

# Synopsis Fungorum 29

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# Nomenclatorial novelties proposed in this volume:

## New species:

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# Type studies in *Stereum s. lato* 1

## Species described by P. Karsten

By

Leif Ryvarden

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### Introduction

In connection with a book on Stereoid fungi of America (Ryvarden 2011) it became necessary to make up a list of names published in *Stereum*, taken mostly from Index of Fungi and the CBS database, supplemented by some odd other names. It soon became clear that a number of names are still unsolved since their types, if they exist, have not been examined. Thus it became desirable to try to ascertain their taxonomic status behind these hidden or unexplored names. This paper is the first in a series that hopefully will make it possible to make a synopsis of *Stereum s. stricto*.

Peter Karsten published a restricted number of species either in *Stereum* or they were later transferred to the genus by other mycologists. In the following, the species are listed alphabetically according to their specific epithet.

The late Kurt Hjortstam had for his private use made up a very large list of names for corticoid fungi in a wide sense, with notes on their taxonomic status. Some of the statements given below and in the following papers are from that list and indicated with “teste K. Hjortstam”.

Dr. Seppo Huhtinen from the Turku herbarium in Finland has kindly sent information about some of Karstens types for which I am very grateful. P. Karstens types are deposited in the Helsinki Herbarium (H) with many duplicates in the Turku Herbarium (TR?)

# Type studies in *Stereum* s. lato 1

## Species described by P. Karsten

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# Type studies in *Stereum* s. lato 2

## Species described by C. Burt

By

Leif Ryvarden

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### Introduction

In an ongoing study of *Stereum* s. str. it seemed desirable to examine the many species C. Burt described in the genus in a wide sense.

Many of his species had already been examined by other mycologists such as Chamuris (2000) and Ginns & Lefebvre (1993). The synonymy stated in these books are accepted here without hesitation, partly to avoid excessive reexamination of already worn type specimens.

Types examined by the author are marked with the common herbaria acronyms followed by an exclamation mark!

The assistance by the mycological curators in the New York Herbarium (NY) and the National Fungus Collection (BPI) is gratefully acknowledged.

### Taxonomy

**caespitosum**, *Stereum* Burt, Ann. Mo. Bot. Gard. 7:1161, 1920.

= *Podoscypha caespitosa* (Burt.) Boidin.

**conicum**, *Stereum* Burt, Ann. Mo. Bot. Gard. 7:179, 1920.

Type: Cuba, ex Fungi Cubensis Wrightiana, no 842, C. Wright, BPI!

= *Stereum ochraceo-flavum* (Schw.) Ellis.

**durum**, *Stereum* Burt, Ann. Mo. Bot. Gard. 7:226, 1920.

= Nomen illegit. non Lloyd 1919.

**earlei**, *Stereum* Burt, Ann. Mo. Bot. Gard. 7:199, 1920.

Type: Jamaica, Hope Gardens, 20. October 1902, F. S. Earle no 151. NY!

= *Hjortstamia crassa* (Lév.) Boidin & Gilles, The type is sterile, but

otherwise typical.

**erumpens, Stereum** Burt, Ann. Mo. Bot. Gard. 7:209, 1920.

= *Dendrophora erumpens* (Burt) Chamuris.

**heterosporum, Stereum** Burt, Ann. Mo. Bot. Gard. 7:220, 1920.

= *Dendrophora albobadia* (Schw.:Fr.) Chamuris.

**heterosporum, Stereum** Burt, Ann. Mo. Bot. Gard. 7:220, 1920.

= *Dendrophora albobadia* (Schw.:Fr.) Chamuris.

**obscurans, Stereum** Burt, , Ann. Missouri Bot. Gard. 11:39, 1924.

= nomen illegit. Non Lloyd 1915.

**pubescens, Stereum** Burt, Ann. Mo. Bot. Gard. 7:178:1920.

= *Auriculariopsis ampla* (Lév.) Maire

**saxitas, Stereum** Burt, Ann. Mo. Bot. Gard. 7:134, 1920.

Type = Mexico, Cuernavaca, Dec. 1909, W. A. Murrill, BPI!

= *Cystostereum murrayii* (Berk. & M. A. Curtis) Pouzar.

**sepium, Stereum** Burt, Ann. Mo. Bot. Gard. 7:205, 1920.

= *Xylobolus semipileatum* (Berk. & Curt.) Boidin

**spumeum, Stereum** Burt, , Ann. Mo. Bot. Gard. 7:208, 1920.

= *Peniophora cremea* Bres.

**sulcatum, Stereum** Burt, N.Y. St. Mus. Ann. Rep. 54:154, 1901.

= *Laurilia sulcata* (Burt.) Pouzar.

**underwoodii, Stereum** Burt, Ann. Mo. Bot. Gard. 13:327. Sept. 1926.

Type: Jamaica,, John Crow Peak, 5000 ft. 18 April 1903, leg. L. M.

Underwood, NY!

= *Scytinostroma albocinctum* (Berk. & Broome) Boidin & Lanq.

## References

Chamuris, G. 1988: The Non-stipitate stereoid fungi in the north-eastern United States and adjacent Canada. Mycol Memoir. 14: 1-247.

Binns, J. & Lefebvre M. N. L. 1993: Lignicolous Corticioid Fungi of North America, Systematics, Distribution and Ecology. Mycologia Memoir 10:1-247.

# Preliminary Check-list of Wood Inhabiting Basidiomycetes of Ethiopia

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&

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**Abstract:** Two hundred sixty nine species of wood inhabiting basidiomycetes distributed over 10 orders 42 families have been recorded for Ethiopia. Of these five species were new to science.

## Introduction

Fungal recording in Ethiopia started rather late compared with other African countries. The main reason was the difficult access to the country and seemingly without resources being of interest for the old colonial powers, especially England and France. Bresadola (1896) was the first to report wood inhabiting basidiomycetes in Ethiopia. Scattered observations were later published by Hennings (1901, 1904 and 1905). After these preliminary reports there was a long period with any research or recording of Ethiopian fungi. Ryvarden collected in Ethiopia in 1971 as a part of a general investigation the east African polypores, and his observations were published in Ryvarden & Johansen (1980) where a number of species were recorded for the first time from the country. His collections of corticoid fungi were later examined and published by Hjortstam (1983 and 1987). Some scattered observations and records were also published by Boidin and Lanquatin (1995).

Despite these contributions, the mycota of Ethiopia is far less known than in many other African countries and still large areas of the country remain unexplored. The lack of taxonomic expertise and financial support for long term studies are the main reasons for this situation.

One of us (AB) began in 1988 a systematic study of Ethiopian fungi as a part of his PhD thesis and the work has continued although with some breaks due to lack of funds. Even if there are still unexplored areas and many collections examined to be named, we feel it will be useful to have a preliminary list of known wood inhabiting basidiomycetes. Forthcoming students will then easier be able to

check their collections and see whether they represent additions to the mycota of the country.

## **Materials and Methods**

### **Study sites:**

We have undertaken systematic collecting of wood inhabiting fungi since 1998. This has been done especially in forested areas in the provinces (??) of Menagesha, Munessa- Shashemen, Chilmo and Adaba – Dodolla in central and Bonga, Mizan, Tepi and Masha in the south west. In central Ethiopia we have concentrated our work in the afro-montane dry forests while forests in the south west areas are afro-montane rain forests. For a detailed account on the history, classification, climatic conditions and floristic compositions of these forests, see Friis (1995).

### **Collection and documentation:**

Basidiocarps of wood inhabiting basidiomycetes were collected on both decaying woods and living standing trees. All basidiocarps were dried and placed in deep freezer kept at minus 80°C for at least 24 hours. Herbarium specimens of our own collections been deposited in the Addis Ababa University Herbarium (is this the correct acronym??) and a duplicate of most species are also in the Oslo University Herbarium (O). As far as time and funds made it possible many of the localities were visited more than once over several periods under different climatic conditions. Never the less many species new to the country are still to be expected as Ethiopia has a very varied vegetation in many different altitude zones.

### **Identification:**

Identification and nomenclature of polypores were carried according to Ryvarden and Johansen (1980), Ryvarden and Gilbertson (1986, 1987), Ryvarden and Gilbertson (1993, 1994). The identification of the corticioid fungi were done by the studies of Eriksson and Ryvarden (1973, 1975, 1976), Eriksson *et al.* (1978, 1981, 1984) and Hjortstam *et al.* (1988).

To make the list more surveyable we have listed the species alphabetically according to genera in non-systematic, but traditional groups.

## Results

### AGARICALES

*Agaricus augustus* Fr.  
*A. campestris* L. ex Fr.  
*A. endoxanthus* Berk. & Br.  
*Armillaria heimii* Pegler  
*A. fuscipes* Petch.  
*Coprinus disseminatus* (Pers. ex Fr.) Gray  
*C. setulosus* Berk. & Br.  
*Favolaschia thwaitesii* (Berk. & Br.)  
*Gymnopilus palmeanus* (Speg.) Singer  
*Hypholoma subviride* (Berk. & Curt) Dennis  
*Laccaria lateria* Malencon  
*Lepiota subincarnata* Lange  
*Macrolepiota dolichaula* Berk. & Br.  
*Marasmius bubalinus* Pegler  
*Omphalotus . olearius* (Dc. ex Fr.) Singer  
*Oudemansiella radicata* (Rel. ex Fr.) Singer  
*Pleurotus sajor caju* (Fr.) Singer  
*P. luteoalbus* Beeli  
*Psathyrella astroumbonata* Pegler  
*Schizophyllum commune* Fr. ex Fr.  
*Tricholoma pratense* Pegler & Rayn.

### Fistulinaceae

*Fistulina hepatica* Schaeff.: Fr.

### Auriculariaceae

*Auricularia auricula* (Hooker) Underwood

### Boletaceae

*Cerinomyces grandinioides* Mac. Nabb.

### Coniophoraceae

*Coniophora bimacrospora* (Decock & Bitew et Castillo  
*C. olivacea* (Fr.: Fr.) Karst.  
*C. puteana* (Schum.: Fr.) Karst.  
*Serpula lacrymans* (Wulf: Fr.) Schroet

### Corticiaceae

*Amylocorticium africanum* Hjortstam  
*A. cebennense* (Bourd.) Parm.  
*Athelopsis glaucina* (Bres.) Hjortstam  
*Botryobasidium asperulum* (Rogers) Boidin

*Botryophyphochnus isabellinus* ( Fr.) Erikss.  
*Brevicellicium olivascens* (Bres.) Larss. & Hjortstam  
*Byssomerulius corium* (Fr.) Parm.  
*Ceraceomyces sublaevis* (Bres.) Jül  
*Corticium polygonioides* (Karst.) Donk  
*Cystidiodontia artocreas* (Cooke ) Hjortstam  
*Cytidia cristallifera* Boidin and Lanq.  
*Dacryobolus sudans* (Fr.) Fr.  
*Dextrinodontia molliuscula* Hjortstam  
*Erythricium salmonicolor* (Berk. & Br.) Burds  
*Fibrodonia gossypina* (Fr.) Parm.  
*Hyphoderma argillaceum* (Bres.) Donk  
*H. capitatum* Erikss. & Strid  
*H. obtusum* Erikss.  
*H. praetermissum* (Karst.) Erikss. & Strid.  
*H. puberum* (Fr. ) Wallr.  
*H. setigerum* (Fr.) Donk  
*Hyphodermella corrugata* (Fr.) Erikss. & Ryvarden  
*Hyphodontia alutaria* (Burt.) Erikss.  
*H. arguta* (Fr.) Erikss.  
*H. crustosa* ( Fr.) Erikss.  
*H. pallidula* (Bres.) Erikss.  
*H. sambuci* (Pers.) Erikss.  
*H. spathulata* (Fr.) Parm.  
*Kavinia alboviridis* (Morgan) Gilb. & Budington  
*Melzericium udicola* (Bour.) Hauerslev  
*Mycoacia brunneofusca* Hjortstam & Ryvarden  
*Mycoacia fuscoatra* (Fr.) Donk  
*M. uda* ( Fr. ) Donk  
*Phlebia livida* (Fr.) Bres.  
*Pteridomyces glazinii* (Bres.) Jül.  
*Pulcherricium caeruleum* (Fr.) Parm.  
*Punctularia strigosozonata* (Schw. )Talbot  
*Schizopora flavipora* (Cke.) Ryvarden  
*S. paradoxa* (Fr.) Donk  
*Scopuloides hydnooides* (Cooke & Mass. ) Hjortstam & Ryvarden  
*Subulicium longisporum* (Pat.) Parm.  
*Vuilleminia obducens* Hjortstam & Ryvarden  
*Lopharia mirabilis* (Berk. & Br.) Pat.  
*Phanerochaete rosea* (Henn.) Buchanan & Hood

*P. tuberculata* (Karst.) Parm.  
*Phlebiopsis gigantea* (Fr.) Jul.  
*Porostereum spadiceum* (Pers.) Hjorst. & Ryv  
*Podoscypha nitidula* (Berk.) Reid

### **Hymenochaetaceae**

*Coltricia cinnamomea* (Pers.) Murr.  
*C. spathulata* (Hook.) Murr.  
*Cyclomyces tabacinus* (Mont.) Pat.  
*Fomitiporia aethiopica* Decock, Bitew et Castillo  
*F. pseudopuncata* ( David, Dequatre & Fiasson) Fiasson  
*F. robusta* (Karst.) Fiasson & Niemelä  
*F. tenuis* Decock & Bitew et Castillo  
*Fuscoporia torulosa* (Pers) Wagner & Fisch.  
*Inonotus ochroporus* (Van der Byl) Pegler  
*I. patouillardii* (Rick) Imaz.  
*Phellinus allardii* (Bres.) Ryvarden  
*P. contiguus* ( Fr.) Pat.  
*P. dependens* (Murr. ) Imaz.  
*P. discipes* (Berk.) Ryvarden  
*P. extensus* (Lév.) Pat.  
*P. ferruginosus* (Schrad.: Fr.) Bourd. et Galz.  
*P. gilvoides* (Petch.) Ryvarden  
*P. gilvus* (Schw.) Pat.  
*P. glaucescens* (Petch.) Ryvarden  
*P. linteus* (Berk. & Curt.) Teng.  
*P. luctuosus* (Ces.) Ryvarden  
*P. pachyphoeus* (Pat.) Pat.  
*P. palmicola* (Berk. & Curt.) Ryvarden  
*P. punctatus* ( Fr.) Pilåt  
*P. robustus* (Karst.)  
*P. senex* (Nees & Mont.) Imaz.  
*P. wahlbergii* (Fr.) Reid.

### **Polyporales**

*Abortiporus biennis* (Bull: Fr.) Singer  
*Albatrellus pilosus* (Petch) Ryvarden  
*Antrodia albida* ( Fr.) Donk  
*A. gossypina* (Speg.) Ryvarden  
*A. Juniperina* ( Murr.) Niemelä & Ryvarden

*A. oleracea* (Davids & Lamb.) Ryvarden  
*A. serialis* (Fr.) Donk  
*A. vaillantii* (Fr.) Ryvarden  
*Bjerkandera adusta* (Fr.) Karst .  
*Ceriporia leptoderma* (Berk. & Br.)  
*C. mellea* (Berk. & Br.) Ryvarden  
*C. purpurea* (Fr.) Donk.  
*C. viridans* (Berk. & Br.) Donk.  
*C. xylostromatoides* (Berk.) Ryvarden  
*Ceriporiopsis gilvescens* (Bres.) Dom.  
*Daedalea steroideus* Fr.  
*Fomitopsis carneus* (Blume & Nees) Imaz.  
*Fomitopsis supina* (Fr.) Ryvarden  
*Diacanthodes novo-guineensis* (Henn.) Fidalgo  
*Heteroporus roseus* Reid  
*Physisporinus rivulosus* (Berk. & Curt.) Ryvarden  
*Gloeophyllum striatum* (Fr.) Murr.  
*G. trabeum* (Fr.) Murr.  
*Gloeoporus theleporoides* (Hook.) Cunn .  
*Oxyporus latemarginatus* (Dur. & Mont.) Donk  
*O. mollissimus* (Pat.) Reid  
*O. pellicula* (Jungh.) Ryvarden  
*O. populinus* (Fr.) Donk  
*Rigidoporus dextrinoideus* John. & Ryvarden  
*R. vinctus* (Berk.) Ryvarden  
*R. ulmarius* (Sow.: Fr.) Imaz.

### **Ganodermataceae**

*Amauroderma argenteofulvum* (Van der Byl) Doidge  
*A. conjunctum* (Lloyd) Torrend  
*A. kwiluensis* (Beeli) Ryvarden  
*Ganoderma australe* (Fr.) Pat.  
*G. resinaceum* Boud.  
*Humphreya lloydii* (Pat. & Har.) Stey.

### **Grammotheleaceae**

*Grammothele delicatula* (Henn.) Ryvarden  
*G. fuligo* (Berk. & Br.) Ryvarden  
*G. lineata* Berk. & Curt.  
*G. setulosa* (Henn.) Ryvarden



*Porogramme albocincta* (Cooke & Masse) Lowe  
*Theleporus calcicolor* (Sacc. & Sydow) Ryvarden  
*T. cretaceus* Fr.  
*Cerrena meyenii* (Kl.) Hansen  
*C. unicolor* (Fr.) Murr.  
*Corioloipsis aspera* (Jungh.) Teng.  
*C. brunneo-leuca* (Berk.) Ryvarden  
*C. byrsina* (Mont.) Ryvarden  
*C. caperata* (Berk.) Murr.  
*C. floccosa* (Jungh.) Ryvarden  
*C. helvola* (Fr.) Ryvarden  
*C. Polyzona* (Pers.) Ryvarden  
*C. sanguinaria* (Kl.) Teng.  
*C. Strumosa* (Fr.) Ryvarden  
*C. telfarii* (Kl.) Ryvarden  
*Datronia scutellata* (Schw. & Gilb) Ryvarden  
*Earliella scabrosa* (Pers.) Gilb. & Ryvarden  
*Echinochaete ruficeps* (Berk. & Br.) Ryvarden  
*E. brachyporus* (Mont.) Ryvarden  
*E. cinnamomea-squamulosa* (Henn.) Reid  
*Favolus brasilensis* (Fr.) Fr.  
*F. spatulatus* (Jungh.) Lév.  
*Funalia leonina* (Kl.) Pat.  
*Grammothelopsis macrospora* (Ryvarden) Jül  
*Hexagonia hirta* (Fr.) Fr.  
*H. hydroides* (Fr.) Fidalgo  
*H. pobequini* Hariot.  
*H. tenius* (Hook.) Fr.  
*H. umbrinella* Fr.  
*H. velutina* Pat. & Har  
*Incrustoporia carneola* (Bres.) Ryvarden  
*I. nivea* (Jungh.) Ryvarden  
*Laetiporus sulphureus* (Bull.: Fr.) Murr.  
*Lentinus crinitus* (L. ex Fr) Fr.  
*L. velutinus* Fr.  
*Lenzites elegans* (F.) Pat.  
*L. stereoides* (Fr.) Ryvarden  
*Lignosus sacer* (Fr.) Ryv  
*Loweporus roseo-albus* (Jungh.) Ryvarden  
*L. tephroporus* (Mont.) Ryvarden

*Microporellus obovatus* (Jungh) Ryvarden  
*M. violaceo-cinerasces* (Petch) David & Rajchenb  
*Microporus affinis* (Blume & Nees ex: Fr.)  
*M. incompetus* (Fr.) Kunt  
*M. vernicipes* (Berk.) Kunt  
*Nigrofomes melanoporus* (Mont.) Murr.  
*Nigroporus durus* (Jungh.) Murr.  
*N. vinosus* (Berk.) Murr.  
*Oligoporus balsameus* (Pk.) Gilbn & Ryvarden  
*O. caesisus* (Schrad.: Fr.) Gilbn. & Ryvarden  
*O. floriformis* (Quel) Gilbn & Ryvarden  
*O. guttulatus* (Pk.) Gilbn. & Ryvarden  
*O. pelliculosus* (Berk.) Ryvarden  
*Pachykytospora papyracea* (Schw.) Ryvarden  
*Perenniporia martius* (Berk.) Ryvarden  
*P. medulla-panis* (Fr.) donk  
*P. ochroleuca* (Berk.) Ryvarden  
*P. tephropora* (Mont.) Ryvarden  
*Polyporus arcularius* Batsch: Fr.  
*P. dictyopus* Mont.  
*P. grammocephalus* Berk.  
*P. melanopus* Fr.  
*P. philippinensis* Berk.  
*P. retirugis* (Bres.) Ryvarden  
*P. squamosus* Fr.  
*P. tenuiculus* (Beauv.) Fr.  
*Pycnoporus sanguineus* (L.:Fr.) Murr.  
*Pyrofomes demidoffii* (Lév) Kolt.ex Pouz.  
*P. perlevis* (Lloyd) Ryvarden  
*Skeletocutis carneola* (Bres.) Ryvarden  
*Skeletocutis lenis* (Karst) Niemelä  
*S. nivea* (Jungh.) Keller.  
*Trametes cingulata* (Berk.)  
*T. cotonea* (Pat. & Har.) Ryvarden  
*T. elegans* (Spreng.: Fr.) Fr.  
*T. hirsuta* (Wulf: Fr.) Pilât  
*T. menzeizii* (Berk.) Ryvarden  
*T. pocas* (Berk.) Ryvarden  
*T. pubescens* (Schum.: Fr.) Pilât  
*T. socotrana* Cooke

*T. varians* Var der Byl.  
*T. versicolor* (L: Fr.) Pilåt  
*T. villosa* ( Fr.) Kreisel  
*Trichaptum fusco- violaceum* (Fr.) Ryvarden  
*Tyromyces caesius* (Fr.) Murr.  
*Tyromyces chioneus* (Fr.) Karst.  
*T. cinerobrunneus* Bitew & Ryvarden *sp.nov*  
*T. ethiopicus* Bitew & Ryvarden *sp. nov*  
*T. hypolaeritus* ( Berk.) Ryvarden  
*Vanderbylia vicina* (Lloyd) Reid

### **Sistotremataceae**

*Repetobasidiellum fusisporum* Erkiss. & Hjorst.  
*Sistotrema subtrigonospermum* Rogers  
*Trechispora mollusca* (Pers.: Fr.) Liberta  
*T. regularis* (Murr.) Liberta

### **Steccherinaceae**

*Antrodiella liebmannii* (Fr.) Ryvarden  
*Diplomitoporus rimosus* (Murr) Gilb. & Ryvarden  
*Flavodon flavus* (Kl.) Ryvarden  
*Irpex lacteus* (Fr.: Fr.) Fr.  
*Junghuhnia nitida* ( Fr.) Ryvarden

### **Tubulicrinaceae**

*Litschauerella clematidis* (Bourd.& Gazl.) Erikss. & Ryvarden

### **Xenasmataceae**

*Phlebiella ardosiacae* ( Bourd. & Gazl.) Larss. & Hjorststam  
*Xenasma pruinatum* (Pat.) Donk  
*X. pulverulentum* (Litsch.) Donk  
*X. rimicolum* ( Karst.) Donk

### **Russulales**

#### **Bondarzewiaceae**

*Wrightoporia goeocystidiata* ( Jahn & Ryvarden

#### **Lachnocladiaceae**

*Asterostroma muscicolum* (Bourd.) Parm.  
*Dichostereum orientale* Boid & Lanq.  
*Scytinostroma ochroleucum* ( Bres. & Torrend) Donk  
*S. odoratum* (Fr.) Donk  
*Vararia pallescens* (Schw.) Rogers & Jacks

#### **Peniophoraceae**

*Duportella kuehneri* ( Boid. & Lanq.)  
*D. rhoica* Boidin & Lanq.

*Peniophora fasticata* Boidin & Lanq.

*P. incarnata* (Fr.) Cooke

*P. junipericola* J. Erikss

*P. scintillans* G. H. Cunn.

*P. subsalmonea* Boidin, Lanq. & Gilles

### **Stereaceae**

*Aleurobotrys botryosus* (Burt) Boid. Lanq. & Gilles

*Gloiothele lamellosa* (Hjortstam & Ryvarden

*Scytinostromella heterogenea* (Bourdot & Galzin) Parmasto

*Stereum hirsutum* (Fr.) Fr.

*S. ostrea* (Blume & Nees) Fries

### **Thelephorales**

*Thelephoraceae*

*Botryobasidium asperulum* (Rogers) Boidin

*Thelephoa terrestris* (Ehrh.) Fr.

### **Tremellales**

#### **Tremellaceae**

*Tremella mescentrica* Fr.

### **Acknowledgment**

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### **References**

Boidin J. and Lanuetin P. (1995). Sur quelques Corticies (Basidiomycotina) de l'Ethiopie. *Crypt. Mykol.* 16: 79-84.

Bresadola G. (1896). Contribuzioni alla conoscenza della flora dell'Africa Orientale. *Ann. Royal. Inst. Bot. It. Roma*, 6: 177-180

Eriksson J., Hjortstam K. and Ryvarden L. (1978). *The corticiaceae of North Europe Vol. 5. Mycoaciella- Phanerochaete*, pp 887-1047. Fungiflora, Oslo.

Eriksson J., Hjortstam K. and Ryvarden L. (1981). *The corticiaceae of North Europe vol. 6. Phebia- Sacrodontia*, pp 1051-1276. Fungiflora, Oslo.

Eriksson J. Hjortstam K. and Ryvarden, L. (1984). *The corticiaceae of North Europe 7. Schizopora- Suillosporium*, pp 1282-1449. Fungiflora, Oslo.

Eriksson and Ryvarden, L. (1973). *The corticiaceae of North Europe Vol. 2. Aleurodiscus-Confertobasidium*, pp 55-261. Fungiflora, Oslo.

- Eriksson and Ryvarde, L. (1975). *The corticiaceae of North Europe vol.3. Coronicium-Hyphoderma*. pp 262-546. Fungiflora, Oslo.
- Eriksson and Ryvarde, L. (1976). *The corticiaceae of North Europe vol. 4. Hyphodermella- Mycoacia*. pp 547-886. Fungiflora, Oslo
- Friis, I. (1992). Forests and forest trees of northeast tropical Africa. *Kew Bull. Add. Ser.* 15: 1-136.
- Gilbertson R. L. and Ryvarde, L. (1986). *North American polypores*, Vol. 1, Fungiflora, Oslo, pp.1- 433.
- Gilbertson, R. L. and Ryvarde, L. (1987). *North American polypores*, Vol. 2, Fungiflora, Oslo, pp. 434-870.
- Hennings P. (1901). Fungi Africae orientalis I. *Engler Bot. Jahrb.* 28:318- 329.
- Hennings P. (1904). Id. III *Engler Bot. Jahrb.* 34:39-57.
- Hennings P. (1905). Id. IV *Engler Bot. Jahrb.* 38: 102- 118.
- Hjortstam K. (1983). Studies in tropical Corticiaceae (Basidiomycetes). V. Specimens from East Africa collected by L. Ryvarde. *Mycotaxon*, 17:555-572.
- Hjortstam K. (1987). Studies in tropical corticiaceae (basidiomycetes) VII. Specimens from East Africa collected by L. Ryvarde. *Mycotaxon*, 28:19- 37
- Hjortstam K. Henric KL. and Ryvarde, L. (1988). *The corticiaceae of North Europe vol.8. Phlebiella and Thanatephorus – Ypsilonidum* pp 1450- 1631. Fungiflora, Oslo.
- Kirk P. M., Cannon P. F., David J.C. and Stalpers J. A., (2001). Ainsworth and Bisby's Dictionary of the fungi, 9<sup>th</sup>. CAB International, Wallingford
- Ryvarde L. and Gilbertson, J (1993). *European polypores* Vol. 1. Fungiflora
- Ryvarde L. and Gilbertson J (1994). *European polypores* Vol. 2. Fungiflora
- Ryvarde L. and Johansen I. (1980). *A preliminary polypore flora of East Africa*. Fungiflora, Oslo.- 636.

# A Checklist of Resupinate, Non-Poroid Agaricomycetous Fungi from North-East India and Bhutan

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## Abstract

This is the first checklist of resupinate, non-poroid Agaricomycetous fungi from the North-east India and the Royal Kingdom of Bhutan. In total 119 species, belonging to 52 genera are reported. 22 corticioid species based on Indian holotypes are described and in part illustrated. Five genera and 26 species are being reported for the first time from India, whereas from Bhutan all the 57 species belonging to 38 genera are new reports.

**Key words:** *Agaricomycetes*, corticioid fungi, biodiversity hotspot

## Introduction

The present study is based on the collections made from North-east India (Darjeeling area of West Bengal, Sikkim, Arunachal Pradesh, Assam, Meghalaya, Manipur, Tripura, Mizoram, and Nagaland) and the Royal Kingdom of Bhutan. Some areas of North-east India i.e. district Darjeeling of west Bengal, Sikkim, Arunachal Pradesh and the Royal Kingdom of Bhutan constitute the part of Eastern Himalayan range. The study area lies between 88° 11.89' E and 96° 1.23' E longitude, and 22° 6.36' N and 29° 19.48' N latitude and covers a total area about 301, 384 sq. km. Altitudinal range of the region varies from about 12.8 to 2400 m. The area is characterized by rich bio-diversity and heavy precipitation. It is endowed with forest wealth and is ideally suited to produce a whole range of plantation crops, spices, fruits, vegetables, flowers, herbs, fungi etc. The rich natural beauty, serenity and exotic flora and fauna of the area are invaluable resources for the development of eco-tourism. There are only a few scattered reports on corticioid fungi in the area and this is the first long term systematized study regarding the resupinate, non-poroid Agaricomycetous fungi.

## Material and Methods

Fungi have been collected from the various localities of EH and adjoining hills from 1978 to 1984. Specimens were studied either in 3% or 5% Potassium

hydroxide (KOH), Congo red, Phloxine, Melzer's reagent, cotton blue in lactic acid, sulphovanillin using compound microscope; line diagrams were made by using camera lucida. Specimens are kept in Herbarium of Department of Botany, Panjab University, Chandigarh, India (PAN), some duplicates also in herbaria of University of Gothenburg, Gothenburg, Sweden (GH), Department of Biologie, Vegetale, Universite Claude Bernard-Lyon I, Villeurbanne, France (LY), Botanisk Laboratorium, Universitet I, Oslo, Blindern, Norway (O), Department of Plant Pathology, College of Agriculture, The University of Arizona, Tucson, Arizona, U.S.A. (ARIZ), Institute of Zoology and Botany, Academy of Sciences of the Estonian SSR, Tartu, Estonian SSR (TAA), Royal Botanic Gardens, Kew, London, England (KH). Classification given by Hibbett *et al.*, 2007, Blackwell *et al.*, 2006, James *et al.*, 2006 and Kirk *et al.*, 2008 has been followed.

#### Checklist

The corticioid species are listed in an alphabetic order. For each species, the name in bold italic is given first, followed by its synonym(s) and then specimen/s examined with its/their host/s and herbarium/herbaria number/s. Descriptions along with line diagrams of the new species and varieties which have earlier been published are given. Reference for these has been given in the Literature Cited marked as black diamond suit (◆). A black circle (●) indicates new genus, an asterisk (\*) new species, a white circle (○) new variety, an inverse white circle (◐) new generic record for India, an inverse bullet (◑) new generic record for Bhutan, a black square (■) new record for India, a white square (□) new record for Bhutan.

□■***Aleurodiscus oakesii*** (Berk. & Curt.) Höhn. & Litsch., Sitz. Kais. Acad. Wiss. Wien. Math. –Nat. Klassee 116: 802, 1907. – *Corticium oakesii* Berk. & Curt., Grevillea 1: 166, 1873.

SPECIMENS EXAMINED: India – angiospermous wood 19729, 19794, 19879, 19099. Bhutan — *Pinus* sp. 19601; angiospermous wood 19386 (O), 19391, 19404 (O), 19450, 19469, 19522, 19569, 19588.

□■***Amphinema byssoides*** (Fr.) John Erikss., Symb. Bot. Upsal. 16: 112, 1958. – *Thelephora byssoides* Fr. Syst. Mycol. I: 452, 1821.

SPECIMENS EXAMINED: Bhutan — *Pinus* sp. 19474; gymnospermous wood 19434; decaying wood 19620.

□■***Asterostroma cervicolor*** (Berk. & Curt.) Mass., J. Linn. Soc. Bot. 25: 154, 1889. – *Corticium cervicolor* Berk. & Curt., Grevillea 1: 179, 1873.

SPECIMENS EXAMINED: India — angiospermous wood 19747. Bhutan – angiospermous wood 19653.

□■ ***Botryobasidium botryosum*** (Bres.) John Erikss., Symb. Bot. Upsal. 16: 53, 1958. – *Corticium botryosum* Bres., Ann. Mycol. 1: 99, 1903.

SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19289 (GH). Bhutan — angiospermous wood 19494 (GH); gymnospermous wood 19573 (GH).

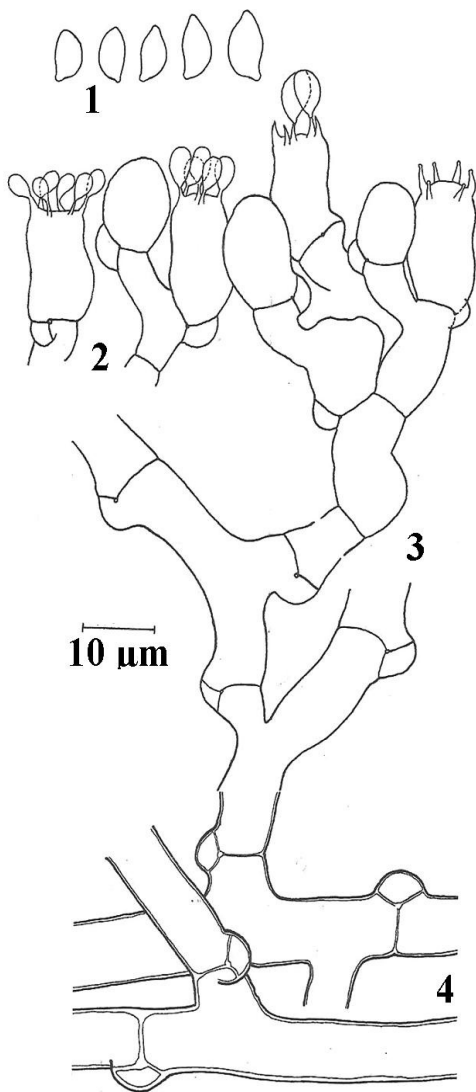
○ ***Botryobasidium subcoronatum*** (Höhn. & Litsch.) Donk var. *crassispora* Dhingra, In The Fungi – Diversity and Conservation in India: 138, 2005.

#### FIGS 1–4

SPECIMENS EXAMINED: India — decaying wood 19235 (Holotype). Bhutan — *Pinus* sp. 19524; angiospermous wood 19510, 19523, 19529, 19539 (Paratypes).

Fruitbody thin, at first hypochnoid, with age more or less continuous and subpellicular, yellowish-white when young, more or less yellowish at maturity, pale ochraceous on drying. Hyphal system monomitic; generative hyphae branched at right angles, septate, clamped at all septa; basal hyphae up to 9.0  $\mu\text{m}$  wide, thick-walled, sparsely branched; hymenial hyphae richly branched, thin-walled. Basidia 14.0–18.0  $\times$  7.5–9.0  $\mu\text{m}$ , subcylindrical, often somewhat constricted, with a basal clamp, mostly 6-sterigmate; sterigmata up to 3.5  $\mu\text{m}$  long. Basidiospores 6.5–9.0  $\times$  3.8–5.0  $\mu\text{m}$ , broadly navicular, smooth, thin-walled, inamyloid, with oily contents, apiculus distinct.





FIGS 1–4. *Botryobasidium subcoronatum* var. *crassispora*: microscopic structures  
1. basidiospores; 2. basidia; 3. subhymenial hyphae; 4. basal hyphae.

□ ***Botryobasidium subcoronatum*** (Höhn. & Litsch.) Donk, Meded. Nederl. Mycol. Vereen. 18 – 20: 117, 1931. – *Corticium subcoronatum* Höhn. & Litsch., Sitz. K. Ak. Wiss. Wien. Math.- Nat. Kl. 116: 822, 1907.

SPECIMEN EXAMINED: Bhutan — *Pinus* sp. 19587 (GH).

□ ***Botryohypochnus isabellinus*** (Fr.) John Erikss., Sv. Bot. Tidskr. 52: 2, 1958. – *Thelephora isabellina* Fr., Epicr.: 544, 1838.

SPECIMENS EXAMINED: India — angiospermous wood 19679, 19806, 19817. Bhutan — angiospermous wood 19361; decaying wood 19622.

***Brevicellicium olivascens*** (Bres.) K.H. Larss. & Hjortst., Mycotaxon 7: 119, 1978. – *Odontia olivascens* Bres., Fungi Trid. 2: 36, 1892.

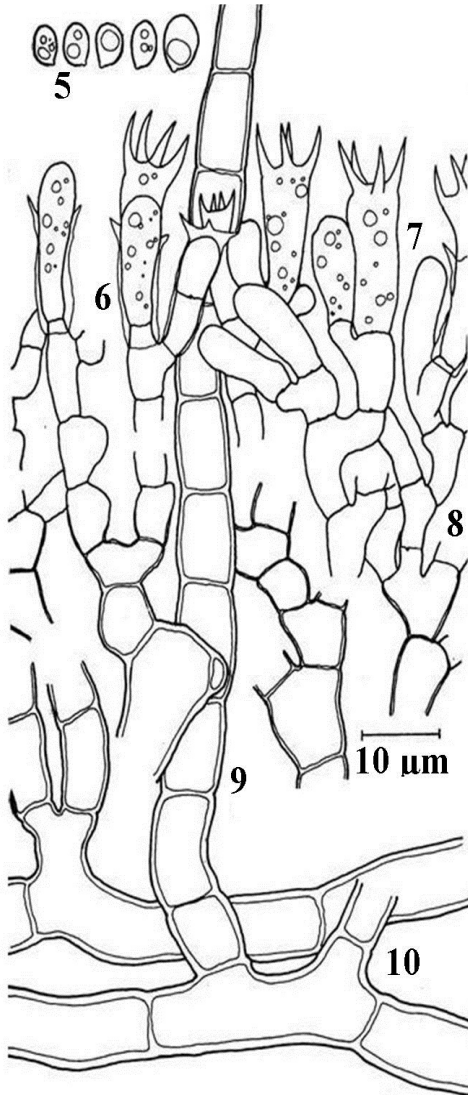
SPECIMEN EXAMINED: India — angiospermous wood 19759 (GH).

□ ***Byssomerulius corium*** (Fr.) Parm., Easti NSV Tead. Akad. Toimet, Biol. 16: 383, 1967. – *Merulius corium* Fr., Elench. Fung. 1: 58, 1828.

SPECIMENS EXAMINED: India — angiospermous wood 19800, 19892, 19174; decaying wood 19067. Bhutan – *Rubus* sp. 19633.

