µm)
Peniophora bonariensis
Peniophora crassitunicata
Peniophora fissilis

Gloeocystidia less thickwalled to thin-walled
Peniophora fasticata
Peniophora nuda
Peniophora pini
Peniophora rhodocarpa
Peniophora rufa
Peniophora subsalmonea

Reidii-group

Spores narrower than 4 µm
Peniophora borbonica
Peniophora elaeidis
Peniophora reidii
Peniophora suecica
Peniophora taraguiensis

Spores 4 µm or wider
Peniophora coprosmae
Peniophora multicystidiata

vv

With clamps

Peniophora monticola
Peniophora pilatiana
Peniophora pseudonuda
Peniophora pseudopini
Peniophora septentrionalis
Peniophora simulans
Peniophora violaceolivida

Without clamps

Peniophora bicornis
Peniophora borealis
Peniophora confusa
Peniophora gabonensis
Peniophora guadelupensis

Key to Lycii-group

1. With lamprocystidia (lycii-subgroup) **2**
1. Without lamprocystidia (lilacea-subgroup)..... **4**

2. Hymenial surface ochraceous grey, yellowish brown, clay coloured, olivaceous brown or dark brown. Dendrohyphidia often brownish at the base ..... **P. meridonalis**
2. Hymenial surface whitish grey, pinkish buff, pinkish lilac to greyish lilac to bluish violaceous. Dendrohyphidia hyaline.....**3**

3. Decorticant, bursting through cortex (Like *Vuilleminia comedens*) .....**P. decorticans**
3. Basidiome not decorticant..... **P. lycii**

4. Spores ellipsoid.....**5**
4. Spores cylindrical to allantoid **6**

5. Spores 5-6.5 x 3-3.5 µm. Tramal gloeocystidia globose, 25-50 x 25-40 µm .....**P. sphaerocystidiata**
5. Spores 11-15 x 7-9 µm. Tramal gloeocystidia cylindrical to fusiform, 50-100 x 9-18 µm .....**P. lilacea**

6. Gloeocystidia bladder-like, 60-100 x 15-25 µm. Spores 9-12 x 2.5-4 µm .....**P. polygonia**
6. Gloeocystidia cylindrical to fusiform, 25-70 x 7-12.5 µm. Spores 8.5-12 x 3.7-5 µm **7**

7. European sp. Hymenial surface even, strongly cracked when dry, pinkish when fresh, becoming pale purplish grey to grey. On *Tamarix* ..... **P. tamaricicola**
7. North American species. Hymenial surface even to tuberculate, not rimose, ochraceous pink to pink to reddish when fresh, becoming violaceous or brown to grey when dry ..... **P. gilbertsonii**

Species descriptions Lycii-group

Peniophora decorticans Burt *(1926) Ann. Missouri Bot. Gard. 12: 344.*
Basidiocarp effused, membranaceous, up to 1.2 mm thick. Hymenial surface even, pinkish buff or pinkish lilac to whitish grey. Margin indistinct. Decorticant, bursting through cortex (like *Vuilleminia comedens*).

Hyphal system. Hyphae hyaline to brownish, thin- to thick-walled, 2.5-5 µm wide. Basal layer hardly present. With clamps.
Cystidia. *Gloeocystidia* fusiform, 40 x 5-7 µm, weakly SA+. *Dendrohyphidia* hyaline, thin-walled, terminal branches with crystals. *Lamprocystidia* tramal, subglobose to ovoid, thick-walled, 22-42 x 14-25 µm.
Basidia subclavate, 30-35 x 4.5-5.5 µm.
Spores (7)8-10(-11) x (2-)2.5-3(-3.5) µm.
Habitat. On angiosperms.
Distribution. Canada, USA (Ginns and Lefebvre 1993).
Distinguishing characters. Dendrohyphidia present, hyaline. Hymenial surface even, pinkish buff or pinkish lilac to whitish grey. Decorticant, bursting through cortex.

Peniophora gilbertsonii *Boidin (1994) Bull. Mens. Soc. Linn. Lyon 63 (9): 324.*
Basidiocarp effused, ceraceous to crustaceous, up to 0,2 mm thick. Hymenial surface even to tuberculate, not rimose, ochraceous pink to pink to reddish when fresh, becoming violaceous or brown to grey when dry. Margin indistinct.
Hyphal system. Hyphae hyaline to yellowish, thin- to thick-walled, 3-4(-5) µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, 25-70 x 7-12.5 µm, SA+. *Dendrohyphidia* hyaline to yellowish, encrusted, 2-5 µm wide.
Basidia narrowly clavate, 35-60 x 6-8 µm.
Spores cylindrical to slightly allantoid, 8.5-12(-13) x 3.7-5 µm.
Habitat. On angiosperms
Distribution. North America (loc. cit.).
Distinguishing characters. With dendrohyphidia. Hymenial surface even to tuberculate, not rimose. Lamprocystidia absent. Gloeocystidia cylindrical to fusiform.

Peniophora lilacea *Bourdot & Galzin (1912) Bull. Soc. Mycol. France 28 (4): 403.*
Basidiocarp effused, rounded at first, becoming confluent, up to 0.2 mm thick. Hymenial surface even to tuberculate, pinkish grey to ochraceous, sometimes with lilac or orange tinge when fresh.
Hyphal system. Hyphae hyaline, thin- to somewhat thick-walled, 2-5 µm wide. Basal layer very thin. With clamps.
Cystidia. Hymenial *gloeocystidia* cylindrical to fusiform, thin-walled. Tramal *gloeocystidia* cylindrical to fusiform, often thick-walled, 50-100 x 9-18 µm. *Dendrohyphidia* hyaline to yellowish, apically encrusted, 3-5 µm wide.
Basidia subcylindrical, 40-60 x 7-10 µm.

Spores ellipsoid, (9-)11-15(-16) x (6,5-)7-9(-10) µm.
Habitat. On angiosperms, preferably *Ulmus*
Distribution. Europe and USSR (Jülich & Stalpers 1980), France (Boidin 1965), Denmark (Svampefund 2008), Sweden (Hansen & Knudsen 1997).
Distinguishing characters. Hyaline dendrohyphidia present. Lamprocystidia absent. Spores big, ellipsoid. On *Ulmus*.

Peniophora lycii *(Pers.) Höhn. & Litsch. (1907) Sitzungsber. K. Akad. Wiss. Wien, Math.-nat. Kl. I 116: 747.*
Basidiocarp effused, membranaceous, up to 0.12 mm thick. Hymenial surface even, pinkish lilac or greyish lilac to bluish violaceous. Margin indistinct.
Hyphal system. Hyphae hyaline to brownish, thin- to somewhat thick-walled, 2.5-5 µm wide. Basal layer hardly present. With clamps.
Cystidia. *Gloeocystidia* fusiform, 30-65 x 8-15 µm, SA+. *Lamprocystidia* tramal, thick-walled, subglobose to ovoid, 22-42 x 14-25 µm. *Dendrohyphidia* hyaline, thin-walled, terminal branches with crystals.
Basidia subclavate, 30-35 x 4.5-5.5 µm.
Spores (8-)8.5-13(-14) x (3.2-)3.5-5 µm.
Distribution. Argentina (Gomez et al. 1976), Canary Islands (Hallenberg 1991), Morocco (Malençon 1982), Australia and New Zealand (Cunningham 1963), USA (Ginns and Lefebvre 1993), Europe (Jülich & Stalpers 1980), Sweden (Eriksson 1950), France (Boidin 1965), Denmark (Christiansen 1959), Ethiopia (Boidin & Lanquetin 1995).
Distinguishing characters. Hymenial surface even, pinkish lilac or greyish lilac to bluish violaceous. Dendro- and subglobose lamprocystidia present, terminal ends of dendrohyphidia with crystals.

Peniophora meridionalis *Boidin (1958) Bull. Soc. Mycol. France 74 (4): 455.*
Basidiocarp effused, confluent, pustulate when young, up to 0.2 mm thick. Hymenial surface even, ochraceous grey, yellowish brown, clay colored, olivaceous brown or dark brown. Margin fibrillose, pale, or absent.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2-5 µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical, thin-walled, SA+. *Lamprocystidia* subcylindrical, obtuse, thick-walled, encrusted, 35-55 x 8-20 µm, not projecting. *Dendrohyphidia* hyaline in the hymenia to brown in the trama, encrusted at the apices, thin- to thick-walled.
Basidia subclavate, 25-45 x 4.2-5.5 µm.
Spores cylindrical to allantoid, 6.8-8.8 x 2.4-3.2 µm.
Habitat. On angiosperms.

Distribution. France (Boidin 1958), Canary Islands (Hallenberg 1991), Morocco (Malençon 1982), Australia and New Zealand (Cunningham 1963), Europe (Jülich & Stalpers 1980).
Distinguishing characters. Dendrohyphidia present, brown at the base, Lamprocystidia subcylindrical. Hymenial surface even, ochraceous grey, yellowish brown, clay colored, olivaceous brown or dark brown. Margin fibrillose, pale, or absent.

Peniophora polygonia *(Pers. : Fr.) Bourdot & Galzin (1928) Hymen. Fr. 320.*
Basidiocarp effused, adnate, confluent, at first consisting of small round patches, up to 1 mm thick. Hymenial surface even to tuberculate, pink to red to dark red. Margin fimbriate and whitish when young.
Hyphal system. Hyphae hyaline, thin-walled, 2.5-4 µm wide. Basal layer well developed. With clamps.
Cystidia. *Gloeocystidia* big, bladder like, 60-100 x 15-25 µm, SA+. *Dendrohyphidia* hyaline, branches 1-2µm wide.
Basidia 40-50 x 5-6 µm.
Spores cylindrical to allantoid, 9-12(-13) x 2.5-4 µm.
Habitat. On *Populus*.
Distribution. Canada, USA (Ginns and Lefebvre 1993), Europe (Jülich & Stalpers 1990), France (Boidin 1965), Denmark, Finland, Norway, Sweden (Hansen & Knudsen 1997).
Distinguishing characters. Dendrohyphidia present. Lamprocystidia absent. Basidiocarp at first consisting of small rounded patches, thin. Gloeocystidia big, bladder-like. With clamps. Restricted to *Populus*.

Peniophora sphaerocystidiata *Burds. & Nakasone (1983) Mycotaxon 17: 261.*
Basidiocarp effused round at first, becoming confluent, up to 0.1 mm thick. Hymenial surface even, yellowish white to greyish yellow.
Hyphal system hyaline, thin to somewhat thick-walled, 2-4 µm wide. Basal layer very thin. With clamps.
Cystidia. *Dendrohyphidia* hyaline, apically encrusted, 3-5 µm wide. Hymenial *gloeocystidia* fusiform, 25-30 x 5-6 µm. Tramal *gloeocystidia* thick-walled, globose, 25-50 x 25-40 µm, SA-.
Basidia subcylindrical, 25-30 x 5-6 µm.
Spores ellipsoid, 5-6.5(-8) x 3-3,5(-4) µm.
Habitat. On angiosperms.
Distribution. USA (Ginns and Lefebvre 1993).

Distinguishing characters. Dendrohyphidia present. Lamprocystidia absent. Globose tramal gloeocystidia. Spores ellipsoid. Hymenial surface with yellowish white to greyish yellow colours.

Peniophora tamaricicola *Boidin & Malençon (1961) Rev. Mycol. (Paris) 26 (3): 153.*
Basidiocarp effused, ceraceous to crustaceous, up to 0.2 mm thick. Hymenial surface even, strongly cracked when dry, pink when fresh, becoming pale purplish grey to grey. Margin indistinct.
Hyphal system. Hyphae hyaline to yellowish, thin- to thick-walled, 3-4(-5) µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, 25-70 x 7-12.5 µm, SA+. *Dendrohyphidia* hyaline to yellowish, encrusted, 2-5 µm wide.
Basidia narrowly clavate, 35-60 x 6-8 µm.
Spores cylindrical to slightly allantoid, 8.5-12(-13) x 3.7-5 µm.
Habitat. On *Tamarix*.
Distribution. Morocco (loc.cit). USA (Ginns and Lefebvre 1993). Europe (Jülich & Stalpers 1990), France (Boidin 1965).
Distinguishing characters. Dendrohyphidia present. Lamprocystidia absent. Hymenial surface strong cracked when dry. Gloeocystidia cylindrical to fusiform. On Tamarix.

Key to Incarnata-group

1. Spores ellipsoid to narrowly ellipsoid **2**
1. Spores cylindrical to subcylindrical and/or allantoid to suballantoid **5**
1. Spores pyriform .....**P. subpirispora**

2. Spores longer than 13-20 µm. Gloeocystidia prominent (10-20µm wide). On *Alnus* **3**
2. Spores shorter than 6-14 µm long. Gloeocystidia narrow (4-5.5µm wide) or absent **4**

3. With clamps .....**P. aurantiaca**
3. Without clamps .....**P. erikssonii**

4. Hymenial surface even. On *Pistacia* .....**P. boidinii**
4. Hymenial surface tuberculate. On *Buxus* .....**P. proxima**

5. Hymenial surface even **6**
5. Hymenial surface tuberculiform **9**

6. Hymenial surface brownish, basal hyphae brownish. Gloeocystidia absent. Spores broadly cylindrical .....**P. versicolor**
6. Hymenial surface with orange tint, rarely with brownish. Basal hyphal system hyaline **7**

7. Gloeocystidia narrow (4-5.5 µm wide) ..... **P. boidinii**
7. Gloeocystidia prominent (8-15 µm wide) **8**

8. Basal layer relatively thin, less than one third of the hymenial layer ..... **P. incarnata**
8. Basal layer relatively thick, more than one third of the hymenial layer. Some basal hyphae brownish .....**P. pseudoversicolor**

9. Basidiome decorticant (like Vuilleminia comedens), hydnoid. On Carpinus ..... **P. laeta**
9. Basidiome not decorticant **10**

10. Basidiocarp thin, up to 0.5 mm thick, adnate. With clamps **8**
10. Basidiocarp relatively thick, up to 1.5 mm thick. Hymenium detachable. Without clamps .....**P. laurentii**

Species descriptions Incarnata-group

Peniophora aurantiaca *(Bres.) Höhn. & Litsch. (1906) Sitzungsber. K. Akad. Wiss. Wien, Math.-nat. Kl. I 115: 1583.*
Basidiocarp effused, adnate, ceraceous to membranaceous, up to 0.5 mm thick. Hymenial surface even to tuberculate, orange-red, reddish to reddish grey. Margin pubescent, white.
Hyphal system. Hyphae hyaline, thin-walled 3-5 µm wide. With clamps.
Cystidia. *Gloeocystidia* fusiform, thin-walled 70-100(-150) x 10-15(-20) µm. *Lamprocystidia* conical, hyaline, thick-walled, encrusted, 30-70 x 7-12 µm
Basidia subcylindrical, sinuous 60-90 x 10-15 µm, 4 sterigmata.
Spores ellipsoid, 14-20 x 8-12 µm.
Habitat. On *Alnus*.
Distribution. Italy (loc.cit), Taiwan (Lin and Chen 1990), Canada, USA (Ginns and Lefebvre 1993), Europa, North America (Jülich & Stalpers 1980), France (Slysh 1960), Sweden (Eriksson 1950).

Distinguishing characters. Hymenial surface orange-red. Spores big, ellipsoid. Gloeocystidia and lamprocystidia. With clamps. On *Alnus*.

Peniophora boidinii *D.A. Reid (1965) Revista Biol. (Lisbon) 5 (1-2): 146.*
Basidiocarp effused, subceraceous, adnate, up to 0.2 mm thick. Hymenial surface even, pink, orange or beige.
Hyphal system. Hyphal texture interwoven, not arranged in a horizontal layer. With clamps.
Cystidia. *Gloeocystidia* thin-walled, 35-50 x 4-5.5 µm, some with schizopapilla. *Lamprocystidia* conical, 25-40 x 5-12(-15) µm, very frequent.
Basidia clavate, 25-35 x 6-8 µm. 4 sterigmata
Spores narrow ellipsoid to cylindrical, 6-8.2(-9) x 3-3.8 µm.
Habitat. On angiosperms, *Pistacia*.
Distribution. Portugal (loc.cit), Canary Island (Rodriguez-Armas 1992), Europa (Jülich & Stalpers 1980).
Distinguishing characters. Hymenial surface even, orange. Spores narrow ellipsoid to cylindrical, 6-8 x 3-3.8. Gloeocystidia narrow.