\* ***Candelabrochaete himalayana*** Dhingra, In Plant Diversity in India: 477, 2004. FIGS 5–10

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19430 (Holotype). Fruitbody resupinate, adnate, effused, up to 200  $\mu\text{m}$  thick in section, fragile when dried; hymenial surface golden brown to light brown, turning purplish on putting a drop of 3 % KOH solution, smooth, velutinous under lens by projecting pseudocystidia; margins not differentiated. Hyphal system monomitic; generative hyphae branched at wide angles, short-celled, without clamps; basal hyphae up to 10  $\mu\text{m}$  wide, sparsely branched, thick-walled; sub-basidial hyphae up to 5  $\mu\text{m}$  wide, comparatively well branched, thin-walled. Pseudocystidia 60.0–170.0  $\times$  7.5–10.5  $\mu\text{m}$ , hyphoid, arising from the basal hyphae, septate, thick-walled, projecting up to 100  $\mu\text{m}$  out of the hymenium. Basidia 14.0–22.5  $\times$  4.0–6.0  $\mu\text{m}$ , subcylindrical, apically widened, without a basal clamp, 4-sterigmate, linear repetition frequent; sterigmata up to 7  $\mu\text{m}$  long. Basidiospores 4.5–6.5  $\times$  3.0–4.5  $\mu\text{m}$ , ellipsoid to broadly ellipsoid, smooth, thin- to slightly thick-walled, inamyloid, acyanophilous, with one to many oil drops.



FIGS 5–10. *Candelabrochaete himalayana*: microscopic structures 5. basidiospores; 6. basidia showing linear repetition; 7. simple basidia; 8. subhymenial hyphae; 9. Pseudocystidium; 10. basal hyphae.

□■ *Ceraceomyces borealis* (Rom.) John Erikss. & Ryv., Cort. N. Europe 2: 205, 1973. – *Merulius borealis* Rom., Ark. F. Botanik 11: 27, 1911.

SPECIMENS EXAMINED: India — *Cryptomeria* sp. 19149; gymnospermous wood 19828. Bhutan — gymnospermous wood 19574 (GH); decaying wood 19533 (GH).

□■ ***Clavulicium delectabile*** (Jacks.) Hjortst., Sv. Bot. Tidskr. 67: 107, 1973. — *Corticium delectabile* Jacks., Can. J. Res. Ser. C, 26: 145, 1948.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19392 (GH).

□■ ***Coniophora arida*** (Fr.) Karst., Bidr. Kann. Finl. Nat. Folk 37: 161, 1882. — *Thelephora arida* Fr., Elench. Fung. 1: 197, 1828.

SPECIMEN EXAMINED: Bhutan — decaying wood 19420.

□ ***Coniophora betulae*** Karst., Hedwigia 35: 174, 1896.

SPECIMENS EXAMINED: India — angiospermous wood 19683, 19682. Bhutan — gymnospermous wood 19575.

□ ***Coniophora cordensis*** Rattan, Bibliotheca Mycologica 60: 78, 1977.

SPECIMENS EXAMINED: Bhutan — *Pinus* sp. 19547; decaying wood 19546, 19556.

□ ***Coniophora fusispora*** (Cooke & Ell.) Cooke, In Sacc., Syll. Fung. 6: 650, 1888. — *Corticium fusisporum* Cooke & Ell., Grevillea 8: 11, 1879.

SPECIMENS EXAMINED: Bhutan — gymnospermous wood 19427, 19583.

□■ ***Coniophorella olivacea*** (Fr.) Karst., Finl. Basidsv.: 438, 1889. — *Hypochnus olivaceus* Fr., Obs. Mycol. 2: 282, 1818.

SPECIMENS EXAMINED: Bhutan — *Pinus* sp. 19544; decaying wood 19355 (GH).

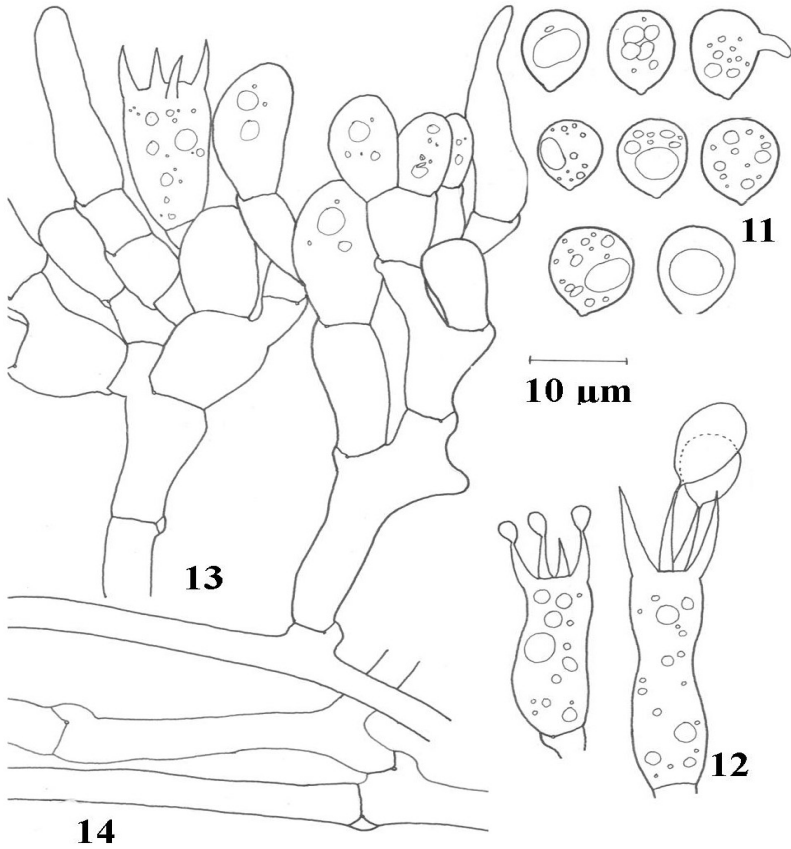
\*■ ***Conohypha grandispora*** Dhingra, In Plant Diversity in India: 478, 2004.

#### **Figs 11–14**

SPECIMENS EXAMINED: India — decaying wood 19286 (Holotype), 19323 (Paratype).

Fruitbody very thin, hypochnoid, grayish-white to light gray or yellowish-white, of loosely woven texture, forming a grayish bloom on the substrate; margins not differentiated. Hyphal system monomitic; generative hyphae thin-walled, clamped; basal hyphae up to 5.5  $\mu\text{m}$  wide, almost parallel to the substrate; subhymenial hyphae composed of short and broadened cells, generally branching from the top of the cells. Basidia 15–26.5  $\times$  8.0–9.0  $\mu\text{m}$ , subcylindrical, often constricted, thin-walled, with basal clamp, 4-sterigmate, with oily contents; sterigmata up to 11  $\mu\text{m}$  long. Basidiospores 7.0–11.0  $\times$

6.0–7.5  $\mu\text{m}$ , broadly ellipsoid to ovoid, smooth, thin- to somewhat thick-walled, inamyloid, acyanophilous, with a single large oil drop or many smaller oil drops.



FIGS 11–14. *Conohypha grandispora*: microscopic structures 11. basidiospores; 12. basidia; 13. subhymenial hyphae; 14. basal hyphae.

□■ ***Cristinia helvetica*** (Pers.) Parm., Consp. Syst. Cort.: 48, 1968. – *Hydnum helveticum* Pers., Myc. Eur. 2: 184, 1825.

SPECIMENS EXAMINED: India — angiospermous wood 19784. Bhutan — angiospermous wood 19477.

■□ ***Crustoderma dryinum*** (Berk. & Curt.) Parm., Consp. Syst. Cort.: 88, 1968. — *Corticium dryinum* Berk. & Curt., Grevillea 1: 179, 1873.

SPECIMEN EXAMINED: India — decaying wood 19700 (GH).

□■ ***Cylindrobasidium evolvens*** (Fr. : Fr.) Jülich, Persoonia 8: 72, 1974. — *Thelephora evolvens* Fr. : Fr., Syst. Mycol. I: 441, 1821.

SPECIMENS EXAMINED: India — angiospermous wood 19703 (GH), 19732. Bhutan — angiospermous wood 19362, 19400, 19409, 19429, 19456, 19457; gymnospermous wood 19462.

□■ ***Dacryobolus karstenii*** (Bres.) Oberw. : Parm., Consp. Syst. Cort.: 98, 1968. — *Stereum karstenii* Bres., Atti. I. R. Accad. Agiati III: 109, 1897.

SPECIMENS EXAMINED: India — angiospermous wood 19010. Bhutan — gymnospermous wood 19641.

■□ ***Fibrodontia gossypina*** Parm., Consp. Syst. Cort.: 207, 1968.

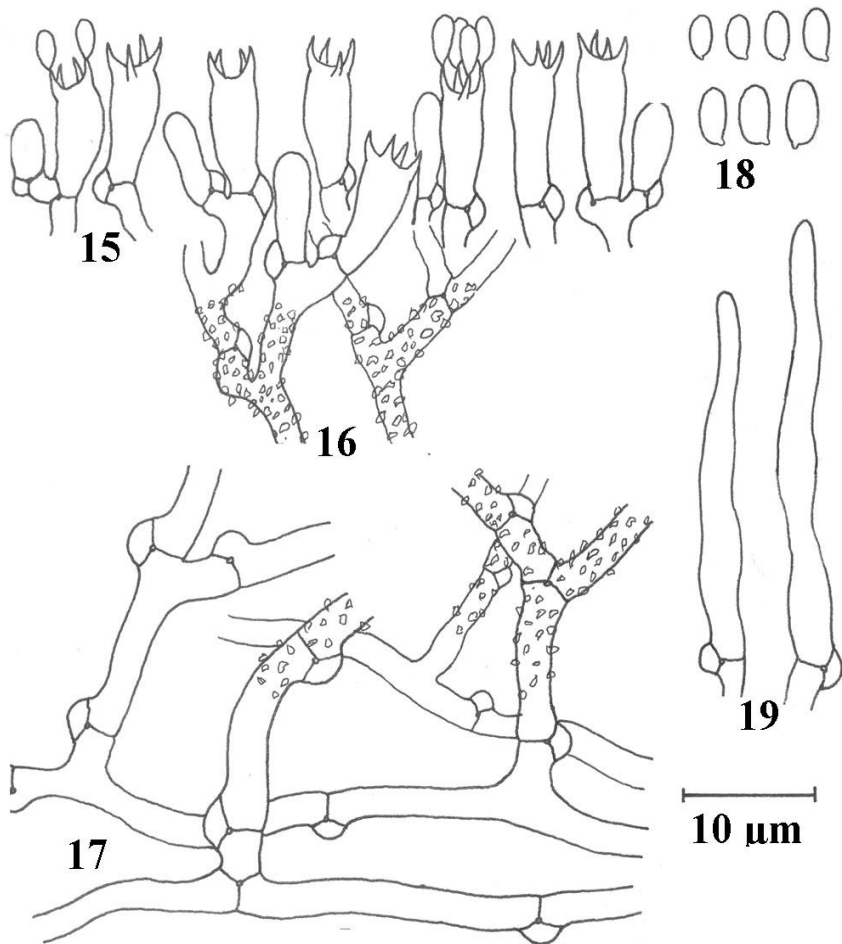
SPECIMEN EXAMINED: India — angiospermous wood 19669.

\*■ ***Fibulomyces cystoideus*** Dhingra, In Plant Diversity in India: 480, 2004.

#### FIGS 15–19

SPECIMEN EXAMINED: Bhutan — *Pinus* sp. 19365 (Holotype).

Fruitbody resupinate, hypochnoid to subpellicular, effused; hymenial surface tuberculate, grayish-white to pale yellow; margins not differentiated. Hyphal system monomitic; generative hyphae up to 4.0  $\mu\text{m}$  wide, thin-walled, richly branched, septate, clamped, anastomoses frequent, crystalline encrustation present, especially on the subhymenial hyphae. Cystidia 25.0–35.0  $\times$  2.5–3.5  $\mu\text{m}$ , hyphoid, somewhat subulate, thin-walled, with a basal clamp. Basidia 8.0–12.0  $\times$  3.0–3.5  $\mu\text{m}$ , clavate to subcylindrical, 4-sterigmate, with a basal clamp; sterigmata up to 3.5  $\mu\text{m}$  long. Basidiospores 3.0–4.5  $\times$  1.5–2.5  $\mu\text{m}$ , ellipsoid to subcylindrical, smooth, thin-walled, inamyloid, acyanophilous.



FIGS 15–19. *Fibulomyces cystoideus*: microscopic structures 15. basidia; 16. subhymenial hyphae; 17. basal hyphae; 18. basidiospores; 19. cystidia.

□■ *Gloeocystidiellum lactescens* (Berk.) Boidin, C. R. Acad. Sci. Paris 233: 1668, 1951. – *Thelephora lactescens* Berk., In Smith, Engl. Fl. 5: 169, 1836.  
SPECIMEN EXAMINED: Bhutan – angiospermous wood 19502.

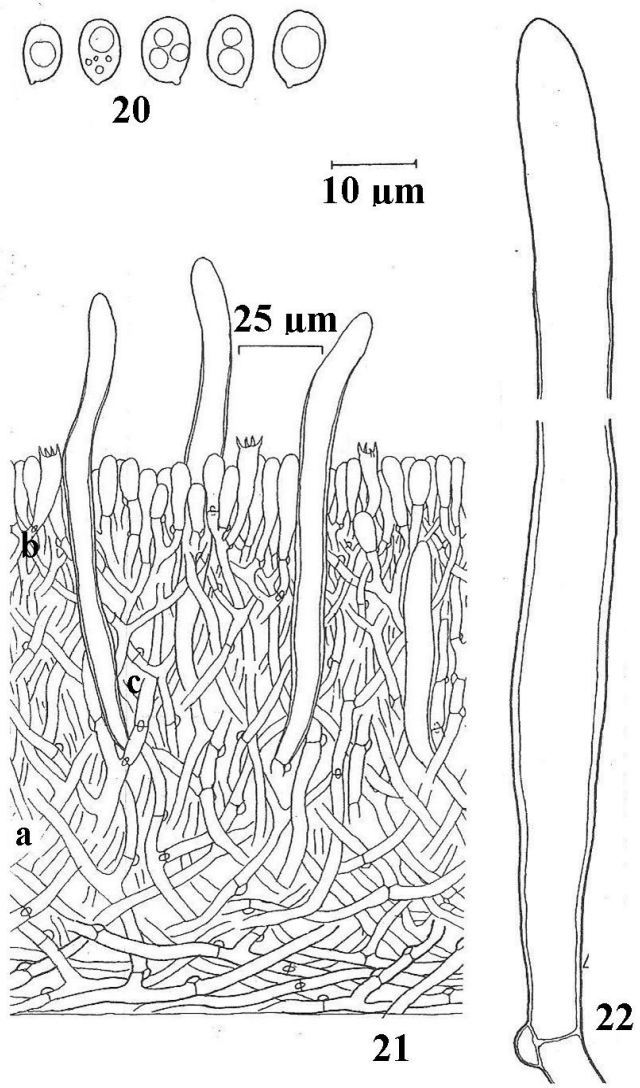
□■ *Hyphoderma argillaceum* (Bres.) Donk, Fungus 27: 14, 1957. – *Corticium argillaceum* Bres., Fung. Trid. 2: 63, 1898.  
SPECIMENS EXAMINED: India – *Cryptomeria japonica* 19343; angiospermous wood 19825, 19221 (KH). Bhutan – angiospermous wood 19545, gymnospermous wood 19632, 19646, 19651.

\**Hyphoderma clarusproprietas* Dhingra, Plant Science Research In India: 205, 1989.

#### **Figs 20–22**

SPECIMEN EXAMINED: India – angiospermous wood 19239 (Holotype).  
Fruitbody resupinate, adnate, effused, thin, up to 250  $\mu\text{m}$  thick in section, ceraceous; hymenial surface pinkish-white when fresh, yellowish-gray in the herbarium, more or less tuberculate, smoothening on drying; margins not well marked. Hyphal system monomitic; generative hyphae septate, clamped, up to 3–5  $\mu\text{m}$  wide; basal hyphae somewhat thick-walled, sparsely branched, almost parallel to the substrate; subhymenial hyphae much branched, thin-walled, at right angles to the substrate. Cystidia 87.0–160.0  $\times$  10.0–12.0  $\mu\text{m}$ , numerous, subcylindrical, basally somewhat thick-walled, gradually thinning above, projecting up to 72  $\mu\text{m}$  out of the hymenium. Basidia 24–30  $\times$  7–8  $\mu\text{m}$ , clavate to subcylindrical, with oily contents and a basal clamp, 4-spored; sterigmata up to 4  $\mu\text{m}$  long. Basidiospores 6.5–9.0  $\times$  4.5–6.0  $\mu\text{m}$ , ellipsoid, smooth, thin-walled, non-amyloid, acyanophilous, with one large guttule or many small oil drops.





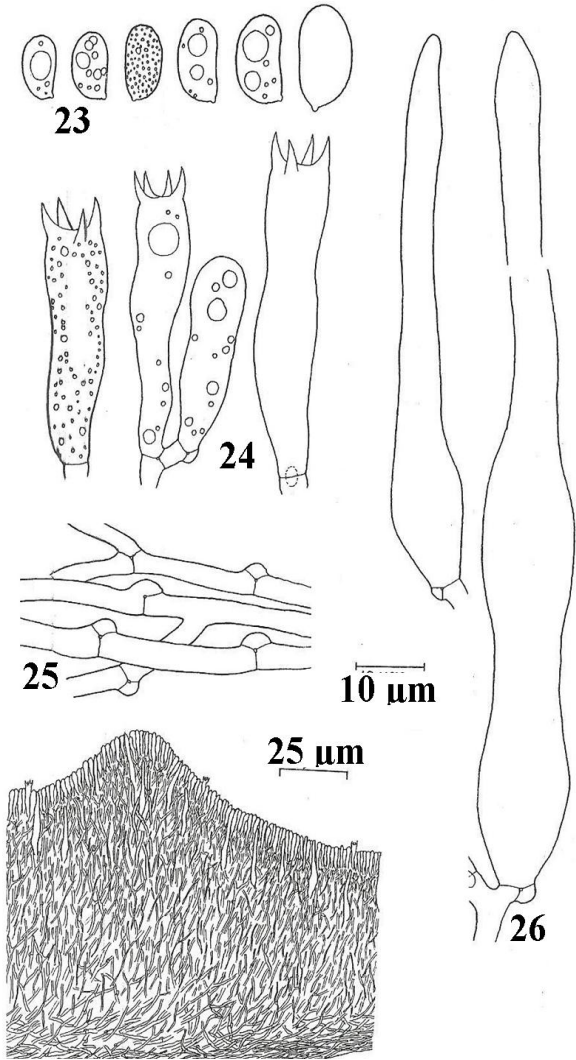
Figs. 20-22. *Hyphoderma claruspropietas*: microscopic structures 20. basidiospores; 21. vertical section through basidiocarp: a. generative hyphae, b. basidia, c. cystidia; 22. cystidium

\**Hyphoderma densustextum* Dhingra, Plant Science Research In India: 199, 19 89.

**FIGS 23–27**

SPECIMEN EXAMINED: India – angiospermous wood 19229 (Holotype).

Fruitbody resupinate, adnate, effused; hymenial surface odontoid, with small, blunt aculei, grayish white in young to ochre-yellow in mature fruitbodies, continuous, cracks developing on drying; margins thinning, whitish, irregular in outline. Hyphal system monomitic; generative hyphae branched, septate, clamped, thin-walled, up to 4.0  $\mu\text{m}$  wide; basal hyphae running almost parallel to the substrate; subhymenial hyphae at right angles to the basal hyphae, densely interwoven; hyphae in the centre of aculei are somewhat thick-walled. Cystidia 70–130  $\times$  9.5–13.5  $\mu\text{m}$ , tubular, basally widened, thin-walled, with a basal clamp. Basidia 31.5–41.5  $\times$  7.5–9.0  $\mu\text{m}$ , clavate to subclavate, often somewhat sinuous, with oily contents and a basal clamp, 4-sterigmate; sterigmata up to 5  $\mu\text{m}$  long. Basidiospores 8.5–12 (13.5)  $\times$  4.8–6.5 (7.5)  $\mu\text{m}$ , ellipsoid to subballantoid, smooth, thin-walled, non-amyloid, acyanophilous, with numerous oil drops or granular



FIGS 23–27. *Hyphoderma densustextum*: microscopic structures 23. basidiospores; 24. basidia; 25. generative hyphae; 26. cystidia; 27. vertical section through basidiocarp contents.

□ ***Hyphoderma praetermissum*** (Karst.) John Erikss. & Strid, In John Erikss. & Ryv., Cort. N. Europe III: 505, 1975. – *Corticium praetermissum* Karst., Bidr. Kanned. Finl. Nat. Folk 48: 423, 1889.

SPECIMENS EXAMINED: India – angiospermous wood 19752. Bhutan – angiospermous wood 19482, 19501; gymnospermous wood 19629, 19647.

□ ***Hyphoderma puberum*** (Fr.) Wallr., Fl. Crypt. Germ.: 576, 1833. – *Thelephora pubera* Fr., Elench. Fung. I: 215, 1828.

SPECIMENS EXAMINED: India – angiospermous wood 19802. Bhutan – angiospermous wood 19512.

□ ***Hyphoderma pallidum*** (Bres.) Donk, Fungus 27: 15, 1957. – *Corticium pallidum* Bres., Fung. Trid. 2: 59, 1898.

SPECIMENS EXAMINED: India – *Cryptomeria japonica* 19120; decaying wood 19281, 19712. Bhutan – *Pinus* sp. 19609 (GH).

■ ***Hyphoderma rude*** (Bres.) Hjortst. & Ryv., Mycotaxon 10: 275, 1980. - *Odontia rudis* Bres., Ann. Mycol. 18: 42, 1920.

SPECIMEN EXAMINED: India – angiospermous wood 19837.

■ □ ***Hyphoderma sambuci*** (Pers.) Jülich, Persoonia 8: 80, 1974. – *Thelephora sambuci* Pers., Mycol. Eur. 1: 152, 1822.

SPECIMENS EXAMINED: India – angiospermous wood 19753 (GH), 19871. Bhutan – angiospermous wood 19503.

□ ***Hyphoderma setigerum*** (Fr.) Donk, Fungus 27: 15, 1957. – *Thelephora setigerum* Fr., Elench. Fung. 1: 208, 1828.

SPECIMENS EXAMINED: India – angiospermous wood 19691, 19860. Bhutan – *Polygonum* sp. 19484; angiospermous wood 19534, 19537.

□ ***Hyphoderma sibiricum*** (Parm.) John Erikss. & Strid, In John Erikss. & Ryv., Cort. N. Europe III: 535, 1975. – *Radulomyces sibiricus* Parm., Consp. Syst. Cort. : 223, 1968.

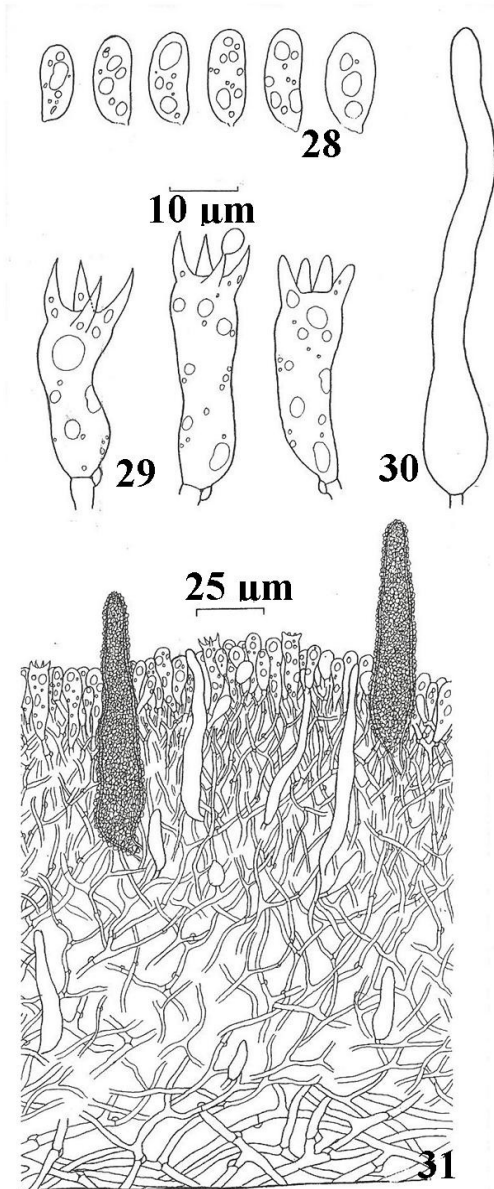
SPECIMEN EXAMINED: Bhutan – gymnospermous wood 19467.

\**Hyphoderma sikkimia* Dhingra, Plant Science Research in India: 201, 1989.

**FIGS 28–31**

SPECIMEN EXAMINED: India – decaying wood 19349 (Holotype).

Fruitbody resupinate, adnate, effused, thin, up to 0.3 mm thick in section, ceraceous; hymenial surface grayish-white to cream-coloured, smooth; margins thinning, pruinose in young fruitbodies. Hyphal system monomitic; generative hyphae up to 3  $\mu\text{m}$  wide, branched, septate, clamped; basal hyphae loosely interwoven, thin- to somewhat thick-walled; subhymenial hyphae thin-walled, densely interwoven. Cystidia of two types: (i) 50–75  $\times$  7–9  $\mu\text{m}$ , tubular, basally somewhat widened, often somewhat constricted, thin-walled, leptocystidia, generally enclosed in the hymenium. (ii) 42–120  $\times$  12–18  $\mu\text{m}$ , generally subfusiform, encrusted lamprocystidia, projecting up to 50  $\mu\text{m}$  out of the hymenium. Some bladder-like, thin-walled structures are also observed, which probably can be the initial stages in the development of leptocystidia. Basidia 25–35  $\times$  8.5–10.0  $\mu\text{m}$ , subclavate, often constricted in a suburniform manner, with oily contents and a basal clamp, 4-sterigmate; sterigmata up to 8.5  $\mu\text{m}$  long. Basidiospores 11–15  $\times$  4.5–6 (7.5)  $\mu\text{m}$ , ellipsoid to narrowly ellipsoid to suballantoid, smooth, thin-walled, non-amyloid, acyanophilous, often with many oil drops.



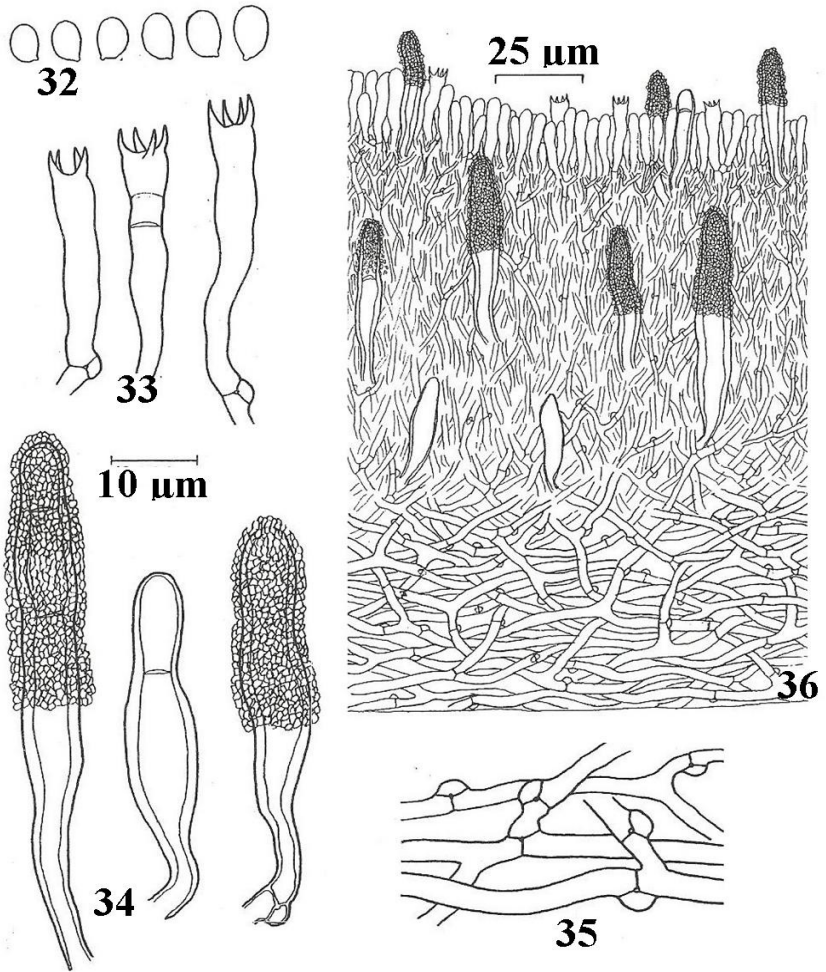
FIGS 28–31. *Hyphoderma sikkimia*: microscopic structures 28. basidiospores; 29. basidia; 30. cystidium; 31. vertical section through basidiocarp.

\**Hyphoderma sporulus* Dhingra, Plant Science Research In India: 201, 1989.

**FIGS 32–36**

SPECIMENS EXAMINED: India – *Quercus* sp. 19107 (Paratype). Bhutan – angiospermous wood 19526 (Holotype).

Fruitbody resupinate, adnate, effused, thin, up to 0.3 mm thick in section, ceraceous; hymenial surface smooth to finely tuberculate, at first whitish, when mature light yellow with an orange tint; margins thinning, whitish, somewhat fibrillose. Hyphal system monomitic; generative hyphae up to 3.0  $\mu\text{m}$  wide, branched, septate, clamped; basal hyphae thin- to somewhat thick-walled, loosely interwoven; subhymenium composed of thin-walled, densely intertwined hyphae. Cystidia 35–70  $\times$  6–10  $\mu\text{m}$ , numerous, subcylindrical, with one or more constrictions, apically obtuse, at first thin-walled, with time thick-walled, encrusted, especially in the upper half, with one or more secondary septa. Basidia 4.5–6.0  $\times$  3–4  $\mu\text{m}$ , ellipsoid to broadly ellipsoid, smooth, thin-walled, non-amyloid, acyanophilous.



FIGS 32–36. *Hyphoderma sporulus*: microscopic structures 32. basidiospores; 33. basidia; 34. cystidia; 35. generative hyphae; 36. vertical section through basidiocarp.



■ *Hyphoderma tsugae* (Burt) John Erikss. & Strid, In John Erikss. & Ryv., Cort. N. Europe III: 541, 1975. – *Corticium tsugae* Burt, Ann. Miss. Bot. Gard. 13: 276, 1926.

SPECIMEN EXAMINED: India – decaying wood 19106 (KH).

□ ■ *Hyphodontia alutacea* (Fr.) John Erikss., Symb. Bot. Upsal. 16: 104, 1958. – *Hydnum alutaceum* Fr., Syst. Mycol. I: 417, 1821.

SPECIMEN EXAMINED: Bhutan – gymnospermous wood 19625 (GH).

*Hyphodontia alutaria* (Burt) John Erikss., Symb. Bot. Upsal. 16: 104, 1958. – *Peniophora alutaria* Burt, Ann. Miss. Bot. Gard. 12: 332, 1925.

SPECIMEN EXAMINED: India – angiospermous wood 19781(GH).

□ *Hyphodontia aspera* (Fr.) John Erikss., Symb. Bot. Upsal. 16: 104, 1958. – *Grandinia aspera* Fr., Hym. Eur.: 627, 1874.

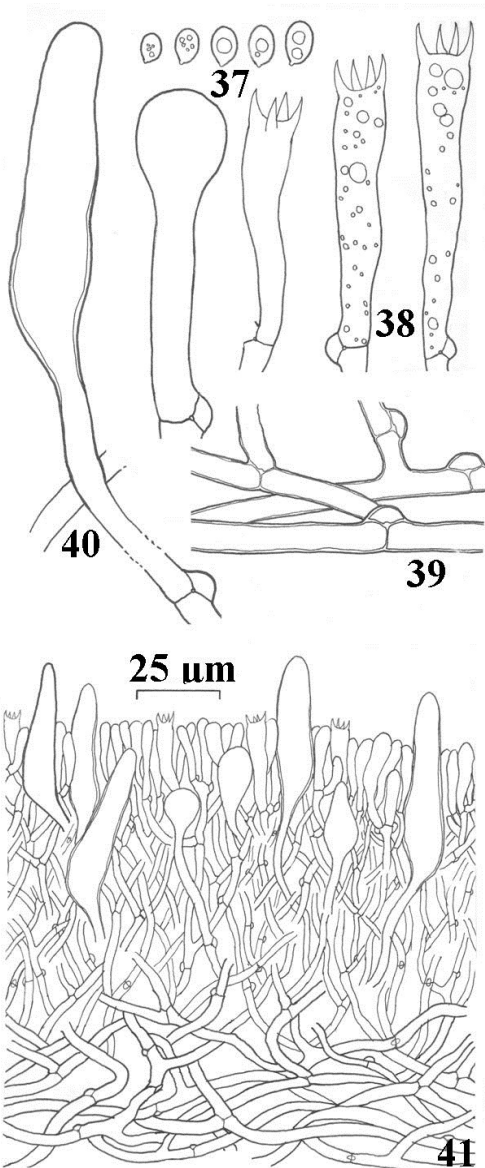
SPECIMEN EXAMINED: Bhutan – gymnospermous wood 19433.

\* *Hyphodontia caulicystidiata* Dhingra, J. Ind. Bot. Soc. 84: 120, 2005.

#### FIGS 37–41

SPECIMEN EXAMINED: India – angiospermous wood 19262 (Holotype).

Fruitbody resupinate, adnate, effused, soft, thin, up to 130 µm thick in section, hymenial surface smooth to porose-floccose under lens, at first whitish then yellowish-gray to pale ochraceous; margins indistinct. Hyphal system monomitic; generative hyphae branched at wide angles, septate, clamped, up to 3.5 µm wide; basal hyphae loosely interwoven, somewhat thick-walled, subhymenial hyphae denser and thin-walled. Cystidia 55.0–85.0 × 9.0–12.5 µm, numerous, subcylindrical to subfusiform with a distinct stalk, smooth, somewhat thick-walled at the base, gradually thinning above, cyanophilous. Basidia 25.0–36.0 × 5.0–6.3 µm, clavate to subclavate, somewhat sinuous, with oily contents and a basal clamp, 4-sterigmate; sterigmata up to 5.0 µm long. Basidiospores 3.5–5.0 × 2.5–3.5 µm, ellipsoid, smooth, thin-walled, inamyloid, acyanophilous, with one to many oil drops.



FIGS 37–41. *Hyphodontia caulicystidiata*: microscopic structures 37. basidiospores; 38. basidia; 39. generative hyphae; 40. cystidia; 41. vertical section through basidiocarp.

■ ***Hypodontia nespori*** (Bres.) John Erikss. & Hjortst., In John Erikss. & Ryv., Cort. N. Europe IV: 655, 1976. – *Odontia nespori* Bres., Ann. Mycol. 18: 43, 1920.

SPECIMEN EXAMINED: India – angiospermous wood 19745 (GH).

□ ***Hypodontia pallidula*** (Bres.) John Erikss., Symb. Bot. Upsal. 16: 104, 1958. *Gonatobotrys pallidula* Bres., Ann. Mycol. 1: 127, 1903.

SPECIMENS EXAMINED: India – angiospermous wood 19718. Bhutan – *Pinus* sp. 19531; angiospermous wood 19393; gymnospermous wood 19475, 19573.

■ ***Hypodontia propinqua*** Hjortst., Mycotaxon 17: 553, 1983.

SPECIMEN EXAMINED: India – angiospermous wood 19267 (O).

■ ***Hypochnicium caucasicum*** Parm., Eesti. NSV Tead. Toim. 16 Biol. Ser 4: 385, 1967. SPECIMEN EXAMINED: India – *Pinus* sp. 19011.

■ □ ***Hypochnicium geogenium*** (Bres.) John Erikss., Symb. Bot. Upsal. 16: 101, 1958. – *Corticium geogenium* Bres., Ann. Mycol. 1: 98, 1903.

SPECIMENS EXAMINED: India – *Cryptomeria japonica* 19121. Bhutan – angiospermous wood 19419.

***Hypochnicium lundellii*** (Bourd.) John Erikss., Symb. Bot. Upsal. 16: 101, 1958. – *Corticium lundellii* Bourd., In John Erikss., Sv. Bot. Tidskr. 43: 56, 1949.

SPECIMEN EXAMINED: India – *Cryptomeria japonica* 19110.

***Hypochnicium polonense*** (Bres.) Strid., Wahlenb. 1: 68, 1975. – *Kneiffia polonense* Bres., Ann. Mycol. 1: 102, 1903.

SPECIMENS EXAMINED: India – *Cryptomeria japonica* 19111, 19116; Bamboo 19112; angiospermous wood 19054.

***Hypochnicium punctulatum*** (Cooke) John Erikss., Symb. Bot. Upsal. 16: 101, 1958. – *Corticium punctulatum* Cooke, Grevillea 6: 132, 1978.

SPECIMENS EXAMINED: India – angiospermous wood 19809, 19031 (KH), 19007 (KH).

□ ***Hypochnicium sphaerosporum*** (Höhn. & Litsch.) John Erikss., Symb. Bot. Upsal. 16: 101, 1958. – *Peniophora sphaerospora* Höhn. & Litsch., K. Acad. Wiss. Wien. Math. – Nat. Klasse Sitzber. 115: 1600, 1906.

SPECIMENS EXAMINED: India – Bamboo 19005; angiospermous wood 19696, 19167, 19225, 19243, 19282. Bhutan – gymnospermous wood 19541.

□■ *Intextomyces contiguus* (Karst.) John Erikss. & Ryv., Cort. N. Europe IV: 737, 1976. – *Corticium contiguum* Karst., Soc. F. Fl. Fenn. Acta 2 : 39, 1881.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19550 (GH).

□■ *Laurilia sulcata* (Burt) Pouzar, Ceska Mycol. 13: 14, 1959. – *Stereum sulcatum* Burt, In Peck, N. Y. St. Mus. Ann. Rep. 54: 154, 1901.

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19642 (GH, LY).

*Laxitextum bicolor* (Pers. : Fr.) Lentz, U. S. Dept. Agric., Monogr. 24: 18, 1955. – *Thelephora bicolor* Pers. : Fr, Syn. Meth. Fung.: 568, 1801. Fr., Syst. Mycol. 1: 438, 1821.

SPECIMENS EXAMINED: India — *Pinus* sp. 19025, 19040, 19047; gymnospermous wood 19069, 19046; angiospermous wood 19805, 19015.

□■ *Leptosporomyces raunkiaerii* (Christ.) Jülich, Wild. Beih. 7: 206, 1972. – *Athelia raunkiaerii* Christ., Dansk. Bot. Ark. 19: 153, 1960.

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19431 (GH).

□■ *Leptosporomyces roseus* Jülich, Wild. Beih. 7: 208, 1972.