Peniophora erikssonii *Boidin (1957) Bull. Soc. Hist. Nat. Toulouse 92: 286.*
Basidiocarp effused, adnate, ceraceous to membranaceous, up to 0.5 mm thick. Hymenial surface even, often with central wart, pinkish buff to orange yellow. Margin whitish to pale yellow.
Hyphal system. Hyphae hyaline, thin-walled, 2-4 µm wide. Basal layer well developed and dense. Without clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, 70-140(-200) x 10-15 µm, SA+. *Lamprocystidia* hyaline, thickwalled, encrusted, 50-110 x 8-15 µm.
Basidia 40-100 x 8-15 µm.
Spores ellipsoid, 13-20 x 8-13 µm.
Habitat. On *Alnus*.
Distribution. Canada, USA (Ginns and Lefebvre 1993), Europa, North America (Jülich & Stalpers 1980), Italy, France, Germany and Czechoslovakia (Slysh 1960), Denmark (Christiansen 1959), Sweden, Norway, Finland (Hansen & Knudsen 1997)
Distinguishing characters. Hymenial surface even, orange (incarnata colors). Margin whitish to pale yellow. Spores ellipsoid 13-20 x 8-13 µm. Gloeocystidia and lamprocystidia. Without clamps. On *Alnus*.

Peniophora incarnata *(Pers. : Fr.) P. Karst. (1889) Hedwigia 28: 27.*
Basidiocarp effused, adnate, subceraceous to membranaceous, up to 0.3 mm thick, Hymenial surface smooth, pale to bright orange, rarely violaceous red, becoming ochraceous when dry. Margin fibrillose, whitish when young.
Hyphal system. Hyphae hyaline, thin- to slightly thick-walled, 3-4.5 µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, 50-120(-200) x 9-15 µm. *Lamprocystidia* hyaline, thick-walled, encrusted, 30-60 x 7-15 µm.
Basidia subclavate, often sinuous, 25-45 x 5-7 µm.
Spores subcylindrical to suballantoid 8-12 x 3.5-5 µm.
Habitat. On angiosperms, rarely on gymnosperms.
Distribution. USA (Ginns and Lefebvre 1993), Argentina (Greslebin & Rajchenberg 2003), Canary Island (Ryvarden 1976), Morocco (Malençon 1982), India (Rattan 1977), Taiwan (Lin and Chen 1990), Australia and New Zealand (Cunningham 1963), Canada, USA (Ginns and Lefebvre 1993), Northern Hemisphere (Jülich & Stalpers 1980), China (Maekawa et al. 2002), Germany, Japan, South Africa (Slysh 1960), France (Boidin 1965), Sweden, Denmark, Island, Norway, Finland (Hansen & Knudsen 1997). The most widespread species in *Peniophora*.
Distinguishing characters. Hymenial surface even, pale to bright orange. Gloeocystidia and lamprocystidia present. Rather big, subcylindrical spores

Peniophora laeta *(Fr. : Fr.) Donk (1957) Fungus 27: 17.*
Basidiocarp effused, ceraceous to membraneceous, decorticant, up to 0.2 mm thick. Hymenial surface coarsely tuberculate to raduloid, ochraceous red to orange.
Hyphal system. Hyphae hyaline, thin-walled, 2-4 µm wide, sometimes irregular, loose to agglutinate. Subiculum layer present. With clamps.
Cystidia. *Gloeocystidia* cylindrical, thin-walled, 60-120 x 8-12 µm. *Lamprocystidia* hyaline, thick-walled, 40-60 x 12-15 µm, sometimes rare.
Basidia sybcylindrical, 35-45 x 5-7 µm, 4 sterigmata.
Spores cylindrical to suballantoid, 9.5-12(-16) x 3.5-4.5 µm.
Habitat. On *Carpinus*.
Distribution. USA (Ginns and Lefebvre 1993), Europa (Jülich & Stalpers 1980), France (Boidin 1965), Sweden, Denmark (Hansen & Knudsen 1997).
Distinguishing carracters. Hymenial surface coarsely tuberculate to raduloid, ochraceous red to orange (incarnata colors). Decorticant basidionome (Like *Vuilleminia comedens*). On *Carpinus*.

Peniophora laurentii *S. Lundell (1946) Lundell & Nannfeldt, Fungi exs. Suec. 27-28: 23*

Basidiocarp effused, easily separated from substrate, up to 1.5 mm thick. Hymenial surface tuberculate to plicate or merulioid, bright orange red. Margin white.
Hyphal system. Generative hyphae hyaline, thin- to thick-walled, 3-5 µm wide. Basal layer well developed, loose, white, hyphae thick-walled. Without clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, 70-150 x 8-12 µm, SA+. *Lamprocystidia* hyaline, thick-walled, developing from thick-walled basal hyphae, encrusted, 40-60 x 10-15 µm wide.
Basidia 50-60 x 6-8 µm.
Spores cylindrical, 8.5-13 x 4-5 µm.
Habitat. On deciduous trees.
Distribution. Canada (Ginns and Lefebvre 1993), Europa (Jülich & Stalpers 1980), Sweden, Island, Norway, Findland (Hansen & Knudsen 1997).
Distinguishing carracters. Hymenial surface tuberculate to plicate or meruloid, bright orange red (incarnata colors). Margin white.
Basidionome separable from substrate. Without clamps.

Peniophora proxima *Bres. (1913) Bourdot & Galzin, Bull. Soc. Mycol. France 28 (4): 402.*
Basidiocarp Effused, ceraceous to membranaceous or crustaceous, up to 0.5 mm thick. Hymenial surface smooth to tuberculate, reddish when fresh, reddish grey when dry. Margin pubescent, loosening from the substrate.
Hyphal system.
Cystidia. Hymenial *gloeocystidia* fusiform, thin-walled, SA-. *Lamprocystidia* fusiform, 15-40 x 5-7 µm.
Basidia up to 50 x 10 µm.
Spores ellipsoid, (8-)9-14 x 6-7 µm.
Habitat. On *Buxus*.
Distribution. Following distribution of *Buxus* in its natural habitat. Europa (Jülich & Stalpers 1980). Georgia, France, Macedonia (Eriksson 1950).
Distinguishing characters. A reddish Peniophora with lamprocystidia, growing on *Buxus*. Spores ellipsoid, up to 14 µm long.

Peniophora pseudoversicolor *Boidin (1965) Bull. Mens. Soc. Linn. Lyon 34: 162.*
Basidiocarp effused, ceraceous to subceraceous or membranaceous, up to 0.5 mm thick. Hymenial surface even to tuberculate, reddish brown to brown, but locally more reddish or orange. Margin fibrillose, whitish when young.
Hyphal system. Hyphae hyaline, thin(to thick-walled, 2.5-5 µm wide. With clamps. Basal layer thick.

Cystidia. *Gloeocystidia* cylindrical to fusiform, 25-85 x 8-15 µm. *Lamprocystidia* hyaline, thick-walled, encrusted, 35-50 x 6-9 µm.
Basidia subclavate, often sinuous, 30-45 x 5-6µm.
Spores 6.5-9(-10) x 3-4(4.5) µm.
Habitat. On angiosperms.
Distribution. USA (Ginns and Lefebvre 1993), Europa (Jülich & Stalpers 1980), France (loc.cit).
Distinguishing carracters. Basidiocarps reddish brown to brown, but locally more reddish or orange (incarnata colors). Spores 6,5-9 µm long, more narrow than *P. incarnata*. Gloeocystidia and lamprocystidia present.

Peniophora subpirispora *Boidin (1997) Bull. Feder. Myc. Dauphiné-Savoie 144: 141.*
Basidiocarp effused, up to 0.25 mm thick. Hymenial surface even, bright orange when fresh, becoming les bright and at times rimose when dry. Margin indistinc.
Hyphal system. Hyphae in bundels, 3-4 µm wide, quite distinct. With clamps.
Cystidia. *Gloeocystidia* abundant, conical or cylindrical, some long, slim and pointy at the upper part sometimes with a schizopapilla, at times emerging from hymenia. *Lamprocystidia* numerous, subcylindrical, in lover parts with horisontal root, 75-100 x 6-15 µm, with conical top.
Basidia clavate, 40-55 x 6,5-7,5 µm.
Spores pyriform with narrow part near appiculis, (7-)8-10.5(-11.5) x 4-5,3 µm, 2 nucleate.
Habitat. On angiosperms.
Distribution. France (loc.cit).
Distinguishing characters. Hymeneal surface with bright orange colors. Very similar to P. incarnate but some spores are pyriform. Incompatible with P. incarnate in crossing tests.
Peniophora versicolor *(Bres.) Sacc. & Syd. (1902) in Syll. fung. 16: 193.*
Basidiocarp effused, adnate, up to 0.1 mm thick. Hymenial surface In dry material reddish grey to reddish brown to chocolate brown to bluish violet. Margin indistinct.
Hyphal system. Hyphae yellow to brown. Basal hyphae light brown.
Cystidia. *Lamprocystidia* conical, incrusted, 15-25 x5-7 µm.
Basidia subclavate.
Spores broadly cylindrical, 9-11 x 4.5-5,5 µm.
Habitat. On angiosperms.
Distribution. Italy (Bernicchia et al. 2008), Canary Islands (Hallenberg 1991), Europa (Jülich & Stalpers 1980), France (Boidin 1965).

Distinguishing carracters. Basidiome in reddish brown to chocolate brown or bluish violet colors. Spores broadly cylindrical (incarnate size), 9-11 x 4.5-5.5 µm. Relatively small lamprocystidia, gloeocystidia absent.

Key to Scintillans-group

1. Spores ovoid .....**P. ovalispora**
1. Spores ellipsoid to cyllindrical or allantoid **2**

2. Gloeocystidia and clamps present **3**
2. Gloeocystidia and clamps absent **4**

3. Hymenial surface pale brown to chestnut brown to vinaceous brown. Gloeocystidia 45-65 x 9-11µm. Spores up to 2.8 µm wide..... **P. laxitexta**
3. Hymenial surface cream-coloured to pinkish, salmon or isabelline or brownish. Gloeocystidia 22-45 x 3-7 µm. Spores wider than 3.2 µm ..... **P. scintillans**

4. Hymenial surface greyish, pale brownish or reddish brown, rimose when dry. Basidiocarp up to 0.4 mm thick. Spores ellipsoid to cylindrical or allantoid, 6-7.2 x 2.8-3.4µm. Lamprocystidia conical, thick-walled, 30-70 x 8-16 µm ..... **P. crustosa**
4. Hymenial surface dark grey to bluish black or brownish black. Basidiocarp up to 1.5 mm thick. Spores broadly ellipsoid 5-6 x 3,5-4 µm. Lamprocystidia 35-40 x 4,5-6 µm .....**P. pruinata**
4. Hymenial surface even, pink to brownish pink. Spores ellipsoid, small, 3.5-4.5 x 2.3-2.8 µm .....**P. dipyrenosperma**

Species descriptions Scintillans-group

Peniophora crustosa *Cooke (1879) Grevillea 8 (46): 56.*
Fruitody effused, ceraceous, cartilaginous when dry, up to 0.4 mm thick. Hymenial surface even, rimose when old, greyish, pale brownish or ochraceous brown-red when dry.
Hyphal system. Hyphae hyaline to brown, often aggglutinated, thin- to somewhat thick-walled, 2-4 µm wide. Without clamps.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* conical, thick-walled, encrusted, 30-70 x 8-16 µm.
Basidia 15-25 x 4-5 µm.

Spores narrowly ellipsoid to cylindrical or allantoid,6-7.2 x 2.8-3.4 µm.
Distribution. Australia, New Zealand (Cunningham 1963).
Distinguishing characters. Hymenial surface even, rimose when old, pale brownish to brownish red. Spores narrowly ellipsoid 4.5-5.5 x 2-2.5 µm. Lamprocystidia present but gloeocystidia absent. Without clamps.

Peniophora dipyrenosperma *Boidin & Gilles (2000) in Mycotaxon 75: 375.*
Fruitbody effused, adnate, up to 0.5 mm thick, stratified. Hymenial surface even, pink to brownish pink.
Hyphal system. Hyphae hyaline, thin- to slightly thick-walled, 3-3.5 µm wide. Basal layer very thin, hyphal direction mainly vertical. Without clamps.
Cystidia. *Gloeocystidia* cylindrical to clavate, not prominent, 20-30 x 4-5 µm, SA-. *Lamprocystidia* encrusted, abundant, thin- to thick-walled, 28-50 x 6-14 µm.
Basidia subcylindrical, 14-24 x 3.2-4 µm.
Spores ellipsoid, small, 3.5-4.5 x 2.3-2.8 µm
Habitat. On branches.
Distribution. Réunion (loc.cit).
Distinguishing characters. Close to *P. ovalispora* and *P.scintillans*, but lacking clamps.

Peniophora laxitexta *L.D. Gómez (1976) Darwiniana 20 (1-2): 195.*
Basidiocarp pustulate when young, becoming confluent and effused, up to 0.3 mm thick. Hymenial surface even, becoming rimose, pale brown to chestnut brown to vinaceous brown. Margin fibrillose, whitish when young.
Hyphal system. Hyphae hyaline to brown, thin- to slightly thick-walled, 1.8-4 µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical, often thick-walled and brownish near the base, 45-65 x 9-11 µm, SA+, often bi-rooted.
Basidia clavate, 27-35 x 4.5-6 µm.
Spores narrowly ellipsoid to cylindrical or allantoid, 4.8-6.8 x 2-2.5(2.8) µm.
Habitat. On angiosperms.
Distribution. Argentina (loc.cit).
Distinguishing characters. Hymenial surface even, becoming rimose, pale brown to chestnut brown to vinaceous brown. Margin fibrillose, whitish when young. Spores narrowly ellipsoid, 2-2.5 µm wide. Gloeocystidia 45-65 x 9-11 µm. With clamps.

Peniophora ovalispora *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 108.*

Basidiocarp effused, at first consisting of small colonies, up to 0.12 mm thick. Hymenial surface even, cream-colored to pink, salmon or isabelline or brownish.
Hyphal system. Generative hyphae hyaline, thin-walled, 2.5-4 µm wide. Basal layer practically absent. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, thin-walled, 22-45 x 3-7 µm, SA-, some with schizopapilla. *Lamprocystidia* numerous, heavily encrusted, 20-40 x 5.5-8 µm.
Basidia subclavate, 16-30 x 3.5-5 µm.
Spores ovoid, (3.5-)4-5(-6) x 3.2-4(-4.5) µm.
Habitat. On angiosperms.
Distribution. Réunion (loc.cit).
Distinguishing characters. Spores small, ovoid. Hymenial surface even, cream-colored to pink salmon. Lamprocystidia and gloeocystidia present.

Peniophora pruinata *(Berk. & M.A. Curtis) Burt (1926) Ann. Missouri Bot. Gard. 12: 340.*
Basidiocarp effused, adnate, up to 1.5 mm thick. Hymenial surface even, dark grey to bluish black or brownish black.
Hyphal system. Generative hyphae hyaline to brown, 4-5 µm wide. Without clamps.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* brown at the base, 35-40 x 4.5-6 µm.
Basidia 50-60 x 6-8 µm.
Spores broadly ellipsoid, 5-6 x 3.5-4 µm.
Distribution. Cuba, USA, Mexico, Puerto Rico and Jamaica (Burt 1926).
Distinguishing characters. Hymenial surface even, dark grey to bluish black or brownish black. Spores broadly ellipsoid, 5-6 x 3.5-4 µm. Gloeocystidia absent, lamprocystidia present. Without clamps.

Peniophora scintillans *G. Cunn. (1955) Trans. Roy. Soc. New Zealand 83 (2): 268.*
Basidiocarp effused, at first consisting of small colonies, concrescent, up to 0.12 mm thick. Hymenial surface even, cream-colored to pink salmon or isabelline to brownish.
Hyphal system. Generative hyphae hyaline, thin-walled, 2.5-4 µm wide. Basal layer practically absent. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, thin-walled, 22-45 x 3-7 µm, SA-, some with schizopapilla. *Lamprocystidia* numerous, hyaline, thick-walled, encrusted, 20-40 x 5-13 µm.
Basidia subclavate, 16-30 x 3.5-5 µm.