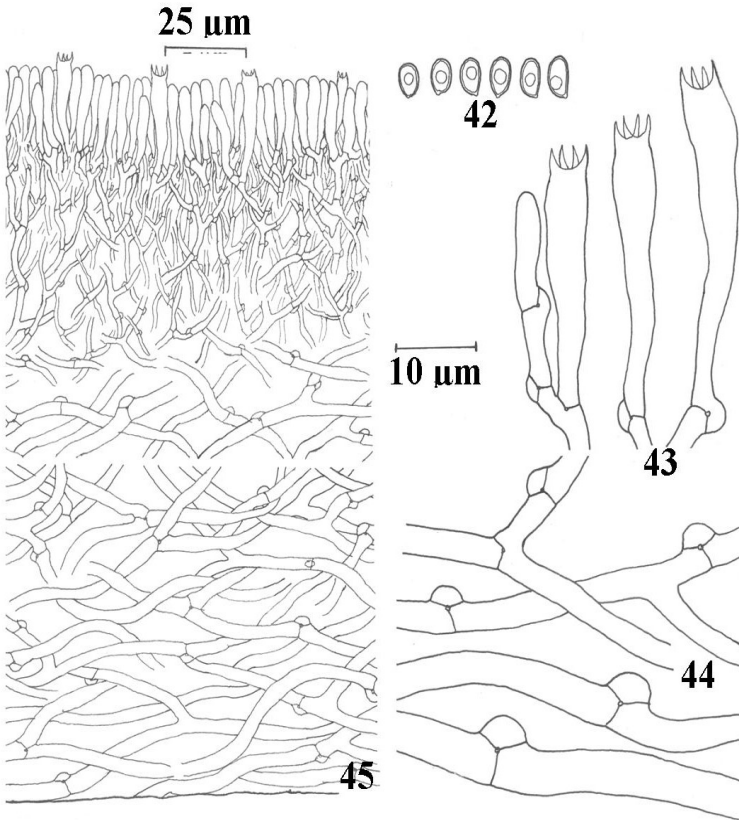
SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19557 (GH).

\*■ *Leucogyrophana thimphina* Dhingra, In Plant Diversity in India: 481, 2004.

#### FIGS 42–45

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19566 (Holotype).

Fruitbody resupinate, loosely adnate, effused, up to 600 µm thick in section, soft when fresh, fragile on drying; hymenial surface light yellow to yellow when fresh, olivaceous on bruising and in the herbarium, meruloid; margins thinning, fibrillose, white when fresh, pale brownish on drying. Hyphal system monomitic; generative hyphae septate, clamped, thin-walled; basal hyphae up to 5 µm wide, sparsely branched, loosely interwoven; subhymenial hyphae up to 2.5 µm wide, richly branched into a dense texture. Cystidia absent. Basidia 25.0–35.0 × 4.5–6.0 µm, narrowly clavate, 4-sterigmate, with a basal clamp; sterigmata up to 4.5 µm long. Basidiospores 3.5–4.5 × 2.2–2.8 µm, ellipsoid, subhyaline to tinted light yellow, smooth, thick-walled, cyanophilous, inamyloid, weakly dextrinoid, generally with one guttule.



FIGS 42–45. *Leucogyrophana thimphina*: microscopic structures 42. basidiospores; 43. basidia; 44. generative hyphae; 45. vertical section through basidiocarp.

■ ■ ■ *Licrostroma subgiganteum* (Berk.) Lemke, Can. Jour. Bot. 42: 763, 1964. – *Corticium subgiganteum* Berk., in Cooke, Grevillea 2: 63, 1973.

SPECIMENS EXAMINED: India — angiospermous wood 19868. Bhutan — angiospermous wood 19520 (LY).

□ ■ *Lopharia crassa* (Lev.) Boidin, Bull. Soc. Mycol. France 74: 479, 1958. — *Thelephora crassa* Lev., Ann. Sci. Nat. Bot. 2: 209, 1844.

SPECIMENS EXAMINED: India — angiospermous wood 19768, 19795, 19819, 19845, 19877, 19064, 19076, 19217, 19333; decaying wood 19154. Bhutan — angiospermous wood 19417, 19439, 19449, 19551, 19659.

*Metulodontia nivea* (Karst.) Parm., Consp. Syst. Cort.: 118, 1968. — *Kneiffia nivea* Karst., Hedwigia 35: 173, 1896.

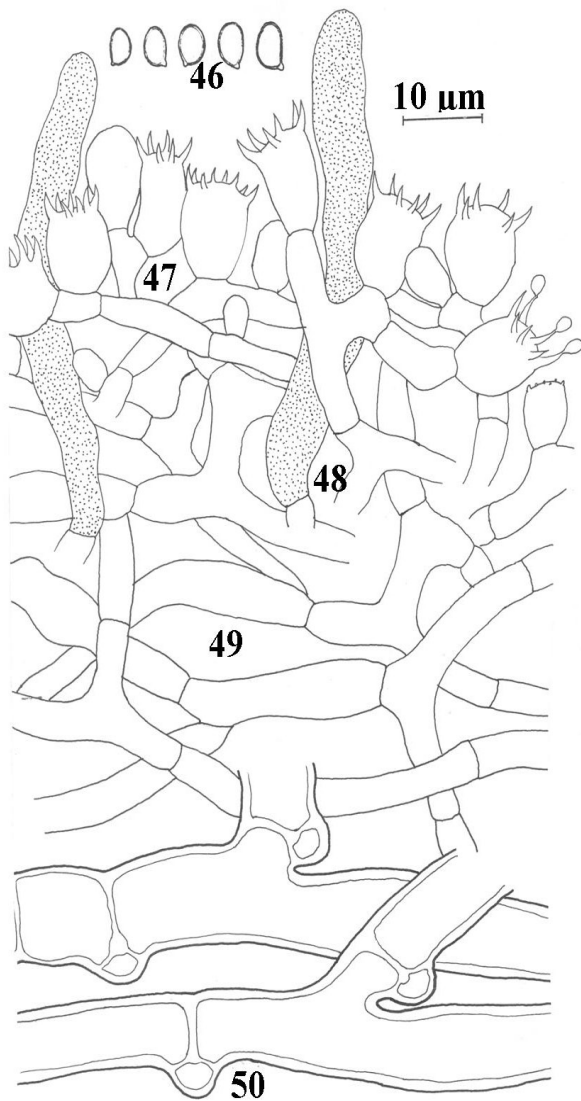
SPECIMENS EXAMINED: India — *Quercus* sp. 19097; angiospermous wood 19764 (GH).

\* ■ *Paullicorticium indicum* Dhingra, In Plant Diversity in India: 483, 2004.

#### FIGS 46–50

SPECIMEN EXAMINED: India — angiospermous wood 19255 (Holotype).

Fruitbody resupinate, thin, adnate, when young subinvisible, then forming insignificant patches on the wood, grayish-white with a yellowish tint, in herbarium the surface appears reticulate or porulose. At the base are present hyphae of some *Botryobasidium* sp., and this collection may be parasitic on those. Hyphal system monomitic; generative hyphae branched, septate, without clamps, thin-walled, up to 6.5  $\mu\text{m}$  wide. Cystidia 45.0–60.0  $\times$  5.0–7.0  $\mu\text{m}$ , subcylindrical, somewhat sinuous, thin-walled, with yellowish resinous material. Basidia 7.5–12.0  $\times$  6.5–9.0  $\mu\text{m}$ , at first subglobose, then ovate, urniform or pyriform, without basal clamp, 6–8 sterigmate, sterigmata up to 4.0  $\mu\text{m}$  long. Basidiospores 3.7–5.3  $\times$  2.5–3.4  $\mu\text{m}$ , ellipsoid to ovoid, smooth, somewhat thick-walled, inamyloid, acyanophilous.



FIGS 46–50. *Paullicorticium indicum*: microscopic structures 46. basidiospores; 47. basidia; 48. cystidia; 49. generative hyphae; 50. hyphae of some *Botrybasidium* sp.

■□■ *Peniophora limitata* (Fr.) Cooke, Grevillea 8: 21, 1879. – *Thelephora limitata* Fr., Elench. Fung. 1: 222, 1828.

SPECIMENS EXAMINED: India — angiospermous wood 19684, 19348. Bhutan — angiospermous wood 19358, 19367, 19373 (O), 19402, 19436, 19448, 19454, 19459, 19555; decaying wood 19615.

■ *Peniophora pithya* (Pers.) John Erikss., Symb. Bot. Upsal. 10: 45, 1950. – *Thelephora pithya* Pers., Myc. Eur. 1: 146, 1822.

SPECIMEN EXAMINED: India — angiospermous wood 19273.

□ *Peniophora rufomarginata* (Pers.) Litsch., in Keissl., Kryptog. Exs. Wien 2613, 1923; Ann. Nath. Mus. Wien 36: 76, 1923. – *Thelephora rufomarginata* Pers., Mycol. Eur. 1: 124, 1822.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19452.

□■ *Phanerochaete filamentosa* (Berk. & Curt.) Parm., Consp. Syst. Cort.: 83, 1968. – *Corticium filamentosum* Berk. & Curt., Grevillea 1: 178, 1873.

SPECIMENS EXAMINED: India — angiospermous wood 19660, 19137, 19242, 19278, 19382. Bhutan — angiospermous wood 19414.

*Phanerochaete flavidoalba* (Cooke) Rattan, Bibliotheca Mycologica 60: 262, 1977. – *Peniophora flavidoalba* Cooke, Grevillea 8: 21, 1879.

SPECIMEN EXAMINED: India — angiospermous wood 19228.

■ *Phanerochaete galactites* (Bourd. & Galz.) John Erikss. & Ryv., In John Erikss., Hjortst & Ryv., Cort. N. Europe V: 1005, 1978. – *Corticium rhodoleucum* Bourd. subsp. *galactites* Bourd. & Galz., Hym. De France: 189, 1928.

SPECIMEN EXAMINED: India — angiospermous wood 19104 (O).

*Phanerochaete laevis* (Fr.) John Erikss., In John Erikss., Hjortst & Ryv., Cort. N. Europe V: 1007, 1978. – *Thelephora laevis* Fr., Syst. Mycol. I: 451, 1821.

SPECIMENS EXAMINED: India — angiospermous wood 19293 (GH), 19301; decaying wood 19157.

■□ *Phanerochaete sordida* (Karst.) John Erikss. & Ryv., In John Erikss., Hjortst & Ryv., Cort. N. Europe V: 1023, 1978. – *Corticium sordidum* Karst., Medd. Soc. F. Fl. Fenn 9: 65, 1883.

SPECIMENS EXAMINED: India — angiospermous wood 19749, 19750, 19751, 19811, 19858. Bhutan — angiospermous wood 19464, 19584.



*Phanerochaete tuberculata* (Karst.) Parm., Consp. Syst. Bot.: 83, 1968. –  
*Corticium tuberculatum* Karst., Hedwigia 35: 45, 1896.

SPECIMENS EXAMINED: India – angiospermous wood 19784, 19174, 19207 (O).

□ *Phanerochaete velutina* (DC. : Fr.) Karst., Krit. Ofvers. Finl. Basidsv. Tillagg  
3: 33, 1898. – *Thelephora velutina* DC. : Fr., Elench. Fung. I: 203, 1828.

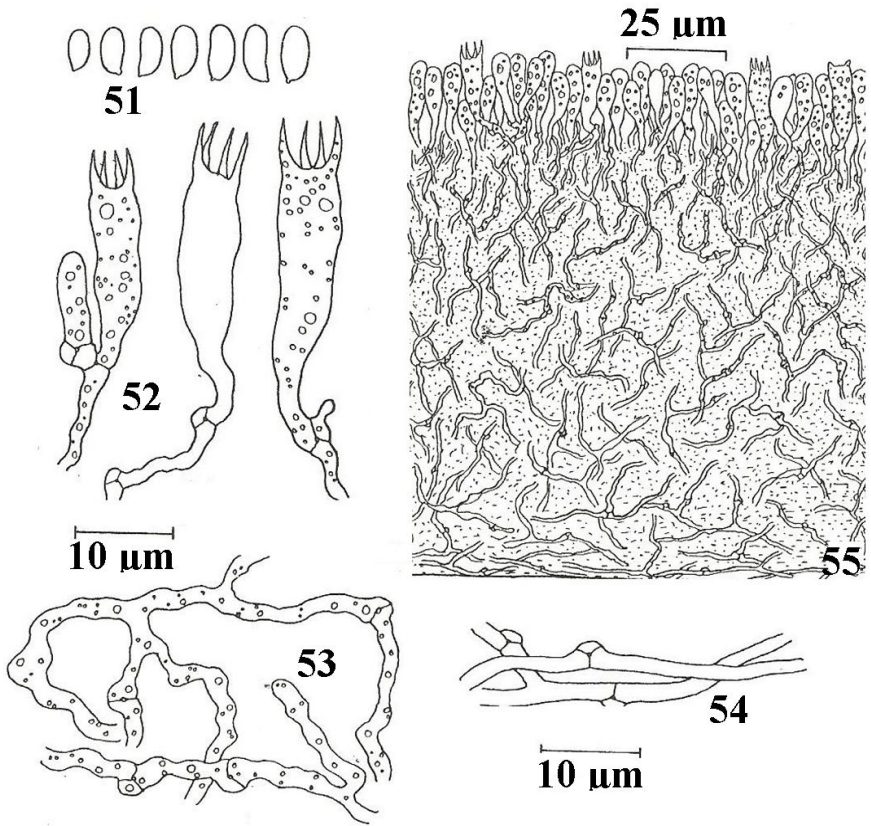
SPECIMEN EXAMINED: Bhutan — decaying wood 19581 (GH).

\*■ *Phlebia interjacenoides* Dhingra, J. Ind. Bot. Soc. 84: 116, 2005.

**FIGS 51–55**

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19628 (Holotype).

Fruitbody resupinate, closely adnate, effused, up to 160 µm thick in section, ceraceous-subgelatinous when fresh, crustaceous-corneous on drying; hymenial surface smooth, continuous, cracks developing in mature parts on drying, whitish; margins indistinct. Hyphal system monomitic; generative hyphae up to 2.5 µm wide, thin-walled, septate, clamped, richly branched and intertwined, often gelatinized mature parts; basal zone not well differentiated, only a few straight, sparsely branched hyphae observed next to substrate; subhymenial hyphae winding, with irregular constrictions and dilations, and with numerous oil drops. Cystidia absent. Basidia 18.0–30.0 × 4.5–6.0 µm, clavate, basally narrowing into hypha like part, 4-sterigmate, with a basal clamp; sterigmata up to 6 µm long. Basidiospores 4.0–6.0 × 2.0–3.0 µm, ellipsoid to suballantoid, smooth, thin-walled, inamyloid, acyanophilous.



FIGS 51–55. *Phlebia interjacenoides*: microscopic structures 51. basidiospores; 52. basidia; 53. generative hyphae in the context and subhymenium; 54. subicular generative hyphae; 55. vertical section through basidiocarp.

\**Phlebia kamengii* Dhingra, J. Ind. Bot. Soc. 84: 113, 2005.

**FIGS 56–61**

SPECIMENS EXAMINED: India — angiospermous wood 19690 (Holotype), 19693 (Paratype). Fruitbody resupinate, loosely adnate, further loosening from substrate on drying, effused, up to 1 mm thick in section, ceraceous-fleshy when fresh, membranaceous-coriaceous to corneous on drying; hymenial surface yellowish-white to grayish-yellow when fresh, reddish-brown to brown on drying, reticulately folded to almost poroid; margins thinning to abrupt, sometimes finely fimbriate. Hyphal system monomitic, generative hyphae septate, clamped; subiculum composed of 3.0–4.5  $\mu\text{m}$  wide, thin- to somewhat thick-walled, compactly packed hyphae running almost parallel to the substrate; subhymenial hyphae richly branched and interwoven into a dense texture, 2.0–3.0  $\mu\text{m}$  wide, thin-walled; in mature fruitbodies the hyphae are gelatinized. Cystidia 35.0–65.0  $\times$  7.0–10.0  $\mu\text{m}$ , narrowly clavate, thin-walled, embedded in the subhymenium. Basidia 25.0–35.0  $\times$  3.5–4.8  $\mu\text{m}$ , narrowly clavate, with 4-sterigmata and a basal clamp; sterigmata up to 4.0  $\mu\text{m}$  long. Basidiospores 4.5–6.5  $\times$  3.0–4.5  $\mu\text{m}$ , broadly ellipsoid, smooth, thin-walled, inamyloid, acyanophilous, with one or more oil drops.

□*Phlebia livida* (Fr.) Bres., Atti. Accad. Sci. Lett. Arti Ag. Ser. 111 Vol. 111: 105, 1897. – *Thelephora livida* Fr., Syst. Myc. I: 447, 1821.

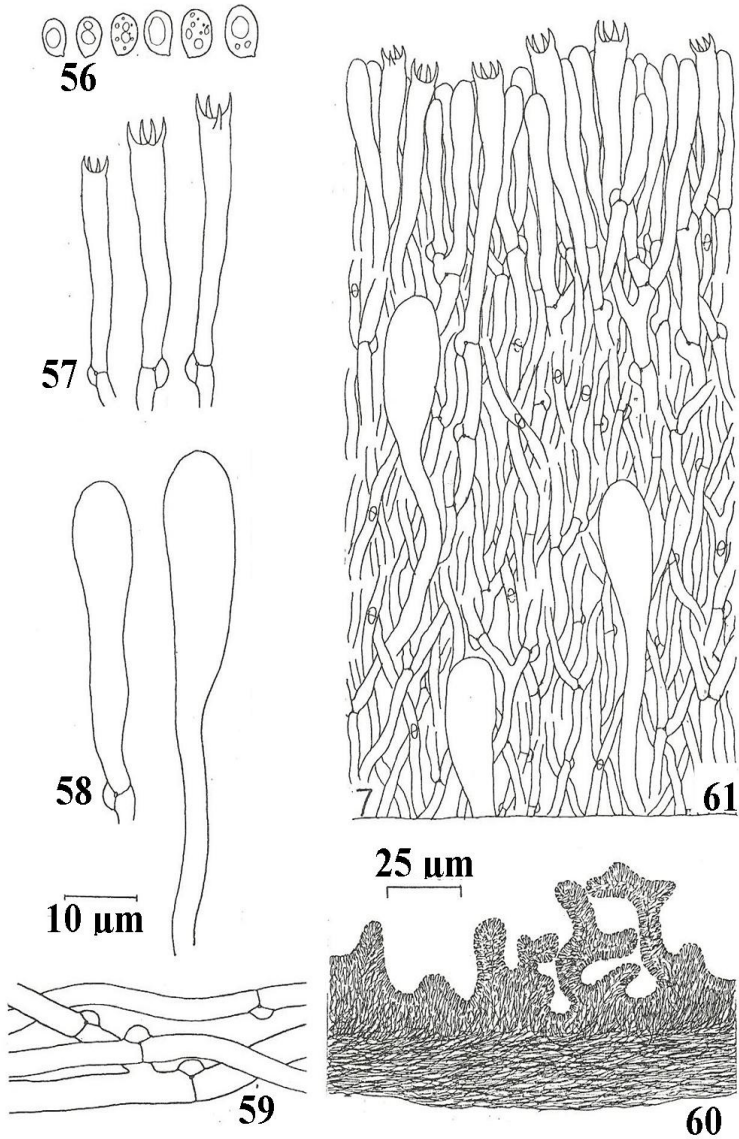
SPECIMENS EXAMINED: India — *Pinus* sp. 19826. Bhutan – angiospermous wood 19372; gymnospermous wood 19618.

\**Phlebia microspora* Dhingra, J. Ind. Bot. Soc. 84: 114, 2005.

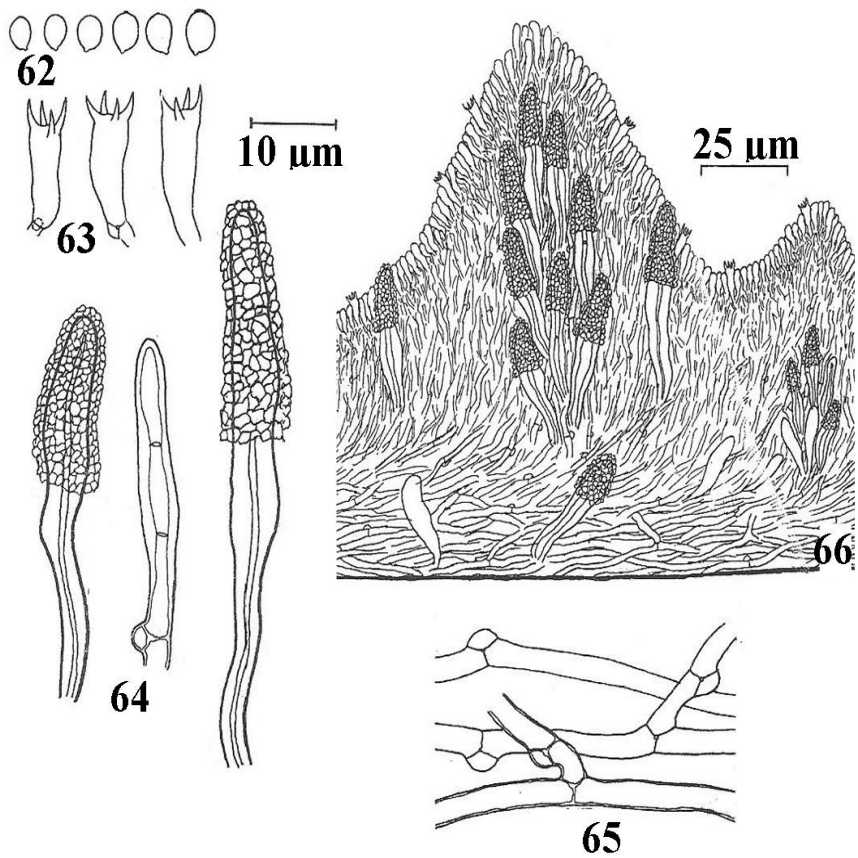
**FIGS 62–66**

SPECIMEN EXAMINED: India — angiospermous wood 19203 (Holotype).

Fruitbody resupinate, adnate, effused, thin; hymenial surface yellowish-white to pale yellow when fresh, pale ochraceous after drying, odontoid with dense, short aculei up to 110  $\mu\text{m}$  long; margins thinning, paler concolorous. Hyphal system monomitic; generative hyphae up to 3.5  $\mu\text{m}$  wide, branched, septate, clamped, thin- to somewhat thick-walled, densely united into a conglutinate tissue both in the subiculum and subhymenium. Cystidia 30.0–60.0  $\times$  4.5–6.0  $\mu\text{m}$ , numerous, especially in the aculei, generally fusiform, thin-walled when young to thick-walled on maturity, encrusted in the apical half, often secondarily septate. Basidia 10.0–15.0  $\times$  3.2–4.5  $\mu\text{m}$ , clavate to subclavate, generally 4-sterigmate, with a basal clamp; sterigmata up to 3.5  $\mu\text{m}$  long. Basidiospores 3.2–4.5  $\times$  2.3–3.5  $\mu\text{m}$ , broadly ellipsoid to ovoid, smooth, thin-walled, inamyloid, acyanophilous.



FIGS 56–61. *Phlebia kamengii*: microscopic structures 56. basidiospores; 57. basidia; 58. cystidia; 59. generative hyphae; 60. portion of hymenium and subhymenium; 61. vertical section through basidiocarp.



FIGS 62–66. *Phlebia microspora*: microscopic structures 62. basidiospores; 63. basidia; 64. cystidia; 65. generative hyphae; 66. vertical section through basidiocarp.

*Phlebia radiata* Fr., Syst. Myc. I: 427, 1821; Elench. Fung. I: 154, 1828.

SPECIMENS EXAMINED: India — angiospermous wood 19694, 19695, 19223.

■ *Phlebia rufa* (Pers. : Fr.) M.P. Christ., Dansk. Bot. Ark. 19: 164, 1960. —

*Merulius rufus* Pers. : Fr., Syst. Mycol. 1: 327, 1821.

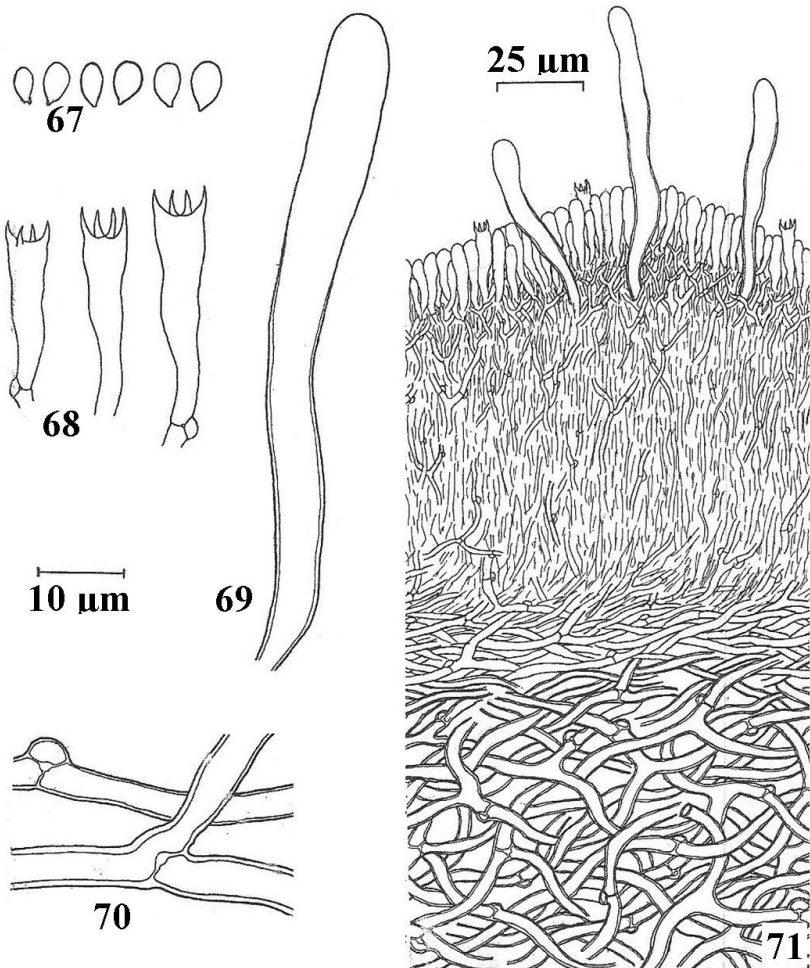
SPECIMEN EXAMINED: India — angiospermous wood 19002.

\* *Phlebia singularisa* Dhingra, J. Ind. Bot. Soc. 84: 114, 2005.

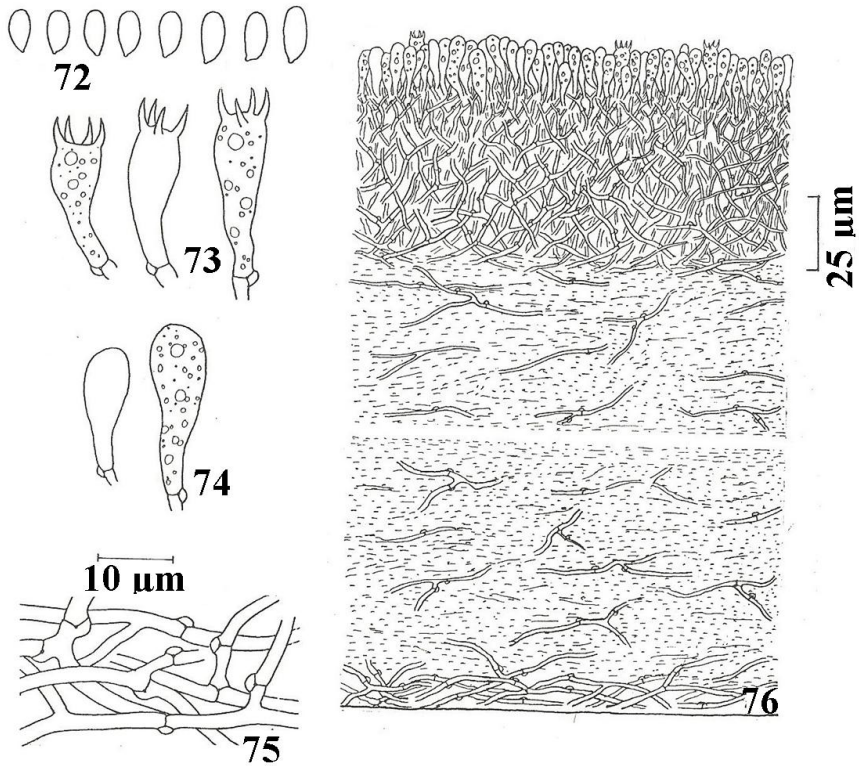
#### FIGS 67–71

SPECIMEN EXAMINED: Bhutan — gymnospermous wood 19612 (Holotype).

Fruitbody resupinate, loosely adnate, loosening in margins on drying, effused, up to 650  $\mu\text{m}$  thick in section, membranaceous-ceraceous when fresh, horny on drying; hymenial surface tuberculate when fresh, almost smooth when dried, pale yellow to pastel-yellow when alive, pale ochraceous in herbarium; abhymenial surface yellowish-white, rough; margins abrupt (in old fruitbodies) to thinning, white, fibrillose. Hyphal system monomitic; generative hyphae septate, clamped; basal zone composed of up to 6.0  $\mu\text{m}$  wide, thick-walled, less branched, compactly interwoven hyphae; subhymenial hyphae up to 3.0  $\mu\text{m}$  wide, richly branched and interwoven into a dense to almost agglutinated texture. Cystidia 50.0–85.0  $\times$  5.0–9.0  $\mu\text{m}$ , subcylindrical, often widening in the apical part, thin- to slightly thick-walled, projecting up to 60.0  $\mu\text{m}$  out of the hymenium. Basidia 18.0–27.5  $\times$  4.5–6.0  $\mu\text{m}$ , clavate to subclavate, 4-sterigmate, with a basal clamp; sterigmata up to 4.0  $\mu\text{m}$  long. Basidiospores 4.5–6.0  $\times$  2–3.5  $\mu\text{m}$ , ellipsoid to obovate, smooth, thin-walled, inamyloid, acyanophilous.



FIGS 67–71. *Phlebia singularis*: microscopic structures 67. basidiospores; 68. basidia; 69. cystidium; 70. generative hyphae; 71. vertical section through basidiocarp.



FIGS 72–76. *Phlebia thindii*: microscopic structures 72. basidiospores; 73. basidia; 74. basidioles; 75. generative hyphae; 76. vertical section through basidiocarp.



\**Phlebia thindii* Dhingra, J. Ind. Bot. Soc. 84: 115, 2005.

**FIGS 72–76**

SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19305; angiospermous wood 19249 (Holotype).

Fruitbody resupinate, adnate, effused, up to 300 µm thick in section, ceraceous when fresh, crustaceous on drying; hymenial surface smooth to somewhat tuberculate, continuous but cracking transversely in the older parts on drying, yellowish-white to pale yellow; margins indeterminate, thinning out into a pruinose periphery or abrupt. Hyphal system monomitic; generative hyphae up to 3.0 µm wide, thin-walled, septate, clamped; subiculum very narrow, composed of compactly packed hyphae running parallel to the substrate, followed by a zone of compactly packed to agglutinated hyphae; subhymenium of densely interwoven, semierect hyphae. Cystidia absent. Basidia 17.5–24.0 × 6.0–7.0 µm, clavate, narrowed into a stalk like part at the base, 4-sterimate, with a basal clamp; sterigmata up to 5.0 µm long. Basidiospores 5.0–7.5 × 2.5–3.3 µm, ellipsoid, smooth, thin-walled, inamyloid, acyanophilous, with oily contents.

□■*Phlebiella allantospora* (Oberw.) Larss. & Hjorst., Mycotaxon 29: 318, 1987. – *Xenasmatella allantospora* Oberw., Syd. Ann. Mycol. 19: 37, 1965.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19631.

■*Phlebiella grisella* (Bourd.) Larss. & Hjorst., Mycotaxon 29: 318, 1987. – *Corticium grisellum* Bourd., Add. aux. Cort. Rev. Sc. Bourb. 35: 17, 1922.

SPECIMENS EXAMINED: India — angiospermous wood 19263 (O), 19264.

■*Phlebiella subflavido-grisea* (Litsch.) Oberw., Bibl. Mycol. 61: 343, 1977. – *Corticium subflavido-griseum* Litsch., Ann. Myc. 39: 127, 1941.

SPECIMEN EXAMINED: India — angiospermous wood 19245.

■*Phlebiella tulasnelloidea* (Höhn. & Litsch.) Oberw., Bibl. Mycol. 61: 343, 1977. – *Corticium tulasnelloideum* Höhn. & Litsch., Sitz. Kais. Akad. Wiss., Wien. Math. – Nat. Klassee 117: 1118, 1908.

SPECIMEN EXAMINED: India — angiospermous wood 19713.

\**Phlebiopsis darjeelingensis* Dhingra, Nova Hedwigia, 44: 222, 1987.

**FIGS 77–81**

SPECIMEN EXAMINED: India — angiospermous wood 19199 (Holotype).

Fruitbody resupinate, adnate, effused, thin, up to 300  $\mu\text{m}$  thick in section, ceraceous when fresh, corneous on drying; hymenial surface yellowish-white to dull yellow when fresh, pale orange to light orange in the herbarium, even to somewhat tuberculate; margins thinning to abrupt, adnate or often rolling off the substratum on drying. Hyphal system monomitic; generative hyphae branched, septate, without clamps; basal hyphae thick-walled, compactly packed, up to 5.5  $\mu\text{m}$  wide, running almost parallel to the substrate; subhymenial hyphae thinner, thin-walled, vertically densely packed to almost agglutinated. Cystidia 41–75  $\times$  13.5–17.5  $\mu\text{m}$  (with encrustation), 40–72  $\times$  10.5–12.5  $\mu\text{m}$  (without encrustation), subfusiform to conical, with subobtuse to obtuse apices, thick-walled, heavily encrusted in the upper half, immersed or projecting up to 40  $\mu\text{m}$  out of the hymenium, rarely secondarily septate. Basidia 17.0–22.5  $\times$  5.7–6.0  $\mu\text{m}$ , clavate to subclavate, 4-sterigmate, without a basal clamp; sterigmata up to 4.5  $\mu\text{m}$  long. Basidiospores 5–6  $\times$  3.5–4.5  $\mu\text{m}$ , broadly ellipsoid, smooth, thin-walled, non-amyloid, acyanophilous.

□■ ***Phlebiopsis gigantea*** (Fr.) Julich, Persoonia 10: 137, 1978. – *Thelephora gigantea* Fr. Syst. Mycol. 1: 448, 1821.

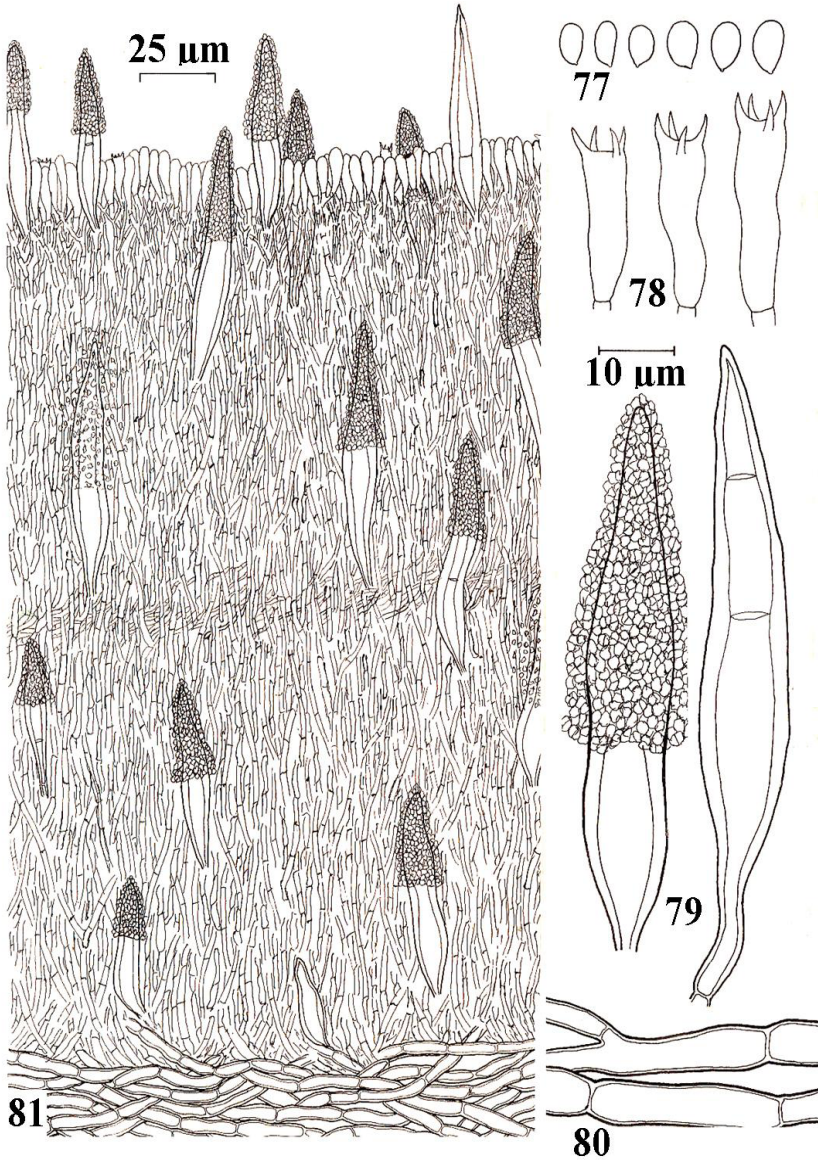
SPECIMENS EXAMINED: India — *Pinus* sp. 19810; angiospermous wood 19840. Bhutan — *Pinus* sp. 19624, 19636; gymnospermous wood 19410, 19560.

\****Phlebiopsis himalayensis*** Dhingra, Nova Hedwigia, 44: 222, 1987.

#### **FIGS 82–86**

SPECIMENS EXAMINED: India — angiospermous wood 19202 (Holotype), 19862, 19888,.

Fruitbody resupinate, adnate, effused, thin, up to 250  $\mu\text{m}$  thick in section, ceraceous; hymenial surface grayish-white to reddish-gray or flesh coloured when fresh, grayish-orange to brownish-orange in the herbarium, turns purplish on putting a drop of 3% KOH solution, smooth to somewhat tuberculate; margins thinning to abrupt. Hyphal system monomitic; generative hyphae septate, without clamps; basal zone composed of somewhat thick-walled, irregularly branched and loosely interwoven hyphae, followed by a zone of thin-walled, compactly packed horizontal hyphae; subhymenium composed of compactly packed to somewhat agglutinated, vertical hyphae. A stratification is usually visible depending on age and growing conditions of the fruitbody. Cystidia 35–65  $\times$  7.5–9.0  $\mu\text{m}$  (without encrustation), numerous, fusiform, thick-walled, heavily encrusted in the upper half, immersed or projecting out of the hymenium. Basidia 17.0–31.5  $\times$  3.5–4.5  $\mu\text{m}$ , narrowly clavate, apically somewhat dilated, without basal clamp, 4-sterigmate; sterigmata up to 4  $\mu\text{m}$  long. Basidiospores 3.5–4.75  $\times$  2.5–3.0  $\mu\text{m}$ , ellipsoid, smooth thin-walled, non-amyloid, acyanophilous.