Spores ellipsoid, (4.5-)5.5-8 x (3.2-)3.5-4.5(-5) µm
Habitat. On angiosperms.
Distribution. New Zealand (loc.cit), Madagascar and Réunion (Boidin et al. 1991).
Distinguishing carracters. Hymenial surface even cream-colored to pink salmon or brownish. Spores ellipsoid. Gloeocystidia and lamprocystidia present. With clamps.

Key to Molesta-group

1. With clamps **2**
1. Without clamps **4**

2. Hymenial surface strongly reddish brown ..... **P. fulvissima**
2. Hymenial surface with less strong colors **3**

3. Hymenial surface pale pinkish ochraceous to ochraceous, up to 0.2 mm thick. Lamprocystidia up to 12 µm wide. Gloeocystidia up to 60 µm long ..... **P. exima**
3. Hymenial surface pinkish grey to violaceous grey, becoming bluish violaceous, up to 0.2 mm thick. Lamprocystidia up to 20 µm wide. Gloeocystidia up to 100 µm long ..... **P. pithya**
3. Hymenial surface yellowish-cream or pinkish-buff, up to 2.5 mm thick. Lamprocystidia up to 30 µm wide. Gloeocystidia up to 45 µm long ..... **P. duplex**

4. Without gloeocystidia **5**
4. With gloeocystidia **6**

5. Hymenial surface smooth, greyish-black to greyish-blue. Lamprocystidia up to 9 µm wide and up to 40 µm long ..... **P. bruneiensis**
5. Hymenial surface even, rimose when old, greyish, pale brownish or ochraceous olivaceous buff, often with olivaceous tinges when dry. Lamprocystidia up to 16 µm wide and up to 70 µm long ..... **P. farlowii**

6. On gymnosperms. Basidiocarp up to 2.5 mm thick. Hyphae with clamps ..... **P. duplex**
6. On angiosperms. Basidiocarp up to 0.3 mm thick. Hyphae without clamps **7**

7. Lamprocystidia up to 30-35 µm long **8**
7. Lamprocystidia over 30 µm long **9**

8. Basidiocarp up to 0.5 mm thick, cinnamon to brownish to pinkish grey. Hyphae 4-5.5 µm wide. Gloeocystidia SA-, 4.5-6 µm wide ..... **P. parvocystidiata**
8. Basidiocarp up to 0.12 mm thick, lillac-grey to brownish grey. Hyphae glued together 2-4 µm wide. Gloeocystidia SA+, 5-10 µm wide ..... **P. taiwanensis**

9. Hymenial surface pinkish grey, becoming pinkish beige or isabelline. Gloeocystidia SA+. South East Asia. ..... **P. malaiensis**
9. Hymenial surface pinkish grey or blackish brown. Gloeocystidia at least 50 µm long. SA-. African species ..... **P. adjacens**
9. Hymenial surface greyish brown to fuligineous. Gloeocystidia up to 55 µm long, SA-. African species ..... **P. molesta**

Species descriptions to Molesta-group

Peniophora adjacens *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 124.*
Basidiocarp effused, up to 0.3 mm thick. Hymenial surface even, pinkish grey to grey brown or blackish brown. Margin indistinct.
Hyphal system. Generative hyphae hyaline to brown, thin- to thick-walled, 2.5-4 µm. Without clamps (homothallic).
Cystidia. *Gloeocystidia* clavate to fusiform, often with a schizopapilla, SA-. Thin- to slightly thick-walled, 50-60 x 4-8 µm. *Lamprocystidia* hyaline, thick-walled, 30-65 x 9-15 µm.
Basidia 17-30 x 3.5-5 µm, 4 sterigmata.
Spores cylindrical to suballantoid, 5.8-6.5 x 2.5-3 µm.
Habitat. On angiosperms.
Distribution. Central African Republic, Gabon (loc.cit).
Distinguishing characters. Hymenial surface even, pinkish grey to grey brown or blackish brown. Spores shorter than 6µm. Without clamps. Gloeocystidia more than 50µm long.

Peniophora bruneiensis *Hjortstam (1998) Kew Bull. 53 (4): 815.*
Basidiocarp effused, adnate, rimose, up to 0.7 mm thick. Hymenial surface smooth, greyish-black to greyish-blue.
Hyphal system. Hyphae hyaline to subhyaline with yellow tint, 3-4 µm wide, thick-walled, without clamps. Subiculum well developed, stratified, brown.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* conical, thick-walled, encrusted, (15-)25-40 x 7-9(-10) µm, hyaline to brown.
Basidia 15-20 x 3.5-4 µm.
Spores cylindrical to allantoid, 4-5 x (1.5-)2-2.5 µm

Distribution. Borneo (loc.cit).
Distinguishing characters. Hymenial surface smooth, greyish-black to greyish-blue. Spores up to 5 µm long. Gloeocystidia absent. Lamprocystidia 25-40 x 7-9 µm. Without clamps.

Peniophora duplex Burt *(1926) Ann. Missouri Bot. Gard. 12: 298.*
Basidiocarp effused, adnate, up to 2.5 mm thick. Hymenial surface pruniose, yellowish-cream or pinkish-buff. Margin fibrillose.
Hyphal system. Hyphae hyaline, gelatinized, thin-walled, 2.5-4 µm wide, with clamps.
Cystidia. *Gloeocystidia* subfusiform to clavate, 25-45 x 7-12 µm. *Lamprocystidia* irregularly cylindrical to subconical, thick-walled, encrusted or naked, 30-60 x 7-10 µm.
Basidia subclavate, 20-25 x 4-6 µm.
Spores cylindrical, curved, 5-7.5 x 2-2.5 µm
Habitat. On gymnosperms.
Distribution. USA – (loc.cit). Widespread in eastern USA (Slysh 1960).
Distinguishing characters. Basidiocarps thick, hymenial surface pruniose, yellowish-cream or pinkish-buff. On gymnosperms. Spores cylindrical, curved, 5-7.5 µm long. With clamps.
Remarks. *P. duplex* is very similar to *P. pseudopini*, but the latter differs primarily by having brown hyphae with distorted tips which run through the hyaline context and end in the hymenium, and in the generally abundant sulfocystidia. *P. duplex* usually has adnate margins, while it is reflexed in *P. pseudopini*.
Both *P. duplex* and *P. pseudopini* are similar to *P. pini* but differs in the swellings of subicular hyphae which is more prominent in *P. pini.*

Peniophora exima *H.S. Jacks. (1951) Mycologia 43 (1): 60.*
Basidiocarp effused, ceraceous, up to 0.2 mm. Hymenial surface even, rimose when old, pale pinkish ochraceous to ochraceous.
Hyphal system. Hyphae hyaline to brown, thin- to somewhat thick-walled. Basal layer brown. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, the embedded ones often thick-walled, 50-60 x 7-9 µm. *Lamprocystidia* conical, hyaline to brownish at the base, thick-walled, 40-50 x 10-12 µm.
Basidia subcylindrical, sinuous, 25-35 x 3.5-4.5 µm.
Spores subcylindrical to suballantoid, 5.5-6.5 x 2.5-3 µm.
Habitat. On gymnosperms.
Distribution. Canada, USA (Ginns and Lefebvre 1993). Obviously a rare species.

Distinguishing characters. Basidiocarp thin, hymenial surface even, rimose when old, pale pinkish ochraceous to ochraceous. Spores 5.5-6.5 µm long. Gloeocystidia 50-60 µm long. Lamprocystidia 10-12 µm wide. With clamps.

Peniophora farlowii Burt *(1926) Ann. Missouri Bot. Gard. 12: 343.*
Basidiocarp effused, ceraceous, cartilaginous when dry, up to 1 mm thick. Hymenial surface even, rimose when old, greyish, pale brownish or ochraceous olivaceous buff, often with olivaceous tinges when dry.
Hyphal system. Hyphae hyaline to brown, thin- to somewhat thick-walled, 2-4 µm wide. Without clamps.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* conical, thick-walled, encrusted, 30-70 x 8-16 µm.
Basidia 15-25 x 4-5 µm
Spores 4 x 2 µm.
Habitat. On angiosperms.
Distribution. Canada, USA (Ginns and Lefebvre 1993). Few findings.
Distinguishing characters. Hymenial surface even, rimose when old, greyish, pale brownish or ochraceous olivaceous buff, often with olivaceous tinges when dry. Spores 4 x 2 µm. Gloeocystidia absent. Lamprocystidia 30-70 x 8-16 µm. Without clamps.

Peniophora fulvissima *Boidin & Gilles (2001) in Bull. Soc. Linn. Lyon 70 (10): 269.*
Fruitbody effused, strongly reddish brown. Hymenial surface even, under the lens minutely spiny due to projecting cystidia.
Hyphal system. Hyphae hyaline, basal ones with thickened walls otherwise thin-walled, 2.5-5 µm wide, with clamps, densely ramified.
Cystidia. *Gloeocystidia* less prominent, fusiform, 50 x 4-5 µm, SA-. *Lamprocystidia* fusoid, encrusted, abundant in the hymenial region, projecting, 35-50 x 7-9 µm.
Basidia cylindrical, 18-22 x 4-5 µm.
Spores subcylindrical, straight, 4.2-6 x 2.2-2.5 µm
Habitat. On much decayed wood
Distribution. Réunion (loc.cit).
Distinguishing characters. The species is easily recognized by its strong colours.

Peniophora malaiensis *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 137.*

Basidiocarp effused, adnate, membranaceous, up to 0,2 m thick. Hymenial surface even, pinkish grey, becoming pinkish beige or isabelline. Margin indistinct. Heterothallic
Hyphal system. Hyphae hyaline to brownish, thin- to thick-walled, 2-4 µm. Subiculum fairly uniform Without clamps.
Cystidia. Tramal *gloeocystidia* cylindrical, thick-walled at the base, SA+. Hymenial *gloeocystidia* fusiform, thin-walled, often with schizopapilla. Both kinds up to 8(-10) µm wide. *Lamprocystidia* conical, encrusted, 40-60 x 9-15(-20) µm.
Basidia 22-25(-35) x 4 µm.
Spores cylindrical to suballantoid, 4.5-7 x 2-2.7 µm.
Distribution. Singapore (loc.cit), Taiwan (Wu 2003).
Distinguishing characters. Hymenial surface even, light coloured (pinkish grey to isabelline). Spores 4.5-7 µm long. Gloeocystidia SA+. Lamprocystidia 40-60 x 9-15 µm. Without clamps.

Peniophora molesta *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 140.*
Basidiocarp effused, up to 0.3 mm thick. Hymenial surface even, greyish brown to fuliginous. Heterothallic.
Hyphal system. Generative hyphae hyaline to brown, thin- to thick-walled, 2.5-4 µm. Without clamps.
Cystidia. *Gloeocystidia* clavate to fusiform, thin- to slightly thick-walled, often with a schizopapilla, 32-55 x 7-10(-12) µm, SA-. *Lamprocystidia* hyaline or brown at the base, thick-walled, 30-65 x 9-15 µm.
Basidia 17-30 x 3.5-5 µm.
Spores cylindrical to suballantoid, 4.5-6 x 2.2-3 µm.
Habitat. On angiosperms.
Distribution. Gabon, Ivory Coast (loc.cit).
Distinguishing characters. Hymenial surface even, greyish brown to fuliginous. Spores 4.5-6 x 2.2-3 µm. Gloeocystidia 32-55 x 7-10 µm, SA-. Lamprocystidia 30-65 x 9-15 µm. Without clamps.

Peniophora parvocystidiata *Boidin & Lanquetin (1991) Bull. Soc. Mycol. France 107: 153.*
Basidiocarp effused, adnate, up to 0.3 mm thick. Hymenial surface even, cinnamon brownish to pinkish grey.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2-3.5 µm. Without clamps.
Cystidia. *Gloeocystidia* rare, fusiform, thin- to somewhat thick-walled at the base, 30-35 x 4-5 µm, SA-, some with schizopapilla. *Lamprocystidia* conical,

hyaline to brown, thick-walled, 15-30 x 4-5.5 µm. Basal lamprocystidia may be larger and up to 11(-15)µm wide.
Basidia subclavate, thin- to somewhat thick-walled, 17-24 x 3-4 µm.
Spores allantoid, 4,5-6 x 1,8-2,2µm.
Habitat. On angiosperms.
Distribution. Guadeloupe (loc.cit).
Distinguishing characters. Hymenial surface even, cinnamon brown to pinkish grey. Spores small, allantoid. Gloeocystidia and lamprocystidia narrow. Without clamps.

Peniophora pithya *(Pers.) J. Erikss. (1950) Symb. Bot. Upsal. 10 (5): 45.*
Basidiocarp effused, adnate, often loosening at the margin, sometimes becoming rimose, up to 0.2 mm thick. Hymenial surface even, pinkish grey to violaceous grey, becoming bluish violaceous. Margin fimbriate, whitish when young, indistinct when old.
Hyphal system. Hyaline to brown, thin- to thick-walled, 3-4µm wide. With clamps.
Cystidia. *Gloeocystidia* 50-70(-100) x 8-10µm, SA+. *Lamprocystidia* hyaline to brownish at the base in the lower parts, 30-70 x (8-)12-15(-20)µm.
Basidia subcylindrical to subclavate, 20-40 x 4-7µm.
Spores cylindrical to allantoid, 5.5-7.5(-9) x 2.5-3µm.
Habitat. On gymnosperms, rarely also on *Salix*.
Distribution. Morocco (Malençon 1982), Canada, USA (Ginns and Lefebvre 1993),Northern Hemisphere (Jülich & Stalpers 1980), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997).
Distinguishing characters. On gymnosperms. Hymenial surface pinkish grey to violaceous grey, becoming bluish violaceous. Margin fimbriate, whitish, often loosening. Spores 5.5-7.5 µm long. Lamprocystidia 12-15(-20) µm wide. Gloeocystidia long, up to 100 µm. With clamps.

Peniophora taiwanensis *Sheng H. Wu (2003) Mycotaxon 85: 197.*
Basidiocarp effused, adnate, membranaceous, up to 0.12 mm thick. Hymenial surface even, lilac-grey to brownish grey, rarely rimose. Margin present with a narrow brown, immature zone.
Hyphal system. Hyphae brownish to yellow, thick-walled, glued together, 2-4 µm wide. Subiculum uniform, with well developed basal layer. Without clamps.
Cystidia. *Gloeocystidia* cylindrical, hyaline, yellow to slightly brown, with schizopapilla, 20-60 x 5-10 µm, SA+. *Lamprocystidia* conical, thick-walled, yellow or brownish, heavily encrusted, 15-35 x 6-10 µm.
Basidia subclavate, thick-walled towards the base, 20-30 x 3.5-4.2 µm.

Spores suballantoid, 5-7 x 1.8-2.2 µm.
Habitat. On angiosperms.
Distribution. Taiwan (loc.cit).
Distinguishing characters. Hymenial surface even, lilac-grey to brownish grey, rarely rimose. Margin present with a narrow brown immature zone. Gloeocystidia present. Lamprocystidia small, 15-35 µm long. Gelatinized hyphae, without clamps.