FIGS 77–81. *Phlebiopsis darjeelingensis*: microscopic structures 77. basidiospores; 78. basidia; 79. cystidia; 80. generative hyphae; 81. vertical section through basidiocarp.

*Phlebiopsis roumeguerii* (Bres.) Julich & Stalpers, Verh. Kon. Ned. Akad. Wet. Nat. Ser. 2. Vol. 74: 190, 1980. – *Corticium roumeguerii* Bres. Fungi Trid. 2: 36, 1892.

SPECIMENS EXAMINED: India — angiospermous wood 19021, 19038, 19166.

■ *Radulomyces confluens* (Fr.) Christ., Dansk. Bot. Arkiv. 19: 230, 1960. – *Thelephora confluens* Fr., Syst. Mycol. I: 447, 1821.

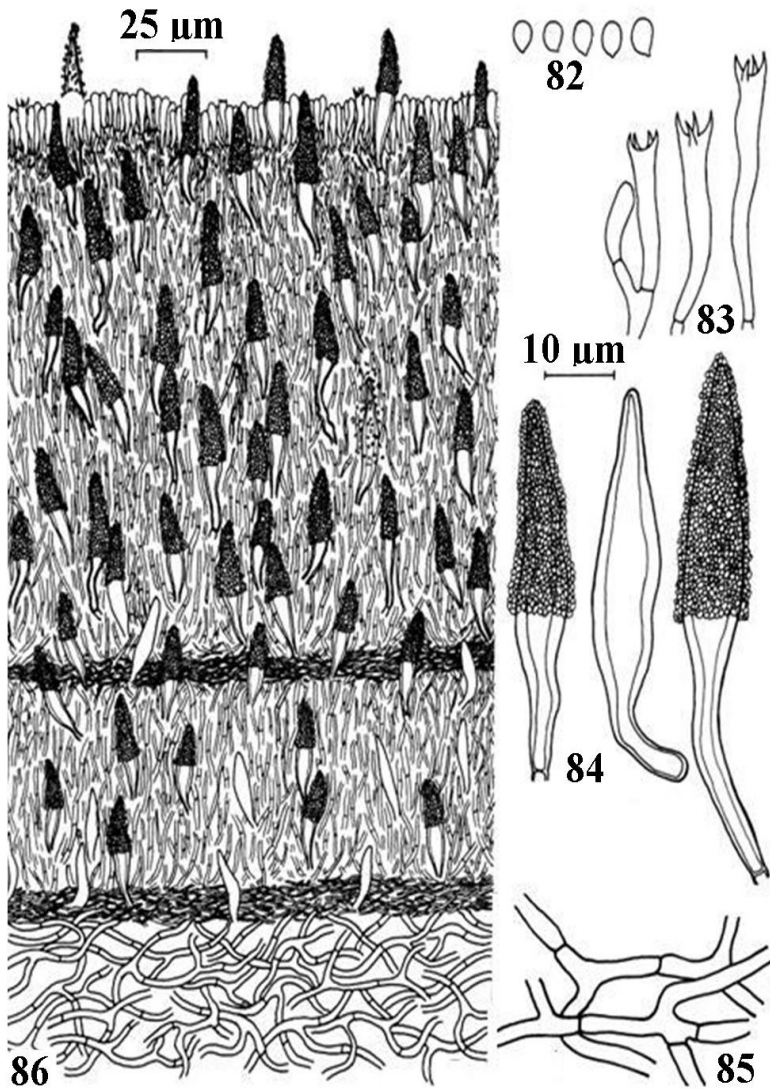
SPECIMEN EXAMINED: India – angiospermous wood 19271.

●\* *Repetobasidiopsis grandisporus* Dhingra & Avneet P. Singh, Mycotaxon 97: 116, 2006.

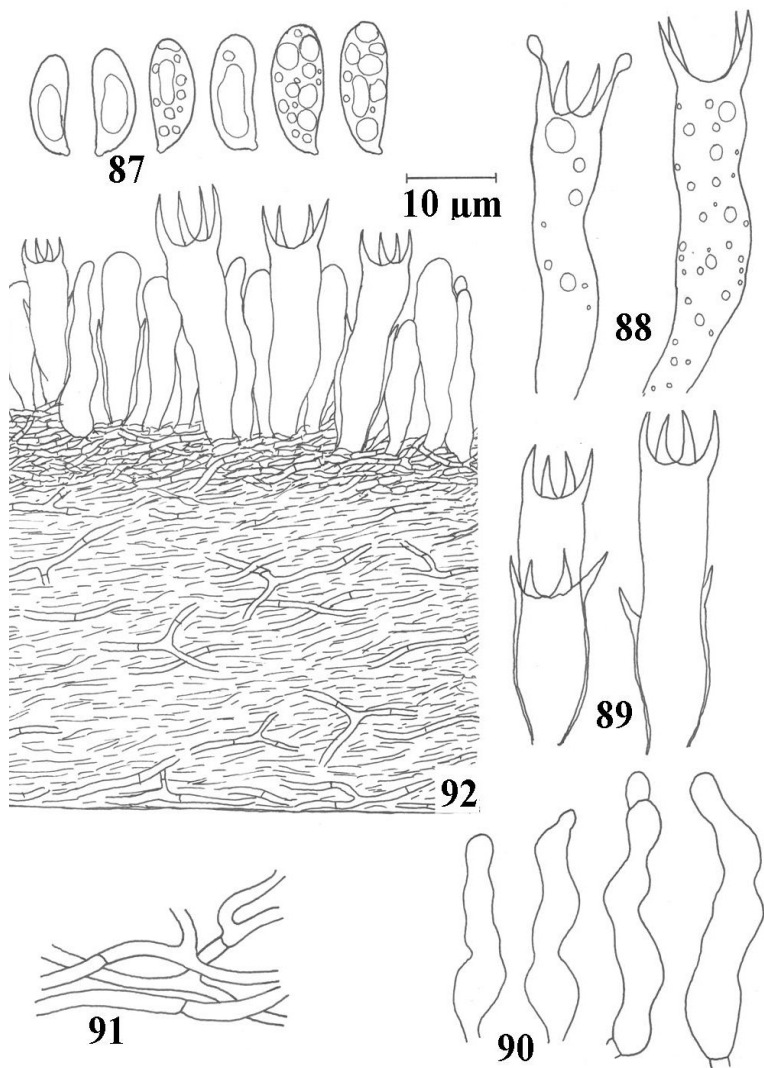
#### FIGS 87–92

SPECIMEN EXAMINED: India — Bamboo 19706 (Holotype).

Fruitbody resupinate, closely adnate, effused, subceraceous; hymenial surface smooth, creamish-white to yellowish-white, continuous when fresh, some cracks developing on drying; margins not well differentiated. Hyphal system monomitic; generative hyphae up to 2.3  $\mu\text{m}$  wide, thin-walled, septate, without clamps; basal zone of gelatinized hyphae, irregularly branched and interwoven; subhymenial hyphae short celled and compactly packed and appear like pseudoparenchymatous tissue. Cystidia 20.0–30.0  $\times$  5.0–6.0  $\mu\text{m}$ , thin-walled, sinuous, negative to sulphovanillin. Basidia 20.0–40.0  $\times$  5.5–8.0  $\mu\text{m}$ , subclavate to suburniform, rarely sinuous, with linear repetition, basal clamp is not observed, 4-sterigmate, with oily contents; sterigmata up to 8.5  $\mu\text{m}$  long. Basidiospores 10.0–14.0  $\times$  4.0–5.8  $\mu\text{m}$ , ellipsoid to subfusiform, or subballantoid, smooth, thin-walled, acyanophilous, inamyloid, with one large guttule or many small oil drops.



FIGS 82–86. *Phlebiopsis himalayensis*: microscopic structures 82. basidiospores; 83. basidia; 84. cystidia; 85. generative hyphae; 86. vertical section through basidiocarp.



FIGS 87–92. *Repetobasidiopsis grandisporus*: microscopic structures 87. basidiospores; 88. basidia; 89. proliferating basidia; 90. cystidia; 91. generative hyphae; 92. vertical section through basidiocarp.

***Scytinostroma duriusculum*** (Berk. & Br.) Donk, Fungus 26: 20, 1956. – *Stereum duriusculum* Berk. & Br., J. Linn. Soc. Bot. 14: 66, 1873.

SPECIMENS EXAMINED: India — angiospermous wood 19058 (LY), 19041 (LY), 19218.

□■ ***Scytinostroma ochroleucum*** (Bres. & Torrend.) Donk, Fungus 26: 20, 1956. – *Gloeocystidium ochroleucum* Bres. & Torrend., In Torrend., Broteria Ser. Bot. 11: 81, 1913.

SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19232, 19336, 19339, 19340; bamboo wood 19710; decaying wood 19147 (LY). Bhutan – gymnospermous wood 19408.

***Scytinostroma odoratum*** (Fr.) Donk, Fungus 26: 20, 1956. – *Thelephora odorata* Fr., Syst. Mycol. 1: 445, 1821.

SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19315 (LY); angiospermous wood 19769 (LY).

\* ***Scytinostroma pulverulentum*** Boidin & Dhingra, In Boidin & Lanquetin, Le Genre *Scytinostroma* Donk. (Basidiomycètes, Lachnocladiaceae), Bibliotheca Mycologica 114: 94, 1987.

SPECIMEN EXAMINED: Bhutan – gymnospermous wood 19598 (LY).

\* ***Scytinostroma renisporum*** Boidin, Lanquetin & Gilles, In Boidin & Lanquetin, Le Genre *Scytinostroma* Donk. (Basidiomycètes, Lachnocladiaceae), Bibliotheca Mycologica 114: 97, 1987.

SPECIMEN EXAMINED: India – angiospermous wood 19029 (Paratype).

□■ ***Scytinostromella heterogena*** (Boud. & Galz.) Parm., Consp. Syst. Cort. : 171, 1968. – *Peniophora heterogena* Boud. & Galz., Bull. Soc. Mycol. France 28: 393, 1913. SPECIMEN EXAMINED: Bhutan – decaying wood 19442 (LY).

□■ ***Serpula himantoides*** (Fr.) Cunn., Bull. Dept. Sci. Ind. Res. New. Zeal. 145: 328, 1963. – *Merulius himantoides* Fr., Syst. Mycol. 1: 329, 1821.

SPECIMENS EXAMINED: India — angiospermous wood 19688, 19320. Bhutan – decaying wood 19413.

\* ***Sistotrema angustispora*** Dhingra, In Plant Diversity in India: 484, 2004.

#### FIGS 93–98

SPECIMEN EXAMINED: India — *Cryptomeria japonica* 19233 (Holotype).

Fruitbody thin, at first reticulate to hypochnoid, with age more or less continuous; hymenial surface grayish-white when fresh, yellowish to ochraceous on drying, smooth; margins not differentiated. Hyphal system monomitic;

generative hyphae loosely interwoven, septate, clamped, basal hyphae up to 6.5  $\mu\text{m}$  wide, sparsely ramified, somewhat thick-walled, basidial branches up to 4.5  $\mu\text{m}$  wide, comparatively thickly branched, thin-walled. Cystidia 55.0–135.0  $\times$  7.0–8.0  $\mu\text{m}$ , tubular with somewhat broadened base, thin-walled, encrusted with subhyaline granules, with a basal clamp, projecting up to 100  $\mu\text{m}$  out of the hymenium. Basidia 18.0–28.0  $\times$  8.0–10.0  $\mu\text{m}$ , urniform to sub urniform, with a basal clamp, generally 6-sterigmate; sterigmata up to 4  $\mu\text{m}$  long. Basidiospores 10.5–14.0  $\times$  2.3–3.3  $\mu\text{m}$ , narrowly navicular to subcylindrical, smooth, thin-walled, inamyloid, acyanophilous, with many small oil droplets, often glued in groups of two or more.

□***Sistotremastrum niveocremeum*** (Höhn. & Litsch.) John Erikss., Symb. Bot. Upsal. 16: 62, 1958. – *Corticium niveocremeum* Höhn. & Litsch., Sitz. Kais. Akad. Wiss., Wien. Math. – Nat. Klassee 117: 1117, 1908.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19542 (GH).

□***Stereum acanthophysatum*** Rehill & Bakshi, Ind. For. Bull. 242: 6, 1966.

SPECIMENS EXAMINED: India — angiospermous wood 19895, 19026, 19055; gymnospermous wood 19024. Bhutan — angiospermous wood 19516.

□***Stereum gausapatum*** Fr. : Fr., Hym. Eur.: 638, 1874. – *Thelephora gausapata* Fr., Elench. Fung. 1: 171, 1828.

SPECIMENS EXAMINED: India — *Quercus* sp. 19132, 19136, 19141; angiospermous wood 19677, 19733, 19743, 19761, 19164, 19127, 19128, 19131, 19159, 19237, 19291, 19309, 19324; decaying wood 19118, 19135. Bhutan — angiospermous wood 19418, 19424, 19490, 19498, 19517, 19656.

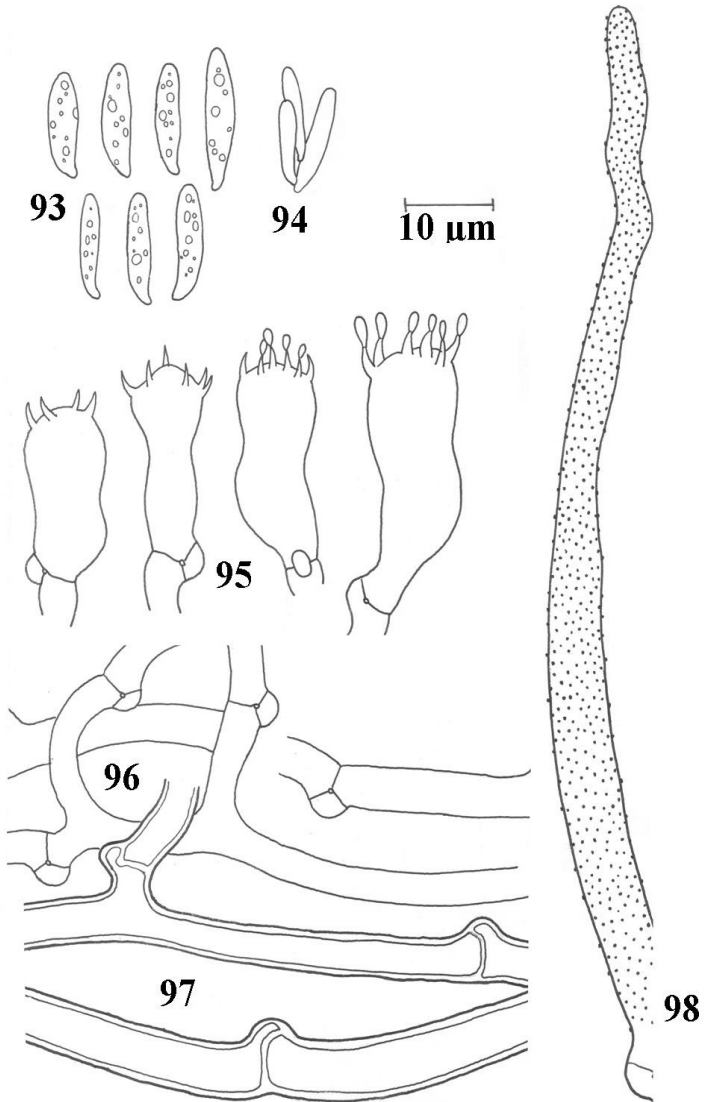
□***Stereum hirsutum*** (Willd. : Fr.) Gray, Nat. Arrangm. Brit. Pl. 1: 653, 1821. – *Thelephora hirsuta* Willd. :Fr. Mycol 1: 439, 1821.

SPECIMENS EXAMINED: India — angiospermous wood 19664, 19807, 19832, 19846, 19066, 19072, 19077, 19169, 19173, 19166, 19257, 19330. Bhutan — angiospermous wood 19357, 19397, 19437, 19451; decaying wood 19426.

□***Stereum ostrea*** (Blume & Nees : Fr.) Fr., Epicr.: 547, 1838. – *Thelephora ostrea* Blume & Nees :Fr. Elench. Fung. 1: 175, 1828.

SPECIMENS EXAMINED: India — *Pinus* sp. 19804; angiospermous wood 19680, 19692, 19057, 19014, 19032, 19163. Bhutan — angiospermous wood 19634; gymnospermous wood 19567.





FIGS 93–98. *Sistotrema angustispora*: microscopic structures 93. basidiospores; 94. glued basidiospores; 95. basidia; 96. thin-walled hyphae; 97. thick-walled basal hyphae; 98. cystidium.

\**Stereum peculiare* Parm., Boidin & Dhingra, Persoonia 10: 311, 1979.

SPECIMENS EXAMINED: India — *Michelia champaka* 19093 (Paratype); angiospermous wood 19787, 19789, 19798, 19803, 19820, 19833, 19847, 19864, 19876.

□*Stereum sanguinolentum* (Alb. & Schw.) Fr., Epicr.: 549, 1838. — *Thelephora sanguinolenta* Alb. & Schw., Consp. Fung.: 274–275, 1805.

SPECIMENS EXAMINED: India — *Pinus* sp. 19071, 19022; gymnospermous wood 19048. Bhutan — gymnospermous wood 19375, 19398, 19516, 19591, 19616, 19640.

*Subulicystidium longisporum* (Pat.) Parm., Consp. Syst. Cort. : 121, 1968. — *Hypochnus longisporus* Pat., J. Bot. Paris 8: 221, 1894.

SPECIMENS EXAMINED: India — angiospermous wood 19785, 19870, 19204 (O).

■*Subulicystidium meridense* Oberw., Bibliotheca Mycologica 61: 343, 1976.

SPECIMENS EXAMINED: India — angiospermous wood 19857, 19201.

□■*Tomentella chlorina* (Mass.) Cunn., Proc. Ninn. Soc. NSW 77: 279, 1953. — *Hypochnus chlorinus* Mass., Kew Bull. Misc. Inf.: 158, 1901.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19519 (LY).

■*Tomentella scobinella* Cunn., Trans. Roy. Soc. New. Zeal. 84: 485, 1957.

SPECIMENS EXAMINED: India — angiospermous wood 19783, 19834.

■*Tomentella subalpina* M. J. Larsen, Mycologia 64: 444, 1972.

SPECIMEN EXAMINED: India angiospermous wood 19322.

■*Tomentella terrestris* (Berk. & Br.) M. J. Larsen, Mycologia Memoir 4, p. 105, 1974. — *Zygodemus terrestris* Berk. & Br., Ann. Mag. Nat. Hist. 7: 130, 1881.

SPECIMEN EXAMINED: India — decaying wood 19317.

■*Trechispora fastidiosa* (Pers. : Fr.) Liberta, Taxon 15: 318, 1966. — *Thelephora fastidiosa* Pers. :Fr., Syst. Mycol. 1: 435, 1821.

SPECIMEN EXAMINED: India — angiospermous wood 19013.

●\**Trimitiella indica* Dhingra, Mycotaxon 97: 127, 2006.

FIGS 99–106

SPECIMEN EXAMINED: India — Bambooo 19722 (Holotype).

Fruitbody resupinate, adnate, effused, up to 360  $\mu\text{m}$  thick in section, membranous, ceraceous; hymenial surface smooth to farinose under lens, light gray to gray; margins loosely adnate, inturned on drying, thinning, irregular in outline, whitish. Hyphal system trimitic; generative hyphae branched, septate, clamped, thin- to somewhat thick-walled, up to 4.0  $\mu\text{m}$  wide; skeletal hyphae up to 3.0  $\mu\text{m}$  wide, mostly unbranched, aseptate without clamps, thick-walled, acyanophilous; binding hyphae up to 2.5  $\mu\text{m}$  wide, richly branched, thick-walled; context composed of densely interwoven generative hyphae, skeletal hyphae and binding hyphae; binding hyphae comparatively more in the subiculum. Cystidia absent. Dendrohyphidia branched, thin-walled, basal part up to 3.5  $\mu\text{m}$  wide. Basida 55.0–70.0  $\times$  10.0–12.0  $\mu\text{m}$ , somewhat sinuous, with oily contents and a basal clamp, 4-sterigmate; sterigmata up to 12.0  $\mu\text{m}$  long. Basidiospores 10.0–15.0  $\times$  7–8.5  $\mu\text{m}$ , broadly ellipsoid, smooth, thin-walled, inamyloid, acyanophilous, with numerous oil drops. Spore print white.

***Tubulicrinis gracillima*** (Ell. & Ev. : Rog. & Jack.) Cunn., N. Z. Dept. Sci. Ind. Res. Bull. 145: 141, 1963. – *Peniophora gracillima* Ell. Ev. : Rog. & Jack., Parlowia 1: 317, 1943.

SPECIMENS EXAMINED: India — angiospermous wood 19771, 19212.

□■ ***Tubulicrinis subulatum*** (Bourd. & Galz.) Donk, Fungus 26: 14, 1956. – *Peniophora subulatum* Bourd. & Galz., Bull. Soc. Mycol. Fr. 28: 385, 1913.

SPECIMEN EXAMINED: Bhutan — angiospermous wood 19626.

***Vararia pallescens*** (Schw.) Rog. & Jacks., Farlowia 1: 309, 1943. – *Thelephora pallescens* Schw., Trans. Am. Phil. Soc. n. s. 4: 167, 1832.

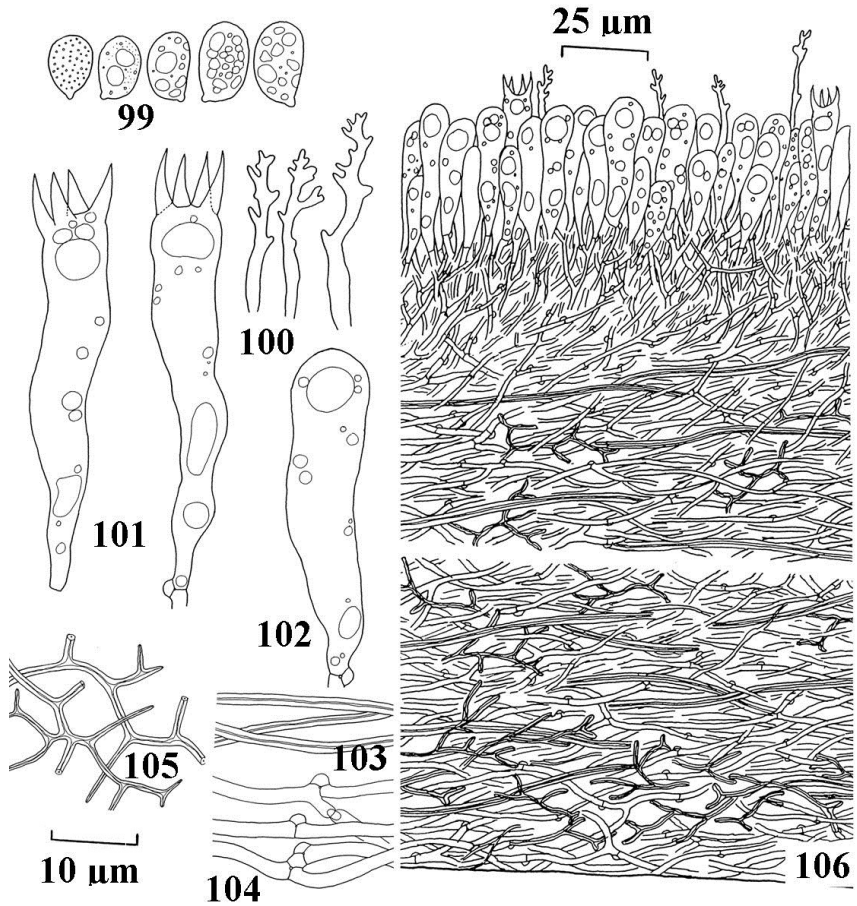
SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19341; angiospermous wood 19222.

■ ***Vararia sphaericospora*** Gilbertson, Pap. Michigan Acad. Sciences Arts Lett. 50: 176, 1965.

SPECIMENS EXAMINED: India — *Cryptomeria japonica* 19095, 19108, 19153, 19258, 19292 (LY), 19307.

□■ ***Xylobolus frustulatus*** (Pers. : Fr.) Boidin, Revue Mycol. 23: 341, 1958. – *Thelephora frustulata* Pers. : Fr., Syst. Mycol. 1: 445, 1821.

SPECIMENS EXAMINED: India — *Quercus* sp. 19012; angiospermous wood 19661, 19056, 19043, 19173. Bhutan – angiospermous wood 19589, 19590; gymnospermous wood 19637.



FIGS 99–106. *Trimitiella indica*: microscopic structures 99. basidiospores; 100. dendrohyphidia ; 101 basidia; 102. basidioles; 103. binding hyphae; 104. generative hyphae; 105. skeletal hyphae; 106. vertical section through basidiocarp.

□*Xylobolus subpileatus* (Berk. & Curt.) Boidin, Revue Mycol 23: 341, 1958. – *Stereum subpileatum* Berk. & Curt., Hook. J. Bot. & Kew Gard. Misc. 1: 238, 1829.

SPECIMENS EXAMINED: India — angiospermous wood 19678, 19702, 19756, 19772, 19780, 19815, 19842, 19893, 19155, 19277; decaying wood 19113, 19326. Bhutan – angiospermous wood 19384, 19415, 19568, 19652.

### Literature cited

Blackwell, M., Hibbett, D.S., Taylor, J.W. and Spatafora, J.W. 2006. Research Co-ordination Networks: a phylogeny for kingdom *Fungi* (Deep Hypha). *Mycologia* **98**: 829-837.

◆Biodin, J., Parmasto, E., Dhingra, G.S. & Lanquetin, P. 1979. Stereums with acanthophyses, their position and affinities. *Persoonia* 10: 311-324.

◆Dhingra, G.S. 1987. The genus *Phlebiopsis* in the Eastern Himalayas. *Nova Hedwigia* 44: 221-227.

◆Dhingra, G.S. 1989. Genus *Hyphoderma* Wallr. Em Donk in the Eastern Himalayas. *Plant Science Research in India*. (Eds. Trivedi, M.L. , Gill, G.S. & Saini, S.S.) Today & Tomorrow's printers & publishers, New Delhi. pp. 197-212.

◆Dhingra, G.S. 2004. Corticioid fungi of the Eastern Himalayas-Six new species. *Plant Diversity in India*. (Eds. Dargan, J.S. & Sarma, T.A.) Bishen Singh Mahendra Pal Singh Dehradun. Pp 477-486.

◆Dhingra, G.S. 2005. Genus *Phlebia* Fr. in the Eastern Himalaya. *J. Ind. Bot. Soc.* 84: 111-117.

◆Dhingra, G.S. 2005. Genus *Hyphodontia* John Erks. in the Eastern Himalaya. *J. Ind. Bot. Soc.* 84: 118-122.

◆Dhingra, G.S. 2005. Diversity of corticioid fungi in Bhutan. *The fungi – Diversity and Conservation in India* (Eds. Dargan, J.S., Atri, N.S. & Dhingra, G.S.) Bishen Singh Mahendra Pal Singh Dehradun. Pp. 135-157.

◆Dhingra, G.S. 2006. *Trimitiella* gen. nov. (*Basidiomycetes*) from Eastern Himalaya, India. *Mycotaxon*. 97: 125-128.

◆Dhingra, G.S. and Singh Avneet Pal. 2006. *Repetobasidiopsis* gen. nov. (*Basidiomycetes*) from Eastern Himalaya, India. *Mycotaxon*. 97: 115-118.

Hibbett, D.S., Binder, M., Bischoff, J. F., Blackwell, M., Cannon, P. F., Eriksson, O.E., Huhndorf, S., James, T., Kirk, P. M., Lücking, R. H., Lumbsch, T., Lutzoni, F., Matheny, P. B., McLaughlin, D. J., Powell, M.J., Redhead, S., Schoch, C. L., Spatafora, J. W., Stalpers, J. A., Vilgalys, R., Aime, M. C., Aptroot, A., Bauer, R., Begerow, D., Benny, G. L., Castlebury, L. A., Crous, P.W., Dai, Y.C., Gams, W., Geiser, D. M., Griffith, G. W., Gueidan, C., Hawksworth, D. L., Hestmark, G., Hosaka, K., Humber, R. A., Hyde, K.D., Ironside, J. E., Kõljalg, U., Kurtzman, C. P., Larsson, K.H., Lichtwardt, R., Longcore, J., Miądlikowska, J., Miller, A., Moncalvo, J.M., Standridge, S. M., Oberwinkler, F., Parmasto, E., Reeb, V., Rogers, J.D., Roux, C., Ryvarden, L., Sampaio, J. P., Schüßler, A., Sugiyama, J., Thorn, R. G., Tibell, L., Untereiner, W. A., Walker, C., Wang, Z., Weir, A., Weiss, M., White, M. M., Winka, K., Y.J. and Zhang, N. 2007. A higher - level phylogenetic classification of the Fungi. *Mycological Research* **111**: 509-547.

James, T.Y., Kauff, F., Schoch, C.L., Matheny, P.B., Hofstetter, V., Cox, C.J., Celio, G., Gueidan, C., Fraker, E., Miadikowska, J., Lumbsch, H. T., Rauhut, A., Reeb, V., Arnold, A. E., Amtoft, A., Stajich, J.E., Hosaka, K., Sung, G.H., Johnson, D., O'Rourke, B., Crockett, M., Binder, M., Curtis, J.M., Slot, J.C., Wang, Z., Wilson, A.W., Schüßler, A., Longcore, J.E., O'Donnell, K., Mozley-Standridge, S., Poter, D., Letcher, P.M., Powell, M.J., Taylor, J.W., White, M.M., Griffith, G.W., Davies, D.R., Humber, R.A., Morton, J.B., Sujiyama, J., Rossman, A.Y., Rogers, J.D., Pfister, D.H., Hewitt, D., Hansen, K., Hambleton, S., Shoemaker, R.A., Cohlmeier, J., Volkmann-Kohlmeier, B., Spotts, R.A., Serdani, M., Crous, P.W., Hughes, K.W., Matsuura, K., Langer, E., Langer, G., Untereiner, W.A., Lücking, R., Büdel, B., Geiser, D.M., Aptroot, A., Diederich, P., Schmitt, I., Schultz, M., Yahr, R., Hibbett, D.S., Lutzoni, F., Mclaughlin, D.J., Spatafora, J.W. and Vilgalys, R. 2006. Reconstructing the early evolution of Fungi using a Six-gene phylogeny. *Nature*, 443 (**19**): 818-822.

Kirk, P.M., Cannon, P.F., Minter D.W. and Stalpers, J.A. 2008. *Dictionary of the Fungi* (10<sup>th</sup> Ed.). Wallingford Oxon, UK.

# The genus *Microporellus* Murrill in South America

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## Abstract

*Microporellus amazonicus* Medeiros & Ryvarden is described and characterized by globose basidiospores and a fine velutinate dark brown stipe. A key to South American species of the genus is provided.

Key words: Polypores, Amazonia

## Introduction.

The genus *Microporellus* was described by Murrill with *P. dealbatus* Berk. & M. A. Curtis as type species. The genus is characterized by a dimitic hyphal system with strongly dextrinoid skeletal hyphae and slightly thick-walled basidiospores, while ventricose cystitis may occur in some species. Below we describe a new species which falls within the generic definition besides being related to the newly described *M. brasiliensis* Decock & Ryvarden (2002).

***Microporellus amazonicus*** Medeiros & Ryvarden nov. sp.

Ad *Microporellus brasiliensis* Decock & Ryvarden, sed pori 3-4 per mm (in *M. brasiliensis* 6-8 per mm).

**Holotype:** Brazil, Pará, Portel, “Floresta Nacional de Caxiuanã”, Sítio do Programa de Pesquisa em Biodiversidade (PPBIO), Coll P. S. Medeiros, April 2009, on the ground, In “João Murça Pires” (MG 199 292) Herbarium, PA, Brazil, isotype in O.

**Basidiocarp** annual, excentrally stipitate, single or fused to more compound basidiocarps with many, partly overlapping pilei, pileus semicircular to fan-shaped to appanate when fresh, partly curled to bent when dry and dense in structure, individual pilei up to 1 cm wide and long and 3 mm thick at the base, upper surface smooth, glabrous, narrowly zoned in bright pale orange to brown when fresh fading to faint brown and whitish grey narrow bands when

dry, margin thin and sharp, at the tapering base at the transition to the stipe, dark brown and finely velutinate (as on stipe), stipe up to 7 cm tall, in individual specimens up to 3 mm in diameter, dark brown and finely velutinate, in section with a distinct dark zone below the tomentum and with a dense cork coloured homogenous context, in compound basidiocarps up to 8 individual pilei basally fused and up to 1 cm in diameter, pore whitish to pale ochraceous, pores angular in part irregular and in parts finely fimbriate at the dissepiments, 3-4 per mm, tubes concolorous with pores surface and up to 2 mm deep, context whitish up to 300  $\mu\text{m}$  deep with a thin dark zone towards the upper surface.

**Hyphal system** dimitic throughout the basidiocarp, generative hyphae hyaline, 2.0-3.0  $\mu\text{m}$  wide and with clamps at the septa, skeletal hyphae, moderately thick-walled, often with a large lumen, especially in the context, straight to slightly sinuous, hyaline, strongly dextrinoid, 2.5 -5.0  $\mu\text{m}$  wide.

**Basidia** not seen.

**Basidiospores** globose to subglobose, slightly thick-walled, hyaline, non-dextrinoid, 5-6  $\mu\text{m}$  in diameter.

**Cystidia** not seen.

**Substrate.** On the ground, presumably from a buried piece of wood.

**Distribution:** Known only from the type locality,

*Microporellus amazonicus* is undoubtedly related to *M. brasilensis* Decock & Ryvarden but separated by the lack of cystidia, the smaller pores and slightly larger basidiospores. Further in the latter species the stipe is smooth and greyish, while it is dark brown and finely velutinate in the new species described here. Reck et al. (2011) reported recently on the second collection of *M. iguazuensis*. It is separated from *M. amazonicus* by larger spores, i.e. 7.5-9.0 x 5.5-6.5  $\mu\text{m}$ .



## Key to Neotropical species of *Microporellus*

- 1. Pores 1-3 per mm .....2
- 1. Pores 6-8 per mm ..... 3
  
- 2. Cystidia present, generative hyphae with clamps ..... **M. clemensiae**
- 2. Cystidia absent, generative hyphae with simple septa ..... **M. iguazuensis**
  
- 3. Cystidia absent, stipe dark brown and velutinate .....**M. amazonicus**
- 3. Cystidia present, stipe whitish, greyish to greyish brown and glabrous .....4
  
- 4. Pores minute 8-10 per mm, basidiocarp usually centrally stipitate, basidiospores 4.5-6 x 3.5-4.5  $\mu\text{m}$ ..... **M. dealbatus**
- 4. Pores 6-8 per mm, basidiocarp sessile to laterally stipitate, basidiospores 4.0-5.0 x 3.8-4.5  $\mu\text{m}$  ..... **M. brasilensis**

### References

- Decock, C. & Ryvardeen, L. 2002: Two undescribed *Microporellus* species and notes on *M. clemensiae*, *M. setigerus* and *M. subincarnatus*. Czech Mykol. 54:19-30.
- Reck, M. A., Westphalen, M. C., & Silveira, R. M. 2011: Rediscovery of *Microporellus iguazuensis* in Southern Brazil, Mycotaxon 115:5-10.

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## New and interesting species from Gran Sabana in Venezuela

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### Abstract

**Oxyporus hexaporoides** Ryvar den & Iturr. &, **Skeletocutis polyporicola** Ryvar den & Iturr., **Tyromyces semilimitatus** Ryvar den & Iturr. and **Tyromyces oxyporoides** Ryvar den & Iturr. are described as new. Keys to the neotropical species of the respective genera are provided.

### Description of species

**Oxyporus hexaporoides** Ryvar den & Iturr. Nova species

Ad *Oxyporus latemarginatus* (Dur. & Mont.) Donk, sed sporae 3-4.5 x 2.2-2.5 µm (5.5-7 x 3-4 µm in *O. latemarginatus*).

**Holotype:** Venezuela, Estado Miranda, Tacata area, Rio Tacata, 14. June 2003, L. Ryvar den 45643 VEN, isotype in O.

**Basidiocarps** annual, resupinate, effused, up to 4 x 3 cm in the holotype, soft when fresh, fragile when dry, pore surface white, pores angular to hexagonal, 2-3 per mm, shallow, thin walled, tubes concolorous with pore surface, up to 2 mm deep, context almost absent, whitish, about 200 µm thick.

**Hyphal system** monomitic; generative hyphae 3-7 µm wide, simple-septate, thin- to thick-walled, with occasional branching.

**Cystidia** 15-25 µm from septum to apex, abundant, clavate, present in the subhymenium, thin-to slightly thick walled and with an apical crown of coarse crystals.

**Basidia** 12-18 x 4-6 µm, clavate, with four sterigmata.

**Basidiospores** 3-4.5 x 2.2-2.5 µm wide, broadly ellipsoid, hyaline, thin-walled, negative in Melzer's reagent.

**Substrate.** On dead hardwood.

**Distribution.** Known only from the type locality.

**Remarks.** The species is characterized by the fairly large angular pores and the broadly ellipsoid basidiospores.

**Key to neotropical species of *Oxyporus***

- 1. Basidiocarps perennial, pileate and tubes stratified, .....2
- 1. Basidiocarps annual, resupinate, tubes never stratified .....3
  
- 2. Basidiocarps cinnamon ..... **O. cinnamomeus**
- 2. Basidiocarps whitish, at least on pore surface and in context ..... **O. populinus**
  
- 3. Cystidia heavily encrusted .....4
- 3. Cystidia with a small crown of crystals .....7
  
- 4. Pores dentate and deeply split, 1-3 per mm .....5
- 4. Pores entire and angular, 5-6 per mm .....6
  
- 5. Basidiocarps white to ochraceous ..... **O. pellicula**
- 5. Basidiocarps olivaceous brown to deep ochraceous ..... **O. brunneus**
  
- 6. Basidiocarps cinnamon, basidiospores cylindrical to oblong ellipsoid, 4-5 x 1.5-2 (2.)  $\mu\text{m}$  ..... **O. neotropicus**
- 6. Basidiocarps ochraceous, basidiospores globose, 5-6  $\mu\text{m}$  wide ..... **O. andinus**
  
- 7. Spores globose, pores 7-9 per mm ..... **O. fragilis**
- 7. Spores ellipsoid, pores 1-6 per mm .....8
  
- 8. Spores 5-7  $\mu\text{m}$  long, pores usually 1-3 per mm ..... **O. latemarginatus**
- 8. Spores 3-4.5  $\mu\text{m}$  long..... 9
  
- 9. Pores round 4-6 per mm ..... **O. obducens**
- 9. Pores angular, 2-3 per mm ..... **O. hexaporoides**

***Skeletocutis polyporicola*** Ryvarden & Iturr. Nova species

Ad *Skeletocutis chrysellae* Niemelä, sed sporae subglobosae 3-3.5 x 2.5-3  $\mu\text{m}$  (allantoideae 3-4 x 0.7-0.9  $\mu\text{m}$  in *S. chrysellae*).

**Holotype:** Venezuela, Estado Simon Bolivar, Parque Nacional Canaima, 11 June 2003, on dead basidiocarp of *Fomitella supina* (Sw.:Fr.) Murrill, L. Ryvarden 45480, VEN, isotype in O.

**Basidiocarps** annual, resupinate, adnate, 4x 10 cm in the type specimen, up to 2 mm thick, waxy when fresh, dense when dry, margin almost lacking, whitish, up

200 µm wide in some places, pore surface ochraceous, pores small, 6-8 per mm, some larger due to shrinking of the basidiocarp under drying, tubes concolorous with pore surface, tubes to 2 mm deep, context hardly visible, whitish.

**Hyphal system** dimitic; generative hyphae with clamps, thin-walled, hyaline, 2-4 µm in diam; skeletal hyphae thick-walled, hyaline, nonseptate, unbranched and straight to sinuous, 3-5 µm in diam, and with a fine incrustation in the dissepiments.

**Cystidia** absent.

**Basidia** clavate, 4-sterigmate, 8-12 x 3-5 µm, with a basal clamp.

**Basidiospores** subglobose to globose, 3-3.5 x 2.5-3 µm, smooth, hyaline and non-amyloid.

**Substrata.** The type was found on a dead basidiocarp of *Fomitella supina* (Sw.:Fr.) Murrill, a Neotropical polypore.

**Distribution.** Known only from the type locality.

**Remarks.** The species is characterized by the small subglobose basidiospores and the habitat on a dead polypore. Other *Skeletocutis* species growing on dead polypores are known, such as *S. chrysell*a Niemelä, which however has allantoid spores and hitherto only known from dead basidiocarps of *Phellinus* sp. *S. brevispora* Niemelä is similarly known from *Phellinus ferrugineofuscus* and has cylindrical basidiospores, thus different from the species described here.

### Key to species:

- |  |                        |
|--|------------------------|
| 1. Basidiocarps resupinate .....   | 2                      |
| 1. Basidiocarps pileate .....  | 8                      |
|  |                        |
| 2. Pore surface yellowish to pale chrome, often becoming reddish when touched in fresh condition ..... | <b>S. carneola</b>     |
| 2. Pore surface white to pale citric, no change when touched in fresh condition..                      | 3                      |
|  |                        |
| 3. Growing on old basidiocarps of polypores .....  | 4                      |
| 3. Growing on dead hard wood.....  | 5                      |
|  |                        |
| 4. Basidiospores subglobose 3-3.5 x 2.5-3 µm, known from <i>Fomitella supina</i> .....                 | <b>S. polyporicola</b> |
| 4. Basidiospores allantoid, 3-4 x 0.7-0.9 µm, known from <i>Phellinus</i> sp. ....                     | <b>S. chrysell</b> a   |
|  |                        |
| 5. Spores ellipsoid, 2.5-3 x 1.5-2 µm .....  | <b>S. niveicolor</b>   |
| 5. Spores cylindrical to lunate, about 1 µm wide.....  | 6                      |

- 6 Spores lunate (strongly bent), scattered hyphae with apical cap of crystals  
 ..... **S. lenis.**
6. Spores cylindrical to slightly allantoid, no hyphae with encrusted caps .....7
7. Margin with rhizomorphs, pore surface whitish, spores 3.5-5 µm long  
 ..... **S. alutacea**
7. Margin without rhizomorphs, pore surface pale citric yellow, spores up to 3.5  
 µm long ..... **S. citrea**
8. Context duplex, upper surface ochraceous to chestnut, pore surface pale  
 brown, ..... **S. roseolus**
8. Context homogenous, upper surface whitish to discolored brown in patches,  
 pores surface whitish ..... **S. nivea**

**Tyromyces semilimitatus** Ryvarden & Iturr. Nova species

Ad. *Tyromyces limitatus* Ryvarden, sed pori 8-12 per mm et sporae globosae, 3-4 µm in diameter (7-9 per mm et sporae ellipsoideae 3-3.2 x 2.-2.4 µm in *T. limitatus*).

**Holotype:** Venezuela, Estado Simon Bolivar, Parque Nacional Canaima, 11 June 2003, on hard wood log, L. Ryvarden 45443, VEN, isotype in O.

**Basidiocarp** annual, pileate, spatulate to flabelliform to almost semi stipitate, semicircular and up to 3 cm in diameter, and 3 mm thick at the base, soft when fresh, hard and brittle when dry and slightly curled due to some shrinking by drying, margin thin and entire, upper surface whitish when fresh, drying ochraceous with a yellowish tint, finely scurpouse to velvety (lens) azonate, smooth to slightly tuberculate – rugulose in some older specimens, pore surface whitish when fresh drying ochraceous with a yellow tint, pores round, thin-walled, invisible to the naked eye, 8-12 per mm, tubes concolorous with the pore surface up 1 mm deep and without a dense zone next to the context, context duplex, up to 3 mm thick, lower part up to 2 mm thick, cream to pale ochraceous, almost cartilaginous in older specimens and with a distinct radial structure, upper part looser in consistency and composed of upwards curled hyphae, but without any distinct zone between the two layers (which is the case in *T. limitatus*).

**Hyphal system** monomitic; generative hyphae thin walled and with widely spaced clamps, 3-5 µm wide measured in 3% KOH.

**Cystidia** or cystidioles absent.

**Basidia** clavate with 4 sterigmata, 12-15 x 4-5 µm with a basal clamp.

**Basidiospores** globose 3-4 µm in diameter, non-amyloid, smooth and hyaline.

**Substrata.** Dead hardwood log.

**Distribution.** Known only from the type locality.

**Remarks.** This new species is undoubtedly related to *T. limitatus* but is separate both macro- and micro morphologically from that species. *T. semilimitatus* has smaller pores (8-12 per mm) and lack a dense zone above the tuber and a dark zone in the duplex context as seen in *T. limitatus*. Further, the hyphae in the latter species are very wide, i.e. up to 10  $\mu\text{m}$  and have large conspicuous clamps, while they are small and rather difficult to find in *T. semilimitatus*.

**Tyromyces oxyporoides** Ryvar den & Iturr. Nova species

Ad. *Tyromyces pseudolacteus* Murrill, sed pori 2-4 per mm et sporae globosae, -4-5  $\mu\text{m}$  in diameter (4-6 per mm et sporae ellipsoideae 4-5 x 2.5-3.5  $\mu\text{m}$  in *T. pseudolacteus*).

**Holotype:** Venezuela, Estado Simon Bolivar, Parque Nacional Canaima, 11 June 2003, on hard wood log, L. Ryvar den 45579, VEN, isotype in O.

**Basidiocarp** annual, pileate, spatulate to flabelliform, semicircular and up to 5 cm in diameter, and 1 cm thick at the base, soft when fresh, hard and brittle when dry and slightly curled due to some shrinking by drying, margin thin and entire, upper surface white, glabrous, azonate, slightly tuberculate -rugulose in parts with some faint radial ridges, pore surface white to pale cork coloured, pores angular to slightly elongated, thin-walled, 2-4 per mm a few larger due to shrinking of the basidiocarp during drying, tubes concolorous with the pore surface up 1 mm deep, context white, dense, homogenous, up to 7 mm thick, at the base.

**Hyphal system** monomitic; generative hyphae thin walled and with clamps, 3-5  $\mu\text{m}$  wide measured in 3% KOH.

**Cystidia** or cystidioles absent.

**Basidia** clavate, with 4 sterigmata, 15-17 x 4-5  $\mu\text{m}$  with a basal clamp.

**Basidiospores** globose 4-5  $\mu\text{m}$  in diameter, non-amyloid, smooth and hyaline.

**Substrata.** Dead hardwood log.

**Distribution.** Known only from the type locality.

**Remarks.** This new species is characterized by its angular pores and globose spores, reminding one of those seen in *Oxyporus*, thus the specific epithet.

## Key to Neotropical species of *Tyromyces*

- 1. Basidiocarps stipitate, semistipitate to pendant .....2
- 1. Basidiocarp sessile-dimidiolate .....6
  
- 2. Pileus warm chocolate brown or cinnamon ..... 3
- 2. Pileus differently coloured ..... 4

3. Basidiospores allantoid, pileus warm chocolate brown ..... **T. polyporoides**
3. Basidiospores broadly ellipsoid to subglobose, pileus cinnamon  
..... **T. cinnamomeus**
4. Basidiocarps distinctly reddish, basidiospores shorter than 8 µm in longest  
dimension .....5
4. Basidiocarps differently coloured, basidiospores 8-10 µm long ..... **T. aquosus**
5. Basidiocarp pendant, basidiospores subglobose 4-5 x 3.5-4.5 µm .... **T. navarrii**
5. Basidiocarp flabellate to semistipitate basidiospores oblong ellipsoid sp. 6-8  
mm long ..... **T. singeri**
6. Spores allantoid to cylindrical .....7
6. Spores globose to ellipsoid .....14
7. Gloeocystidia present ..... **T. hypocitrinus**
7. Gloeocystidia absent .....8
8. Context duplex, lower part cinnamon, upper part white ..... **T. duplex**
8. Context homogenous, white to ochraceous ..... 9
9. Basidiospores 5-6 µm long, pores 3-4 per mm, bulbous cystidia present in the  
dissepiments ..... **T. nodulosus**
9. Basidiospores shorter than 5 µm, pores 4-9 per mm, cystidia absent in the  
dissepiments .....10
10. Upper surface pale reddish to dark brown, pores 4-7 per mm .....11
10. Upper surface whitish to pale yellow, pores 7-9 per mm .....13
11. Upper surface strigose by bundles of stiff dark brown hairs .. **T. neostrigosus**
11. Upper surface adpressed velutinate to glabrous .....12
12. Upper surface pale reddish brown, basidiospores 4-4.5 x 1.5-2 µm wide  
..... **T. preguttulatus**
12. Upper surface chocolate brown, basidiospores 3-4 x 1.2-1.5 µm  
..... **T. americanus**

13. Upper surface pale yellow, glabrous, basidiocarps rarely more than 3 mm thick..... **T. caesioflavus**
13. Upper surface white to cream, velvety to tomentose, basidiocarps 1-2 cm thick ..... **T. leucomallus**
14. Basidiocarps contracting strongly and become dense and resinous with drying .....15
14. Basidiocarps not contracting and becoming dense and resinous by drying...16
15. Upper surface hirsute to velvety, whitish to ochraceous grey, basidiospores 5-5.5 x 4-4.5 mm ..... **T. subgiganteus**
15. Upper surface glabrous, dirty white to pink, basidiospores 3.5-4.5 x 2.5-3.2 mm ..... **T. venustus**
15. Context duplex with or without a dark resinous zone separating upper and lower part .....16
15. Context more or less homogenous and without a dense dark line generative hyphae rarely above 5 mm wide .....17
16. A dark resinous zone separating upper and lower part, generative hyphae up to 10 mm wide in the context basidiospores ellipsoid ..... **T. limitatus**
16. No dark line between upper loose part and lower denser part, hyphae up to 5 µm wide, basidiospores globose ..... **T. semilimitatus**
17. Upper surface white to grey becoming beige to pale reddish brown, soon glabrous, strong odour of anise when fresh and becomes brown when bruised in fresh condition ..... **T. atroalbus**
17. Upper surface white to cream or ochraceous, no distinct smell of aniseed when fresh and more or less unchanged when bruised in fresh condition 18
18. Pileus glabrous, basidiospores globose 4-5 µm in diameter .....**T. oxyporoides**
18. Pileus velvety to tomentose or scrupose, basidiospores ellipsoid .....19
19. Upper surface white and silky velvety, pores angular 3-5 per mm, basidiospores 3.5-4.5 x 2.5-3.5 mm ..... **T. xuchilensis**
19. Upper surface white to cream, tomentose to scrupose, becoming glabrous in parts, pores round to angular, 4-6 per mm, basidiospores 4-5 x 2.5-3.5 mm ..... **T. pseudolacteus**



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# **FCUG culture collection**

## **Summary of results during 30 years**

### **(1980 – 2010)**

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#### **Abstract**

Fungal Cultures of University of Gothenburg has closed down. A great part of the cultures have now been transferred to CBS, Utrecht, and given new CBS-numbers. The Caucasus area has been intensively sampled and duplicates of those cultures have been transferred to the fungus collection at Iranian Research Institute of Plant Protection (IRAN), Tehran. In all, the FCUG collection contained about 10.000 strains, representing ca 3000 specimens and 500 species. Almost all species were wood-inhabiting basidiomycetes, mainly belonging to the artificial group “Corticiaceae”.

A summary is given below for all specimens where some useful kind of data exists today. This includes 1) all specimens transferred to CBS and IRAN, 2) all specimens for which crossing test data exist, 3) and all specimens for which DNA sequences have been obtained. Moreover, herbarium data are provided so all FCUG numbers should be possible to link to a voucher, in most cases deposited at GB.

#### **Historical survey**

The culture collection started to be assembled in 1980 as a follow-up to the flora-project “Corticiaceae of North Europe”. The flora-project had resulted in a number of unsolved species-delimitation problems and, by that time, crossing tests between single-spore mycelia had been shown to be a powerful tool. To build up a culture collection and to use it for taxonomical purposes became my own first postdoctoral project.

Corticoids are hardly possible to determine in the field why a broad sampling strategy was adopted, including all corticioid taxa. Inspired by a research stay at “Laboratoire de Mycologie”, Villeurbanne, adopting their working methods, and with financial support from the Research Council of Natural Sciences, this work could start.

The taxonomical research was focussed towards performing crossing tests and comparative morphology of the associated vouchers. Other aspects to cover were geographical distribution, host preferences and ecological characters of the habitat. Numerous collecting trips were accomplished, mainly to temperate areas of the northern hemisphere, and thanks to technical support to the project (Thomas Hallingbäck, Ellen Larsson, Vivian Aldén) lots of research publications could be delivered. It was a big surprise to realize that perhaps half of all studied species were composed of morphologically indistinguishable “sibling” species. Such siblings could be looked upon as very closely related, true biological species. Frequently, specific host preferences or habitat requirements could be linked to them. Geographic distribution was found to be very wide on the northern hemisphere, following the associated climate and vegetation zones. From the middle of the nineties the support from the Research Council ceased. At the same time DNA sequence data started to become a new important tool to discriminate taxa from each other and their phylogenetic relationships could be revealed. The culture collection became an important tool to evaluate sibling species and their relationships. In most investigated cases different sibling species also represented distinct evolutionary lineages. As a byproduct we also found that homothallic specimens were not distinguished genetically *per se*, but belonged to evolutionary lineages which also included heterothallic specimens. I was running the culture collection myself since the middle of nineties, as part of my appointment at the institute until my retirement. Meanwhile, I was searching for a future for the collection. Some cultures were early sent to ATCC but the major part has now been transferred to CBS, Holland. Because lots of field studies had been carried out in the Caucasus region a special part of the collections was also sent to the Iranian Research Institute of Plant Protection (IRAN), Tehran (2011). The culture collection FCUG was registered at the World Data Center on Microorganisms and a member of ECCO. In all, the collection contained at most about 10.000 strains, representing ca 3000 specimens and 500 species. Almost all species were wood-inhabiting basidiomycetes, mainly belonging to the artificial group “Corticiaceae”.

Future of the collection and importance of this list

The list presented below include specimens

- 1) which have been transferred to CBS,
- 2) which have been transferred to IRAN,
- 3) which have been used in crossing tests (results are mentioned under each species name),

4) for which sequence data exists, and includes GenBank accession numbers or just the notion “unpublished”. Such sequences can be obtained from the author on request.

Cultures stored at CBS can be ordered from there under their CBS-number. Quite a number of specimens have been used in extensive phylogenetic studies under their FCUG number or herbarium voucher number. The information in this list may be useful to trace the source of each specimen – in particular with regard to their sibling affiliation (see: crossing tests). References to published results during the years are mentioned at the end of the list.

### **Isolation and storage**

Almost all cultures originate from spore prints and both single-spore (SS) and polyspore (PS) cultures were originally sampled. However, only a limited number of SS-cultures are still available. The cultures were stored in glass tubes (25 ml) with screw caps, in darkness and at 4°C. Malt extract agar (1,25 %) was normally used and transfers was made every second year. Most cultures were transferred to cryopreservation during the nineties (cryofreezer, - 150 °C, 100 l thermos flasks with liquid nitrogen). Here, mycelia were kept in 2 ml vials with screw caps. Glycerol (10%) was added as cryoprotectant.

The original specimens from which cultures were obtained (voucher and spore-print) are kept separately in herbarium GB.

Explanations to the list

1. Under many species names follows a row where compatible specimens are grouped as a result from crossing tests:

#### *EXAMPLE*

CERACEOMYCES SERPENS (Fr.)Ginns

Compatibility group(s): C-262,536,915,1401,1452,1731-PC-816; C-1209, 1246; C-1711,1811, 906

Explanation

FCUG-numbers 262, 536, 915, 1401, 1452, 1731 constitute a compatibility group (biological species) which is partially compatible with FCUG 816. This group is incompatible with the other two groups mentioned: 1209, 1246, and 1711, 1811, 906.

2. For each specimen (FCUG-number) data are included according to the following:

#### EXAMPLE

**2731** dec. wood - Russia, Krasnodar 1996, herb.13159, CBS: 108683  
Dupl. IRAN Mating types: 10/1,3,6,7; 4/2,5,8,9 Sequences: unpublished (ITS), AF310083 (LSU)

#### Explanation

##### Row 1:

FCUG number (in bold) “**2731**”/ substrate “dec. wood”/ Country of origin “Russia”/ Province “Krasnodar”/ Year of collecting “1996”/ herbarium number in GB “13159 (a prefix NH is omitted when only a number is given)”. When material has been obtained from other official herbaria their acronyms are mentioned here/ CBS-number “CBS: 108683”

##### Row 2:

Duplicates sent to IRAN “Dupl. IRAN”/ Mating types as a result of a polarity test “10/1,3,6,7; 4/2,5,8,9 (which means that single-spore (SS-)culture number 10 produces clamps when confronted with SS-1,3,6,7, etc)/ Sequences “unpublished (ITS)” (available from the author), “AF310083 (LSU)” (GenBank accession number)

At Row 2 you may also find culture numbers for depositions at ATCC.

**Nomenclature, abbreviations.** The nomenclature for Corticiaceae follows Cortbase (Parmasto et al, v. 2.1, 2009), for Polyporaceae, Gilbertson & Ryvarden (N. American Polypores, vol. 1,2, European Polypores, vol. 1,2. - Fungiflora, Oslo). The following abbreviations are in use:

*dec. wood* = deciduous wood

*con. wood* = coniferous wood

*H* under “mating types” means homothallic or presumed homothallic, *h* means heterothallic.

*dev.* under “mating types” means that the internal mating pattern (polarity test) did not fall into a bi- or tetrapolar pattern.

Provinces in Sweden are abbreviated according to the following:

SK = Skåne	BL = Blekinge	ÖL = Öland
GO = Gotland	SM = Småland	HA = Halland
BO = Bohuslän	DS = Dalsland	VG = Västergötland
ÖG = Östergötland	SÖ = Södermanland	NÄ = Närke
VR = Värmland	VS = Västmanland	UP = Uppland
GÄ = Gästrikland	DR = Dalarna	HS = Hälsingland
HR = Härjedalen	ME = Medelpad	ÅN = Ångermanland
JÄ = Jämtland	VB = Västerbotten	NB = Norrbotten
ÅS = Åsele Lappmark	LY = Lycksele Lappmark	PI = Pite Lappmark
LU = Lule Lappmark	TO = Torne Lappmark	

Some provinces in Norway and Finland are abbreviated according to the following:

HO = Hordaland	EH = Etelä-Häme
RO = Rogaland	PH = Pohjois-Häme
SF = Sogn and Fjordane	

**Contributors.** The vast majority of all cultures have been sampled in the field by myself and in the species list such vouchers just have a simple collecting number after the text “herb.”. In other cases the initials of the contributors are given (AN = A. Nyström, BG = B. Gilsenius, EL = E. Larsson, EM = E. Martini, GG = G. Gilles, HHB = HH Burdsall, Hjm = K. Hjortstam, HK = H. Knudsen, IM = I. Melo, KHL = KH Larsson, LR = L. Ryvarden, MG = M. Ghobad Nejhad, MJL = MJ Larsen, ML = M. Lindqvist, RGT = RG Thorn, TA = T. Appelqvist, VM = V. Mukhin).

ABUNDISPORUS PUBERTATIS (Lloyd)Parmasto

**1415** Quercus - Russia, Primorsk 1985, herb. TAA 106242, CBS: 103218

Mating types: 1,2/3,4,5,6,8,9,15; 10,(7)/11,17

ADUSTOMYCES LUSITANICUS (Torrend)Jülich

**2489** Olea - Portugal, Ribatejo 1992, herb.IM 5761, CBS: 106588

Mating types: 2,3,4,9,10/5,6; 1,7,8/

ALEUROCYSTIDIELLUM DISCIFORMIS (Fr.)Boid. & Lanq.

Compatibility group(s): C-2051, 2439

**2051** Quercus - Sweden, VG 1988, herb. 10911, CBS: 105063

Mating types: 1/3,6,7; 4,5/

**2439** Quercus - Russia, Krasnodar 1991, herb.12009, CBS: 106374

Dupl. IRAN Mating types: 3/1,7 Sequences: U80641 (LSU)

**2690** *Quercus* - Russia, Krasnodar 1996, herb.13003  
Sequences: AF506402 (LSU)

ALEUROCYSTIDIELLUM SUBCRUENTATUM (Berk. & Curt.)Lemke  
**394** *Pinus mugo* - Austria, Steierm. 1981, herb. 4537, CBS: 107449  
Sequences: U80642 (LSU)  
**2615** *Pinus mugo* - Germany, Bayern 1995, herb.12874  
Mating types: 1-7/ Sequences: AF506403 (LSU)

ALEURODISCUS AURANTIUS Schroet.  
**2291** *Rubus* - France, 1990, herb. GG 1888, CBS: 105800  
Mating types: H Sequences: U80643 (LSU) This culture is a contamination!

ALEURODISCUS CERUSSATUS (Bres.)Höhn. & Litsch.  
**3197** branch - Iran, E Azerbaijan 2008, herb.16168  
Dupl. IRAN Sequences: unpublished (ITS, LSU)

ALEURODISCUS CORALLOIDES Cunn.  
**3021** hardwood - New Zealand, Southland 2004, herb.15172  
Sequences: unpublished (ITS)

ALEURODISCUS DEXTRINOIDOCERRUSATUS Manjón et al  
**2798** - , 1997, herb.EL 25/97, CBS: 126041  
Sequences: unpublished (ITS), AF506401 (LSU)

ALEURODISCUS LAPPONICUS Litsch.  
**2350** *Salix* - Denmark, Greenland 1991, herb.11910, CBS: 105986  
Mating types: 7,9,6/1,8,10,2,3,5; dev. Sequences: U80638 (LSU); AF506399 (LSU)

ALEURODISCUS LIMONISPORUS Reid  
**3007** hardwood - New Zealand, Westcoast 2004, herb.15014, CBS: 125846  
Sequences: unpublished (ITS, LSU)

ALEURODISCUS LIVIDOCAERULIUS (Karst.)Lemke  
Compatibility group(s): C-606,2001  
**606** *Acer* - Canada, Ont. 1982, herb. 6402  
**688** wood - Canada, B.C. 1982, herb. 7093, CBS: 107967, 107968  
**2001** con.wood - Canada, BC 1988, herb. 10764  
Mating types: 1,2,5/3,4 Sequences: U80639 (LSU); AF506400 (LSU)

ALEURODISCUS OAKESII (Berk. & Curt.)Höhn. & Litsch.

**781** Acer - Canada, Que. 1982, herb. 7579, CBS: 108098

AMYLOSTEREUM AREOLATUM (Fr.)Boid.

**1080** Picea - Romania, Suceava 1983, herb. 8041

Sequences: AF506405 (LSU)

**2772** Picea - Turkey, Trabzon 1996, herb.13271, CBS: 108843

Dupl. IRAN

AMYLOSTEREUM CHAILLETII (Fr.)Boid.

Compatibility group(s): C-36,159,1035,2025

**36** Abies - Sweden, ÖG 1979, herb. 11202

**159**Abies - Denmark, Lolland 1980, herb. 3404, CBS: 107153

**1035**Abies - Romania, Suceava 1983, herb. 8031

Sequences: AF506406 (LSU)

**2025**Abies - Denmark, Jutland 1988, herb. 10849, CBS: 104949

Mating types: 1,6/3,4,5,8,10; 2,7,9/ Sequences: U80645 (LSU); AF518599 (LSU); AF082846 (SSU); AF334870 (mtSSU)

**2741**Abies - Russia, Krasnodar 1996, herb.13199, CBS: 108727

Dupl. IRAN

AMYLOSTEREUM LAEVIGATUM (Fr.)Boid.

Compatibility group(s): C-30,31

**30** - Sweden, VG 1974, herb. 24644

**31**Taxus - Sweden, HA 1974, herb. 24643

**2590** Taxus - Sweden, HA 1994, herb.12863, CBS: 106906

Mating types: 1,4/2,3,5; 6,7/8 Sequences: AF506407 (LSU)

**2676** Taxus - Russia, Krasnodar 1996, herb.12967, CBS: 108532

Dupl. IRAN

ANTRODIA ALBIDA (Fr.)Donk

**1100** - Norway, N. Trönd. 1983, herb. 131

Mating types: 1,3,5/2,4 Sequences: AY336777 (SSU complete); AY333846 (LSU)

**1396** Prunus ? - Sweden, VG 1984, herb. 468, CBS: 103191

Mating types: 1/2,3,4,5,6,7 Sequences: AY333845 (LSU)

**2660** Fagus - Russia, Krasnodar 1996, herb.12917, CBS: 108509

Dupl. IRAN



ANTRODIA HETEROMORPHA (Fr.)Donk

**139**Picea - Sweden, DR 1980, herb. 3372, CBS: 107122

**1244**Picea - Norway, OP 1984, herb. 8453

Sequences: AY333840 (LSU); AY336776 (SSU complete)

ANTRODIA JUNIPERINA (Murr.)Niem. & Ryv.

**2303** - , 1990, herb.LR 28695, CBS: 105824

Mating types: 1,7/2,3,4,5,6,8,9

ANTRODIA XANTHA (Fr.)Ryv.

**100** Pinus - Sweden, DR 1980, herb. 3223, CBS: 107056

Sequences: AY333826 (LSU); AY336775 (SSU complete); EU232283 (LSU);

EU232241 (SSU); EU232209 (ITS)

ANTRODIELLA ROMELLII (Donk)Niem.

**1511** Juniperus - Romania, Covasna 1985, herb. 9289, CBS: 103529

ANTRODIELLA SEMISUPINA (Berk. & Curt.)Ryv.

**960** Betula - Scotland, Perthsh. 1983, herb. 7795, CBS: 108502

Sequences: AY333819 (LSU); EU232266 (LSU); EU232283 (LSU); EU232224 (SSU); EU232182 (ITS)

**1216** Betula - Sweden, VG 1984, herb. 235

Sequences: AY333820 (LSU); AY336744 (SSU); EU232265 (LSU); EU232223 (SSU); EU232181 (ITS)

ARMILLARIA BOREALIS Marxmüller & Korhonen

**1644** On ground - Finland, Vantaa 1986, herb. A 1, CBS: 103770

**1645** Betula - Finland, Hartola 1986, herb. A 2, CBS: 103771

**1646** On ground - Finland, Helsinki 1986, herb. A 3, CBS: 103772

**1647** Conif. wood - BRD, Munich 1986, herb. A 4, CBS: 103773

**1648** Picea - BRD, Munich 1986, herb. A 5, CBS: 103774

ARMILLARIA BULBOSA (Barla)Velen.

**1594** dec. wood - Iran, Gilan 1986, herb. 103

Dupl. IRAN

**1654** - France, Paris 1986, herb. E 1, CBS: 103780

**1655** Picea - France, Aisne 1986, herb. E 2, CBS: 103781

**1656** Tilia? - BRD, Munich 1986, herb. E 3, CBS: 103782

**1657** On ground - France, Eure 1986, herb. E 4, CBS: 103783

ARMILLARIA CEPISTIPES Velen.

- 1629** On ground - Finland, Helsinki 1986, herb. B 1, CBS: 103755  
**1630** Alnus stump - Finland, Tampere 1986, herb. B 2, CBS: 103756  
**1631** Betula stump - Finland, Kirkkon. 1986, herb. B 3, CBS: 103757  
**1632** On ground - Finland, Kirkkon. 1986, herb. B 4, CBS: 103758  
**1633** - Austria, Lammert. 1986, herb. B 5, CBS: 103759

ARMILLARIA MELLEA (Vahl)Kummer

- 1595** Cydonia - Iran, Esfahan 1986, herb. 102, CBS: 103724  
Dupl. IRAN  
**1596** Cydonia - Iran, Esfahan 1986, herb. 101, CBS: 103727  
Dupl. IRAN  
**1639** - France, Paris 1986, herb. D 1, CBS: 103765  
**1640** Carpinus - France, Lamotte 1986, herb. D 2, CBS: 103766  
**1641** Decid. wood - France, Paris 1986, herb. D 3, CBS: 103767  
**1643** Malus - BRD, Munich 1986, herb. D 5, CBS: 103769

ARMILLARIA MELLEA N. America group I

- 1606** Soil - USA, Vermont 1985, herb. 70-1, CBS: 103735

ARMILLARIA MELLEA N. America group III

- 1604** Acer - USA, Vermont 1985, herb. 21-2, CBS: 103732

ARMILLARIA MELLEA N. America group VI

- 1609** Acer - USA, MA 1986, herb. 97-1, CBS: 103740

ARMILLARIA MELLEA N. America group VII

- 1611** Fraxinus - USA, Vermont 1986, herb. 90-4, CBS: 103745

ARMILLARIA OBSCURA (Schaeffer)Romagn.

- 1634** Pinus - Finland, Luumäki 1986, herb. C 1, CBS: 103760  
**1635** Pinus - Finland, Luumäki 1986, herb. C 2, CBS: 103761  
**1636** dec. wood - Finland, Helsinki 1986, herb. C 3, CBS: 103762  
**1637** Tilia - BRD, Munich 1985, herb. C 4, CBS: 103763  
**1638** Picea - BDR, Munich 1986, herb. C 5=C 6, CBS: 103764

ARMILLARIA TABESCENS (Scop.)Emel.

- 1651** - France, Auvergne 1986, herb. T 3, CBS: 103777  
**1652** Quercus - France, Auvergne 1986, herb. T 4, CBS: 103778  
**1653** Quercus - France, Auvergne 1986, herb. T 5, CBS: 103779

ASTERODON FERRUGINOSUM Pat.

**807** Tsuga - Canada, Ont. 1982, herb. 7441, CBS: 108140

ASTEROSTROMA ANDINUM Pat.

**737** Betula - Canada, Ont. 1982, herb. 7338, CBS: 108025

ASTEROSTROMA CERVICOLOR (Berk. & Curt.) Mass.

**2985** Nikau palm - New Zealand, Hamilton 2004, herb. 15327, CBS: 126046

Sequences: unpublished (ITS)

**3074** branch, log – South Africa, Western Cape, 2005, herb. 15609, CBS: 125845

ATHELIA ARACHNOIDEA (Berk.) Jül.

**1332** dec. wood - Sweden, VG 1984, herb. 5152, CBS: 103090

Mating types: 1-3/

ATHELIA DECIPIENS (Höhn. & Litsch.) John Erikss.

Compatibility group(s): C-291,388,1494,1687,1691,1762-PC-2186,2214,2406

**291** Picea - Sweden, SM 1981, herb. 3826, CBS: 107316

Mating types: 1,2,5/4,6,7,8,9,10

**388** Castanea - Austria, Steierm. 1981, herb. 4680, CBS: 107443

Mating types: 1/2

**1494** con. wood - Romania, Suceava 1985, herb. 9146, CBS: 103472

Mating types: 2,4,7/3,5,6,8

**1687** Picea - Finland, EH 1986, herb. 9511

Mating types: (1),5,7,9/2,3,6,8,10

**1691** Picea - Finland, PH 1986, herb. 9517, CBS: 103869

Mating types: 3,8/1,2,4,5,6,7,9

**1762** Acer - Sweden, DS 1986, herb. 9621

Mating types: (1,4),8,9/2,5,7,(6,10)

Sequences: U85797 (ITS; U858002 (SSU mt)

**2186** Betula - Estonia, 1989, herb. 11244

Mating types: 1/2,6; 3,5,7,8/4,9,10

**2214** Picea - Turkey, Trabzon 1989, herb. 11350, CBS: 105510

Dupl. IRAN Mating types: 3,4,5/1,7,8,9 ATCC: 76768 (SS-1), 76778 (SS-3), 76793 (SS-7), 96371 (PS)

**2406** Alnus - Russia, Krasnodar 1991, herb. 12216, CBS: 106220

Dupl. IRAN Mating types: 2,3,4,5/7,8,9,10

**2583** Populus - Finland, Etelä-Häme 1994, herb. 12841, CBS: 106872

Mating types: 3,5/4,6,7

*ATHELIA EPIPHYLLA* Pers.

Compatibility group(s): C-53,2098; C-1297

**53** *Betula* - Sweden, Jylland 1979, herb. 3091

Mating types: 1,2,5/

**1297** *Picea* - Sweden, HA 1984, herb. 8653

Mating types: 1,3,4/6,7

**2098** dec. wood - Sweden, VG 1988, herb. 10912

Mating types: 1,2,3,4,9,10/5,6,7,8

*ATHELIA NEUHOFFII* (Bres.)Donk

**16** dec. wood - Sweden, VG 1977, herb. 7705

Mating types: 1 dik.

**192** *Fagus* - Sweden, VG 1981, herb. 3417, CBS: 107194

Sequences: U85798 (ITS); U85803 (SSU mt)

**435** - , fructification in culture from FCUG 16/5, CBS: 107505

Mating types: 1 dik.

*ATHELOPSIS GLAUCINA* (Bourd. & Galz.)Parm.

Compatibility group(s): C-1352,1527; C-1740; C-2511

**1352** dec. wood - Sweden, VG 1984, herb. 5107

Mating types: 1,2,6,7,9,10/3,4,5,8

**1527** con. wood - Romania, Suceava 1985, herb. 9133

Mating types: 1,3,6/2,5

**1740** *Pinus* - Sweden, DS 1986, herb. 9620

Mating types: 1-7/

**2511** *Nothofagus* - Argentina, T.d.Fuego 1993, herb.12581, CBS: 106632

*ATHELOPSIS LEMBOSPORA* (Bourd.)Hjortst. & Ryv.

**1963** *Salix* - Denmark, Jylland 1987, herb. 10508, CBS: 104750

Mating types: 1/2,3,4

*ATHELOPSIS SUBINCONSPICUA* (Litsch.)Jül.

Compatibility group(s): C-348,666,(179)

**348** *Picea* - Sweden, ÖG 1981, herb. 3862

Mating types: 2/4,5 ATCC: 60384 (SS-2), 60385 (SS-4)

*AURIPORIA AURULENTA* David, Tortic & Jelic

**2410** con. wood - Russia, Krasnodar 1991, herb.12041, CBS: 106238

Dupl. IRAN Mating types: 2,3,7/6,9

**BASIDIORADULUM RADULA (Fr.)Nobles**

Compatibility group(s):

C-(PC)-246,374,381,386,463,582,783,1016,1706,1805,1844, 2364,2372,2411

**246** Salix - Sweden, TO 1981, herb. 3595, CBS: 107262

Mating types: 2,4/5 Sequences: unpublished (ITS)

**374** Abies - Austria, Steierm. 1981, herb. 4151

Mating types: 1/2,4

**381** Abies - Austria, Steierm. 1981, herb. 4452

Mating types: 1,2/3,4,5 Sequences: unpublished (ITS)

**386** Prunus - Austria, Steierm. 1981, herb. 4671

Mating types: 1/2,3,4

**463** Alnus - Norway, S.Trönd. 1982, herb. 2895

**527** wood - Sweden, 1982, herb. 3845, CBS: 107686

**582** Populus - Canada, Que. 1982, herb. 6283

**783** dec. wood - Canada, Que. 1982, herb. 7589

Mating types: 1,3/2,4 ATCC: 60097 (SS-2), 60106 (SS-1) Sequences: unpublished (ITS)

**1016** Abies - Romania, Suceava 1983, herb. 8010

Sequences: unpublished (ITS)

**1706** Alnus - Finland, PH 1986, herb. 9453, CBS: 103898

Sequences: unpublished (ITS), AF347105 (LSU)

**1805** Abies - Spain, Lerida 1986, herb. 10006, CBS: 104233, 104234

Mating types: 2,3,7,8/4,5,9,10; 1,6/ Sequences: unpublished (ITS)

**1844** Abies - Spain, Lerida 1986, herb. 10050

Mating types: 1,2/ Sequences: unpublished (ITS)

**2364** Salix - Denmark, Greenland 1991, herb.11812, CBS: 106040

Mating types: 1,3/4,9; 7,8/2,5,6,10 Sequences: unpublished (ITS)

**2372** Betula - Denmark, Greenland 1991, herb.11954

Mating types: 2/4; 3/5 dev. Sequences: unpublished (ITS)

**2411** Abies - Russia, Krasnodar 1991, herb.12093, CBS: 106243

Dupl. IRAN Mating types: 1,2,8/3,4,6; 5/7,9,10 Sequences: unpublished (ITS)

**2688** Quercus - Russia, Krasnodar 1996, herb.12998

Dupl. IRAN

**2726** Corylus - Russia, Krasnodar 1996, herb.13145, CBS: 108658

Dupl. IRAN

**2749** Betula - Russia, Krasnodar 1996, herb.13218, CBS: 108759

Dupl. IRAN Sequences: unpublished (ITS)

**2876** hardwood - USA, N. Carolina 1998, herb.14274

Mating types: 6,7/2,4; (8/1) Sequences: unpublished (ITS)

**3032** hardwood - Canada, Gaspé 2004, herb. AN

Sequences: unpublished (ITS)

*BASIDIORADULUM* sp.

**3019** Nothofagus - New Zealand, Southland 2004, herb.15159

Sequences: unpublished (ITS)

*BJERKANDERA ADUSTA* (Fr.)Karst.

**2503** Nothofagus - Argentina, T.d.Fuego 1993, herb.12503, CBS: 106622

*BOIDINIA MACROSPORA* Sheng H. Wu

**2791** - Taiwan, 1997, herb.Wu 9202-21

Sequences: AY048880 (LSU)

*BOTRYOBASIDIUM BOTRYOSUM* (Bres.)John Erikss.

**1750** Pinus - Japan, Tottori 1986, herb. 863

Sequences: DQ089013 (LSU), AY662667 (SSU)

*BOTRYOBASIDIUM* sp.

**2725** Corylus - Russia, Krasnodar 1996, herb.13144

Dupl. IRAN

*BOTRYOBASIDIUM SUBCORONATUM* (Höhn. & Litsch.)Donk

**1286** Picea - Sweden, HA 1984, herb. 8656

Sequences: DQ200924 (ITS); AJ389784 (ITS); AJ389801 (SSU mt); DQ366284 (RPB2)

*BREVICELLIUM OLIVASCENS* (Bres.)Larss. & Hjortst.