Key to Cinerea-group

1. On gymnosperms **2**
1. On angiosperms **4**

2. Basidiocarp not loosening in the margin, lamprocystidia 15-25 x 5-10 µm ..... **P. cinerea**
(*P. spathulata* very similar to *P. cinera* but has bigger lamprocystidia, known from Taiwan.)
2. Basidiocarp loosening in the margin, lamprocystidia 40-80 x 6-14(-18) µm.... **3**

3. Only known from *Juniperus*. Hymenial surface even, rimose when dry, pinkish or greyish red to violaceous. Spores 8-11 x 2.5-3.5 µm ..... **P. junipercola**
3. Preferebly on *Abies*. Hymenial tuberculate, reddish grey to grey to dark violaceous grey, becoming brown when old, surface rimose when dry. Spores 6.5-9 x 2-2.8 µm ..... **P. piceae**

4. Hymenial surface dark brown ..... **P. seymouriana**
4. Hymenial surface light brown to pinkish grey or bluish grey to violaceous, becoming greyish brown or dark blue grey **5**

5. Lamprocystidia 15-33 µm long **6**
5. Lamprocystidia 25-80 µm long **7**

6. Hymenial surface light brown. Lamprocystidia few, 24-33 x 12-15µm. North American species ..... **P. colorea**
6. Hymenial surface pinkish grey to violaceous grey, becoming brownish when old. Lamprocystidia 15-25 x 5-10 µm. Cosmopolitan. ..... **P. cinerea**

7. Subicular hyphae dark brown. Basidiome stratified (several hymenial layers). Preferable on *Oleaceae* ..... **P. limitata**
7. Subicular hyphae hyaline to yellowish, only gradually becoming brown near the substrate and late in the development **8**

8. Prefereably, but not exlusively on *Tilia*. Spores 7.2-9 x 2.2-3.2 µm. Irregular brown hyphae may penetrate the subhymenium ..... **P. rufomarginata**
8. Prefereably, but not exlusively on *Fagaceae*. Spores 9-12 x 2.8-4 µm. Brown hyphae very few (next to the substrate) or absent, ... **P. quercina**
(*P. manshurica* also keys out here. It is very similar to *P. quercin*a but spores are slightly smaller and it has a distinct brown basal layer.)

Species descriptions Cinerea-group

Peniophora cinerea *(Pers. : Fr.) Cooke (1879) Grevillea 8 (45): 20.*
Basidiocarp effused, closely adnate, ceraceous to cartilaginous, rimose when old, up to 1.5 mm thick. Hymenial surface even to tuberculate, pinkish grey to violaceous grey, becoming brown when old. Margin narrowly fimbriate when young, becoming indistinct .
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2-4 µm wide. Subhymenium consisting of vertical hyphae. With clamps.
Cystida. *Gloeocystidia* few present, indistinct, cylindrical, 20-30 x 5-10 µm. *Lamprocystidia* hyaline to brown In basal part, thin- to thick-walled, encrusted, 15-25 x 5-10 µm.
Basidia subclavate, 25-40 x 5-6 µm. 4 sterigmata.
Spores cylindrical to allantoid, 7-9(-10) x 2.3-3.2 µm
Habitat. On angiosperms and gymnosperms.
Distribution. New Zealand, Australia (Cunningham 1963), Australia (Fungi of Australia vol. 2B), Canada, USA (Ginns and Lefebvre 1993), Northern Hemisphere (Jülich & Stalpers 1980), China (Maekawa et al. 2002), France and Germany (Slysh 1960), Sweden, Denmark, Finland (Hansen & Knudsen 1997).
Distinguishing characters. Basidiocarp adnate. Hymenial surface pinkish grey to violaceous grey. Spores 7-9 µm long. Gloeocystidia absent. Lamprocystidia 15-25 x 5-10 µm. With clamps.

Peniophora colorea *Burt (1926) Ann. Missouri Bot. Gard. 12: 343.*
Basidiocarp effused, closely adnate, up to 0.08 mm thick. Hymenial surface even, light brownish. Margin thinning out, indeterminate.
Hyphal system. Hyphae somewhat coloured, 3 µm wide.

Cystidia. *Gloeocystidia* absent. *Lamprocystidia* fusiform, encrusted, few, 24-33 x 12-15 µm.
Basidia. No information
Spores cylindrical, 8-10 x 2-3 µm.
Habitat. On angiosperms.
Distribution. USA – Louisianna (Ginns and Lefebvre 1993).
Distinguishing characters. Hymenial surface even, light brownish. Spores 8-10 µm long. Gloeocystidia absent. Lamprocystidia 24-33 µm long.

Peniophora junipericola *J. Erikss. (1950) Symb. Bot. Upsal. 10 (5): 52.*
Basidiocarp effused, at first adnate but margin loosening from the substrate, up to 0.3 mm thick. Hymenial surface even, rimose when dry, pinkish or greyish red to violaceous, pale brownish red when old. Margin whitish when young evanescent.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2.5-4 µm wide. Subiculum layer well developed. With clamps.
Cystidia. *Gloeocystidia* indistinct or absent. *Lamprocystidia* hyaline to brown, thick-walled, encrusted, 40-80 x 6-14(-18) µm.
Basidia subclavate, 30-50 x 5-7 µm.
Spores allantoid (7-)8-11(-12) x (2.2-)2.5 x 3.5(-4) µm.
Habitat. Only known from *Juniperus*.
Distribution. Sweden (loc.cit), USA (Ginns and Lefebvre 1993), Europe (Jülich & Stalpers 1980), France (Boidin 1965), Finland (Nordic Macromycetes), Ethiopia (Boidin & Lanpuetin 1995).
Distinguishing characters. . Hymenial surface even, rimose when dry, pinkish or greyish red to violaceous. Margin loosening from the substrate. Gloeocystidia absent. Lamprocystidia 40-80 x 6-14 µm. With clamps. On *Juniperus*.

Peniophora limitata *(Chaillet ex Fr. : Fr.) Cooke (1879) Grevillea 8 (45): 21.*
Basidiocarp confluent, effused, strictly adnate, margin loosening with age but it takes some of the substrate with it, up to 0.5 mm thick. Hymenial surface even to tuberculate, becoming rimose, pinkish grey or violaceous grey to dark blue grey. Margin in most cases dark, blackish, in rapid growing specimens sometimes lighter. Subiculum well-developed, hymenia stratified.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2-4 µm. Subicular hyphae dark brown, agglutinated or not. With clamps.
Cystidia. *Gloeocystidia* absent or indistinct. *Lamprocystidia* conical, hyaline to brown at the base, thick-walled, encrusted, 8-12(-15) x 25-60(-75) µm.
Basidia subclavate, 35-55 x 5-8 µm.
Spores allantoid, 7.5-12 x 2.5-3.5 µm

Habitat. Often found on *Fraxinus* or other *Oleaceae*.
Distribution. Europa, USSR (Jülich & Stalpers 1980), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997).
Distinguishing characters. Hymenial surface becoming rimose, pinkish grey or violaceous grey to dark blue grey. Margin in most cases dark, blackish. Gloeocystidia absent. Lamprocystidia 25-60 µm long. Basidiome stratified and brown subicular layer thick.

Peniophora manshurica *Parmasto (1987) in Biblioth. Mycol. 115: 138.*
Fruitbody effused, adnate, margin loosening with age, up to 0,6 mm thick. Hymenial surface even, to somewhat tuberculate, pinkish to pinkish grey or bluish grey to violaceous, brownish black when old. Margin fibrillose and white to pink when young, becoming indistinct.
Hyphal system. Hyphae thin- to thick-walled, 2-5 µm wide. Tramal hyphae hyaline, embedded in a matrix. Basal layer thin, brown – black, 15-35 µm thick. With clamps.
Cystidia. *Gloeocystidia* absent or indistinct. *Lamprocystidia* hyaline to brown, thick-walled, 45-100 x 9-16 µm.
Basidia subclavate, 30-40 x 4.5-6 µm.
Spores allantoid, 7-9-12 x 2-3 µm.
Habitat. On angiosperms, preferably on Quercus mongolica.
Distribution. Temperate Asia (loc.cit.), China (Maekawa et al. 2002).
Distinguishing characters. Very similar to *P. quercina*, distinguished by slightly smaller spores and presence of a distinct brown basal layer.

Peniophora piceae *(Pers.) J. Erikss. (1950) Symb. Bot. Upsal. 10 (5): 49.*
Basidiocarp effused, at first adnate, but margin loosening from the substrate with age, up to 0,3 mm thick. Hymenia tuberculate, reddish grey to grey to dark violaceous grey, becoming brown when old, surface rimose when dry. Margin whitish when young, evanescent.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2,5-4µm wide. With clamps.
Cystidia. *Gloeocystidia* indistinct or absent. *Lamprocystidia* hyaline to brown, thick-walled, encrusted, 40-80 x 6-14(-18) µm.
Basidia subclavate, 30-50 x 5-7 µm.
Spores allantoid, 6,5-9(-9,5) x 2-2,8 µm.
Habitat. On gymnosperms, mostly on *Abies*.
Distribution. France (loc.cit). Venezuela (Liberta and Navas 1978). Canada, USA (Ginns and Lefebvre 1993). Europe (W. Jülich & J.A. Stalpers 1980). Sweden (Hansen & Knudsen 1997).

Distinguishing characters. On gymnosperms, mostly on *Abies*. Hymenia tuberculate, reddish grey to grey to dark violaceous grey, becoming brown when old, surface rimose when dry. Margin whitish when young, evanescent. Spores allantoid, 6,5-9 x 2-2,8 µm. Gloeocystidia absent or indistinct. Lamprocystidia 40-80 x 6-14 µm.

Peniophora quercina *(Pers. : Fr.) Cooke (1879) Grevillea 8 (45): 20.*
Basidiocarp obicular at first, confluent, adnate, margin loosening with age, up to 0,5 mm thick. Hymenial surface even, to somewhat tuberculate or even meruloid in fast growing specimens, pinkish to pinkish grey or bluish grey to violaceous. Margin fibrillose and white to pink when young, becoming indistinct.
Hyphal system. Hyphae thin- to thick-walled, 2.5-4 µm wide. Tramal hyphae embedded in gelatinous matrix. Subicular hyphae hyaline to yellowish, only gradually becoming brown near the substrate and late in the development. With clamps.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* hyaline to brown, thick-walled, 30-80 x 10-15(-20) µm.
Basidia subclavate, 30-50 x 5-6 µm.
Spores allantoid, (8.5-)9-12(-13) x 2.8-4(-4.5) µm.
Habitat. On angiosperms, preferably on *Fagaceae*.
Distribution. Venezuela (Liberta and Navas 1978), Morocco (Malençon 1982), Tunisia (Jülich 1974), India (Rattan 1977), USA (Ginns and Lefebvre 1993), Northern Hemisphere (Jülich & Stalpers 1980), Germany (Slysh 1960), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997).
Distinguishing characters. Hymenial surface even, to somewhat tuberculate, pinkish to pinkish grey or bluish grey to violaceous. Margin loosening with age. Gloeocystidia absent, lamprocystidia present. Subicular hyphae hyaline to yellowish, only gradually becoming brown near the substrate and late in the development. On *Fagaceae*. With clamps.
Remarks. *P. simulans* D.A. Reid is most likely a synonym to *P. quercina*, differing slightly by a more developed and brown-pigmented basallayer.

Peniophora rufomarginata *(Pers.) Litsch. (1923) Keissler, Kryptog. Exs. Wien 2613.*
Basidiocarp orbicular at first, confluent, adnate, margin loosening with age, up to 0.5 mm thick. Hymenial surface smooth to tuberculate or with low ridges, pinkish to pinkish grey or bluish grey to violaceous.
Hyphal system. Hyphae thin- to thick-walled, 2.5-4 µm wide. Irregular brown hyphae may penetrate the hymenia. With clamps

Cystidia. *Gloeocystidia* absent or indistinct. *Lamprocystidia* hyaline to brown, thick-walled, 30-80 x 10-15(-20) µm.
Basidia subclavate, 30-50 x 5-6 µm.
Spores allantoid, 7,2-9(-10,5) x 2,2-3,2(-3,5) µm.
Habitat. On angiosperms, preferably *Tilia*.
Distribution. Canary Islands (Hallenberg 1991), Morocco (Malençon 1982), Europa (Jülich & Stalpers 1980), Argentina (Greslebin & Rajchenberg 2003), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997).
Distinguishing characters. Basidiocarp adnate but margin loosening with age. Hymenial surface smooth to tuberculate, pinkish to pinkish grey or bluish grey to violaceous. Gloeocystidia absent, lamprocystidia present. With clamps. On *Tilia*.

Peniophora seymouriana *Burt (1926) Ann. Missouri Bot. Gard. 12: 337.*
Basidiocarp effused, up to 0.3 mm thick. Hymenial surface even, dark brown. Margin fibrillose, dark brown.
Hyphal system. Generative hyphae brown, thick-walled, 3-7 µm wide. Without clamps.
Cystidia. *Gloeocystidia* absent, *lamprocystidia* thick-walled, conical, encrusted, 20-50 x 12-17 µm.
Spores cylindrical to allantoid, 7-8.5 x 2.5-3 µm.
Habitat. On angiosperms.
Distribution. USA (loc.cit).
Distinguishing characters. Hymenial surface dark brown. Margin fibrillose, dark brown. Spores 7-8,5 µm long. Gloeocystidia absent, lamprocystidia present. Without clamps.

Peniophora spathulata *Sang H. Lin & Z.C. Chen (1990) in Taiwania 35 (2): 96.*
Fruitbody effused, adnate, membranaceous, very thin. Hymenial surface even, pale mouse grey.
Hyphal system. Hyphae hyaline, thin- to slightly thick-walled, 3-3.5 µm wide. Basal layer very thin with brown-pigmented hyphae, hyphal direction mainly vertical, with scattered clamps.
Cystidia. *Gloeocystidia* absent. *Lamprocystidia* 35-37 x 6-12 µm, thick-walled with narrow lumen, mucronate, upper part encrusted, crystals dissolving in KOH.
Spores suballantoid, 2.6-3 x 6-8 µm
Habitat. On branches and stems of broad-leaved trees.
Distribution. Taiwan (loc.cit).
Distinguishing characters. According to Wu very similar to or synonymous with *P. cinerea*. Obviously, the lamprocystidia are bigger here.

Key to Nuda-group

1. On gymnosperms ..... **P. pini**
1. On angiosperms **2**

2. Spores wider than 4.5 µm. On *Populus* ..... **P. rufa**
2. Spores narrower **3**

3. Gloeocystidia thickwalled to very thickwalled (1.5-3 µm), SA+ (dark brown to black) **4**
3. Gloeocystidia less thick-walled or thinwalled **5**

4. Gloeocystidia 30-65 x 6-11 µm. Margin with a tendency to loosen ..... **P. bonariensis**
4. Gloeocystidia 60-115 x 8-15 µm. Margin adnate. With agglutinate basal layer ..... **P. crassitunicata**

(*Peniophora fissilis* very similar to *P. crassitunicata* but differs by slightly bigger spores and less thickwalled gloeocystidia.)

5. Spores up to 2.2 µm wide. Hymenial surface tuberculate ..... **P. rhodocarpa**
5. Spores wider. Hymenial surface even **6**

6. Spores suballantoid, over 8.5 µm long and over 3.2 µm wide. Gloeocystidia 60-90 µm long, SA-. Hymenial surface even, rimose, orange to reddish brown or vinaceous brown, becoming pinkish grey to brownish when dry. African species ..... **P. fasticata**
6. Spores subcylindrical, up to 8.2 µm long and less than 3.5 µm wide. Gloeocystidia 45-65 µm long, SA+ (dark brown to black). Hymenial surface even, cream-coloured or pale salmon to yellowish. African species..... **P. subsalmonea**
6. Spores cylindrical to allantoid, 8-10.5 x 2.5-3.5 µm. Gloeocystidia abundant, ovoid or ellipsoid to cylindrical, 30-80 x 8-20µm. Hymenial surface even, reddish grey, purplish grey or violaceous. Cosmopolitan species ..... **P. nuda**

Species descriptions Nuda-group

Peniophora bonariensis *L.D. Gómez (1976) Darwiniana 20 (1-2): 201.*
Basidiocarp confluent, effused, adnate or somewhat loosening at the margin up to 0.4mm thick. Hymenial surface even, pinkish grey to greyish violaceous, Margin often brown with tendency to loosen.
Hyphal system. Hyphae hyaline to brown, thin- to somewhat thick-walled, 3-5 µm wide. With clamps.

Cystidia. *Gloeocystidia* very thick-walled (2-3 µm), 30-65 x 6-11 µm, SA+. *Lamprocystidia* heavily encrusted, 30-50 x 12-22(-25) µm.
Basidia subclavate, 25-40 x 4.5-6 µm. 4 sterigmata.
Spores cylindrical to allantoid 7-9.2 x 2.5-3.7 µm.
Habitat. On angiosperms.
Distribution. Argentina (loc.cit), Guadelope (Boidin and Lanquetin 1991).
Distinguishing characters. . Hymenial surface even, pinkish grey to greyish violaceous. Gloeocystidia 30-65 x 6-11 µm wide, very thick-walled (2-3 µm), lamprocystidiia heavily encrusted.
Remarks. Close to *P. crassitunicata*.

Peniophora crassitunicata *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 118.*
Basidiocarp confluent, effused, adnate or somewhat loosening at the margin, up to 0.3 mm thick. Hymenial surface even, pinkish grey to greyish violaceous. Margin often brown.
Hyphal system. Hyphae hyaline to brown, thin- to somewhat thick-walled, 2-3.5 µm wide. Basal layer compact, agglutinate. With clamps.
Cystida. *Gloeocystidia* very thick-walled (2-3 µm), 60-115 x 8-15(-19) µm, SA+. *Lamprocystidia* hyaline, thick-walled, heavily encrusted, 30-50 x 12-22(-25) µm.
Basidia subclavate, 25-40 x 4.5-6 µm.
Spores cylindrical or allantoid 5-8(-9.5) x 2-3 µm
Habitat. On angiosperms.
Distribution. Réunion,Central African Republic and Madagascar (loc.cit).
Distinguishing characters. Hymenial surface even, pinkish grey to greyish violaceous. Gloeocystidia 60-115 x 8-15 µm, very thick-walled (2-3 µm). Basal layer gelatinized.

Peniophora fasticata *Boidin & Lanquetin (1995) Cryptog. Mycol. 16 (2): 93.*
Basidiocarp effused, up to 0.4 mm thick. Hymenial surface even, rimose, orange to reddish brown or vinaceous brown, becoming pinkish grey to brownish when dry. Margin pink.
Hyphal system. Hyphae hyaline, thin- to thick-walled, 2.5-5 µm wide. With clamps.
Cystidia. *Gloeocystidia* conical to fusiform, thin- to thick-walled, 60-90 x 9-14 µm, SA-. *Lamprocystidia* narrowly conical to fusiform, hyaline, thick-walled, 7-17µm wide.
Basidia flexuous-cylindrical, 35-55 x 5.5-7 µm, often basally thick-walled and brown.

Spores suballantoid, 8.5-13 x 3.2-4.2 µm
Habitat. On angiosperms.
Distribution. Ethiopia (loc.cit).
Distinguishing characters. Hymenial surface even, rimose, orange to reddish brown or vinaceous brown, becoming pinkish grey to brownish. Margin pink. Spores suballantoid, 8.5-13 x 3.2-4.2 µm long. Gloeocystidia 60-90 x 9-14 µm, SA-.

Peniophora nuda *(Fr. : Fr.) Bres. (1897) Atti Imp. Regia Accad. Rovereto III 3: 114.*
Basidiocarp effused, adnate, becoming rimose, up to 0.2 mm thick. Hymenial surface even, reddish grey, purplish grey or violaceous. Margin fimbriate, whitish when young, indistinct when old.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 3-4 µm wide. With clamps.
Cystidia. *Gloeocystidia* abundant, ovoid or ellipsoid to cylindrical, 30-80 x 8-20 µm, SA+. *Lamprocystidia* hyaline to brownish at the base, 20-40 x 5-12 µm.
Basidia subcylindrical, 20-45 x 5-7 µm.
Spores cylindrical to allantoid, (7-)8-10.5(-11) x 2.5-3.5 µm.
Habitat. On angiosperms, rarely on gymnosperms.
Distribution. USA, Canada (Ginns and Lefebvre 1993), Morocco (Malençon 1982), Australia and New Zealand (Cunningham 1963), Northern Hemisphere (Jülich & Stalpers 1980), France, Germany, Finland and South Africa (Slysh 1960), Sweden, Denmark, Norway (Hansen & Knudsen 1997), Hawaii (Gilbertsom et al. 2001), Argentina (Urcelay et al. 1999).
Distinguishing characters. . Hymenial surface even, reddish grey, purplish grey or violaceous. Margin fimbriate, whitish when young, indistinct when old. Spores 8-10,5 x 2,5-3,5 µm. Gloeocystidia 30-80 x 8-20 µm. Lamprocystidia 20-40 x 5-12 µm. With clamps.

Peniophora pini *(Schleich. & DC. : Fr.) Boidin (1956) Rev. Mycol. (Paris) 21: 123.*
Basidiocarp effused, small round patches when young, centrally attached, confluent, adnate, loosening at the margin, ceraceous to cartilaginous, up to 0.5 mm thick. Hymenial surface even to tuberculate, reddish when young, becoming violaceous grey to dark bluish violaceous.
Hyphal system. Hyphae hyaline to pale brownish close to the substrate, 2.5-5(-7) µm wide. Gelatinized hyphae present in horizontal layer. With clamps.
Cystidia. *Gloeocystidia* vesicular to cylindrical, hyaline, without gelatinous sheath, 20-50 x 10-25 µm. *Lamprocystidia* hardly thick-walled, 25-40 x 5-8 µm.

Basidia subclavate, 30-40 x 4.5-6 µm.
Spores cylindrical to allantoid, (5-)6-9 x 2.2-3(-3.3) µm.
Habitat. On gymnosperms, preferably *Pinus*.
Distribution. Canada, USA (Ginns and Lefebvre 1993). Europe, USSR (Jülich & Stalpers 1980), France (loc.cit), Sweden, Denmark, Norway, Findland (Hansen & Knudsen 1997).
Distinguishing characters. Basidiocarp effused, confluent but centrally attached. A thick, gelatinous, basal layer with big gloeocystidia and less prominent hymenial lamprocystidia. On Gymnosperms.
Remarks. *Peniophora pseudopini* is very similar to *P. pini* but differs in the swellings of subicular hyphae which is more prominent in *P. pini* than in *P. pseudopini.*
Peniophora pseudopini Weresub & Gibson was described from North America together with *P. duplex* (as *P. pini* subsp. *duplex*). *Peniophora pseudopini* is very similar to *P. duplex*, but differs primarily in the brown hyphae with distorted tips which run through the hyaline context and end in the hymenium, and in the generally abundant sulfocystidia. *Peniophora duplex* usually has adnate margins.

Peniophora rhodocarpa *Rehill & B.K. Bakshi (1965) Forest Bull. Dehr Dunn II 242: 4.*
Basidiocarp effused, adnate, membranaceous, up to 0.4 mm thick. Hymenial surface tuberculate, rimose, pink to pinkish cinnamon. Margin indistinct.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2.5-4 µm. With clamps.
Cystidia. *Gloeocystidia* cylindrical, thin-walled, 50-90 x 12-18 µm. *Lamprocystidia* fusiform, thick-walled, subhyaline to dark brown, 60-100 x 12-18 µm.
Basidia subclavate, 20-25 x 4-6 µm.
Spores suballantoid, 5-8.5 x 1.7-2.2 µm.
Distribution. India (loc.cit).
Distinguishing characters. Hymenial surface tuberculate, rimose, pink to pinkish cinnamon. Spores 5-8.5 x 1.7-2.2 µm. Gloeocystidia 12-18 µm wide. With clamps.

Peniophora rufa *(Fr. : Fr.) Boidin (1958) Bull. Soc. Mycol. France 74 (4): 443.*
Basidiocarp tuberculiform, rarely concrescent, adnate, ceraceous to cartilagineous, up to 1-1.5(-2) mm thick. Hymenial surface even to tuberculate, red to vinaceous brown. Margin concolourous to whitish.
Hyphal system. Hyphae hyaline to brownish near the substrate, 2-8 µm wide. Hyphae in subhymenium gelatinized. With clamps (can be difficult to se).

Cystidia. *Gloeocystidia* clavate to cylindrical, hyaline, 50-200 x 10-25 µm, with gelatinous sheat. *Lamprocystidia* thin- to somewhat thick-walled, encrusted, 20-40 x 4.5-7.5 µm.
Basidia subclavate, 30-50 x 4.5-6 µm.
Spores cylindrical to allantoid, 6-9 x (1.5-)2.3 µm.
Habitat. On *Populus*.
Distribution. Mexico (as Cryptochaete - Marmolejo et al. 1981), Canada, USA (Ginns and Lefebvre 1993), Europe (Jülich & Stalpers 1980), China (Maekawa et al. 2002), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997).
Distinguishing characters. Basidiocarp tuberculiform, rarely concrescent with red to vinaceous brown colors. Gelatinized hyphae in subhymenium. Big gloeocystidia, small and little prominent lamprocystidia. Only found on *Populus*. With clamps.

Peniophora subsalmonea *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 113.*
Basidiocarp effused, adnate, up to 0.12 mm thick. Hymenial surface even, cream-colored or pale salmon to yellowish. Margin indistinct.
Hyphal system. Hyphae hyaline, thin- to thick-walled, 1.5-4 µm wide. Basal layer compact to somewhat gelatinized, brown hyphae practically absent. With clamps.
Cystidia. *Gloeocystidia* conical, cylindrical or fusiform, thick-walled in trama, often bi-rooted, in the hymenia often thin-walled and with a schizopapilla, 45-65 x 10-15(-24) µm, SA+. *Lamprocystidia* hyaline, thin- to thick-walled, incrusted, 25-38 x 10-16(-20) µm.
Basidia subcylindrical, 19-30 x 4.5-6 µm.
Spores cylindrical to allantoid, 6.5-8.2 x 2.5-3.5 µm.
Habitat. On angiosperms.
Distribution. Réunion (loc.cit), Ethiopia (Boidin & Lanquetin 1995).
Distinguishing characters. Hymenial surface even, cream-colored or pale salmon to yellowish. Spores up to 8,2 µm long. Gloeocystidia up to 65 µm long, SA+. African species.

Key to Reidii-group

1. Spores wider than 4 µm **2**
1. Spores up to 4 µm wide **3**

2. Lamprocystidia up to 9 µm wide. Hymenial surface greyish violaceous when fresh, pinkish grey to pale violaceous grey when dry. Found in Argentina ..... **P. multicystidia**
2. Lamprocystidia over 10 µm wide. Hymenial surface pink to salmon, becoming buff to cream-coloured when dry. Found in Australia and on New Zealand ..... **P. coprosmae**

3. With clamps **4**
3. Without clamps **5**

4. Basidiocarp effused to effused-reflexed. Hymenial surface pinkish to pale orange, becoming yellowish pink when dry. Found in Argentina. On angiosperms .....**P. taraguiensis**
4. Basidiocarp effused, membranaceous. Hymenial surface pale ochraceous to hazel brown or greyish brown. Found in Europe. Only found on *Quercus* ..... **P. suecica**

5. Hymenial surface even, pinkish grey to grey when fresh, becoming ochraceous buff to vinaceous buff. Found in Taiwan and Europe .....**P. redii**
5. Hymenial surface grey or purplish grey **6**

6. Lamprocystidia with 1-3 µm thick walls, 30-50 x 12-18 µm. Spores 8-10 µm long. Margin brown. Found in Taiwan and once on Réunion island..**P. borbonica**
6. Lamprocystidia 50-70 x 15-21 µm. Spores 6-8 µm long. Margin sometimes rolled-in when dry. Found in Central African Republic .....**P. elaeidis**

Species descriptions Reidii-group

Peniophora borbonica *Boidin & Gilles (2000) Mycotaxon 75: 374.*
Basidiocarp effused, adnate, membranaceous, up to 1.2 mm thick. Hymenial surface even or rarely rimose, purplish grey or grey. Margin brown.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled. Subiculum fairly uniform. Without clamps.
Cystidia. *Gloeocystidia* cylindrical, thick-walled towards bases, hyaline, yellow to slightly brown, 30-60 x 7-12 µm, SA-. *Lamprocystidia* conical, very thick-walled (1-3 µm), yellow or brown, 30-50 x 12-18 µm.

Basidia subclavate or cylindrical, 25-40 x 4.5-5.7 µm, thick-walled towards the base. 4 sterigmata.
Spores suballantoid or cylindrical, adaxially slightly concave, 8-10.5 x 2.7-3.5 µm.
Habitat. On angiosperms.
Distribution. Taiwan (Sheng-Hua Wu 2003). Reunion (loc.cit).
Distinguishing characters. Hymenial surface even or rarely rimose, purplish grey or grey. Spores 8-10.5 x 2.7-3.5 µm. Lamprocystidia 30-50 x 12-18 µm, with 1-3 µm thick walls. Without clamps.

Peniophora coprosmae *G. Cunn. (1955) Trans. Roy. Soc. New Zealand 83(2): 266.*
Fruit body effused, creaceous to subcreaceous or membranaceous, up to 1 mm thick. Hymenial surface even to tuberculate or rugulose, pink to salmon, becoming buff to cream-colored when dry. Margin fibrillose, whitish when young.
Hyphal system. Hyphae hyaline, thin- to slightly thick-walled, 2.5-3.5 µm wide. Subiculum thick (more than 1/3 of the hymenia. With clamps.
Cystida. *Gloeocystidia* cylindrical to fusiform, thin-walled, 30-80 x 6-10 µm, strongly SA+. *Lamprocystidia* hyaline, thick-walled, encrusted, 35-80(-115) x 10-16(-20) µm.
Basidia subclavate to sinuous, 35-60 x 6-9 µm. 4 sterigmata.
Spores subcylindrical to suballantoid, 9-11.5(-12) x 4-5(-5.5) µm.
Habitat. On angiosperms.
Distribution. New Zealand (loc.cit). Australia (Cunningham 1963).
Distinguishing characters. Hymenial surface even to tuberculate or rugulose, pink to salmon, becoming buff to cream-colored when dry. Spores 9-11.5 x 4-5 µm long. Lamprocystidia 10-16 µm wide.

Peniophora elaeidis *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 132.*
Basidiocarp effused, submembranaceous, up to 1.6 mm thick. Hymenial surface even, grey. Margin sometimes rolled-in when dry.
Hyphal system. Hyphae hyaline to brownish, thin- to thick-walled, 2.5-3.5 µm wide. Without clamps.
Cystidia. *Tramal* g*loeocystidia* cylindrical, thick-walled at the base, SA+; *hymenial* g*loeocystidia* fusiform, often with schizopapillae, thin-walled, 35-50 long, up to13 µm wide. *Lamprocystidia* conical, 50-70 x 15-21 µm.
Basidia 25-30 x 4-5 µm.
Spores cylindrical to suballantoid, 6-8 x 2.5-3 µm
Distribution. Central African Republic (loc.cit).

Distinguishing characters. Hymenial surface even, grey. Margin sometimes rolled-in when dry. Spores 6-8 x 2.5-3 µm long.Lamprocystidia 50-70 x 15-21 µm. Without clamps.

Peniophora multicystidiata *L.D. Gómez (1976) Darwiniana 20 (1-2): 198.*
Basidiocarp pustulate when young, concrescent, effused, adnate, up to 0.2 mm thick. Hymenial surface tuberculate, greyish violaceous when fresh, pinkish grey to pale violaceous grey when dry. Margin whitish to brown.
Hyphal system. Hyphae hyaline to dark brown, thin- to somewhat thick-walled, 2-4 µm wide. With clamps.
Cystidia. *Gloeocystidia* ovoid to fusiform, 30-60 x 7-15 µm, SA+, thin- to at least basally thick-walled, and then often brownish, often bi-rooted. *Lamprocystidia* fusiform, slightly thick-walled, 20-50 x 4-9 µm.
Basidia clavate, 30-45 x 5-7 µm.
Spores cylindrical to allantoid, (7.5-)8-11(-12) x 4-5(-5.5) µm.
Habitat. On angiosperms.
Distribution. Argentina (loc.cit).
Distinguishing characters. Hymenial surface tuberculate, greyish violaceous (fresh), pinkish grey (dry). Spores 8-11 x 4-5 µm. Gloeocystidia thin- thick-walled, often birooted. Lamprocystidia up to 9 µm wide.

Peniophora reidii *Boidin & Lanquetin (1983) Trans. Brit. Mycol. Soc. 81 (2): 279.*
Basidiocarp effused, up to 0.6 mm thick. Hymenial surface even, pinkish grey to grey when fresh, becoming ochraceous buff to vinaceous buff or beige when dry. Margin fibrillose, evascent.
Hyphal system. Generative hyphae hyaline to brown, 2-4.5 µm wide. Without clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, thin-walled, 25-75 x 4.5-8(-13) µm, SA-, some with schizopapilla. *Lamprocystidia* hyaline to brown, thick-walled, conical, 40-65 x 12-20 µm, sometimes bifurcate.
Basidia 22-40 x 5.5-7,5 µm.
Spores cylindrical to allantoid, (7-)8-10 x 2.5-4 µm.
Habitat. On angiosperms.
Distribution. Taiwan (Wu 2003), Europe (www.mycobank.com).
Distinguishing carracters. Hymenial surface even, pinkish grey (fresh), ochraceous buff to vinaceous buff or beige (dry). Margin fibrillose, evascent. Spores 8-10 x 2,5-4 µm. Gloeocystidia 4,5-8 µm wide. Lamprocystidia 12-20 µm wide, sometimes bifurcate. Without clamps.