**1269** lignose - Norway, OP 1984, herb. 8490, CBS: 102927

Mating types: H?

**2267** dec. wood - Turkey, Trabzon 1989, herb. 11459, CBS: 105736

Dupl. IRAN Mating types: H ATCC: 76792

**2784** dec. wood - Russia, Krasnodar 1996, herb.12987

Dupl. IRAN

*BULBILLOMYCES FARINOSUS* (Bres.)Jül.

Compatibility group(s): C-(PC)-932,1033,1034,1270,1510,1529,1726,1758, 1760, 1830, 2454, 2504; C-

2455

- 932** dec. wood - Scotland, Perthsh. 1983, herb. 7917, CBS: 108422  
 Mating types: 1-6/  
**1033** dec. wood - Romania, Iasi 1983, herb. 8004  
 Mating types: 2/3,4 Sequences: unpublished (ITS)  
**1034** dec. wood - Romania, Suceava 1983, herb. 7958  
 Mating types: 1/3,5; 2,4/  
**1270** Fagus - Sweden, SK 1984, herb. 8579  
 Mating types: 1,3,4/2,5 Sequences: unpublished (ITS)  
**1510** dec. wood - Romania, Iasi 1985, herb. 9259, CBS: 103524  
 Mating types: 1,3,5,7/2; 4/6,8 Sequences: unpublished (ITS)  
**1529** Carpinus - Romania, Iasi 1985, herb. 9113  
 Mating types: 1-3/  
**1726** dec. wood - Sweden, VG 1986, herb. 9580, CBS: 103970  
 Mating types: 1/2,3,7; 4/5,6,8,9  
**1758** dec. wood - Sweden, VG 1986, herb. 9599  
 Mating types: 1,3,6/8  
**1760** dec. wood - Sweden, VG 1986, herb. 6593  
 Mating types: 1-5/  
**1830** dec. wood - Spain, Lerida 1986, herb. 9933, CBS: 104340  
 Mating types: 5/7,8  
**2454** Alnus - Spain, Salamanca 1991, herb.12318, CBS: 106445  
 Mating types: 1,8/4,5; 2,6/3,9,10 Sequences: unpublished (ITS)  
**2455** dec. wood - Russia, Krasnodar 1991, herb.12307, CBS: 106448  
 Dupl. IRAN Mating types: 1,2/ Sequences: unpublished (ITS)  
**2504** Nothofagus - Argentina, T.d.Fuego 1993, herb.12504, CBS: 106627  
 Mating types: 1/4,6; 2,5,7 Sequences: unpublished (ITS)  
**2695** wood - Russia, Krasnodar 1996, herb.13035, CBS: 108557  
 Dupl. IRAN Sequences: unpublished (ITS)

BYSSOMERULIUS ALBOSTRAMINEUS (Torr.)Hjortst.

- 648** Thuja - Canada, B.C. 1982, herb. 6855, CBS: 107892  
**760** Picea - Canada, Ont. 1982, herb. 7450  
 Mating types: H?

BYSSOMERULIUS CORIUM

- 3136** Carpinus - Iran, Azerbadjan 2006, herb.MG 443  
 Dupl. IRAN

BYSSOMERULIUS CORIUM (Fr.)Parm.

- 2526** Salix - Argentina, Chubut 1993, herb.12737, CBS: 106678

Mating types: H ?

**2701** dec. wood - Russia, Krasnodar 1996, herb.13063

Dupl. IRAN Sequences: GQ470630 (LSU)

**3205** branch - Iran, E-Azerbaijan 2008, herb.16223

Dupl. IRAN

BYSSOMERULIUS sp.

**2083** - Zimbabwe, 1989, herb. LR 25971, CBS: 105095

CANDELABROCHAETE VERRUCULOSA Hjortst.

**686** wood - Canada, B.C. 1982, herb. 7081 ATCC: 64356

CERACEOMYCES sp

**2846** Tsuga - USA, N. Carolina 1998, herb.14120

Sequences: unpublished (ITS, LSU)

CERACEOMYCES CEREBROSA Buchanan & Stalpers

**2970** hardwood - New Zealand, Southland 2004, herb.15180, CBS: 125848

Sequences: unpublished (LSU)

CERACEOMYCES SERPENS (Fr.)Ginns

Compatibility group(s): C-262,536,915,1401,1452,1731-PC-816; C-1209, 1246; C-1711,1811, 906

**262** Salix - Sweden, TO 1981, herb. 3655, CBS: 107292

**536** Picea - Canada, Que. 1982, herb. 6039

Mating types: (1/2;) 3/4 ATCC: 60053 (SS-1), 60098 (SS-4), 60386 (SS-3)

**816** Fagus - Canada, Que. 1982, herb. 7576

**906** Fagus - Denmark, Jylland 1983, herb. 7740, CBS: 108342, 108343

Mating types: 2/3

**915** Juniperus - Norway, N. Trønd. 1983, herb. TH 38

Mating types: heterothallic

**1209** Populus - Norway, TE 1984, herb. 8422

Mating types: 1/2,3,4

**1246** dec. wood - Norway, OP 1984, herb. 8484

Mating types: 1,2/3

**1401** Picea - Austria, Nied. Öst. 1984, herb. 10020

Mating types: A2B1,A2B2

**1452** Fagus - Sweden, VG 1985, herb. 9019, CBS: 103316

Mating types: 1,3,4/5,8; 2,6/7

**1711** Pinus - Finland, PH 1986, herb. 9456



Mating types: 1,7/2,5,6; 3/4,8

**1731** *Corylus* - Sweden, VG 1986, herb. 6447

Mating types: 2/6

**1811** *Pinus* - Spain, Huesca 1986, herb. 9836, CBS: 104261

Mating types: 1/3; 2,4/

*CERACEOMYCES SUBLAEVIS* (Bres.)Jül.

**2711** dec. wood - Russia, Krasnodar 1996, herb.13101, CBS: 108600

Dupl. IRAN

*CERINOMYCES CRUSTULINUS* (Bourd. & Galz.)Martin

**2010** *Populus* - Canada, BC 1988, herb. 10690, CBS: 104893

Mating types: 1-9/

*CERIPORIA* sp.

**1853** dec. wood - Brazil, Sao Paulo 1987, herb. Hjm 16373, CBS: 104415

**2120** dec. wood - Spain, Tenerifa 1989, herb. 10939, CBS: 105200

Mating types: H

*CERRENA UNICOLOR* (Fr.)Murr.

Compatibility group(s): C-97, 2346

**97** *Betula* - Sweden, DR 1980, herb. 3222, CBS: 107048

**2346** *Betula* - Denmark, Greenland 1991, herb.11841, CBS: 105966

Mating types: 3,6,7,8/9,10; dev.

*CHAETODERMA LUNA* (Rom.)Parm.

Compatibility group(s): C-251,464,494,689,1250

**251** *Pinus* - Sweden, TO 1981, herb. 3724

**464** *Picea* - Canada, B.C. 1982, herb. 6611

Mating types: 2/3,6 ATCC: 60282 (SS-5), 60631 (SS-3), 60976 (SS-1)

**494** *Abies* - Canada, B.C. 1982, herb. 6731

Mating types: 1,5,6/2,4

**689** wood - Canada, B.C. 1982, herb. 7100

Mating types: 1/2

**1250** con. wood - Norway, OP 1984, herb. 8482

*CHONDROSTEREUM PURPUREUM* (Fr.)Pouz.

Compatibility group(s): C-(PC)-2011,777,1267, 2200, 2352, 2354

**777** wood - Canada, Que. 1982, herb. 7565

Sequences: unpublished (ITS)

**1267** *Betula* - Sweden, HA 1984, herb. 8648  
Mating types: 9/3,4,6; 2,7/10 Sequences: unpublished (ITS)  
**2011** *Alnus* - Canada, BC 1988, herb. 10818  
Mating types: 1/2; 3/ Sequences: unpublished (ITS)  
**2200** *Carpinus* - Turkey, Trabzon 1989, herb. 11460  
Dupl. IRAN Mating types: 1,2/7; 3,4/5,6 ATCC: 76775 (PS), 76777 (SS-3),  
76782 (SS-5), 76791 (SS-1), 96456 (SS-7)  
**2352** *Betula* - Denmark, Greenland 1991, herb.11836  
Mating types: 5,3,1/8,9,6,4; 7,10/ dev. Sequences: unpublished (ITS)  
**2354** *Betula* - Denmark, Greenland 1991, herb.11784  
Mating types: 2,4,3,10/7,8,1; 6/9 dev. Sequences: unpublished (ITS)  
**2714** *Alnus* - Russia, Krasnodar 1996, herb.13117  
Dupl. IRAN Sequences: unpublished (ITS)  
**2793** - USA, N. Carolina 1997, herb.EL 59/97  
Sequences: unpublished (ITS)  
**3002** podocarp - New Zealand, Westcoast 2004, herb.15120  
Sequences: unpublished (ITS)

CLAVULICIUM DELECTABILE (Jacks.)Hjortst.

**2723** *Quercus* - Russia, Krasnodar 1996, herb.13137 Dupl. IRAN

CLIMACOCYSTIS BOREALIS (Fr.)Kotl. & Pouz.

**1525** *Picea* - Romania, Brasov 1985, herb. 9301, CBS: 103584

**2241** *Picea* - Turkey, Trabzon 1989, herb. 11352, CBS: 105623

Dupl. IRAN Mating types: 1,7/3,5,6,8,9; 4/2,10

CLIMACODON SEPTENTRIONALIS (Fr.)Karst.

**1759** *Acer* - Sweden, DS 1986, herb. 9633, CBS: 104069

COLUMNOCYSTIS ABIETINA (Fr.)Pouz.

**645** *Thuja* - Canada, B.C. 1982, herb. 6842, CBS: 107884

**2017** *Abies* - Canada, BC 1988, herb. 10739, CBS: 104923

Mating types: 3/4,7,8 ?

**2210** *Picea* - Turkey, Trabzon 1989, herb. 11355, CBS: 105494

Dupl. IRAN Mating types: 1-10/

CONFERTICIUM OCHRACEUM (Fr.)Hallenb.

**373** con. wood - Austria, Steierm. 1981, herb. 4136, CBS: 107415

**1037** *Picea* - Romania, Alba 1983, herb. 8138

**1516** *Picea* - Romania, Suceava 1985, herb. 9171, CBS: 103548

Sequences: AF506383 (LSU)

**2185** *Picea* - Estonia, 1989, herb. 11250, CBS: 105384

Mating types: 1-10/

CONFERTICIUM RAVUM (Burt)Ginns & Freeman

**790** *Populus* - Canada, Que. 1982, herb. 7644, CBS: 108115

**837** *Populus* - Canada, Ont. 1982, herb. DAOM 31294, CBS: 108205

**2911** *Populus* - Estonia, 1998, herb. 13291, CBS: 125849

Sequences: AF506382 (LSU)

CONIOPHORA PUTEANA (Fr.)Karst.

**180** *Pinus* - Sweden, ÖG 1980, herb., CBS: 107189

CORONICIUM ALBOGLAUCUM (Bourd. & Galz.)Jül.

**377** dec. wood - Austria, Steierm. 1981, herb. 4208

Mating types: 1/2,3 ATCC: 64357 (PS) Sequences: AY586650 (LSU);

AY463400 (ITS partial)

CORTICIUM ROSEUM Pers.

**2558** - France, , herb.LY 9975, CBS: 106779

Sequences:, unpublished (ITS) U80647 (LSU)

**2582** *Populus* - Finland, Etelä-Häme 1994, herb.12830

Mating types: 3,5,1/4,6,2 Sequences: unpublished (ITS)

**2998** podocarp - New Zealand, Waikato 2004, herb.15214

Sequences: unpublished (ITS)

CRISTINIA HELVETICA (Pers.)Parm.

Compatibility group(s): PC-272,1288; C-550; C-630; C-800; C-811; C-1843

**272** *Fagus* - Denmark, Jylland 1981, herb. 3533

Mating types: 4/5

**550** *Fagus* - Canada, Que. 1982, herb. 6117, CBS: 107730

Mating types: 1,2,3/4

**811** wood - Canada, Ont. 1982, herb. 7516

**1288** *Fagus* - Sweden, SK 1984, herb. 8561

Mating types: 1-4/

**1843** dec. wood - France, Roussillon 1986, herb. 10198, CBS: 104388

Mating types: 1,2,6,7/3,4; 5/

CRISTINIA MUCIDA (Bourd. & Galz.)Erikss. & Ryv.

**630** *Ulmus* - Canada, Que. 1982, herb. 6528

CRISTINIA sp.

**800** wood - Canada, B.C. 1982, herb.7224

CRUSTODERMA DRYINUM (Berk. & Curt.)Parm.

**473** Abies - Canada, B.C. 1982, herb. 6702 ATCC: 76304 (PS)

CRUSTODERMA LONGICYSTIDIA (Litsch.)Nakasone

**502** wood - Norway, Hedmark 1982, herb. 13190, CBS: 107643

Mating types: h Sequences: AY219388 (LSU)

CRUSTOMYCES EXPALLENS (Bres.)Hjortst.

Compatibility group(s): C-771,896

**771** wood - Canada, Ont. 1982, herb. 7502

Mating types: 1,2/3

**896** Fagus - Denmark, Jylland 1983, herb. 7756

Mating types: 1,2,4/3,5

CRUSTOMYCES PINICANADENSIS (Schw.)Jül.

Compatibility group(s): C-548,612

**548** Acer - Canada, Que. 1982, herb. 6104

Mating types: 1/2 ATCC: 62792 (SS-4)

**612** dec. wood - Canada, Ont. 1982, herb. 6420

CRUSTOMYCES SUBABRUPTUS (Bourd. & Galz.)Jül.

Compatibility group(s): C-665,1996,2409-PC-2023

**665** Alnus - Canada, B.C. 1982, herb. 6993

Mating types: 2/3 ATCC: 62793 (PS), 62794 (SS-2)

**1996** Populus - Canada, BC 1988, herb. 10682, CBS: 104831

Mating types: 1,2,4,5,8/3,6,7,9,10

**2023** Populus - Canada, BC 1988, herb. 10654, CBS: 104939

Mating types: 1/2,5,7,(8); 6,8/3,4,9,10

**2409** Fagus - Russia, Krasnodar 1991, herb.12065, CBS: 106233

Dupl. IRAN Mating types: 1,2,7,(9),10/4,6,8;

CYLINDROBASIDIUM sp.

**3106** branch, log - Australia, Tasmania 2006, herb.15770

Sequences: unpublished (ITS)

**3132** bark - Australia, Tasmania 2006, herb.15881

Sequences: unpublished (ITS, LSU)

CYLINDROBASIDIUM EVOLVENS (Fr.)Jül.

Compatibility group(s): C-(PC)-563,706,892,925,1031,1268,1800, 2208, 2319

**563** Acer - Canada, Que. 1982, herb. 6176 ATCC: 60052 (SS-3), 60107 (SS-2)

**706** Sambucus - Canada, B.C. 1982, herb. 7185

**892** Fagus - Denmark, Jylland 1983, herb. 7753

Sequences: unpublished (ITS)

**925** Alnus - Scotland, Perthsh. 1983, herb. 7839

Mating types: 1,2,6/4,7 Sequences: unpublished (ITS)

**1031** Picea - Romania, Iasi 1983, herb. 8119

Sequences: unpublished (ITS)

**1268** Betula - Sweden, HA 1984, herb. 8659, CBS: 102926

Mating types: 4,9/7,(8) Sequences: unpublished (ITS)

**1800** dec. wood - Spain, Lerida 1986, herb. 10008

Mating types: 1,2,5,9/3,6,7,8 Sequences: unpublished (ITS)

**2208** Alnus - Turkey, Trabzon 1989, herb. 11450, CBS: 105484

Dupl. IRAN Mating types: 2,5/8,9 dev. ATCC: 76773 (SS-8), 76783 (PS), 96381 (SS-2)

Sequences: unpublished (ITS)

**2319** Alnus - Russia, Ural 1990, herb.VM

Mating types: 1-4/ Sequences: unpublished (ITS)

**2817** hardwood - USA, N. Carolina 1998, herb.14010

Sequences: unpublished (ITS)

**3118** branch, log - Australia, Tasmania 2006, herb.15839

Sequences: unpublished (ITS)

CYLINDROBASIDIUM TORRENDII (Bres.)Hjortst.

Compatibility group(s): C-2234, 2278, 2212

**2212** dec. wood - France, 1989, herb. 1686, CBS: 100851, 105502

Mating types: 1,4/2,3; dev. Sequences: unpublished (ITS)

**2234** Quercus - France, 1989, herb. 1696, CBS: 100852

Mating types: 2,6,8/5,7 dev.

**2278** Robinia - France, 1989, herb. 1831, CBS: 100853, 105769

Mating types: 6,8/2,3,4,5,7,9; dev.

**2891** hardwood - USA, N. Carolina 1998, herb.14304, CBS: 125850

Mating types: 3,6/7,8; 1/2 deviating Sequences: unpublished (ITS)

**3076** branch, log - South Africa, Western Cape 2005, herb.15615, CBS: 125844

**3188** branch - Iran, Gilan 2008, herb.16033

Dupl. IRAN, Sequences: unpublished (ITS)

**CYSTOSTEREUM MURRAII** (Berk. & Curt.)Pouz.

Compatibility group(s): C-129,588,738,1051,1826, 2427

**129** Picea - Sweden, DR 1980, herb. 3361, CBS: 107102

Mating types: 2,3/4 ATCC: 60387 (SS-2), 60388 (SS-4), 64044 (SS-5)

**588** Acer - Canada, Que. 1982, herb. 6303 Mating types: 1,2/4

**738** Betula - Canada, Ont. 1982, herb. 7344, CBS: 108026

Mating types: 1 dik.

**1051** Abies - Romania, Suceava 1983, herb. 8053

**1826** Abies - Spain, Huesca 1986, herb. 9743, CBS: 104322

Mating types: 1,3/4,5

**2427** Abies - Russia, Krasnodar 1991, herb.12101, CBS: 106319

Dupl. IRAN Mating types: 1,6/5,8; 2,9,10/3,4,7

**CYTIDIA SALICINA** (Fr.)Burt

**128** Betula - Sweden, DR 1980, herb. 3333

Sequences: U80648 (LSU)

**DACRYOBOLUS KARSTENII** (Bres.)Oberw. in Parm.

**80** Picea - Sweden, ÖG 1979, herb. 24739, CBS: 107025

Mating types: 1 dik.

**653** Thuja - Canada, B.C. 1982, herb. 6885, CBS: 107905

Mating types: 1-4/

**DACRYOBOLUS SUDANS** (Fr.)Fr.

Compatibility group(s): C-(ABC)-1340,1064,1840, 2167,742; C-1997,2006;  
C-2252,2457; C-2532

**742** con. wood - Canada, Ont. 1982, herb. 7385

**1064** Picea - Romania, Suceava 1983, herb. 8057

Mating types: 1,2/4

**1340** Picea - Sweden, GO 1984, herb. 8702, CBS: 103119

Mating types: 5/2,3,4

**1840** Pinus - France, Roussillon 1986, herb. 10145, CBS: 104378

Mating types: 1-6/

**1997** Tsuga - Canada, BC 1988, herb. 10707, CBS: 104837

Mating types: 2,6,8,10/4,5,9; 1,3,7/

**2006** Tsuga - Canada, BC 1988, herb. 10708, CBS: 104874

Mating types: 1,7,9/3,5; 4/2,6,8,10

**2167** dec. wood - Spain, Tenerife 1989, herb. 11067, CBS: 105349

Mating types: 1/3,5; 6/2,3,4,5 ! ATCC: 76795 (SS-2), 76913 (PS)

**2252** Alnus - Turkey, Trabzon 1989, herb. 11562, CBS: 105674

Dupl. IRAN Mating types: 1,3/2,6,7; 4,5/ ATCC: 76803 (SS-1), 90087 (SS-2), 90088 (PS)

**2457** dec. wood - Russia, Krasnodar 1991, herb.12223, CBS: 106457

Dupl. IRAN Mating types: 1-10/

**2532** Austrocedrus - Argentina, Chubut 1993, herb.12758, CBS: 106704

Mating types: 2,5/6; 3,7/8

DAEDALEOPSIS CONFRAGOSA (Fr.)Schroet.

Compatibility group(s): C-(PC)-569,1134,1519,2047

**569** Acer - Canada, Que. 1982, herb. 6190

**1134** dec. wood - Sweden, SK 1983, herb. 219

Mating types: 1/3,7; 2,6,8/5

**1519** Tilia - Romania, Iasi 1985, herb. 9034

**2047** dec. wood - Sweden, VG 1988, herb. 10902, CBS: 105049

Mating types: 3/5,7; 1/2; "4,6"

**2692** dec. wood - Russia, Krasnodar 1996, herb.13012

Dupl. IRAN

DENDROCORTICIUM POLYGONIOIDES (P. Karst.)M.J. Larsen & Gilb.

**756** Acer - Canada, Ont. 1982, herb. 7437

Sequences: U80646 (LSU)

DENDROTHELE NIVOSA (Berk. & M.A. Curtis) P.A. Lemke

**2799** -, 1997, herb. EL 81/97, CBS: 125843

DENTIPELLIS DISSITA (Berk. & Cooke)Maas G.

**581** Quercus - Canada, Que. 1982, herb. 6280, CBS: 538.90, 107793

Mating types: 1 dik. Sequences: AF506386 (LSU)

DENTIPELLIS FRAGILIS (Fr.)Donk

Compatibility group(s): C-1755, 2418

**1552** Fagus - Romania, Suceava 1985, herb. 9135, CBS: 536.90, 103679

**1755** Fagus - Sweden, VG 1986, herb. KHL6569, CBS: 537.90, 104050

Mating types:clamps! Sequences: AF506387 (LSU)

**2418** dec. wood - Russia, Krasnodar 1991, herb.12031, CBS: 106277

Dupl. IRAN Mating types: 4/2,5,6; 3/

**2757** dec. wood - Russia, Krasnodar 1996, herb.13243, CBS: 108791

Dupl. IRAN Mating types: clamps!

DENTIPELLIS LEPTODON (Mont.)Maas G.

**2983** hardwood – New Zealand, Hamilton, 2004, herb. 15350, CBS: 125879

DICHOSTEREUM EFFUSCATUM (Cooke & Ell.)Boid. & Lanq.

**2417** Fagus - Russia, Krasnodar 1991, herb.12049, CBS: 106272

Dupl. IRAN Mating types: 1,8/5; 7/3,4,6,9,10

DICHOSTEREUM GRANULOSUM (Fr.)Pil.

Compatibility group(s): C-471,475,696,1233

**471** con. wood - Canada, B.C. 1982, herb. 6677, CBS: 107562

Mating types: 1,2,5,6/3; 4,7/

**475** con. wood - Canada, B.C. 1982, herb. 6815

Mating types: 1,2,3,5,6/3

**696** wood - Canada, B.C. 1982, herb. 7137, CBS: 107982

Mating types: 1,2/ Sequences: AF506391 (LSU)

**1233** Picea - Sweden, UP 1984, herb. 4896

Mating types: 1,2,3,8/6,7,9,10

DICHOSTEREUM PALLESCENS (Schw.)Pil.

**673** Alnus - Canada, B.C. 1982, herb. 7046, CBS: 107945

Sequences: AF506392 (LSU)

DICHOSTEREUM RHODOSPORUM (Wakef.)Boidin & Lanq.

**3109** trunk – Australia, Tasmania, 2006, herb. 15787, CBS: 125878

DUPORTELLA sp

**3048** branch, log - South Africa, Western Cape 2005, herb.15431

Sequences: unpublished (ITS)

**3059** branch, log - South Africa, Western Cape 2005, herb.15491

Sequences: unpublished (ITS, LSU)

DUPORTELLA TRISTICULA (Berk. & Broome)Reinking

**2556** - Reunion, , herb.LY 12609, CBS: 106778

Sequences: U80649 (LSU)

ECHINODONTIUM TINCTORIUM (Ell. & Ev.)Ell. & Ev.

**500** Abies - Canada, B.C. 1982, herb. 6695

Sequences: AF506430 (LSU)

EPITHELE TYPHAE (Fr.)Pat.

**2041** Carex - Denmark, Jutland 1988, herb. 10855, CBS: 105020



Mating types: 1/5; 3/4

FIBRICIELLUM SILVAE-RYAE Erikss. & Ryv.

**609** dec. wood - Canada, Ont. 1982, herb. 6412, ATCC: 64358 (PS)

FIBRICIUM RUDE (Karst.)Jül.

Compatibility group(s): C-(PC)-1191,1720, 639

**639** Abies - Canada, B.C. 1982, herb. 6682

**1191** dec. wood - Norway, OP 1984, herb. 8217

**1720** Picea - Norway, Hedmark 1986, herb. 6475

Mating types: 2/1,4,5,6,8,9,10; 7/ ATCC: 64731 (PS), 64732 (SS-1), 64733 (SS-2)

FIBRICIUM SUBCERACEUM (Hallenb.)Bernicchia

**1593** Salix - Italy, Ferrara 1986, herb. 3778, CBS: 103717

Mating types: 1,3,6/2; 4,5/

**1675** Ulmus - Italy, Ferrara 1986, herb. 4066

Mating types: 1,5/3,6,7,8; 2/4,9,10 ATCC: 64738 (PS), 64740 (SS-2), 64741 (SS-3), 64742 (SS-4)

**1676** Ulmus - Italy, Ferrara 1986, herb. 4067, CBS: 103825

Mating types: 1/2,3; 4/ ATCC: 64734 (PS), 64735 (SS-1), 64736 (SS-2)

FIBULOMYCES MUTABILIS (Bres.)Jül.

**1492** con. wood - Romania, Suceava 1985, herb. 9160, CBS: 103462

Mating types: 1,5,6/2,3,4,7,8

FOMITOPSIS PINICOLA (Fr.)Karst.

Compatibility group(s): C-672,2034,2056

**672** Pseudotsuga - Canada, B.C. 1982, herb. 7033

**2034** Ulmus - Sweden, SK 1988, herb. 10881, CBS: 104988

Mating types: 1,4,5,8/2,3,6,7,9,10

**2056** Quercus - Sweden, VG 1989, herb. 10920, CBS: 105081

Mating types: 3,10/1,2,4,5,6,7,8,9

FOMITOPSIS ROSEA (Fr.)Karst.

Compatibility group(s): C-133, 2224, 2395

**133** Picea - Sweden, DR 1980, herb. 3377

**2224** Picea - Turkey, Trabzon 1989, herb. 11363

Dupl. IRAN Mating types: 2,5,6,8,9/1,3,4,10 ATCC: 76767 (SS-1), 76772 (SS-2), 76787 (PS)

**2395** *Abies* - Russia, Krasnodar 1991, herb.12043  
Dupl. IRAN Mating types: 1,2,3,8,9/4,7,10 Sequences: unpublished (ITS)

*GALZINIA INCRUSTANS* (Höhn. & Litsch.)Parm.

Compatibility group(s): PC-562,564; C-2012

**562** dec. wood - Canada, Que. 1982, herb. 6167

Mating types: 1,3,4,5/; 2 dik.

**564** *Acer* - Canada, Que. 1982, herb. 6180

Mating types: 2/3,4

**2012** *Abies* - Canada, BC 1988, herb. 10736, CBS: 104901

Mating types: 1,7/2,3,4,5,6,8

*GELATOPORIA PANNOCINCTA* (Rom.)Niemelä

Compatibility group(s): C-560, 2109; C-2164

**560** *Acer* - Canada, Que. 1982, herb. 6157

Mating types: 2,3/4

**1507** dec. wood - Romania, Iasi 1985, herb. 9044, CBS: 103514

Mating types: 1-8/

**2109** dec. wood - Spain, Tenerife 1989, herb. 11165

Mating types: 5,6/1,2,3,4,7,8,9,10 ATCC: 76769 (SS-1), 76786 (PS) Sequences:  
AF141612 (LSU)

**2164** dec. wood - Spain, Tenerife 1989, herb. 11101

Mating types: 1/2 ATCC: 76780 (SS-2), 76802 (SS-1)

*GINNSIA VITICOLA* Sheng H. Wu & Hallenb.

**3001** podocarp - New Zealand, Westcoast 2004, herb.15121

Sequences: GQ845003 (LSU)

*GLOEOCYSTIDIELLUM CLAVULIGERUM* (Höhn. & Litsch.)Nakas.

Compatibility group(s): C-554,656,670,676,677,1039, 2238, 2248; C-2159

**554** dec. wood - Canada, Que. 1982, herb. 6136, CBS: 107741

Mating types: 1/2 Sequences: unpublished (ITS)

**656** *Pseudotsuga* - Canada, B.C. 1982, herb. 6913, CBS: 107914

Sequences: unpublished (ITS)

**670** *Alnus* - Canada, B.C. 1982, herb. 7017

Mating types: 1,3/4

**676** *Alnus* - Canada, B.C. 1982, herb. 7058, CBS: 107949

Mating types: 1/3,4 Sequences: AF310078 (LSU)

**677** *Alnus* - Canada, B.C. 1982, herb. 7060, CBS: 107950

Mating types: 1 dik. Sequences: AF310077 (LSU)

**1039** dec. wood - Romania, Bihor 1983, herb. 8150, CBS:  
Sequences: AF310080 (LSU)  
**1091** Acer - USA, Michigan 1983, herb.HHB 10461  
Sequences: AF310088 (LSU)  
**1665** - , 1986, herb. neoh. 677/1  
Mating types: 1-10/ Sequences: unpublished (ITS)  
**1666** - , 1986, herb. neoh. 677/2  
Mating types: 4,5,6/1,2,3,7,8,9,10 Sequences: unpublished (ITS)  
**2159** dec. wood - Spain, Tenerifa 1989, herb. 11185  
Mating types: 1,10/3,8,9; 4/6 ATCC: 76771 (SS-4), 76790 ((SS-6), 76781 (PS)  
Sequences: AF310088 (LSU)  
**2238** Alnus - Turkey, Trabzon 1989, herb. 11471, CBS: 105608  
Dupl. IRAN Mating types: 1,5,6/4; 3,8/2,7,9,10 ATCC: 76764 (PS), 76774 (SS-3), 76776 (SS-2), 76797 (SS-4)  
Sequences: unpublished (ITS), AF310079 (LSU)  
**2248** Tilia - France, 1989, herb. 1687, CBS: 105655  
Mating types: 4,5/6,7; 8/10 Sequences: unpublished (ITS), AF310081 (LSU)  
**2567** Alnus - Canada, BC 1994, herb.12810, CBS: 106812  
Mating types: 1,5,6/3,10; 8/2,4,7,9 Sequences: unpublished (ITS), AF310082 (LSU)  
**2731** dec. wood - Russia, Krasnodar 1996, herb.13159, CBS: 108683  
Dupl. IRAN Mating types: 10/1,3,6,7; 4/2,5,8,9 Sequences: unpublished (ITS), AF310083 (LSU)

GLOEOCYSTIDIELLUM COMPACTUM Sheng H. Wu  
**2648** ang.wood - Taiwan, Pintung 1996, herb.Wu 880615-21 (FB)  
Sequences: AF506434 (LSU)

GLOEOCYSTIDIELLUM FLAMMEUM Boid.  
**2297** - , 1990, herb.GG900407, CBS: 105818

GLOEOCYSTIDIELLUM FORMOSANUM Sheng H. Wu  
**2651** ang.wood - Taiwan, Nantou 1996, herb.Wu 9404-16  
Sequences: AF506439 (LSU)

GLOEOCYSTIDIELLUM HEIMII Boidin f CITRI  
**2652** - , 1996, herb.CBS 321.66  
Sequences: AF506381 (LSU)

GLOEOCYSTIDIELLUM LACTESCENS (Berk.)Boid.

**1454** Fraxinus - Sweden, VG 1985, herb. 8959, CBS: 103326

**2698** dec wood - Russia, Krasnodar 1996, herb.13049

Dupl. IRAN Sequences: unpublished (ITS)

**GLOEOCYSTIDIELLUM LEUCOXANTHUM (Bres.)Donk**

**766** Populus - Canada, Ont. 1982, herb. 7467, CBS: 108074

**1915** Alnus - Denmark, Greenland 1987, herb. HK 82, CBS: 104530

Mating types: H ! Sequences: AF506420 (LSU)

**GLOEOCYSTIDIELLUM POROSUM (Berk. & Curt.)Donk**

Compatibility group(s): C-38,61,72,324,898,937,1018,1168,1183,1184,1271,1916,1933, 1939, 2246, 2412-

PC-587,1089, 1090, 690; C-2435; C-2536

**38** Ulmus - Sweden, VG 1975, herb. 24634

**61** Fagus - Denmark, Jylland 1979, herb. 3136

Mating types: 1,6,8/5,10; 3,4/7,9

**72** Fraxinus - Denmark, Jylland 1979, herb. 3178

Mating types: 3/5

**324** dec. wood - Sweden, NÄ 1981, herb. 4075, CBS: 107360

**587** Alnus - Canada, Que. 1982, herb. 6297

Mating types: 1/2 ATCC: 60389 (SS-1), 60390 (SS-2)

**690** Alnus - Canada, B.C. 1982, herb. 7102, CBS: 107971, 107972

Mating types: 2/3

**898** dec. wood - Denmark, Jylland 1983, herb. 7704

**937** dec. wood - Sweden, VG 1983, herb. 4347, CBS: 108435

**1018** Fagus - Romania, Suceava 1983, herb. 8042

**1089** Pinus - USA, Wisc. 1983, herb. FP101749

**1090** dec. wood - USA, Minn. 1983, herb. FP101010

**1168** dec. wood - Sweden, BO 1984, herb. 8183

**1183** dec. wood - Norway, SF 1984, herb. 8249

**1184** Alnus - Norway, SF 1984, herb. 8258

**1271** Quercus - Sweden, SK 1984, herb. 8607

**1916** Fagus - Denmark, Jylland 1987, herb. 10289, CBS: 104535

Mating types: 1,6/7,8; 2,4/3,5,9

**1933** Populus - Denmark, Jylland 1987, herb. 10434, CBS: 104614

Mating types: 1,3,4,8/2,5; 6,7/9,10 Sequences: AF310094 (LSU)

**1939** Salix - Denmark, Jylland 1987, herb. 10504, CBS: 104639

Mating types: 1,3,4,7,10/6; 5/2,8,9 Sequences: AF310095 (LSU)

**2246** Alnus - Turkey, Trabzon 1989, herb. 11483, CBS: 105647

Dupl. IRAN Mating types: 1,2,6,7/9; 3,4,5,8,10/ ATCC: 76794 (SS-9), 76798 (PS)  
**2412** dec. wood - Russia, Krasnodar 1991, herb.12220, CBS: 106248  
Dupl. IRAN Mating types: 2,8/1,3,9; 5,6/4,7,10 Sequences: unpublished (ITS), AF310096 (LSU)  
**2435** Fagus - Russia, Krasnodar 1991, herb.12110, CBS: 106355  
Dupl. IRAN Mating types: 1,10/7; 2,3,4,6,9/5,8 Sequences: AF310093 (LSU)  
**2536** Austrocedrus - Argentina, Chubut 1993, herb.12766, CBS: 106724  
Mating types: 1,2,5/3,4,6,7  
**2661** Alnus - Russia, Krasnodar 1996, herb.12920, CBS: 108510  
Dupl. IRAN Sequences: AF310099 (LSU)  
**2734** Pterocarya - Russia, Krasnodar 1996, herb.13169, CBS: 108694  
Dupl. IRAN Mating types: 2,3/9; 1,7/6,8 Sequences: AF310101 (LSU); AF334878 (mtSSU)  
**2768** Corylus - Turkey, Trabzon 1996, herb.13261, CBS: 108828  
Dupl. IRAN Mating types: 7/5,10 Sequences: AF310100 (LSU)

*GLOEOCYSTIDIELLUM* sp.

**2679** Fraxinus - Russia, Krasnodar 1996, herb.12972  
Sequences: AF310090 (LSU), unpublished (ITS)  
**2975** kahikatea - New Zealand, Westcoast 2004, herb.15077  
Sequences: unpublished (ITS, LSU)  
**2766** Corylus - Turkey, Trabzon 1996, herb.13258, CBS: 108822  
Dupl. IRAN Mating types: 1,6,8/5,7; 3/2,4 Sequences: AF310089 (LSU)

*GLOEODONTIA COLUMBIENSIS* Burt ex Burds. & Lomb.

**2133** dec. wood - Spain, Tenerife 1989, herb. 11118, CBS: 105248  
Mating types: H, ATCC: 76796 (PS) Sequences: AF506444 (LSU)  
**2263** dec. wood - Turkey, Trabzon 1989, herb. 11269, CBS: 105721  
Dupl. IRAN Mating types: 4,5/6,7; 2,3/ ATCC: 76788 (SS-6), 76789 (SS-4), 76799 (PS)  
Sequences: unpublished (ITS)

*GLOEOMYCES GRAMINICOLA* Sheng H. Wu

**2650** Poaceae - Taiwan, Nantou 1996, herb.Wu 9210-12, CBS:  
Sequences: AF506448 (LSU)

*GLOOPENIOPHORELLA LAXA* Sheng H. Wu

**2645** Cryptomeria - Taiwan, Nantou 1996, herb.Wu 911010-8 (FB)  
Sequences: AF506440 (LSU)

GLOEOPHYLLUM STRIATUM (Fr.)Murr.

**2310** -, 1990, herb.LR 28221, CBS: 105848

GLOEOPORUS DICHROUS (Fr.)Bres.

**2448** Arbutus - Spain, Salamanca 1991, herb.

Mating types: 1,7,8/2,4,9; 3/5,6 dev.

**3003** hardwood - New Zealand, Westcoast 2004, herb.15095

Sequences: unpublished (ITS, LSU)

GLOIODON STRIGOSUS (Fr.)P. Karst.

**2586** Picea - Finland, Etelä-Häme 1994, herb.12832, CBS: 106886

Mating types: 1,9/5,6,8; 2,4,10/3,7

GLOIOTHELE LAMELLOSA

**2656** -, 1996, herb.CBS 404.83

Sequences: AF506487 (LSU)

GRANULOBASIDIUM VELLEREUM (Ellis & Cragin) Jülich

**825** Ulmus - Sweden, VG 1982, herb. 3977, CBS: 108190

**2488** Ulmus - Sweden, Göteborg 1992, herb.BG, CBS: 106585

Mating types: 6,1,4/3,5; 2/

**2559** dec. wood - Spain, Lerida 1986, herb. 10095, CBS: 106780

Mating types: 1-3/

GYMNOPIIUS JUNONIUS (Fr.)Orton

**1311** Betula - Sweden, BO 1984, herb. 84074, CBS: 103037

HERICIUM ABIETIS (Weir. ex Hubert)Harr.

**663** Tsuga - Canada, B.C. 1982, herb. 6990, CBS: 107930

Sequences: AF506456 (LSU)

**2788** -, 1997, VC-63-12 CBS: 125851

HERICIUM ALPESTRE Pers.

Compatibility group(s): C-392,407; C-1063,2408; C-1555

**392** Abies - Austria, Steierm. 1981, herb. 4606, CBS: 107449

Mating types: (1/4); 5 dik. Sequences: unpublished (ITS)

**407** Abies - Austria, Steierm. 1981, herb. 4596, CBS: 539.90, 107459

Sequences: AY534580 (ITS) ATCC: 52783 (PS), 52784 (SS-1)

**1063** Abies - Romania, Suceava 1983, herb. 8056

**1555** Abies - Romania, Suceava 1985, herb. 9161, CBS: 103681

Sequences: unpublished (ITS)

**2408** Abies - Russia, Krasnodar 1991, herb.12059, CBS: 106228

Dupl. IRAN Mating types: 3/5,10,1; 8/9,4 Sequences: unpublished (ITS)

**2754** Abies - Russia, Krasnodar 1996, herb.13240

Dupl. IRAN Mating types: 7/3,5 Sequences: unpublished (ITS), AF506457 (LSU)

HERICIUM CORALLOIDES (Fr.)Pers.

Compatibility group(s): C-145,168,331,364,424,425,426,1229,1716, 2451

**145** - Denmark, Mön 1980, herb. 3384, CBS: 107137

ATCC: 52778 (PS), 52779 (SS-1), 52780 (SS-2), 52781 (SS-3), 52782 (SS-4)

**168** Fagus - Sweden, VG 1980, herb.

Mating types: 1,2,3 dik.

**331** dec. wood - Sweden, NÄ 1981, herb. 4086, CBS: 107367

Mating types: 1 dik.

**364** - France, 1981, herb. 5044

**424** Abies - Yugoslavia, Plitvic` 1981, herb. LY9916, CBS: 107488

Mating types: 1,7/2,3,5,9,10; 8/4,6 ATCC: 52785 (PS), 52786 (SS-1), 52787 (SS-2), 52788 (SS-3), 52789 (SS-4), 52790 (SS-5), 52791 (SS-6), 52792 (SS-7), 52793 (SS-8), 52794 (SS-9), 52795 (SS-10)

Sequences: unpublished (ITS)

**425** - France, Fontainebleau 1981, herb. LY9910, CBS: 107491

Mating types: 5,6 dik. ATCC: 52796 (PS)

**426** - France, Fontainebleau 1981, herb. LY9923, CBS: 107494

Mating types: 6 dik.

**753** Acer - Canada, Ont. 1982, herb. 7433, CBS: 108058

Sequences: unpublished (ITS)

**1229** con. wood - Sweden, ÖG 1984, herb. 282

Sequences: unpublished (ITS), AF506459 (LSU)

**1716** Betula - Finland, PH 1986, herb. 9537, CBS: 103935

**2451** Fagus - Russia, Krasnodar 1991, herb.12046

Dupl. IRAN Mating types: 3/2,4,5,6,7; 3 dik.!

**3209** Maytenus - Argentina, Neuquen 2009, herb.MR12261

Sequences: unpublished (ITS)

HERICIUM ERINACEUM (Fr.)Pers.

**2468** Fagus - Russia, Krasnodar 1991, herb.12163, CBS: 106506

Dupl. IRAN Mating types: H? Sequences: AF506460 (LSU)

**2251** dec. wood - Turkey, Trabzon 1989, herb. 11537, CBS: 105670

Dupl. IRAN Mating types: 1,6/2,7; 3/8,9 ATCC: 76907 (SS-1)

HETEROBASIDION ANNOSUM Bref.

**2450** Abies - Russia, Krasnodar 1991, herb.12067, CBS: 106426  
Dupl. IRAN Mating types: 1,2/ Sequences: AF347096 (LSU)

HETEROPORUS BIENNIS (Fr.)Laz.

**1551** wood - Romania, Iasi 1985, herb. 9085, CBS: 103678

HIRNEOLA AURICULA-JUDAE (Bull. ex St.Am.)Berk.

**641** Abies - Canada, B.C. 1982, herb. 6696, CBS: 107882

HYDNOCHAETE OLIVACEA (Schwein.)Banker

**2792** -, USA, N. Carolina, herb. EL 90/97, CBS: 126040

HYMENOCHAETE CRUENTA (Pers.)Donk

**3124** branch, log – Australia, Tasmania 2006, herb. 15888, CBS: 126030

HYPHODERMA sp

**366** Picea - Austria, Steiermark 1981, herb.4113

Mating types: 2,3/

**3046** branch, log - South Africa, Western Cape 2005, herb.15427

Sequences: unpublished (ITS, LSU)

**3047** branch, log - South Africa, Western Cape 2005, herb.15429

Sequences: unpublished (ITS, LSU)

HYPHODERMA ARGILLACEUM (Bres.)Donk

Compatibility group(s): C-989, 1728, 2195; C-2150; C-2470

**989** Picea - Norway, Akershus 1983, herb. 4658

**1078** Picea - Romania, Alba 1983, herb. 8136

**1728** Picea - Finland, EH 1986, herb. 9435

**2150** Pinus - Spain, Tenerife 1989, herb. 10991

Mating types: 1-5/

**2195** Picea - Estonia, 1989, herb. 11246

Mating types: 1,4/2; 3/5

**2470** Abies - Russia, Krasnodar 1991, herb.12159

Mating types: 2,9,5/1,3,4,10

**2721** Fagus - Russia, Krasnodar 1996, herb.13127

Dupl. IRAN

**2756** Abies - Russia, Krasnodar 1996, herb.13242

Dupl. IRAN Mating types: 1,3/6; 4/9



**3024** hardwood - New Zealand, Hamilton 2004, herb.15337

Sequences: unpublished (ITS)

**3079** branch, log - South Africa, Western Cape 2005, herb.15643

Sequences: unpublished (ITS)

**HYPHODERMA ASSIMILE** (Jacks.& Deard.)Donk

**3005** kahikatea - New Zealand, Westcoast 2004, herb.15080, CBS: 125852

Sequences: unpublished (ITS)

**HYPHODERMA CREMEOALBUM** (Höhn. & Litsch.)Jül.

Compatibility group(s): C-(PC)-456, 885, 1549, 1773, 2270

**456** Picea - Sweden, LY 1982, herb. 2677

Mating types: 10/12,13; 6/

**885** con. wood - Sweden, LY 1983, herb. 4110, CBS: 108305

Mating types: 1,13,7,12/2,8,3,5,10

**1549** Fagus - Romania, Neamt 1985, herb. 9216

Mating types: 1-3/

**1773** Picea - Norway, Hedmark 1986, herb. 6508

Mating types: 1-4/

**2270** Picea - Turkey, Trabzon 1989, herb. 11538, CBS: 105749

Dupl. IRAN Mating types: 1,2,4,6/3,5,7 ATCC: 76779 (SS-3), 76800 (PS)

**HYPHODERMA DEFINITUM** (Jacks.)Donk

Compatibility group(s): C-975, 2426-PC-1820, 1764

**935** Pinus - Scotland, Perthsh. 1983, herb. 7866, CBS: 108430

**975** dec. wood - Norway, Hedm. 1983, herb. 4612

**1729** Picea - Finland, EH 1986, herb. 9502, CBS: 103982

**1764** Picea - Sweden, DS 1986, herb. 9623

**1819** Pinus - Spain, Huesca 1986, herb. 9831, CBS: 104295

Mating types: 1,3,6,7,9/2,4,5,8

**1820** Pinus - Spain, Huesca 1986, herb. 9827, CBS: 104298

Mating types: 1,2,3,4,6,8/5,7,9,10

**1835** Pinus - France, Roussillon 1986, herb. 10152

Mating types: 1,2,4,8,9,10/3,5,6,7

**2426** Abies - Russia, Krasnodar 1991, herb.12266

Dupl. IRAN Mating types: 5,6,7,8,1/4,9,10,2,3 Sequences: AJ534293 (ITS), DQ677493 (LSU)

**HYPHODERMA INCRUSTANS** K-H Larsson

Compatibility group(s): C-633,685

**633** dec. wood - Canada, Que. 1982, herb. 6549, CBS:  
**685** Alnus - Canada, B.C. 1982, herb. 7042 Mating types: 2/1,3,4

**HYPHODERMA LITSCHAUERI** (Burt)Erikss. & Strid  
**786** dec. wood - Canada, Que. 1982, herb. 7603, CBS: 108112  
**2895** hardwood - USA, N. Carolina 1998, herb.14310, CBS: 125853  
Mating types: 6,7/8,2,4 Sequences: unpublished (ITS)

**HYPHODERMA MEDIOBURIENSE** (Burt)Donk  
**64** Quercus - Denmark, Jylland 1979, herb. 3148, CBS: 107000  
Mating types: 4 dik.  
**243** Salix - Sweden, TO 1981, herb. 3737, CBS: 107259  
Mating types: 1 dik.  
**486** Ulmus - Sweden, VG 1982, herb. 3063  
**1014** Fagus - Romania, Iasi 1983, herb. 7984  
Mating types: H  
**2106** dec. wood - Spain, Tenerifa 1989, herb. 11175, CBS: 105143  
Mating types: H, ATCC: 76841 (PS)  
**2113** dec. wood - Spain, Tenerifa 1989, herb. 10950, CBS: 105173  
Mating types: H, ATCC: 76847 (PS)  
**2132** dec. wood - Spain, Tenerifa 1989, herb. 11162  
Mating types: H

**HYPHODERMA MEDIOBURIENSE** s.l.  
**3017** hardwood - New Zealand, Westcoast 2004, herb.15055, CBS:125854  
Sequences: unpublished (ITS, LSU)

**HYPHODERMA MUTATUM** (Peck)Donk  
Compatibility group(s): C-(PC)-529,592, 985,2403  
**529** dec. wood - BRD, Hessen 1982, herb. 3844, CBS: 107690  
**592** Tilia - Canada, Que. 1982, herb. 6329  
Mating types: 1/2,3,4 ATCC: 60038 (SS-1), 60039 (SS-2)  
**958** dec. wood - Norway, Hedm. 1983, herb. 4520, CBS: 108494  
**985** dec. wood - BRD, Hessen 1983, herb. 4747  
**1497** dec. wood - Romania, Iasi 1985, herb. 9037, CBS: 103480  
Mating types: H  
**2403** Populus - Russia, Krasnodar 1991, herb.12026, CBS: 106205  
Dupl. IRAN Mating types: 1,2,4,7/3,5,6,8  
**2915** Sorbus - Sweden, SK 1999, herb.C.G.Bengtsson  
Sequences: unpublished (ITS)

*HYPHODERMA NEMORALE* K.H. Larss.

**3224** -, 1990, herb.EM 2793, CBS: 105907

*HYPHODERMA NUDICEPHALUM* Gilb. & M. Blackw.

**2926** Angiosperm - Taiwan, Nantou , herb.WU 9307-29, Sequences: AJ534269 (ITS)

**2934** Angiosperm - China, Yunnan , herb.WU 9508-225, Sequences: AJ534268 (ITS)

**2942** Angiosperm - Japan, Tokyo , herb.TMIC33708, Sequences: AJ534264 (ITS)

**2943** Castanopsis - Japan, Tottori , herb.TMIC30479, Sequences: AJ534267 (ITS)

**2945** Quercus - Japan, Tottori , herb.TMIC50049, CBS: 125855  
Sequences: AJ534270 (ITS)

**2946** Quercus - Japan, Tottori , herb.TMIC50048, Sequences: AJ534265 (ITS)

**2949** Castanopsis - Japan, Tottori , herb.J 011102-1, Sequences: AJ534266 (ITS)

*HYPHODERMA OBTUSIFORME* Erikss. & Strid

**1781** wood - Norway, Hedmark 1986, herb. 6486, CBS: 104128

Mating types: H

*HYPHODERMA OCCIDENTALE* (D.P. Rogers)Boidin & Gilles

**237** Fagus - Denmark, Jylland 1981, herb. 3531, CBS: 107254

**2032** Fagus - Denmark, Jutland 1988, herb. 10845, CBS: 104980

Mating types: H

**2805** -, 1998, KHL8469, CBS: 125859

*HYPHODERMA ORPHANELLUM* (Bourd. & Galz.)Donk

Compatibility group(s): C-522,2295,2465

**522** Betula - Sweden, VG 1982, herb. 3169

**2295** - France, 1990, herb.GG 1877, CBS: 105814

Mating types: 1,3,6,7,10/2,5,8,9,4

**2465** Alnus - Russia, Krasnodar 1991, herb.12208

Dupl. IRAN Mating types: 1/2; 5/4,6 dev.

*HYPHODERMA PILOSUM* (Burt)Gilb.& Budington

**2848** dec. wood - USA, N. Carolina 1998, herb.14123, CBS: 125856

Sequences: unpublished (ITS)

**HYPHODERMA ROSEOCREMEUM (Bres.)Donk**

Compatibility group(s): C-310, 941,1796,1423,1917,1934,1938,1945,1948,  
2107, 2272 941-PC-470, 472,  
477, 702; C-2522,2524,2534

**44** Fagus - Sweden, SK 1979, herb. 3037, CBS: 106969

**310** dec. wood - Sweden, VS 1981, herb. 4005

Mating types: 1/2 ATCC: 60013 (SS-1)

**470** Abies - Canada, B.C. 1982, herb. 6739

Mating types: 1,4,6,7,8/2,3,5

**472** Abies - Canada, B.C. 1982, herb. 6701, CBS: 107563

**477** Abies - Canada, B.C. 1982, herb. 6749

Mating types: 1,2,3,6/4,5

**702** Abies - Canada, B.C. 1982, herb. 7159

Mating types: 1,3/2,4

**941** Betula - Scotland, Perthsh. 1983, herb. 7796, CBS: 108446

ATCC: 60285 (SS-1), 60286 (SS-2)

**1423** dec. wood - Norway, Östfold 1985, herb. 8910, CBS: 103230

Mating types: 2,6,9/5,7,8

**1493** Fagus - Romania, Suceava 1985, herb. 9141, CBS: 103467

**1796** Fagus - Spain, Huesca 1986, herb. 9817, CBS: 104193

Mating types: 1,3,5,7,9,10/2,4,6,8

**1832** dec. wood - France, Roussillon 1986, herb. 10208, CBS: 104345

Mating types: 1,2,3/4; 5/

**1917** Fagus - Denmark, Jylland 1987, herb. 10337, CBS: 104540

**1934** Fagus - Denmark, Jylland 1987, herb. 10417, CBS: 104619

Mating types: 3,6,(1,10)/2,4,7,8,(5,9)

**1938** dec. wood - Denmark, Jylland 1987, herb. 10466, CBS: 104634

Mating types: 1,3,7,10/2,4,5,6,8,9

**1945** Corylus - Denmark, Jylland 1987, herb. 10545

Mating types: 1,2,4,6,7/3,5,8,9,10 Sequences: AY586672 (LSU)

**1948** Fagus - Denmark, Jylland 1987, herb. 10255

Mating types: 1,8/2,3,5,7,9,10

**2107** dec. wood - Spain, Gomera 1989, herb. 11134

Mating types: 1,2,3,5,8/4,6,7,9 ATCC: 76823 (PS), 76838 (SS-1), 76845 (SS-4)

**2272** dec. wood - Turkey, Trabzon 1989, herb. 11387, CBS: 105753

Dupl. IRAN Mating types: 2,8,10,7/1,3,5,6,9 ATCC: 76830 (SS-2), 76832 (SS-1), 76833 (PS)

**2477** dec. wood - Switzerland, Ticino 1992, herb. EM 3162, CBS: 106548

Mating types: 1,2,4,7,9,10/3,5,6,8

**2585** Quercus - Sweden, BO 1994, herb.KHL 8377, CBS: 106881

Mating types: 1,3,6,7/2,4,5,8,9,10

**2689** dec. wood - Russia, Krasnodar 1996, herb.13002

Dupl. IRAN

**2775** dec. wood - Turkey, Trabzon 1996, herb.13276

Dupl. IRAN Mating types: SS-10 dik.

**3100** trunk, Australia, Tasmania, 2006, herb. 15750, CBS: 125858

*HYPHODERMA ROSEOCREMEUM* (Bres.)Donk s.l.

**2522** Nothofagus - Argentina, Chubut 1993, herb.12692, CBS: 106662

Mating types: 1,2,5/3,4,6

**2524** Nothofagus - Argentina, Chubut 1993, herb.12711, CBS: 106668

**2534** broad-l. tree - Argentina, Chubut 1993, herb.12760, CBS: 106714

Mating types: 3,4/1,2,5

*HYPHODERMA SETIGERUM* (Fr.)Donk

Compatibility group(s): C-476,2003; C-2360,2016; 2003-NC-1426,1688,2016;  
2360-NC-2003,1688;

C-2530

**476** Abies - Canada, B.C. 1982, herb. 6748

Mating types: 1,2,4/5 Sequences: AJ534259 (ITS)

**691** Alnus - Canada, B.C. 1982, herb. 7110, CBS: 107974

Sequences: AJ534258 (ITS)

**922** Betula - Scotland, Perthsh. 1983, herb. 7799, CBS: 108388

Sequences: AJ534262 (ITS)

**997** dec. wood - BRD, Hessen 1983, herb. 4742

Sequences: AJ534250 (ITS)

**1200** Alnus - Norway, OP 1984, herb. 8211

Sequences: AJ534273 (ITS)

**1202** Pinus - Norway, SF 1984, herb. 8309

Sequences: AJ534248 (ITS)

**1264** Carpinus - Sweden, SK 1984, herb. 8544

Sequences: AJ534292 (ITS); FN907905 (LSU)

**1426** Quercus - Norway, Östfold 1985, herb. 8917

Mating types: 1,2,3,5/4 Sequences: AJ534263 (ITS)

**1521** dec. wood - Romania, Covasna 1985, herb. 9277

Sequences: AJ534251 (ITS)

**1688** Alnus - Finland, PH 1986, herb. 9468, CBS: 103857

Sequences: AJ534272 (ITS)

**2003** Alnus - Canada, BC 1988, herb. 10819, CBS: 104860

Mating types: 1,2,3,6,8,9/4,5,7 Sequences: AJ534257 (ITS)

**2016** *Alnus* - Canada, BC 1988, herb. 10662  
 Mating types: 1,2,3,4,7,8,9/5,6 Sequences: AJ534290 (ITS)  
**2351** *Betula* - Denmark, Greenland 1991, herb.11888, CBS: 105989  
 Mating types: H, Sequences: AJ534256 (ITS)  
**2355** *Betula* - Denmark, Greenland 1991, herb.11801, CBS: 106007  
 Mating types: H, Sequences: AJ534254 (ITS)  
**2356** *Larix* - Denmark, Greenland 1991, herb.11844, CBS: 106010  
 Mating types: H, Sequences: AJ534255 (ITS)  
**2357** *Salix* - Denmark, Greenland 1991, herb.11813  
 Mating types: H, Sequences: AJ534252 (ITS)  
**2360** *Betula* - Denmark, Greenland 1991, herb.11951  
 Mating types: 1,2,3,4,6,9,10/5,7,8 Sequences: AJ534282 (ITS)  
**2361** *Betula* - Denmark, Greenland 1991, herb.11865, CBS: 106029  
 Mating types: H, Sequences: AJ534253 (ITS)  
**2366** polypore - Denmark, Greenland 1991, herb.11838, CBS: 106048  
 Mating types: H  
**2398** *Abies* - Russia, Krasnodar 1991, herb.12108, CBS: 106182  
 Dupl. IRAN Mating types: H, Sequences: AJ534249 (ITS)  
**2499** *Nothofagus* - Argentina, T.d.Fuego 1993, herb.12487  
 Sequences: GQ409515 (ITS)  
**2530** broad-l. tree - Argentina, Chubut 1993, herb.12754  
 Mating types: 2,3,4,5/6 Sequences: GQ409516 (ITS)  
**2707** dec. wood - Russia, Krasnodar 1996, herb.13089, CBS: 108588  
 Dupl. IRAN, Sequences: AJ534287 (ITS)  
**2872** hardwood - USA, N. Carolina 1998, herb.14263  
 Sequences: AJ534260 (ITS)  
**2925** Angiosperm - Taiwan, Taichung , herb.WU 9506-5  
 Sequences: AJ534289 (ITS)  
**2932** Angiosperm - Taiwan, Taichung , herb.WU 9506-6  
 Sequences: AJ534286 (ITS)  
**2936** Angiosperm - Japan, Nagano , herb.TMIC33546  
 Sequences: AJ534288 (ITS)  
**2937** *Fagus* - Japan, Tottori , herb.TMIC31889  
 Sequences: AJ534279 (ITS)  
**2938** *Quercus* - Japan, Tottori , herb.TMIC31208  
 Sequences: AJ534285 (ITS)  
**2939** Angiosperm - Japan, Ishikawa , herb.TMIC31205  
 Sequences: AJ534280 (ITS)  
**2940** *Quercus* - Japan, Okayama , herb.TMIC31206  
 Sequences: AJ534281 (ITS)

- 2941** - Japan, , herb.TMIC33708  
Sequences: AJ534264 (ITS)
- 2944** Angiosperm - Japan, Tottori , herb.TMIC30476  
Sequences: AJ534283 (ITS)
- 2947** Pinus - Japan, Tottori , herb.J 011021-2  
Sequences: AJ534289 (ITS)
- 2948** Angiosperm - Japan, Tottori , herb.J 011024-1  
Sequences: AJ534284 (ITS)
- 3030** hardwood - Canada, Gaspé 2004, herb.AN  
Sequences: GQ421323 (ITS)
- 3037** branch, log - South Africa, Western Cape 2005, herb.15396  
Sequences: GQ409518 (ITS)
- 3038** branch, log - South Africa, Western Cape 2005, herb.15398  
Sequences: GQ409518 (ITS)
- 3140** Liriodendron - USA, N Carolina 1969, herb. HHB 2578sp  
Sequences: GQ409523 (ITS)
- 3141** Pinus - USA, Minnesota 1982, herb. HHB 11654sp  
Sequences: GQ409524 (ITS)
- 3142** Alnus - USA, Alaska 1990, herb. HHB 13091sp  
Sequences: GQ409525 (ITS)
- 3143** hardwood - USA, Illinois 1984, herb. FP 101976sp  
Sequences: GQ409519 (ITS)
- 3144** Cornus - USA, Florida 1977, herb. HHB 9443sp  
Sequences: GQ409520 (ITS)
- 3145** Populus - USA, Mississippi 1955, herb. FP 106537sp  
Sequences: GQ409526 (ITS)
- 3151** branch - Puerto Rico, Rio Grande 1996, herb. FP 102769sp  
Sequences: GQ409527 (ITS)
- 3152** - Jamaica, Blue Mts 1999, herb. FP 150263  
Sequences: GQ409528 (ITS)
- 3153** - Jamaica, Blue Mts 1999, herb. FP 150377  
Sequences: GQ409529 (ITS)
- 3154** Betula - USA, Wisconsin 1985, herb. HHB 11874  
Sequences: GQ409530 (ITS)
- 3155** Alnus - USA, Michigan 1976, herb. HHB 9100sp  
Sequences: GQ409531 (ITS)
- 3201** branch - Iran, E Azerbaijan 2008, herb.16201  
Dupl. IRAN Sequences: unpublished (ITS)

HYPHODERMA SUBCLAVIGERUM Larss. & Hjortst.

**1440** - , 1985, herb. 5851 Mating types: H

**HYPHODERMA SUBSETIGERUM** Sheng H. Wu

**2927** Angiosperm - China, Yunnan , herb. Wu 9508-155

Sequences: AJ534275 (ITS)

**2928** Coniferous - China, Yunnan , herb. Wu 9507-3

Sequences: AJ534274 (ITS)

**2930** Angiosperm - Taiwan, Pingtung , herb. Wu 9202-15

Sequences: AJ534278 (ITS)

**2931** Angiosperm - Taiwan, Nantou , herb. Wu 9304-18, CBS: 125880

Sequences: AJ534277 (ITS)

**2935** Angiosperm - Japan, Nagano , herb. TMIC33552

Sequences: AJ534276 (ITS)

**HYPHODERMA SUBTESTACEUM** (Litsch.)Donk

**2860** Quercus - USA, N. Carolina 1998, herb.14195

Sequences: AJ534294 (ITS)

**3146** Ulmus - USA, New York 1965, herb. MJL 1536

Sequences: GQ409522 (ITS)

**3147** Pinus - USA, Minnesota 1982, herb. HHB 11620sp, CBS: 125877

Sequences: GQ409521 (ITS)

**HYPHODERMA TRANSIENS** (Bres.)Parm.

Compatibility group(s): C-(PC)-1496,1990, 2229, 2419

**1496** dec. wood - Romania, Iasi 1985, herb. 9106, CBS: 103476

Mating types: 5/3,4

**1990** Quercus - Switzerland, Ticino 1988, herb. EM 1678, CBS: 104801

Mating types: 2,3,5,7/1,4,6,8,9,10

**2229** dec. wood - Turkey, Trabzon 1989, herb. 11494, CBS: 105570, 105571

Dupl. IRAN Mating types: 1,3,5/4,6,7 ATCC: 76826 (SS-4), 76835 (SS-6),  
76839 (PS), 76853 (SS-1), 76855 (SS-3)

**2419** dec. wood - Russia, Krasnodar 1991, herb.12304

Dupl. IRAN Mating types: 4,7,9/1,2,3,5,6,8,10

**2474** Tilia - Switzerland, Ticino 1992, herb. EM 3164, CBS: 106533

Mating types: 1,3,6,8/2,4,5,7,9,10

**2475** Tilia - Switzerland, Ticino 1992, herb. EM 3163, CBS: 106538

Mating types: 1,3,5,6,9/2,4,7,8,10

**2476** Tilia - Switzerland, Ticino 1992, herb. EM 3168, CBS: 106543

Mating types: 1,5,8,9/2,3,4,6,7

**2561** - Sweden, BO 1994, herb.B.N., CBS: 106789



Mating types: 2,9/7,8,10

**2682** dec. wood - Russia, Krasnodar 1996, herb.12981, CBS: 108538

Dupl. IRAN

**2774** Quercus - Turkey, Trabzon 1996, herb.13274

Dupl. IRAN

*HYPHODERMELLA CORRUGATA* (Fr.)Erikss. & Ryv.

**523** wood - Norway, Aker. 1982, herb. 3663, CBS: 107680

**920** dec. wood - Scotland, Perthsh. 1983, herb. 7889, CBS: 108385

*HYPHODONTIA ABIETICOLA* (Bourd.& Galz.)John Erikss.

Compatibility group(s): C-793; C-1747

**793** Pseudotsuga - Canada, B.C. 1982, herb. 7039

Mating types: 1-3/

**1747** Picea - Sweden, VG 1986, herb. 6349

Mating types: 1,3,5,7,8,9/2,4,6

**2743** Abies - Russia, Krasnodar 1996, herb.13202

Dupl. IRAN

*HYPHODONTIA ALIENATA* (Lundell)John Erikss.

**2819** hardwood - USA, N. Carolina 1998, herb.14017, CBS: 127219

*HYPHODONTIA ALUTACEA* (Fr.)John Erikss.

Compatibility group(s): C-328,405,1683; C-1721

**328** Ulmus - Sweden, NÄ 1981, herb. 4019, CBS: 107361

Mating types: 1,2/3,4

**405** dec. wood - Austria, Steierm. 1981, herb. 4678

Mating types: 4/3,5

**1683** Picea - Sweden, HA 1986, herb. 6299, CBS: 103835

Mating types: 1,2/3,4,5,6

**1721** Pinus - Sweden, SM 1986, herb. 9560, CBS: 103950

Mating types: 1,4,5,7,8,10/2,3,6,9

*HYPHODONTIA ALUTARIA* (Burt)John Erikss.

Compatibility group(s): C-181,207,1339,1558,1836; C-41; C-621

**41** Quercus - Sweden, SK 1979, herb. 3031

Mating types: 1,5/2,4

**181** Picea - Sweden, ÖG 1980, herb.

Mating types: (1/7;) 3/

**207** dec.wood - Sweden, VG 1981, herb.

Mating types: 1/6; 2/5

**621** con. wood - Canada, Que. 1982, herb. 6485

**1339** Juniperus - Sweden, GO 1984, herb. 8795, CBS: 103117

Mating types: 1,3,6/2,4,5

**1558** Picea - Romania, Suceava 1985, herb. 9182, CBS: 103683

**1836** Abies - Spain, Huesca 1986, herb. 9822, CBS: 104365

Mating types: 1,(3)/2,4,5

*HYPHODONTIA ARGUTA* (Fr.)John Erikss.

Compatibility group(s): C-798,1083,1298,1347,1355,1541-PC-574; C-2155

**344** dec. wood - Sweden, VS 1981, herb. 3938, CBS: 107382

Mating types: 1/3,4 ATCC: 60347 (SS-4)

**574** Acer - Canada, Que. 1982, herb. 6240

**625** Ulmus - Canada, Que. 1982, herb. 6518

**798** dec. wood - Canada, B.C. 1982, herb. 7167, CBS: 108128

**1083** Picea - Romania, Suceava 1983, herb. 7969

**1298** Ulmus - Sweden, SK 1984, herb. 8636

Mating types: 6/2,3,4,5

**1347** Ulmus - Sweden, VG 1984, herb. 5137, CBS: 103137

**1355** Ulmus - Sweden, VG 1984, herb. 5110

Mating types: 1,4/2,(6)

**1541** Fagus - Austria, Steierm. 1985, herb. 9406, CBS: 103648

Mating types: 1,2,3,5,7/4,6

**2155** dec. wood - Spain, Gomera 1989, herb. 11146

Mating types: 1,2/

**2845** hardwood - USA, N. Carolina 1998, herb.14117

**2852** hardwood - USA, S. Carolina 1998, herb.14156

Sequences: unpublished (ITS)

**2861** hardwood - USA, N. Carolina 1998, herb.14200

**2993** hardwood - New Zealand, Westcoast 2004, herb.15002, CBS:125876

Sequences: unpublished (ITS)

**3098** trunk - Australia, Tasmania 2006, herb.15732

Sequences: unpublished (ITS)

*HYPHODONTIA ASPERA* (Fr.)John Erikss.

Compatibility group(s):

C-1093,1094,1278,1313,1409,1333,1543,1562,2050,2138-44, 2358; C-413, C-1309

**413** wood - Sweden, VS 1981, herb. 5047

Mating types: 1,4/5

**627** Ulmus - Canada, Que. 1982, herb. 6520, CBS: 107871  
**1093** Picea - Romania, Suceava 1983, herb. 8067  
Mating types: 8,13/1,6,9; 4,5,10/12  
**1094** Picea - Romania, Alba 1983, herb. 8135  
Mating types: 2/4,5  
**1278** Picea - Norway, OP 1984, herb. 8455  
Mating types: 1/2; 3-6/  
**1309** fencung - Norway, OP 1984, herb. 5050  
**1313** Picea - Norway, OP 1984, herb. 8445, CBS: 103044  
Mating types: 1,2,4/  
**1333** Populus - Norway, OP 1984, herb. 8489  
Mating types: 1-4/  
**1409** Juniperus - France, Savoie 1985, herb. 134, CBS: 103207  
**1543** Alnus - Austria, Steierm. 1985, herb. 9391  
Mating types: 2,3/6  
**1562** Picea - Romania, Suceava 1985, herb. 9169, CBS: 103686  
**2050** dec. wood - Sweden, VG 1988, herb. 10900, CBS: 105058  
Mating types: 2/3 partly H  
**2138** Picea - USA, NH 1988, herb. B 264, CBS: 105267  
**2139** Picea - USA, NH 1988, herb. B 265  
**2140** Picea - USA, NH 1988, herb. B 267, CBS: 105269  
**2141** Picea - USA, NH 1988, herb. B 268, CBS: 105270  
**2142** Picea - USA, NH 1988, herb. B 662, CBS: 105271  
**2143** Picea - USA, NH 1988, herb. B 663, CBS: 105272  
**2144** Picea - USA, NH 1988, herb. B 664, CBS: 105273  
**2358** Betula - Denmark, Greenland 1991, herb.11913, CBS: 106018  
Mating types: 3/1,5; 2,4,6/

#### HYPHODONTIA ASPERA-BREVISETA-group

Compatibility group(s): C-274,316

**274** Picea - Denmark, Jylland 1981, herb. 3553

Mating types: 1,3,5/2,7

**316** Pinus - Sweden, SM 1981, herb. 3915

**628** Pinus - Canada, Que. 1982, herb. 6521, CBS: 107872

**657** Pseudotsuga - Canada, B.C. 1982, herb. 6914, CBS: 107917

#### HYPHODONTIA BARBAJOVIS (Fr.)John Erikss.

Compatibility group(s): C-218,228,539,598,770,2415,2416

**218** Betula - Sweden, HA 1981, herb. 3431, CBS: 107231

Mating types: 2/3,5 ATCC: 60014 (SS-2), 60015 (SS-3)

**228** Pinus - Sweden, HA 1981, herb. 3460  
Mating types: 5/1,2,6,7; 4 dik.  
**539** Abies - Canada, Que. 1982, herb. 6046, CBS: 107705  
Mating types: 1/2,3,4  
**598** Pinus - Canada, Que. 1982, herb. 6366  
Mating types: 1,2,5/4  
**770** Pinus - Canada, Que. 1982, herb. 7492, CBS: 108077  
Mating types: 1/2  
**2415** dec. wood - Russia, Krasnodar 1991, herb.12228  
Dupl. IRAN Mating types: 2,3,7,8/1,4,5,6,9,10  
**2416** Pinus - Russia, Krasnodar 1991, herb.12251  
Dupl. IRAN Mating types: 1,2,4,5,6,9/3,7,8,10  
**2686** Quercus - Russia, Krasnodar 1996, herb.12994, CBS: 108541  
Dupl. IRAN  
**2704** dec. wood - Russia, Krasnodar 1996, herb.13081  
Dupl. IRAN

**HYPHODONTIA BREVISETA (Karst.)John Erikss.**

Compatibility group(s): C-1325,1462, 2235-PC-1050; C-81,1973, 2045; C-1748;  
C-1768; C-1960

**81** Picea - Sweden, ÖG 1979, herb. 11046  
Mating types: 2/4  
**1050** Picea - Romania, Suceava 1983, herb. 8071  
Mating types: 1,3,4,5/  
**1325** Picea - Sweden, HA 1984, herb. 8650, CBS: 103074  
Mating types: 1/2  
**1462** Betula - Sweden, VG 1985, herb. 9003, CBS: 103351  
Mating types: 1-4/  
**1748** Corylus? - Sweden, VG 1986, herb. 6449  
**1768** Pinus - Finland, EH 1986, herb. 9489  
Mating types: 1,3/2,4,5  
**1960** Picea - Denmark, Jylland 1987, herb. 10522  
Mating types: 2,6,8,10/5,7,9; 1,3,4/  
**1973** Picea - Denmark, Jylland 1987, herb. 10520, CBS: 104791  
Mating types: 3,7/1,4,5,6  
**2045** Picea - Denmark, Jutland 1988, herb. 10863, CBS: 105040  
Mating types: 1,3,8/9; 2,4,5,7,6  
**2235** Picea - Estonia, 1989, herb. 11253, CBS: 105595  
Mating types: 1/2,3,5,6,10; 4,7,8,9/

**HYPHODONTIA CRUSTOSA (Fr.)John Erikss.**

Compatibility group(s): C-(PC)-1163,1345,1364,1410,1548,1559,1824, 2466-1779; C-401; C-1920

**280** Juniperus - Sweden, TO 1981, herb. 3657, CBS: 107313

**283** Rosa sp - Denmark, Jylland 1981, herb. 3587, CBS: 107315

Mating types: 1 dik.

**401** Abies - Austria, Steierm. 1981, herb. 4565

Mating types: 2/4; 2,4 dik.

**524** dec. wood - Canada, Que. 1982, herb. 7558, CBS: 107681

**619** dec. wood - Canada, Ont. 1982, herb. 6459, CBS: 107706

**1163** dec. wood - Sweden, BO 1984, herb. 8177

Mating types: 1-4/

**1345** Corylus - Sweden, GO 1984, herb. 8752, CBS: 103130

Mating types: 2,3/4

**1364** Juniperus - Sweden, GO 1984, herb. 8798

Mating types: 1,3,4,6/5

**1410** con. wood - France, Tarn 1985, herb. 3614

Mating types: 1/2

**1548** Picea - Romania, Brasov 1985, herb. 9320, CBS: 103671

Mating types: 1,8/4,10; 9/5,7

**1559** Fagus - Romania, Suceava 1985, herb. 9144, CBS: 103684

**1824** dec. wood - Spain, Lerida 1986, herb. 10087

Mating types: first 1/2; 3,5, then all clamped

**1920** Corylus - Denmark, Jylland 1987, herb. 10274

Mating types: 1,2,3,8,9/4,5,6,7,10

**2466** Fagus - Russia, Krasnodar 1991, herb.12077, CBS: 106499

Dupl. IRAN Mating types: 1,3,8,10/7; 2,4/5,6

**HYPHODONTIA FLOCCOSA (Bourd. & Galz.)John Erikss.**

**2421** Pinus - Russia, Krasnodar 1991, herb.12249

Dupl. IRAN Mating types: 1,3,4,8/2,5,6,7,9,10

**HYPHODONTIA GOSSYPINA (Parm.)Hjortstam**

Compatibility group(s): PC-443, 2424

**443** - France, 1982, herb. LY-AD-4288

**2424** dec. wood - Russia, Krasnodar 1991, herb.12293

Mating types: 1,2/3,4

**HYPHODONTIA HASTATA (Litsch.)John Erikss.**

Compatibility group(s): C-347,694,1459,2049

**347** *Picea* - Sweden, SM 1981, herb. 4103  
Mating types: 1/2 ATCC: 60429 (SS-2)  
**694** con. wood - Canada, B.C. 1982, herb. 7123  
Mating types: 1/2,3,4  
**1459** *Juniperus* - Sweden, VG 1985, herb. 9005, CBS: 103339  
**2049** *Pinus* - Sweden, HA 1988, herb. 10894  
Mating types: 3/2,4,5,8; 1,6,7,9/

*HYPHODONTIA NESPORI* (Bres.)Erikss. & Hjortst.