Peniophora suecica *Litsch. (1941) Ann. Mycol. 39 (2-3): 131.*
Basidiocarp effused, membranaceous, up to 0.4 mm thick. Hymenial surface even, rimose when dry, pale ochraceous to hazel brown or greyish brown. Margin indistinct or fibrillose, pale, remaining adnate.
Hyphal system. Hyphae hyaline, Thick subiculum with brown basal hyphae, hyphae thin- to slightly thick-walled, 3-4 µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical to narrowly fusiform, 40-70 x 7-8 µm, SA-. *Lamprocystidia* conical, thick-walled, 30-60 x 15-25 µm.
Basidia subclavate, 30-40 x 6-7 µm.
Spores allantoid, 8-11 x 3-4 µm.
Habitat. Only known from *Quercus*.
Distribution. Sweden (Hansen & Knudsen 1997), France (Lanquetin et al. 1987).
Distinguishing characters. Hymenial surface pale ochraceous to hazel brown or greyish brown. Spores allantoid, 8-11 x 3-4 µm. Lamprocystidia thick-walled 15-25 µm wide. On Quercus. With clamps.

Peniophora taraguiensis *Popoff & J.E. Wright (1994) Mycotaxon 51: 318.*
Basidiocarp effused to effused-reflexed, up to 0.2 mm thick. Hymenial surface even, pinkish to pale orange, becoming yellowish pink when dry, rimose. Margin indistinct.
Hyphal system. Hyphae hyaline to brown, thin- to slightly thick-walled, 3-5 µm wide. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, often flexuous, somewhat thick-walled, 60-90 x 7-10 µm, SA- reddish or negative. *Lamprocystidia* conical, hyaline, thick-walled, 40-60 x 15-25 µm.
Basidia subclavate to flexuous-cylindrical, thin-walled, 30-45 x 5-6 µm.
Spores cylindrical to allantoid, 7.5-10 x 3-4 µm.
Habitat. On angiosperms.
Distribution. Argentina (loc.cit).
Distinguishing characters. Basidiocarp effused to effused-reflexed. Hymenial surface pinkish to pale orange, becoming yellowish pink when dry, rimose. Lamprocystidia 15-25 µm wide. With clamps.

Key to Violaceolivida-group

1. Hymenial surface light buff when dry. Margin clay-colored. Found in Alaska .. .. **P. borealis**
1. Hymenial surface without buff colors, or without clay-colored margin..... **2**

2. On gymnosperms. Preferable on *Picea*..... **P. septentrionalis**
2. On angiosperms **3**

3. Without clamps **4**
3. With clamps **7**

4. Basidia typically with two sterigmata .....**P. bicornis**
4. Basidia typically with four sterigmata **5**

5. Lamprocystidia small, 20-40 µm long, thickwalled ..... **P. confusa**
5. Lamprocystidia 40-60 µm long **6**

6. Found in Africa .....**P. gabonensis**
7. Found in South America ..... **P. guadelupensis**

7. Gloeocystidia, when present, thin-walled over the entire length, not bi-rooted **8**
7. Gloeocystidia, at least at the base, with thickned walls, sometimes bi-rooted...**9**

8. Lamprocystidia 15-30 x 5-8 µm. Gloeocystidia (when fresh) SA+ ..... **P. violaceolivida**
8. Lamprocystidia 25-60 x 6-16 µm. Gloeocystidia SA- ..... **P. pilatiana**

9. Spores 8-12 x 3.5-5.5 µm. Found in the Caucasus .....**P. pseudonuda**
9. Spores up to 3.5µm wide, in average smaller and narrower. Found on Réunion .....**P. monticola**

Species descriptions Violaceolivida-group

Peniophora bicornis *Hjortstam & Ryvarden (1984) Mycotaxon 20 (1): 138.*
Basidiocarp effused, adnate, membranaceous, up to 0.3 mm thick. Hymenial surface even, rimose when old, pinkish grey to beige or clay.
Hyphal system. Generative hyphae hyaline to brown, thin- to typically thick-walled, 2-3.5 µm. Subiculum uniform. Without clamps.

Cystidia. *Gloeocystidia* fusiform, 25-45 x 4-7.5 µm wide, some with schizopapilla, SA-. *Lamprocystidia* conical, brown at base, thick-walled, 20-40 x 5-10(-12) µm, rarely bi-rooted.
Basidia subclavate, thin- or thick-walled at the base, 18-25(-30) x 4-5 µm. 2-4 sterigmata, usually 2.
Spores cylindrical to suballantoid, (5.5-)6-8 x 2.8-3.8 µm
Habitat. On angiosperms.
Distribution. Nepal (loc.cit). Gabon, Réunion, Singapore (Boidin et al. 1991), Taiwan (Wu 2003).
Distinguishing characters. Hymenial surface even, pinkish grey to beige or clay. Spores longer than 6 µm. Without clamps. Most basidia with 2-Sterigmata.
Peniophora borealis *(Peck) Burt (1926) Ann. Missouri Bot. Gard. 12: 295.*
Basidiocarp effused, membranaceous, loosening, up to 0.6 mm thick. Hymenial surface light buff when dry. Margin clay-colored.
Hyphal system. Hyphae hyaline, 2 µm thick. Subiculum present.
Cystidia. *Gloeocystidia* occasional, with clavate or pyriform tips 4.5-7 µm wide. *Lamprocystidia* cylindrical, incrusted, 60-75 x 6-9 µm, numerous.
Basidia. Not seen.
Spores. Not seen.
Habitat. On *Alnus*.
Distribution. Alaska (loc.cit).
Distinguishing characters. Hymenial surface light buff when dry. Margin clay-colored. Gloeocystidia 4.5-7 µm wide. Lamprocystidia 6-9 µm wide. On *Alnus*.
Remarks Much like *P. aurantiaca* in appearance but more buff-colored, with darker margin becoming free, and with long and numerous cystidia.

Peniophora confusa *L.D. Gómez (1976) Darwiniana 20 (1-2) 205.*
Basidiocarp effused, pustulate when young, up to 0.3 mm thick. Hymenial surface even, pinkish to greyish violaceous. Margin indistinct.
Hyphal system. Generative hyphae hyaline to brown, often conglutinate, 2-3 µm wide. Without clamps.
Cystida. *Gloeocystidia* cylindrical, thin- to somewhat thick-walled, 30-60 x 6-9 µm. *Lamprocystidia* brownish at the base, thick-walled, encrusted, 20-40 x 10-14 µm.
Basidia clavate, 28-40 x 5-7 µm. 4 sterigmata.
Spores suballantoid, 6.2-8.5(-9) x 2-2.8(-3) µm.
Habitat. On angiosperms.
Distribution. Argentina (loc.cit), Colombia (Hjortstam & Ryvarden 1997).

Distinguishing characters. Hymenial surface even, pinkish to greyish violaceous. Spores 6.2-8.5 µm. Lamprocystidia small 20-40 x 10-14 µm. Without clamps.

Peniophora gabonensis *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 134.*
Basidiocarp effused, membranaceous, up to 0.2 mm thick. Hymenial surface even, pinkish grey, becoming pinkish beige or isabelline. Margin indistinct.
Hyphal system. Hyphae hyaline to brownish, thin- to thick-walled, 2-4 µm. Without clamps. Homothallic.
Cystidia. *Tramal gloeocystidia* cylindrical, thick-walled at the base, SA+. *Hymenial gloeocystidia* fusiform, thin-walled, often with schizopapilla. Both types up to 8(-10) µm wide. *Lamprocystidia* conical, 40-60 x 9-15(-20) µm.
Basidia 16-25 x 3.5-4.5 µm.
Spores cylindrical to suballantoid, 6-7.5(-8) x 2.5-3.2(-3.5) µm.
Habitat.
Distribution. Gabon (loc.cit).
Distinguishing characters. Hymenial surface even, pinkish grey, becoming pinkish beige or isabelline. Spores 6-7,5 µm long. Lamprocystidia 40-60 µm long. Without clamps. Found in Gabon.

Peniophora guadelupensis *Boidin & Lanquetin (1991) Bull. Soc. Mycol. France 107: 151.*
Basidiocarp effused, membranaceous, up to 0.2 mm thick. Hymenial surface even, pinkish grey, becoming pinkish beige or isabelline. Margin indistinct.
Hyphal system. Hyphae hyaline to brownish, thin- to thick-walled, 2-4 µm. Without clamps. Heterothallic.
Cystidia. *Tramal gloeocystidia* cylindrical, thick-walled at the base, SA+. *Hymenial gloeocystidia* fusiform, thin-walled, often with schizopapilla. Both types up to 8(-10) µm wide. *Lamprocystidia* conical, 40-60 x 9-15(-20) µm.
Basidia 35-40 x 3.5-6 µm.
Spores cylindrical to suballantoid, (5.5-)6-9(-10) x 2.3-3.5 µm.
Distribution. Guadeloupe, Equador (loc.cit).
Distinguishing characters. Hymenial surface even, pinkish grey, becoming pinkish beige or isabelline. Spores 6-9 µm long. Lamprocystidia 40-60 x 9-15 µm. Without clamps. Resembles *P. gabonensis* in appearance but occurs in South America.

Peniophora monticola *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 123.*

Basidiocarp effused, adnate, up to 0.12 mm thick. Hymenial surface even, cream-colored or pale salmon to yellowish, paler when dry. Margin indistinct.
Hyphal system. Hyphae hyaline, thin- to slightly thick-walled, 1.5-4 µm wide. Basal layer present, compact to gelatinized, with brown hyphae. With clamps.
Cystidia. *Gloeocystidia* cylindrical, narrowly clavate or fusiform, thin-walled except near the base, often bi-rooted, in the hymenia often thin-walled and with a schizopapilla, 30-55 x 6-11(-13) µm, SA+ dark brown to black. *Lamprocystidia* hyaline, thin- to thick-walled, incrusted, 7-12 µm wide.
Basidia subcylindrical, 19-30 x 4.5-6 µm.
Spores cylindrical to allantoid, 6-8.2 x 2.5-3.5 µm
Habitat. On angiosperms.
Distribution. Réunion (loc.cit).
Distinguishing characters. Hymenial surface even, cream-colored or pale salmon to yellowish, paler when dry. Spores < 3.5 µm wide. *Gloeocystidia* thin-walled except near the base, often bi-rooted. With clamps. Found in Réunion.

Peniophora pilatiana *Pouzar & Svrcek (1953) Ceska Mykol. 7: 180.*
Basidiocarp effused, confluent, adnate at first, margin loosening with age, up to 0.5 mm thick. Hymenial surface even, becoming rimose, pinkish grey, becoming lilaceous to reddish brown, much paler when dry. Margin indistinct.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 2-4 µm wide. Stratified, subicular hyphae agglutinated or not, dark brown. With clamps.
Cystidia. *Gloeocystidia* with oily contents, SA-. *Lamprocystidia* conical, hyaline to brown at the base, thick-walled, encrusted, 6-16(-22) x 60(-75) µm.
Basidia subclavate, 35-55 x 5-8 µm.
Spores 6.5-9.5 x 2-3.2 µm.
Habitat. On angiosperms.
Distribution. Poland (loc.cit), Morocco (Malencon 1982), Europa (Jülich & Stalpers 1980).
Distinguishing characters. Hymenial surface even, becoming rimose, pinkish grey, becoming lilaceous to reddish brown, much paler when dry. Spores < 3.2 µm. Gloeocystidia present. Lamprocystidia thick-walled, 6-16 x 60 µm. With clamps.

Peniophora pseudonuda *Hallenb. (1980) Mycotaxon 11 (2): 459.*
Basidiocarp effused, adnate, concrescent, rounded when young, up to 0.2 mm thick. Hymenial surface even, light greyish brown. Margin abrupt.
Hyphal system. Hyphae hyaline to brown, thin- to somewhat thick-walled, 2-5 µm wide. Well developed basal layer. With clamps.

Cystidia. *Gloeocystidia* clavate to cylindrical, 50-80 x 9-15 µm, thin- to at least at the base somewhat thick-walled, often bi-rooted, SA+ dark brown to black. *Lamprocystidia* fusiform, slightly thick-walled, 25-40 x 9-12 µm.
Basidia clavate to flexuous-cylindrical, 45-80 x 5-7 µm.
Spores cylindrical to suballantoid, 9-11 x 3.5-4 µm.
Habitat. On angiosperms.
Distribution. Iran (loc.cit).
Distinguishing characters. Hymenial surface even, light greyish brown. Margin abrupt. Spores , 9-11 x 3.5-4 µm. Gloeocystidia 9-15 µm wide, thin- to at least at the base somewhat thick-walled, often bi-rooted. Lamprocystidia 9-12 µm wide. With clamps.

Peniophora septentrionalis *Laurila (1939) Ann. Bot. Soc. Zool.-Bot. Fenn. "Vanamo" 10 (4): 10.*
Basidiocarp effused, adnate, sometimes becoming rimose, up to 0.4 mm thick. Hymenial surface even to tuberculate or with ridges, pinkish red to greyish red when fresh, greyish violaceous to greyish brown when old. Margin fimbriate, whitish when young, indistinct when old.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 3-4 µm wide. Basal layer well developed, thick. Subhymenium consisting of several divided layers. With clamps.
Cystidia. *Gloeocystidia*, 60-120 x 7-10 µm. *Lamprocystidia* hyaline to brownish at the base in the lower parts, 30-70 x 7-12 µm.
Basidia subcylindrical to subclavate, 40-50 x 5-6 µm.
Spores cylindrical to allantoid, 6.5-9 x 2-2.7 µm.
Habitat. On Gymnosperms, only known from *Picea*.
Distribution. Canada, USA (Ginns and Lefebvre 1993), Sweden, Finland (Eriksson 1950).
Distinguishing characters. Hymenial surface pinkish red to greyish red when fresh, greyish violaceous to greyish brown when old. Spores 6.5-9 µm long. Gloeocystidia 7-10 µm wide. Lamprocystidia 7-12 µm wide. On gymnosperms.
Remarks. Resembles *P. junipercola*, but has smaller spores and presence of gloeocystidia.

Peniophora violaceolivida *(Sommerf.) Massee (1889) J. Linn. Soc., Bot. 25: 152.*
Basidiocarp effused, adnate, becoming rimose, up to 0.2 mm thick. Hymenial surface even to tuberculate, grey with reddish or violaceous tinge to bluish grey. Margin fimbriate, whitish when young, indistinct when old.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, 3-4 µm wide.

With clamps.
Cystidia. *Gloeocystidia* 30-75 x 7-10(-12) µm, SA+. *Lamprocystidia* 15-30 x 5-8 µm, hyaline to brownish at the base.
Basidia subcylindrical, 20-45 x 5-7 µm.
Spores cylindrical to allantoid, 7.5-9(-10) x 2.3-3 µm.
Habitat. On angiosperms, rarely on gymnosperms. Preferably on *Salicaceae.*
Distribution. Morocco (Malencon 1982), India (Rattan 1977), Australia (Warcup and Talbot 1963), Canada, USA (Ginns and Lefebvre 1993), China (Maekawa et al. 2002), France (Boidin 1965), Sweden, Denmark, Norway, Finland (Hansen & Knudsen 1997). Uruguay (Gazzano 1994). Cosmopolitan.
Distinguishing characters. Hymenial surface even to tuberculate, grey with reddish or violaceous tinge to bluish grey. Gloeocystidia 7-10 µm wide, SA+. Lamprocystidia 15-30 x 5-8 µm wide. With clamps. Preferably found on Populus or Salix.

Distribution on the 6 continents
Rusland is considered as part of Asia in this list.

Species		North America	South America	Asia	Austr-alia	Africa
Peniophora adjacens						x
Peniophora aurantiaca	x	x		x		
Peniophora bicornis				x		x
Peniophora boidinii	x					
Peniophora bonariensis			x			
Peniophora borbonica				x		x
Peniophora borealis		x				
Peniophora bruneiensis				x		
Peniophora carnea		x			x	
Peniophora cinerea	x	x		x	x	
Peniophora colorea		x				
Peniophora confusa			x			
Peniophora coprosmae					x	
Peniophora crassitunicata						x
Peniophora crustosa					x	
Peniophora decorticans		x				
Peniophora dipyrenosperma						x
Peniophora duplex		x				
Peniophora elaeidis						x
Peniophora erikssonii	x	x				
Peniophora exima		x				
Peniophora farlowii		x				
Peniophora fasticata						x
Peniophora fissilis						x
Peniophora fulvissima						x
Peniophora gabonensis						x
Peniophora gilbertsonii						

Species	Europe	North America	South America	Asia	Austr-alia	Africa
Peniophora guadelupensis			x			
Peniophora incarnata	x	x	x	x	x	x
Peniophora junipericola	x	x				
Peniophora laeta	x	x				
Peniophora laurentii	x	x				
Peniophora laxitexta			x			
Peniophora lilacea	x			x		
Peniophora limitata	x			x		
Peniophora lycii	x	x	x		x	x
Peniophora malaiensis				x		
Peniophora manshurica				x		
Peniophora meridionalis	x				x	x
Peniophora molesta						x
Peniophora monticola						x
Peniophora multicystidiata			x			
Peniophora nuda	x	x		x	x	x
Peniophora ovalispora						x
Peniophora parvocystidiata			x			
Peniophora piceae	x	x	x			
Peniophora pilatiana	x					x
Peniophora pini	x	x				
Peniophora pithya	x	x				x
Peniophora polygonia	x	x				
Peniophora proxima	x					
Peniophora pruinata		x				
Peniophora pseudonuda				x		
Peniophora pseudopini		x				
Peniophora pseudoversicolor	x	x				
Peniophora quercina	x	x	x	x		x

Species	Europe	North America	South America	Asia	Austr-alia	Africa
Peniophora reidii				x		
Peniophora rhodocarpa				x		
Peniophora rufa	x	x		x		
Peniophora rufomarginata	x					x
Peniophora scintillans					x	x
Peniophora septentrionalis	x	x				
Peniophora seymouriana		x				
Peniophora similis		x				
Peniophora spathulata				x		
Peniophora sphaerocystidiata		x				
Peniophora subpirispora	x					
Peniophora subsalmonea						x
Peniophora suecica	x					
Peniophora taiwanensis				x		
Peniophora tamaricicola	x	x				x
Peniophora taraguiensis			x			
Peniophora tephra		x			x	
Peniophora versicolor	x					
Peniophora violaceolivida	x	x		x	x	x

Duportella Pat

Basidiocarp resupinate, adnate, thin to moderately thick, usually with a slightly reflexed margin; hymenial surface smooth, reddish, greyish, violaceous, beige, pale buff, pale ochraceous or brown in different nuances of vinaceous, purplish, olivaceous, grey or black, or just brown. Hyphal system dimitic or monomitic, hyphae with or without clamps. Skeletocystidia numerous, rusty brown, bending into the hymenium and subhymenium, apically strongly encrusted. Gloeocystidia subcylindrical, hyaline and usually SA+. Basidia subcylindrical or subclavate, 4 sterigmate and with basal clamp. Spores hyaline, thin-walled, ellipsoid to ovoid, subovoid, cylindrical, allantoid, lacrimoid to pyriform or subreniform, reniform, globose to subglobose, triangular. The shape is often characteristic for species.

Type species: *Duportella tristicula* (Berk. & Br.) Reink.

Key to the 12 species of Duportella

1. Skeletocystidia absent **2**
1. Skeletocystidia present **3**

2. The following spore shapes are characteristic for the species.
2.1. Broadly ellipsoid to ovoid ..... **D. halimi**
2.2. Cylindrical to allantoid ..... **D. kuehneroides**
2.3. Subovoid to somewhat irregular ..... **D. miranda**
2.4. Lacrimoid to pyriform or subreniform ..... **D. pirispora**
2.5. Reniform ..... **D. renispora**
2.6. Globose to subglobose ..... **D. sphaerospora**
2.7. Triangular ..... **D. trignosperma**

3.1. Spores 5.2-7.5 µm long ..... **D. kuehneri**
3.2. Spores up to 12.5 x 4 µm **4**
3.3. Spores up to 14.5 x 6 µm **5**

4. Reflexed part up to 1 cm broad. Gloeocystidia subulate to narrowly fusiform, 5.5-7 µm wide. Hymenial surface purplish brown to purplish grey **D. malenconii**
4. Reflexed part up to 5 mm broad. Gloeocystidia fusiform to ventricose, 8-25 µm wide. Hymenial surface rusty to dark reddish brown ..... **D. tristicula**

5. Basidiocarp effused, up to 0.6 mm thick. Gloeocystidia fusiform, relatively narrow, 60-90 x 5-12 µm. Found in Ethiopia ..... **D. rhoica**
5. Basidiocarp effused, up to 0.3 mm thick. Gloeocystidia ovoid to fusiform, relatively wide, up to 65 x 33 µm. Found in Taiwan ..... **D. tristiculoides**

Species descriptions

Duportella halimi *(Boidin & Lanquetin) Hjortstam (1987) Windahlia 17: 56.*
Basidiocarp effused, up to 0.25 mm thick. Hymenial surface even, rimose when old, avellaneous to brown. Margin adpressed.
Hyphal system monomitic. Hyphae hyaline to brown, thin- to thick-walled. With clamps.
Cystidia. *Gloeocystidia* cylindrical to fusiform, thin- to somewhat thick-walled, 55-72 x 5-10 µm, tramal gloeocystidia SA+. *Lamprocystidia* brown, 40-55 x 3-6 µm.
Basidia 35-52 x 6-6.5 µm.
Spores broadly ellipsoid to ovoid, thin-walled, 5.5-7 x 4-4.8 µm.
Habitat. On Atriplex.
Distribution. France (loc.cit).
Distinguishing characters. Spores broadly ellipsoid to ovoid, thin-walled. Hymenial surface, avellaneous to brown.

Duportella kuehneri *(Boidin & Lanquetin) Hjortstam (1987) Windahlia 17: 58.*
Basidiocarp effused, up to 0.15 mm thick. Hymenial surface even, vinaceous brown to purplish brown, becoming dark greyish brown. Margin fibrillose.
Hyphal system dimitic. Hyphae hyaline to brown, thin- to thick-walled, 2-4 µm wide. With clamps. Basal layer practically absent. Skeletal or skeletoid hyphae present, 4-4.5 µm wide.
Cystidia. *Gloeocystidia* (sub)cylindrical, thin- to thick-walled, 45-60 x 7,5-13 µm, SA-. *Lamprocystidia* cylindrical to conical, brown, 23-50 x 5-7(-10) µm, often bi-rooted. *Skeletocystidia* developing from skeletoid hyphae, not encrusted, 35-40 x 3-4 µm (pseudocystidia, false setae).
Basidia 22-32 x 4-5 µm.
Spores cylindrical to allantoid, 5.2-7.5 x 2-3.5 µm.
Habitat. On angiosperms.
Distribution. Ethiopia (Boidin & Lanquetin 1995). Madagascar and Réunion (Boidin et al. 1991).
Distinguishing characters. Skeletocystidia present. Lamprocystidia brown. Spore shape cylindrical to allantoid, 5.2-7.5 µm long.

Duportella kuehneroides *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 98.*
Basidiocarp effused, up to 0.25 mm thick. Hymenial surface even, greyish violaceous, sometimes locally brighter. Margin indistinct.

Hyphal system dimitic. Hyphae hyaline to yellowish, thin- to slightly thick-walled, 2-4 µm. Generative hyphae with clamps. Basal layer compact with subhyaline to brownish hyphae, context hyphae hyaline, thin-walled.
Cystidia. *Tramal gloeocystidia* cylindrical, thin- to thick-walled, SA+. *Hymenial gloeocystidia* fusiform, 5-18 µm wide, some with schizopapilla, SA+. *Lamprocystidia* cylindrical to conical, brown, 4.5-6 µm wide, often bi-rooted.
Basidia 22-28 x 5-6 µm.
Spores cylindrical to allantoid, 6-8(-10) x 2,5-3(-3,5) µm.
Habitat. On angiosperms.
Distribution. Taiwan (Sheng-Hua Wu 2000).
Distinguishing characters. Gloeocystidia SA+. Spores cylindrical to allantoid, 6-8 µm long. Otherwise similar to *D. kuehneri*.

Duportella malenconii *(Boidin & Lanquetin) Hjortstam (1987) Windahlia 17: 58.*
Basidiocarp effused to effused-reflexed, submembranaceous to coriaceous, up to 0.5 mm thick, reflexed part up to 1 cm broad. Abhymenial surface velutinous to felty, brown to blackish brown, sometimes zonate. Hymenial surface even, rimose when old, purplish brown to purplish grey.
Hyphal system. Generative hyphae hyaline to dark brown, thin- to thick-walled, with clamps, but in tomentum many septa without clamps. Skeletal or skeletoid hyphae brown, 3-4.5 µm wide, some curving into the hymenia to form *skeletocystidia* (pseudocystidia, false setae), 5-8 µm wide.
Cystidia. *Gloeocystidia* subulate to narrowly fusiform, 45-70 x 5.5-7 µm, SA+, sometimes with schizopapilla. *Lamprocystidia* narrowly conical, thick-walled, brown, 55-100 x 9-13 µm.
Basidia 40-50 x 5-7 µm.
Spores cylindrical to allantoid, (7-)7.5-10(-13) x 2.5-4(-4.5) µm.
Habitat. On angiosperms.
Distribution. Morocco (Malençon 1982), USA (Ginns and Lefebvre 1993 - ssp. *americana*).
Distinguishing characters. Effused-reflexed with reflexed part up to 1 cm broard. Purplish. Skeleocystidia present.

Duportella miranda *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 100.*
Basidiocarp effused, up to 0.25 mm thick. Hymenial surface even, rimose when old, avellaneous to brown, typically with olivaceous tinges. Margin adpressed.
Hyphal system monomitic. Hyphae hyaline to brown, thin- to thick-walled. With clamps.

Cystidia. *Hymenial gloeocystidia* cylindrical to fusiform, thin-walled, 7-10 µm wide, often with a schizopapilla. *Tramal gloeocystidia* 10-20 µm wide, SA+. *Lamprocystidia* brown, 40-60 x 9-12 µm, often bi-rooted.
Basidia 25-30 x 6-6.5 µm.
Spores subovoid to somewhat irregular, slightly thick-walled, 5-6.5 x 3.8-4.7 µm.
Habitat. On angiosperms.
Distribution. Taiwan (Wu 2000), Réunion (Boidin et al. 1991).
Distinguishing characters. Hymenium with olivaceous tinges Differs from *D. sphaerospora* by smaller spores.

Duportella pirispora *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 104.*
Basidiocarp effused, up to 0.07mm thick. Hymenial surface even, beige.
Hyphal system. Hyphae hyaline to yellowish, thin- to slightly thick-walled, 2-3 µm wide. With clamps. Basal layer practically absent.
Cystidia. *Gloeocystidia* cylindrical, slightly thick-walled at the base, 48-65 x 8-14 µm, SA+. *Lamprocystidia* conical, brown, 35-70 x 7-12 µm, multi-rooted.
Basidia subcylindrical, 28-33 x 5.5 µm.
Spores lacrimoid to pyriform or subreniform, (7.5-)8.5-11 x (4.5-)5-6(-6.8) µm.
Habitat. On angiosperms.
Distribution. Gabon (loc.cit).
Distinguishing characters. Hymenial surface beige. Very thin basidiome. Spores lacrimoid to pyriform or subreniform, up to 11 µm long.

Duportella renispora *Boidin, Lanquetin & Gilles (1991) Bull. Soc. Mycol. France 107: 104.*
Basidiocarp effused, up to 0,06 mm thick. Hymenial surface even, beige to grey.
Hyphal system monomitic. Hyphae hyaline, thin-walled, 2-3.5 µm wide. Clamps present. Basal layer practically absent.
Cystidia. *Gloeocystidia* terminal or lateral, cylindrical, obtuse, SA-. *Lamprocystidia* conical, brown, thinly encrusted, 33-55 x 6-8.5 µm, often multi-rooted.
Basidia subcylindrical, 20-30 x 5.5-6.5 µm.
Spores reniform, 5.2-6.5(-) x 3.5-4.5 µm.
Habitat. Only known from *Urtica*.
Distribution. Réunion (loc.cit).
Distinguishing characters. Spores reniform. Growing on *Utrica*.

Duportella rhoica *Boidin & Lanquetin (1995) Cryptog. Mycol. 16 (2): 89.*

Basidiocarp effused up to 0.6 mm thick. Hymenial surface even, violaceous brown to greyish brown to dark grey. Margin paler.
Hyphal system dimitic. Generative hyphae hyaline to brown, thin- to usually thick-walled, 2.5-3.5 µm wide, with clamps. Skeletoid hyphae 3-5 µm wide, curving into the hymenia to form *skeletocystidia.*
Cystidia. *Gloeocystidia* fusiform, relatively narrow, 60-90 x 5-12 µm, SA+, often with schizopapilla. *Lamprocystidia* subhyaline to brown, 30-80 x 5-8 µm.
Basidia 40-55 x 7-8 µm
Spores cylindrical to allantoid, 10-14.5 x 4-6 µm.
Habitat. On angiosperms.
Distribtion. Ethiopia (loc.cit)
Distinguishing characters. Hyphae thick-walled, 2.5-3.5 µm wide. Skeletocystidia present. Spores 10-14.5 µm long.

Duportella sphaerospora *G. Cunn. (1957) Trans. Roy. Soc. New Zealand 85 (1): 96.*
Basidiocarp effused, ceraceous, up to 0,3 mm thick. Hymenial surface even to rugulose, pale buff, pale ochraceous or greyish brown, rimose when dry. Margin free or adherent.
Hyphal system dimitic. Generative hyphae 1.5-2 µm wide. With clamps. Skeletal hyphae 3-5 µm wide.
Cystidia. *Gloeocystidia* vesicular to clavate, 32-48 x 10-14 µm. *Skeletocystidia* cylindrical or acute, sometimes furcate near the apex, finely encrusted, 4-6 µm wide.
Basidia subclavate, 26-32 x 10-12 µm.
Spores globose to subglobose, 10-12 x 9-12 µm.
Habitat. New Zealand (www.mycobank.com).
Distinguishing characters. Skeletocystidia sometimes apically bifid. Big, subglobose spores, 10-12 x 9-12.

Duportella trigonosperma *(Boidin, Lanquetin & Gilles) Hjortstam (1987) Windahlia 17: 58.*
Basidiocarp effused, up to 0.25 mm thick. Hymenial surface even, pinkish beige, minutely rimose when dry.
Hyphal system monomitic. Hyphae hyaline to dark brown, 2-4 µm wide. Basal layer consisting of agglutinated hyphae. Clamps present.
Cystidia. *Gloeocystidia* often lateral, cylindrical to fusiform, 30-50 x 5-7 µm, often with schizopapilla, SA+. *Lamprocystidia* conical, yellowish brown to dark brown, 28-42 x 4-7 µm, often bi-rooted.
Basidia subcylindrical, 25-32 x 4-5 µm.

Spores triangular in outline, 4-6 x 3-3.5 x 4.2-5.5 µm.
Habitat. On angiosperms. Only known from palm trees.
Distribution. China (Maekawa et al 2002), Cameroon (herb. Ryvarden, O), Thailand (loc.cit), Central Africa (www.mycobank.com)
Distinguishing characters. Hymenial surface pinkish beige. Spores triangular. On palm trees.

Duportella tristicula *(Berk. & Broome) Pat. (1920) Reink., Philipp. J. Sci. 17: 364.*
Basidiocarp effused, rarely effused-reflexed, submembranaceous to coriaceous, up to 0.5 mm thick, reflexed part up to 0.5 cm broad. Hymenial surface velutinous to felty, rusty to dark reddish brown. Margin floccose, slightly darker than the hymenium.
Hyphal system dimitic. Generative hyphae hyaline to dark brown, thin- to thick-walled, 2.5-4 µm, with clamps, but in tomentum many septae without clamps. Basal layer present. Skeletal or skeletoid hyphae brown, 3-4.5 µm wide, some curving into the hymenia to form *skeletocystidia*, 5-11 µm wide.
Cystidia. *Gloeocystidia* bladderlike, fusoid or clavate, 40-80 x 8-25 µm, sometimes with schizopapilla, SA+. *Lamprocystidia* narrowly conical, thick-walled, brown, 40-60 x 9-11 µm. *Skeletocystidia* present.
Basidia 25-40 x 5-7µm.
Spores cylindrical to allantoid, 10.0-12.5 x 3.7-4.2 µm.
Habitat. On angiosperms.
Distribution. Taiwan (Wu 2000). Africa, Réunion, Singapore (Boidin et al. 1991), Phillippines, Australia (Cunningham 1963).
Distinguishing characters. Rusty to dark reddish brown with a distinct margin, superficially resembling a Hymenochaete species, but hyphae with clamps, presence of gloeocystidia.

Duportella tristiculoides *Sheng H. Wu & Z.C. Chen (1993) Bull. Nat. Mus. Nat. Sci. 4: 108.*
Basidiocarp effused, membranaceous, up to 0.3 mm thick. Hymenial surface even, rimose, greyish brown. Margin concolorous.
Hyphal system dimitic. Generative hyphae usually thin-walled, 2.2-4.5 µm wide, with clamps. Skeletoid hyphae brown, thick-walled 2.5-5 µm wide, curving into the hymenia to form *skeletocystidia*. Basal layer absent.
Cystidia. *Gloeocystidia* ovoid to fusiform, relatively wide, up to 65 x 33 µm, SA+. *Skeletocystidia* up to 5 µm wide.
Basidia 30-45 x 6.7-8.5 µm.
Spores cylindrical to allantoid, 10-14.5 x 4-6 µm.

Habitat. On angiosperms.
Distribution. Taiwan (Wu 2000).
Distinguishing characters. Differs from *D. tristicula* by absence of basal layer, an indistinct margin, and wider basidia.

Dendrophora (*Parm.*) *Chamuris*

Basidiocarp resupinate, effused or effused reflexed (reflexed part velutinous or felty to tomentose), adnate, but loosening at the margin by age. Hymenial surface smooth or tuberculate, grey to dark brown. Hyphal system dimitic or monomitic with some skeletoid hyphae; generative hyphae with clamps, skeletoid hyphae thick-walled, yellow to pale-brown, indextrinoid, dominating in the subiculum and branching to dendrohyphae in the subhymenium. Lamprocystidia usually numerous, hyaline or basally pale brown. Gloeocystidia fusiform, thinwalled, SA+. Basidia 4 sterigmate and with basal clamp. Spores cylindrical to allantoid, inamyloid. Spore print pink.

Key to genus Dendrophora

1. Spores cylindrical to suballantoid, 7-11 x 3-4.2 µm. Lamprocystidia up to 15 µm wide. Reflexed parts up to 1 cm broad ..... **D. albobadia**
1. Spores allantoid, 5-8 x 1.5-2.5 µm. Lamprocystidia 15-25 µm wide. Reflexed parts up to 0.5 mm broad ..... **D. versiformis**

Species descriptions

Dendrophora albobadia *(Schwein. : Fr.) Chamuris (1987) Mycotaxon 28 (2): 544.*
Basidiocarp effused to effused-reflexed, thin coriaceous, up to 0.6 mm thick, reflexed parts up to 1 cm wide. Abhymenial surface tomentose-strigose to felty, light brown to dark brown. Hymenial surface even to slightly tuberculate, often with concentric zones, pale brown, greyish brown or cinnamon. Margin whitish.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, rarely skeletoid, 2-5 µm wide. With clamps.
Cystidia. *Gloeocystidia* fusiform, thin-walled, weakly SA+. *Lamprocystidia* conical, thick-walled, encrusted, 25-50 x (6.5-)8-15 µm, protruding up to 25 µm. *Dendrohyphidia* subhyaline to brown, darkest near the apices, thick-walled.
Basidia subclavate, 25-40 x 5-6 µm.
Spores cylindrical to suballantoid, 7-11 x (2.5)3-4.2 µm
Habitat. On angiosperms.
Distribution. North America (Jülich and Stalpers 1990), Mexico (Marmolejo et al. 1981), Hawaii (Gilbertson et al. 2001), West Indies (Boidin & Lanquetin

1991), Bermuda (Chamuris 1988), Argentina (Gomez & Loewenbaum 1976, Popoff 1997), Colombia, Brazil, Uruguay (Gazzano 1998).
Distinguishing characters. The species may be confused with *D. versiformis*, which differs in having a generally darker coloration and a cream to pale yellow brown margin. Moreover, *D. versiformis* differs in spore size and shape and width of lamprocystidia.

Dendrophora versiformis *(Berk. & M.A. Curtis) Chamuris (1987) Mycotaxon 28 (2): 544.*
Basidiocarp effused to effused-reflexed, coriaceous, up to 0.8 mm thick, reflexed parts up to 5 mm wide. Basidiome discoid to pustulate when young. Abhymenial surface tomentose, dark brown to greyish black. Hymenial surface even to tuberculate, brown.
Hyphal system. Hyphae hyaline to brown, thin- to thick-walled, rarely skeletoid, 2-6(-8) µm wide. With clamps.
Cystidia. *Gloeocystidia* fusiform, thin-walled, SA+, 30-50 x 5-12 µm. *Lamprocystidia* conical, thick-walled, encrusted, 30-100 x (10-)15-25 µm, embedded. *Dendrohyphidia* subhyaline to brown, darkest near the apices, thick-walled throughout, 3-8µm wide at the base.
Basidia subclavate, 25-40 x 4-6(-7) µm.
Spores allantoid, 5-8(-9) x 1.5-2.5 µm.
Habitat. On angiosperms.
Distribution. France, USA (Eriksson 1950), Taiwan (Wu 2000), Jamaica (Punugu et al. 1980). Ecuador, Morocco (Malençon 1982), Canary Island (Ryvarden 1976), Eastern North America, Eastern Asia, North Africa (Chamuris).
Distinguishing characters Dendrohyphidia present and not encrusted, brown and thick-walled, forming a dense felt on the surface of the basidiocarp.
Remarks. *Dendrophora erumpens* (Burt) Chamuris is very similar to – or conspecific with – *D. versiformis*. The species may be distinguished from *D. versiformis* by its erumpent basidiomata with elevated margins and a distinctly gray hymenial surface. The hymenial surface is gray because of the tendency to form more hymenial cystidia than *D. versiformis*, and for the paler dendrohyphidia.

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Litterature

ArtDatabanken – http://www.artportalen.se/plants/default.asp

Bernicchia A, Benni A, Venturella G, Letizia Gargano M, Saitta A, Pérez Gorjón S (2008). Aphyllophoraceous wood-inhabiting fungi on Quercus spp. in Italy. Mycotaxon 104: 425–428. 2008.

Boidin J (1958). Hétérobasidiomycètes saprophytes et homobasidiomycètes résupinés. IV - les Peniophora section Coloratae B. & G. a dendrophyses. Bulletin Trimestriel de la Société Mycologique de France 74 (1): 436-481.

Boidin J (1965a). Le genre *Peniophora* sensu-stricto en France (Basidiomycetes). Bulletin Mensuel de la Société Linnéene de Lyon 34 (5): 161-169.

Boidin J (1965b). Le genre *Peniophora* sensu-stricto en France (Basidiomycetes) [cont.]. Bulletin Mensuel de la Société Linnéene de Lyon 34 (6): 213-219, 2 figs.

Boidin J (1994). Les *Peniophoraceae* des parties tempérées et froid de l'hémisphère nord (Basidiomycotina). Bulletin Mensuel de la Société Linnéenne de Lyon 63 (9): 317-334

Boidin J (1997). Peniophora subpirispora. Bull. Féd. Myc. Dauphiné-Savoie, Janvier 1997; 144: 141-142.

Boidin J (1998). Taxonomie moleculaire des Aphyllophorales. Mycotaxon vol. LXVI, pp. 445-491 1998.

Boidin J, Gilles G (2000). Basidiomycètes Aphyllophorales de l'île de la Réunion. XXI. suité. Mycotaxon 75: 357-387.

Boidin J, Lanquetin P (1984). Répertoire des données utiles pour effectuer les tests d'intercompatibilité chez les Basidiomycètes. III. Aphyllophorales non-porés. Cryptogamie Mycologie 5:193-245

Boidin J, Lanquetin P (1990). Répertoire des données utiles pour effectuer les tests d'intercompatibilité chez les Basidiomycètes. VI. Aphyllophorales non-porés (premier supplement). Cryptogamie Mycologie 11:175-188.

Boidin J, Lanquetin P (1995). Sur quelques corticiés (Basidiomycotina) de l'Éthiopie. Cryptogamie, Mycologie 16: 85-99.

Boidin J, Lanquetin P, Gilles G (1991). Les Peniophoraceae de la zone intertropicale (Basidiomycètes, Aphyllophorales). A. Espèces paléotropicales. Bulletin Trimestriel de la Société Mycologique de France 107 (3): 91-147, 155-156.
Boidin J, Mugnier J, Canales R (1998). Taxonomie Molecularies des Aphyllophorales. Mycotaxon vol. 66, pp. 445-491.
Bourdot H, Galzin A (1928). Hymenomycètes de France. Sceaux, 761 pp.
Burt EA (1925). The Thelephoraceae of North America XIV. Peniophora. Ann. Missouri Bot. Gard. 12: 213-357.
CBS database - http://www.cbs.knaw.nl/databases/aphyllo/database.aspx
Chamuris GP (1988). The non-stipitate steroid fungi in the northeastern United States and adjacent Canada. Mycologia Memoir 14: 1-247.
Christiansen MP (1959). Danish Resupinate Fungi II. Homobasidiomycetes. Dansk. Bot. Ark. 19(2): 61-388.
Cortbase 2008: http://andromeda.botany.gu.se/cortbase.html
Cunningham GH (1963) The Thelephoraceae of Australia and New Zealand. New Zealand Department of Scientific and Industrical Research Bulletin 145: 1-359.
Eriksson J (1950). A taxonomical study with special reference to the Swedish species. Symbolae Botanicae Upsalienses X(5): 1-76.
Eriksson J, Hjortstam K, and Ryvarden L (1981). The Corticiaceae of Northern Europe vol. 5: 889-1047. Fungiflora, Oslo.
Gazzano S (1998). Notas sobre Basidiomycetes xilofilos del Uruguay. VIII. Registro de Aphyllophorales y sus substratos arbóreos. Com. Bot. Mus. Hist. Nat. Montevideo 114: 1-8.
Gilbertson RL, Desjardin DE, Rogers JD, Hemmes DE (2001). Funi from Mamane-Naio vegetation zone of Hawaii. Fungal Diversity 6: 35-68.
Ginns J, Lefebvre MNL (1993).Lignicolous Corticioid Fungi (Basidiomycota) of Northern America systematic, Distribution, and Ecology. Mycologia Memoir 19: 1-247.
Gomez CE, Loewenbaum M (1976). El genero “Peniophora” (Cooke)Donk (Basidiomycetes Aphyllophorales) de los alrededores de Buenos Aires. Darwiniana 20: 189-209.
Greslebin AG, Rajchenberg M (2003). Diversity of Corticiaceae sens. lat. in Patagonia, Southern Argentina. New Zealand Journal of Botany, 2003, vol. 41; 437-446.
Hansen L, Knudsen H (eds.; 1997). Nordic Macromycetes. Vol. 3. Copenhagen, 444 pp.
Hallenberg, N. 1991. Pairing tests with species of Aphyllophorales (Basidiomycetes) from two phytogeographically isolated areas. Mycotaxon 42: 355-86.

Hallenberg N, Larsson E, Mahlapuu M (1996). Phylogenetic studies in Peniophora. Mycol. Res. 100 (2): 179-187 (1996).
Hjortstam K, Ryvarden L (1984). Some new and noteworthy Basidiomycetes (Aphyllophorales) from Nepal. Mycotaxon 20: 133-151.
Hjortstam K, Ryvarden L (1990). Lopharia and Porostereum (Corticiaceae). Synopsis Fungorum 4: 1-68.
Hjortstam K, Ryvarden L (2007). Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics, and the southern hemisphere. Synopsis Fungorum 22: 27-146.
Jülich W (1974). The genera of the Hyphodermoideae (Corticiaceae). Persoonia 8 (1): 59-97.
Jülich W, Stalpers JA (1980). The resupinate non-poroid Aphyllophorales of the temperate northern hemisphere. Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Ser. 2, 74: 1-335.
Lanquetin P, Duhem B, Hentic R (1987). Première récolte de *Peniophora suecica* Litsch en France. Bull. Soc. Mycol. France 103 (3): 239-246.
Liberta AE, Navas AJ (1978). Notes on Venezuelan Corticiaceae (Basidiomycetes). Can. J. Bot. 56: 1777-1781.
Lin SH, Chen ZC (1990). The Corticiaceae and the resupinate Hydnaceae of Taiwan. Taiwania 35: 69-111.
Maekawa N (1994). Japanece Corticaceaea II. Reports of the Tottori Mycological Institute no. 32: 1-123.
Maekawa N, Yang ZL, Zang M (2002). Corticioid Fungi (Basidiomycetes) collected in Sichuan Province, China. Mycotaxon vol. 83: 81-95.
Malencon G (1982).Nouvelles contribution a la flore mycologique du Maroc. III. Bull. Soc. Mycol. France 98 (2): 183-248.
Marmolejo JG, Castillo J, Guzman G (1981). Description of the species of Thelephoraceae little known in Mexico. Bol. Soc. Mex. Mic.15: 9-66.
May TW, Milne J, Shingles S, Jones RH (2003). Catalogue and Bibliography of Australian Fungi 2. Basidiomycota p.p. & Myxomycota p.p. Fungi of Australia Vol. 2B. CSIRO Publishing, Melbourne, 452 pp.
Mycobank - www.mycobank.com
Nakasone KK (1990). Cultural studies and identification of wood-inhabiting Corticiaceae and selected Hymenomycetes from North America. Mycologia Memoirs 15: 1-412.
Popoff OF (1997). Algunos hongos Corticioides (Aphyllophorales, Corticiaceae s.l.) del Nordeste Argentine. Bol. Soc. Argent. Bot. 32(3-4): 241-258).
Punugu A, Dunn MT, Welden AL (1980). The peniophoroid fungi of the West Indies. Mycotaxon 10: 428-454.

Rattan SS (1977). The resupinate Aphyllophorales of the North Western Himalayas. J Cramer, Vaduz, 427 pp.
Reid DA (1965). A monograph of the stipitate stereoide fungi. Beih. Nova Hedwigia 18: 1-382.
Rodriguez-Armas JL, Ryvarden L, Hallenberg N, Beltran Tejera E (1992). New and noteworthy species of Aphyllophorales (Basidiomycetes) from the Canary Islands. Mycotaxon 45: 433-47
Ryvarden L (1976). Studies in the Aphyllophorales of the Canary Islands. 3. Some species from the western islands. Cuad. Bot. Canar. 26/27: 29-40.
Slysh AR (1960). The genus Peniophora in the New York State and adjacent regions. Technical Publication No. 83: 1-95.
Stalpers JA (1978). Identification of wood-inhabiting Aphyllophorales in pure culture. Studies in Mycology No. 16: 1-248.
Stalpers JA, Buchanan PK (1991). Type studies of the species of Pellicularia and Peniphora described by Cunningham, G. H. New Zealand Journal of Botany, 1991, Vol. 29: 331-340.
Svampefund 2008. www.svampe.dk
Wu S-H (2000). Survey of the Corticiaceae in Taiwan, to 2000. Fung. Sci. 15(1): 69-80.
Wu S-H (2003). A study of Peniophora species with simple-septate hyphae occurring in Taiwan. Mycotaxon vol. 85: 187-199.
Wu SH, Chen, ZC (1993). The Genus Duportella Pat. (Corticiaceae s.l., Basidiomycotina) in Taiwan. Bulletin of the National Museum of National Museum of Natural Science, Number 4: 101-112.

RYGGTITTEL:

Synopsis Fungorum 26