Compatibility group(s): C-1530,1531,1545,1968,2039,2044,2163,2259,2261,2264,2266,2453; C-1276; C-2031

**1276** fencing - Norway, OP 1984, herb. 14342  
Mating types: 1/5; 2/3,4  
**1530** *Abies* - Romania, Neamt 1985, herb. 9205  
Mating types: 1,4,6,7/2; 3/5  
**1531** *Picea* - Romania, Brasov 1985, herb. 9313  
Mating types: 1,2,3,5/6  
**1537** *Picea* - Romania, Brasov 1985, herb. 9306, CBS: 103634  
Mating types: 1,6/5; 3/4,7,8  
**1545** con. wood - Romania, Suceava 1985, herb. 9140, CBS: 103660  
Mating types: 1,2/3,6,8  
**1968** *Picea* - Denmark, Jylland 1987, herb. 10365, CBS: 104769  
Mating types: 1,2,3,8,9/4; 5,6,7/  
**2031** wood - Denmark, Jutland 1988, herb. 10854  
Mating types: 1-10/  
**2035** *Picea* - Denmark, Jutland 1988, herb. 10841, CBS: 104993  
Mating types: 1,7,10/5,8,9; 2,3/4,6  
**2039** *Picea* - Denmark, Jutland 1988, herb. 10870, CBS: 105010  
Mating types: 1,4/2,3  
**2044** *Abies* - Denmark, Jutland 1988, herb. 10847, CBS: 105035  
Mating types: 4,6/2,7; 10/1,3,5,8,9  
**2163** dec. wood - Spain, Tenerife 1989, herb. 11021, CBS: 105338  
Mating types: 2,3,7/1,6,8,9; 4,5/ ATCC: 76817 (SS-2), 76827 (SS-1), 76837 (PS)  
**2259** *Picea* - Turkey, Trabzon 1989, herb. 11311  
Dupl. IRAN Mating types: 1/3,6; 2/4,5,7 ATCC: 76816 (SS-3), 76819 (SS-1), 76821 (PS)  
**2261** *Alnus* - Turkey, Trabzon 1989, herb. 11416, CBS: 105711  
Dupl. IRAN Mating types: 1,7/3; 2,4,6,9/8 ATCC: 76828 (SS-1), 76844 (SS-3), 76834 (PS)

- 2264** Fagus - Turkey, Trabzon 1989, herb. 11391  
Dupl. IRAN Mating types: 1-3/ ATCC: 76829 (SS-4), 76846 (SS-1)  
**2266** Alnus - Turkey, Trabzon 1989, herb. 11414, CBS: 105732  
Mating types: 1,2,6/3,4,7,8; 5/ ATCC: 76854 (SS-3), 76911 (PS)  
**2453** Quercus - Russia, Krasnodar 1991, herb.12253, CBS: 106440  
Dupl. IRAN Mating types: 4,10,1,2,7,8/5,6,9,3; dev.  
**2672** Cornus - Russia, Krasnodar 1996, herb.12958

HYPHODONTIA NESPORINA Hallenb. & Hjorstam

- 2527** Myricaceae tree - Argentina, Chubut 1993, herb.12745, CBS: 106683  
Mating types: 2,5,6/3,4

HYPHODONTIA PALLIDULA (Bres.)John Erikss.

- Compatibility group(s): C-802,1296,1365  
**802** con. wood - Canada, B.C. 1982, herb. 7295  
**1296** Picea - Sweden, HA 1984, herb. 8657, CBS: 102995  
Mating types: 1,(3,6)/4,(2,7)  
**1365** Fagus - Sweden, DS 1984, herb. 5185, CBS: 103182  
Mating types: 1/3,6; 4/5  
**2677** dec. wood - Russia, Krasnodar 1996, herb.12968  
Dupl. IRAN

HYPHODONTIA PRUNI (Lasch)Svrcek

- Compatibility group(s): C-346,829,1343,1346,1348  
**346** Corylus - Sweden, NÄ 1981, herb. 4052  
Mating types: 1/4; 2/3  
**829** Ulmus - Sweden, VG 1982, herb. 3975, CBS: 108197  
Mating types: 3/4  
**1343** dec. wood - Sweden, VG 1984, herb. 5136, CBS: 103122  
Mating types: 2,3/4  
**1346** dec. wood - Sweden, GO 1984, herb. 8783, CBS: 103132  
Mating types: 2/1,3,5  
**1348** Corylus - Sweden, GO 1984, herb. 8822, CBS: 103140  
Mating types: 1/5; 2,3,4,6/  
**1357** dec. wood - Sweden, GO 1984, herb. 8748, CBS: 103159  
Mating types: H?  
**2761** Carpinus - Russia, Krasnodar 1996, herb.13248  
Dupl. IRAN  
**2899** hardwood - USA, N. Carolina 1998, herb.14325  
Mating types: 6/1,3,4,8; 2,5,7/ Sequences: unpublished (ITS)

*HYPHODONTIA QUERCINA* (Fr.) John Erikss.

Compatibility group(s): C-330,334,393,414,658,1054,1284,1528,2013,2249,2254,2255,2326,2471

**330** dec. wood - Sweden, NÄ 1981, herb. 4083

Mating types: 2/4

**334** dec. wood - Sweden, VS 1981, herb. 3972, CBS: 107371

Mating types: 1 dik.

**393** dec. wood - Austria, Steierm. 1981, herb. 4420, CBS: 107451

Mating types: 1,2/3,4,5 ATCC: 60016 (SS-1), 60017 (SS-3)

**414** dec. wood - Austria, Steierm. 1981, herb. 4206

**1054** Fagus - Romania, Suceava 1983, herb. 8052

**1284** Carpinus - Sweden, SK 1984, herb. 8554

Mating types: 1/2; 4/3,5,6

**1287** Fagus - Sweden, SK 1984, herb. 8530, CBS: 102970

**1528** dec. wood - Romania, Cluj 1985, herb. 9359, CBS: 103595

Mating types: 1,2/3,4,6; 5,7/

**2013** Alnus - Canada, BC 1988, herb. 10761, CBS: 104906

Mating types: 1/2,6,7; 5/3,4

**2249** Carpinus - Turkey, Trabzon 1989, herb. 11273, CBS: 105660

Dupl. IRAN ATCC: 76850 (PS)

**2254** dec. wood - Turkey, Trabzon 1989, herb. 11373

Mating types: 2,8/4,6; 1,3,5,7/ ATCC: 76909 (SS-2)

**2255** dec. wood - Turkey, Trabzon 1989, herb. 11395

Dupl. IRAN Mating types: 1,3/7,8; 2,4,5,6/ ATCC: 76825 (PS), 76910 (SS-7)

**2326** Alnus - Russia, Ural 1990, herb. VM, CBS: 105916

Mating types: 3/1,5,9; 2/4,6,7,8,10

**2458** dec. wood - Spain, Salamanca 1991, herb. 12310, CBS: 106462

Mating types: 1,2,3,4,6/5,7,8; 9/10

**2471** dec. wood - Russia, Krasnodar 1991, herb. 12217, CBS: 106520

Mating types: 2,4,5,7/8,9,10; 1,6/

**2680** Carpinus - Russia, Krasnodar 1996, herb. 12976, CBS: 108536

**2728** dec. wood - Russia, Krasnodar 1996, herb. 13148

Dupl. IRAN

**2765** Fagus - Turkey, Trabzon 1996, herb. 13255, CBS: 108817

Dupl. IRAN

**2992** hardwood – New Zealand, Westcoast 2004, herb. 15017

Sequences: unpublished (ITS)

*HYPHODONTIA RIMOSISSIMA* (Peck) Gilb.



Compatibility group(s): C-85,273,345,1228,1301,1314,1460-PC-557,565,571;  
C-603; C-1446; C-1285

**85** Fraxinus - Denmark, Jylland 1979, herb. 3189, CBS: 107031

Mating types: 2/1,3, 2 dik,

**273** Fraxinus - Denmark, Jylland 1981, herb. 3575, CBS: 107309

Mating types: 1 dik.

**345** dec. wood - Sweden, VS 1981, herb. 3945, CBS: 107383

**389** Corylus - Sweden, UP 1981, herb. 5036, CBS: 107445

**557** dec. wood - Canada, Que. 1982, herb. 6142

Mating types: 1/2,4 ATCC: 60018 (SS-1), (60019 (SS-2)

**565** Acer - Canada, Que. 1982, herb. 6181, CBS: 107770

**571** Alnus - Canada, Que. 1982, herb. 6199

Mating types: 1-4/

**603** dec. wood - Canada, Que. 1982, herb. 6385

Mating types: 1/2,4

**1228** Fagus - Norway, RO 1984, herb. 8368 Mating types: 2,4/

**1285** dec. wood - Sweden, SK 1984, herb. 8536

**1301** Acer - Sweden, SK 1984, herb. 8576, CBS: 103007

Mating types: 1,3,4/2,5

**1314** Fagus - Sweden, SK 1984, herb. 8521, CBS: 103048

Mating types: 1-3/

**1446** Fraxinus - Sweden, VG 1985, herb. 8968

Mating types: 1-6/

**1460** Ulmus - Sweden, VG 1985, herb. 8945, CBS: 103342

Mating types: 1-6/

**2883** Pinus - USA, N. Carolina 1998, herb. 14291, CBS: 126047

Mating

**HYPHODONTIA SAMBUCCI** (Pers.) John Erikss.

Compatibility group(s): C-284,1412,2099; C-1363,1463; C-1272; C-1445;  
C-1550; C-1924; C-1956; C-

716; C-2467; C-2525

**284** Sambucus - Denmark, Jylland 1981, herb. 3576

Mating types: 1/6,7; 5/2,3,4,8

**716** Sambucus - Canada, B.C. 1982, herb. 7227

Mating types: 1,2,3/4

**734** dec. wood - Canada, Ont. 1982, herb. 7328, CBS: 108019

**1272** Ulmus - Sweden, SK 1984, herb. 8620, CBS: 102940

Mating types: 3/1,2,4,5,6

**1445** Alnus - Sweden, VG 1985, herb. 8963

Mating types: 2,(3)/1,(4)

**1463** dec. wood - Sweden, VG 1985, herb. 8988, CBS: 103356

Mating types: 1-3/

**1550** Sambucus - Romania, Iasi 1985, herb. 9047

Mating types: 2,4/5

**1561** con. wood - Romania, Suceava 1985, herb. 9131, CBS: 103685

**1924** Fagus - Denmark, Jylland 1987, herb. 10362

Mating types: 4,8,(1)/6,7,9,(2); 3,5,10/

**1956** dec. wood - Denmark, Jylland 1987, herb. 10293

Mating types: 1/2,3,4

**2099** Sambucus - Sweden, HA 1989, herb. 10929

Mating types:ss-1,2 clamped!

**2467** dec. wood - Russia, Krasnodar 1991, herb.12229, CBS: 106503

Dupl. IRAN Mating types: 1-3/; SS-2 clamped!

**2525** Nothofagus - Argentina, Chubut 1993, herb.12717, CBS: 106673

Mating types: 1-5/

*HYPHODONTIA* sp.

**2709** Castanea - Russia, Krasnodar 1996, herb.13094

Dupl. IRAN Mating types: 3,7,6/1,2,9

*HYPHODONTIA SPATHULATA* (Fr.)Parm.

Compatibility group(s): C-2269,2462

**2269** Picea - Turkey, Trabzon 1989, herb. 11344, CBS: 105746

Dupl. IRAN Mating types: 1,3,4,5/6; 2/7

**2462** Fagus - Russia, Krasnodar 1991, herb.12062, CBS: 106479

Dupl. IRAN Mating types: 1-4/

*HYPHODONTIA SUBALUTACEA* (Karst.)John Erikss.

Compatibility group(s): C-96,286,796,650,1433,2323; C-961; C-1318;

C-1834,2131,2431; C-1838, 2258,

2447; C-299,335,349,1095,1205,1208,1522,1961, 2158 (also ABC); C-2520

**96** Pinus - Sweden, DR 1980, herb. 3227

Mating types: 1-6/

**286** Pinus - Denmark, Jylland 1981, herb. 3491

Mating types: 1-4/

**299** Quercus - Sweden, SM 1981, herb. 3833

Mating types: 1-5/

**335** Ulmus - Sweden, NÄ 1981, herb. 4020

**349** dec. wood - Sweden, VS 1981, herb. 3967

Mating types: 1,2,4/  
**637** con. wood - Canada, B.C. 1982, herb. 6655, CBS: 107878  
**650** Thuja - Canada, B.C. 1982, herb. 6858  
 Mating types: 1/5; 2/4,6 ATCC: 60025 (SS-1), 60306 (SS-6)  
**796** con. wood - Canada, B.C. 1982, herb. 7150  
**961** Betula - Scotland, Perthsh. 1983, herb. 7826  
 Mating types: 1-7/  
**1095** dec. wood - Sweden, VG 1983, herb. 8161  
**1205** Fagus - Norway, RO 1984, herb. 8366  
 Mating types: 1,3,5/2,4  
**1208** Betula - Norway, HO 1984, herb. 8402  
 Mating types: 2/5  
**1318** Pinus - Sweden, GO 1984, herb. 8790, CBS: 103054  
 Mating types: 1/6  
**1433** con. wood - Norway, Oslo 1985, herb. 8932  
 Mating types: 1/5,7  
**1522** Fagus - Romania, Brasov 1985, herb. 9341, CBS: 103570  
 Mating types: 1/3  
**1834** Pinus - France, Roussillon 1986, herb. 10155  
 Mating types: 1,3/5; 2/4  
**1838** Pinus - Spain, Huesca 1986, herb. 9851, CBS: 104371  
 Mating types: 2/3; 1,4/  
**1961** dec. wood - Denmark, Jylland 1987, herb. 10467, CBS: 104740  
 Mating types: 1,6,9/2,4,5,8; 3,10/7  
**2046** Populus - Sweden, GÄ 1988, herb. 6686, CBS: 105045  
 Mating types: 1-4/  
**2131** Pinus - Spain, Tenerife 1989, herb. 11195  
 Mating types: 1/2,3,4,5,6,8,9,10 ATCC: 76852 (PS)  
**2158** dec. wood - Spain, Gomera 1989, herb. 11150  
 Mating types: 3,4/1,7,10; 9/2,5,6 ATCC: 76822 (SS-9), 76840 (SS-3), 76824 (PS)  
**2258** Picea - Turkey, Trabzon 1989, herb. 11299, CBS: 105701  
 Dupl. IRAN Mating types: 4,9/2,7; 1/3,8,10 ATCC: 76818 (SS-2), 76831 (SS-4), 76836 (SS-3), 96393 (SS-1)  
**2323** Picea - Norway, Akershus 1990, herb. 11665  
 Mating types: 6,9,(3)/1,4,8,10,(5)  
**2431** Pinus - Russia, Krasnodar 1991, herb. 12250  
 Dupl. IRAN Mating types: 2,4,5,10/1,3,6,7,8,9  
**2447** Abies - Russia, Krasnodar 1991, herb. 12186, CBS: 106423  
 Dupl. IRAN Mating types: 1,2,4/8; 3,7/5,6,9,10

**2520** Nothofagus - Argentina, Chubut 1993, herb.12679

Mating types: 7/1,2,5,6; 3,4/

***HYPHODONTIA TAIWANIANA S.H. Wu***

**3000** hardwood – New Zealand, Westcoast, 2004, herb. 15128, CBS: 125875

**HYPHOLOMA SUBLATERITIUM (Fr.)Quél.**

**2472** -, 1991, herb.SJ 91047, CBS: 106525

**HYPOCHNICIELLUM MOLLE (Fr.)Hjortst.**

Compatibility group(s): C-1312,1871,1437; C-415

**415** Picea - Austria, Steierm. 1981, herb. 4503

**1312** fencing - Norway, OP 1984, herb. 5059, CBS: 103042

Mating types: 1/4,5

**1437** - Norway, Oslo 1985, herb. 8939

Mating types: 2/6

**1871** Abies - Spain, Huesca 1986, herb. 9741

Mating types: 1-3/

**HYPOCHNICIELLUM sp.**

**2256** Salix - France, 1989, herb. GG 1688, CBS: 105691

Mating types: 5,8/1,3,7

**HYPOCHNICIUM ALBOSTRAMINEUM (Bres.)Hallenb.**

Compatibility group(s): C-1772, 1865

**29** - Sweden, VG 1973, herb. 9296

Mating types: H

**269** Betula - Sweden, TO 1981, herb. 3688, CBS: 107304

Mating types: H Sequences: AF429422 (ITS)

**1772** Pinus - Sweden, DS 1986, herb. 9637

Mating types: 1,5,6/3,2,7,8; 9,10/ Sequences: AF429423 (ITS)

**1865** Pinus - Spain, Lerida 1986, herb. 10020, CBS: 104432

Mating types: 1/2; SS-2,3 with clamps! Sequences: AF429421 (ITS)

**HYPOCHNICIUM AOTEAROE Paulus, Nilsson, Hallenb.**

**2972** hardwood - New Zealand, Westcoast 2004, herb.15133

Sequences: DQ309071 (ITS)

**3120** branch, log - Australia, Tasmania 2006, herb.15862, CBS: 127220

Sequences: GQ906536 (ITS)

**HYPOCHNICIUM BOMBYCINUM (Fr.)John Erikss.**

Compatibility group(s): C-37,253,763; C-632

**37** dec. wood - Sweden, VG 1974, herb. 24640

**253** Salix - Sweden, TO 1981, herb. 3766, CBS: 107274

ATCC: 60104 (SS-2), 60105 (SS-1)

**632** dec. wood - Canada, Que. 1982, herb. 6530, CBS: 107874

**763** Fagus - Canada, Ont. 1982, herb. 7457

Mating types: H?

**HYPOCHNICIUM BOMBYCINUM (Fr.)John Erikss. var. IRPICODON**

**431** - , herb.LY 1402/C, CBS: 107498

**HYPOCHNICIUM CREMICOLOR Bres.**

**160** Abies - Denmark, Lolland 1980, herb. 3406, CBS: 107154

Mating types: 1/2; 3/4 Sequences: AF429425 (ITS)

**2151** dec. wood - Spain, Gomera 1989, herb. 11149

Mating types: 3/4; 1,2/ ATCC: 76851 (SS-3), Sequences: AF429424 (ITS)

**HYPOCHNICIUM CYMOSUM (Rog. & Jacks.)Larss. & Hjortst**

**2820** dec. wood - USA, N. Carolina 1998, herb.14021

**2847** Tsuga - USA, N. Carolina 1998, herb.14122

**HYPOCHNICIUM CYSTIDIATUM Boidin & Gilles**

**3086** Bambusa - Cameroun, 2006, herb.MUCL 32103

Sequences: DQ658163 (ITS)

**3087** Elaeis - Cameroun, 2006, herb.MUCL 32104

Sequences: DQ658164 (ITS)

**HYPOCHNICIUM ERIKSSONII Hallenb. & Hjortst.**

Compatibility group(s): C-1088; C-1354; C-1771

**1088** Betula - Romania, Bihor 1983, herb. 8141

Mating types: 1-5/

**1354** Fagus - Sweden, DS 1984, herb. 5165

Mating types: 3/1,2,4; 5/

**1771** Pinus - Sweden, DS 1986, herb. 9635

Mating types: 1-5/, clamps later!

**HYPOCHNICIUM GEOGENIUM (Bres.)John Erikss.**

Compatibility group(s): C-416,769,814,2048,2052; C-2437

**416** Alnus - Austria, Steierm. 1981, herb. 4657

**769** Pinus - Canada, Que. 1982, herb. 7490, CBS: 108076

**814** Abies - Canada, Que. 1982, herb. 7542, CBS: 108156

Mating types: 2,3/4 ATCC: 60103 (SS-4), 60203 (SS-2)

**2048** Picea - Sweden, HA 1988, herb. 10891

Mating types: 3,4/1,2,6; 5/

**2052** con. wood - Sweden, VG 1988, herb. 10910

Mating types: 1,3/2 Sequences: AF429426 (ITS)

**HYPOCHNICIUM LUNDELLII** (Bourd.)John Erikss.

854-NC-2436

**822** Typha - Sweden, HA 1982, herb..

Mating types: clamps!

**880** - , 1983, herb.neoh. 822, CBS: 108295

**2436** Abies - Russia, Krasnodar 1991, herb.12188, CBS: 106360

Dupl. IRAN Mating types: 5,6,9,10/1,2,3,4,7,8

**HYPOCHNICIUM LYNDONIAE** (Reid)Hjortst.

**2979** kamahi - New Zealand, Westcoast 2004, herb.15051

Sequences: DQ309070 (ITS)

**3029** hardwood - New Zealand, Westcoast 2004, herb.15126, CBS: 125874

Sequences: DQ309069 (ITS)

**HYPOCHNICIUM MULTIFORME** (Berk & Broome)Hjortst.

Compatibility group(s): C-66, 79, 1015, 1570, 1793 – PC – 778, 749

**66** Pinus - Denmark, Jylland 1979, herb. 3153

Mating types: 1/2; 4/3,5

**79** Picea - Sweden, ÖG 1979, herb. 11301

**749** dec. wood - Canada, Ont. 1982, herb. 7419

**778** wood - Canada, Que. 1982, herb. 7568, CBS: 108090

Mating types: 1,4/2,3 ATCC: 60026 (SS-1), 60065 (SS-2)

**1015** Picea - Romania, Suceava 1983, herb. 8095

**1793** Pinus - Spain, Huesca 1986, herb. 9840, CBS:

Mating types: 1,9/4,5,7,10; 2,3,6,8/

**2059** Pinus - Sweden, HA 1989, herb. 10924, CBS: 105083

**HYPOCHNICIUM POLONENSE** (Bres.)Strid

Compatibility group(s): C-809,942,2469; C-1536,1538, 2262

**809** wood - Canada, Ont. 1982, herb. 7507

Mating types: 1/2

**942** - Norway, N. Trönd. 1983, herb. TH 23

Mating types: 2/5

**1536** dec. wood - Romania, Brasov 1985, herb. 9331

**1538** dec. wood - Romania, Iasi 1985, herb. 9061, CBS: 103637

**2262** Fagus - Turkey, Trabzon 1989, herb. 11337, CBS: 105716

Dupl. IRAN Mating types: 1,5/4,6,7,3 ATCC: 76920 (PS), 90004 (SS-1), 90005 (SS-4)

**2469** Abies - Russia, Krasnodar 1991, herb.12117

Mating types: 1-3/

*HYPOCHNICIUM PUNCTULATUM* (Cke)John Erikss.

Compatibility group(s): C-936, 938, 1065, 1203, 1362, 1794, 1921, 1927

**936** Picea - Scotland, Perthsh. 1983, herb. 7921

Mating types: 1,3/

**938** Betula - Scotland, Perthsh. 1983, herb. 7815, CBS: 108436

Mating types: 1,2,3/ Sequences: AF429408 (ITS)

**1065** Betula - Romania, Suceava 1983, herb. 8086

Mating types: 1-6/ Sequences: AF429413 (ITS)

**1203** dec. wood - Norway, HO 1984, herb. 8361

Mating types: 3,4/ Sequences: AF429412 (ITS)

**1362** Fagus - Sweden, DS 1984, herb. 5175

Mating types: 2/1,3 Sequences: AF429411 (ITS)

**1794** Pinus - France, Bordeaux 1986, herb. 9690, CBS: 104186

Mating types: 1,3,5,6/9,10; 2,8/7 Sequences: AF429414 (ITS)

**1921** dec. wood - Denmark, Jylland 1987, herb. 10290, CBS: 104556

Mating types: 4/1,2,3,5 Sequences: AF429410 (ITS)

**1927** Alnus - Denmark, Jylland 1987, herb. 10319, CBS: 104586

Mating types: 1,2,3,9/4,5,6,7,8,10

**2833** Pinus - USA, N. Carolina 1998, herb.14069

Sequences: AF429409 (ITS)

*HYPOCHNICIUM* sp.

**2240** wood - Turkey, Trabzon 1989, herb. 11440

Mating types: 1/3,6; 4,5/2,7,8

*HYPOCHNICIUM SUBRIGESCENS* Boid.

C-1966,1213; C-1829

**1213** dec. wood - Norway, SF 1984, herb. 8228

Mating types: 1/3

**1966** Betula - Denmark, Jylland 1987, herb. 10421, CBS: 104761

Mating types: 1,2,3/ Sequences: AF429427 (ITS)

**1829** *Abies* - Spain, Lerida 1986, herb. 9956, CBS: 104336

Mating types: 2/1,3,4

*HYPOCHNICIUM SUBRIGESCENS* Boid. s.l.

**2696** dec. wood - Russia, Krasnodar 1996, herb.13043, CBS: 108558

Dupl. IRAN Mating types: 4/1,6; 10/

*HYPOCHNICIUM WAKEFIELDIAE* (Bres.)J. Erikss.

**2383** *Abies* - Russia, Krasnodar 1991, herb.12107, CBS: 106119

Dupl. IRAN Mating types: 1,3,4,6,7/2,5,8 Sequences: AF429416 (ITS)

**2437** *Abies* - Russia, Krasnodar 1991, herb.12197, CBS: 106365

Dupl. IRAN Mating types: 1,2,3,6,8,10/4,5,9 Sequences: AF429420 (ITS)

**2710** *Alnus* - Russia, Krasnodar 1996, herb.13100

Dupl. IRAN Sequences: AF429417 (ITS)

**2755** *Abies* - Russia, Krasnodar 1996, herb.13241, CBS: 108784

Dupl. IRAN

**1709** *Pinus* - Finland, EH 1986, herb. 9509, CBS: 103910

Mating types: partly clamped, SS-1 haploid Sequences: AF429419 (ITS)

**2194** con. wood - Estonia, 1989, herb. 11232, CBS: 105421

Mating types: 1,8,9/2,3,4,5,7,10; 6/ Sequences: GQ906536 (ITS)

*HYPOCHNICIUM ZEALANDICUM* (G.H. Cunn.)Hjortst.

**3009** hardwood - New Zealand, Hamilton 2004, herb.15340

Sequences: DQ309068 (ITS)

*INONOTUS WEIRII* (Murr.)Kotl. & Pouz.

**660** *Tsuga* - Canada, B.C. 1982, herb. 6938, CBS: 107926

*INTEXTOMYCES CONTIGUUS* (Karst.)Erikss. & Ryv.

**2750** *Betula* - Russia, Krasnodar 1996, herb.13219, CBS: 108764

Dupl. IRAN Mating types: 1,2/7

*IRPEX LACTEUS* (Fr.)Fr.

**2693** dec. wood - Russia, Krasnodar 1996, herb.13013, CBS: 108555

Dupl. IRAN

*ISCHNODERMA BENZOINUM* (Fr.)Karst.

**757** *Tsuga* - Canada, Ont. 1982, herb. 7439, CBS: 108064

*JUNGHUHNIA COLLABENS* (Fr.)Ryv.



**78** *Picea* - Sweden, ÖG 1979, herb. 11331, CBS: 107020  
**2589** *Picea* - Finland, Etelä-Häme 1994, herb.12852, CBS: 106901  
Mating types: 1,3,8/5,6,7,9; 2,4,10/

JUNGHUHNIA MERIDIONALISs (Rajchenb.)Rajchenb.  
**3010** hardwood - New Zealand, Rotorua 2004, herb.15319, CBS: 125887  
Sequences: unpublished (ITS)

JUNGHUHNIA NITIDA (Fr.)Ryv.  
Compatibility group(s): C-2159, 1520  
**1520** *Fagus* - Romania, Iasi 1985, herb. 9040  
**2129** dec. wood - Spain, Tenerifa 1989, herb. 10944, CBS: 105231  
Mating types: 1,3,7/8; 5,10/2,4,6,9 ATCC: 76938 (PS), 76927 (SS-8), 76948 (SS-5), 76969 (SS-2), 76379 (SS-1)

KAVINIA HIMANTIA (Fr.)John Erikss.  
**810** wood - Canada, Ont. 1982, herb. 7511, CBS: 108143

KUEHNEROMYCES MUTABILIS (Schaeff.)Sing. & A.H.Sm.  
**1304** *Betula* - Sweden, VG 1984, herb. 84172, CBS: 103018

LAURILIA SULCATA (Burt)Pouz.  
**2318** - , 1990, herb.KHL 8267, CBS: 105880  
Mating types:1,2,3,5,9/4,6,7,8,10

LAXITEXTUM BICOLOR (Fr.)Lentz  
Compatibility group(s): C-1187,1350,1489; C-397  
**397** dec. wood - Austria, Steierm. 1981, herb. 4648  
Mating types: 2,3/4  
**1187** *Fraxinus* - Norway, RO 1984, herb. 8372  
Mating types: 1,2/4,5; 3/  
**1350** *Fagus* - Sweden, DS 1982, herb. 5166, CBS: 103145  
Mating types: 1/6; 3/2,4,5  
**1489** *Pinus* - Austria, Steierm. 1985, herb. 9401, CBS: 103449  
Sequences: unpublished (ITS)  
**2719** *Fagus* - Russia, Krasnodar 1996, herb.13124, CBS: 108633  
Dupl. IRAN, Sequences: AF310102 (LSU)  
**3072** branch, log - South Africa, Eastern Cape 2005, herb.15591  
Sequences: unpublished (ITS)  
**3105** branch, log - Australia, Tasmania 2006, herb.15767

Sequences: unpublished (ITS, LSU)

LAXITEXTUM INCRUSTATUM (Hjortst.& Ryv.

**2804** - USA, 1997, herb.HHB 9775, CBS: 125886

LENTINELLUS URSINUS

**2924** - Finland, , herb., CBS: 125885

LEPTOSPOROMYCES FUSCOSTRATUS (Burt)Hjortst.

Compatibility group(s): C-375,535-PC-2086

**375** con. wood - Austria, Steierm. 1981, herb. 4178, CBS: 107422

Mating types: 1/4; 2 dik.

**535** Picea - Canada, Que. 1982, herb. 6037

Mating types: 1,4/2,3

**2086** Pinus - Sweden, HA 1989, herb. 10923, CBS: 105100, 105104

Mating types: 3/1,2,4,5,6,7,8

LEPTOSPOROMYCES GALZINII (Bourd.)Jül.

Compatibility group(s): C-255,276,270

**255** Pinus - Denmark, Jylland 1981, herb. 3497

Mating types: 2,4,5/1,3,6,7,8,9

**270** Pinus - Sweden, TO 1981, herb. 3730

Mating types: 1,5/4,7

**276** Picea - Denmark, Jylland 1981, herb. 3552, CBS: 107310

**3107** branch, log - Australia, Tasmania 2006, herb.15775

Sequences: unpublished (ITS)

LEPTOSPOROMYCES GALZINII (Bourd.)Jül. s.l.

**2708** dec. wood - Russia, Krasnodar 1996, herb.13092, CBS: 108593

Dupl. IRAN

LEPTOSPOROMYCES ROSEUS Jül.

**1823** dec. wood - Spain, Lerida 1986, herb. 9959, CBS: 104312

Mating types: 1,8,9/5; 2,7/3,4,6

LEPTOSPOROMYCES sp.

**2250** polypore - Turkey, Trabzon 1989, herb. 11326, CBS: 105665

Dupl. IRAN Mating types: 5/2,3,7,9; 1,4,6/8 dev.

LOPHARIA CINERASCENS (Schwein.)Cunn.

**3027** hardwood - New Zealand, Rotorua 2004, herb.15240, CBS: 125884  
Sequences: unpublished (ITS, LSU)

MARCHANDIOPSIS QUERCINA (J. Erikss. & Ryv.)Ghobad-Nejhad  
**1171** Quercus - Sweden, BO 1984, herb. 8186, ATCC: 64381 (PS)  
Sequences: HM046929 (LSU)

MERULIOPSIS TAXICOLA (Pers.)Bond.in Parm.  
**387** Picea - Sweden, VS 1981, herb. 5050, CBS: 107441

METULODONTIA NIVEA (Karst.)Parm.  
Compatibility group(s): C-323,353,576,752  
**323** dec. wood - Sweden, NÄ 1981, herb. 4073  
**353**Picea - Sweden, UP 1981, herb. 5034  
Mating types: 1/4 ATCC: 60028 (SS-1), 60029 (SS-2), 60030 (SS-3), 60031 (SS-4)  
**576** Populus - Canada, Que. 1982, herb. 6260  
Mating types: 1,2/4  
**752** Ostrya - Canada, Ont. 1982, herb. 7428, CBS: 108052  
Mating types: 2,3/4  
**1712** - Sweden, VG 1986, herb.Hjortstam, CBS: 103918

METULODONTIA NIVEA (Karst.)Parm. s.l.  
**2712** dec. wood - Russia, Krasnodar 1996, herb.13108, CBS: 108605  
Mating types: 6,2/4,(3); 5,7,10/8 Sequences: AF506423 (LSU)  
**2720** Fagus - Russia, Krasnodar 1996, herb.13126  
Dupl. IRAN Mating types: 3,7/2,4,8,9,10; 1,5,6/

MICROPORUS AFFINIS (Fr.)Kunt.  
**2298** - Ethiopia, 1990, herb.LR 28482, CBS: 105819  
Mating types: 1,5/2,3,6,7

OXYPORUS PELLICULA (Jungh.)Ryv.  
**2085** - Zimbabwe, 1989, herb. LR 25949, CBS: 105099  
Mating types: H (?)

PENIOPHORA AURANTIACA (Bres.)Höhn. & Litsch.  
Compatibility group(s): C-682,1911  
**682** Alnus - Canada, B.C. 1982, herb. 7097, CBS: 107962  
Sequences: AF210827 (ITS)

**1911** *Alnus* - Denmark, Greenland 1987, herb. HK 82, CBS: 104511  
Mating types: 4/2,3,5,6; 9/1,7,8 Sequences: AF210828 (ITS), unpublished (LSU)

**2563** *Alnus* - Canada, BC 1994, herb.12813, CBS: 106797  
Mating types: 1,6,7,8/2,3 (4,5,9) Sequences: AF210825 (ITS)

**2564** *Alnus* - Canada, BC 1994, herb.12809, CBS: 106802  
Mating types: 1,2,6,7/3,4,8; 9/10 Sequences: AF210826 (ITS)

#### PENIOPHORA CINEREA (Fr.)Cke

Compatibility group(s): C-4,213,312,594,596,772,895,1176-79,1263,1442,1469,1479, 1483, 1485-87, 1403,1501,1761,1810,1991,2026,2054,2176, 2181, 2182, 2205, 2211, 2207, 2225, 2296, 2420, 1991 -PC-772,596,594,532,2330, 2331; C-1992

**4** *Salix* - Sweden, VG 1978, herb.

**312** dec. wood - Sweden, NÄ 1981, herb. 4074  
Mating types: 1/4 Sequences: unpublished (ITS)

**532** wood - Canada, Que. 1982, herb. 6019, CBS: 107695  
Sequences: unpublished (ITS)

**594** *Ostrya* - Canada, Que. 1982, herb. 6340, ATCC: 60623 (SS-1), 60624 (SS-2) - as *P. violaceolivida*

**596** *Ostrya* - Canada, Que. 1982, herb. 6359  
Mating types: 1/2

**746** dec. wood - Canada, Ont. 1982, herb. 7400, CBS: 108039, 108040

**772** *Ostrya* - Canada, Ont. 1982, herb. 7510  
Mating types: 1-3/ ATCC: 64359 (PS), 64360 (SS-2)

**895** *Syringa* - Sweden, VG 1983, herb. 9101  
Mating types: 1-5/

**1173** *Picea* - Sweden, BO 1984, herb. 8190  
Mating types: 1/2; 3,5/ Sequences: unpublished (ITS)

**1176** *Fraxinus* - Norway, SF 1984, herb. 8269  
Mating types: 4/1,2,3 Sequences: unpublished (ITS)

**1177** dec. wood - Norway, SF 1984, herb. 8299  
Mating types: 2,5/4 Sequences: unpublished (ITS)

**1178** dec. wood - Norway, HO 1984, herb. 8345  
Mating types: 2/4; 1,3/5

**1179** *Fagus* - Norway, RO 1984, herb. 8374  
Mating types: 1,2/5; 3/4

**1263** *Crataegus* - Sweden, SK 1984, herb. 8562, CBS: 102910  
Mating types: 1,5/2,3,4 Sequences: unpublished (ITS)

**1403** *Betula* - France, Ain 1984, herb. 4584  
**1442** *Rhamnus* - Sweden, VG 1985, herb. 8952, CBS: 103275  
 Mating types: 1,2,5/4,7; 3/6 Sequences: unpublished (ITS)  
**1469** dec. wood - Romania, Iasi 1985, herb. 9086, CBS: 103372  
 Mating types: 1/2,8; 3,4,6/5 Sequences: unpublished (ITS)  
**1479** dec. wood - Romania, Iasi 1985, herb. 9075, CBS: 103406  
**1483** *Tilia* - Romania, Iasi 1985, herb. 9275, CBS: 103423  
 Mating types: 6,8/1,3 ATCC: 64361 (PS), 64362 (SS-1), 64363 (SS-6),  
 Sequences: unpublished (ITS)  
**1485** *Alnus* - Romania, Covasna 1985, herb. 9299, CBS: 103431  
 Mating types: 2,4,6/7 Sequences: unpublished (ITS)  
**1486** dec. wood - Romania, Iasi 1985, herb. 9265, CBS: 103435  
**1487** dec. wood - Austria, Burgenl. 1985, herb. 9380, CBS: 103439  
**1501** dec. wood - Romania, Iasi 1985, herb. 9249  
**1761** *Fraxinus* - Sweden, VG 1986, herb. 9644, CBS: 104079  
 Mating types: 4,5/1,3,6,7,10; 8/2,9 Sequences: unpublished (ITS)  
**1810** *Betula* - France, Roussillon 1986, herb. 10187, CBS: 104256  
 Mating types: 1,4/2; 3/5 Sequences: unpublished (ITS), U80652 (LSU)  
**1991** *Alnus* - Canada, BC 1988, herb. 10759, CBS: 104806  
 Mating types: 1,2,5/4; 3/6 Sequences: unpublished (ITS)  
**1992** *Cornus* - Canada, BC 1988, herb. 10762, CBS: 104811  
 Mating types: 1,2/4,5; 3/  
**2026** *Quercus* - Denmark, Jutland 1988, herb. 10838, CBS: 104954  
 Mating types: 9/2,4,7,10; 1,3,5,6,8/ Sequences: unpublished (ITS)  
**2054** *Fagus* - Sweden, VG 1988, herb. 10899  
 Mating types: 1,2,3,6/4; 5/  
**2176** *Ficus* - Taiwan, N. Shiahn 1988, herb. WU880726-55, CBS: 105377  
 Sequences: unpublished (ITS)  
**2181** dec. wood - Taiwan, N. Shiahn 1988, herb. WU880726-53, CBS: 105381  
 Sequences: unpublished (ITS)  
**2182** dec. wood - Taiwan, M. Shiahn 1988, herb. WU880824-51, CBS: 105382  
 Sequences: unpublished (ITS)  
**2205** *Rhodod.* - Turkey, Trabzon 1989, herb. 11290, CBS: 105469  
 Dupl. IRAN Mating types: 1,4,5,8/2,3,6,7 Sequences: unpublished (ITS)  
**2207** *Fagus* - Turkey, Trabzon 1989, herb. 11524, CBS: 105479  
 Dupl. IRAN Mating types: 4/5; 3/6 Sequences: unpublished (ITS)  
**2211** *Alnus* - Turkey, Trabzon 1989, herb. 11422, CBS: 105498  
 Dupl. IRAN Mating types: 1,5/3,7,8,9; 2/4,6  
**2225** dec. wood - Turkey, Trabzon 1989, herb. 11383, CBS: 105551  
 Dupl. IRAN Mating types: 1,2

**2296** *Fagus* - Sweden, VG 1990, herb. M.L.  
 Mating types: 1-3/ Sequences: unpublished (ITS)  
**2330** *Tilia* - Canada, Ontario 1991, herb.RGT, CBS: 105935  
 Mating types: 1,4,5,9/2,8; 3,6,7,10/ Sequences: unpublished (ITS)  
**2331** *Prunus* - Canada, Ontario 1991, herb.RGT  
 Mating types: 1,9/3,8,10; 2,4,7/5,6 Sequences: unpublished (ITS)  
**2420** dec. wood - Russia, Krasnodar 1991, herb.12302, CBS: 106285  
 Dupl. IRAN Mating types: 7/1,2,4,8; dev. Sequences: unpublished (ITS)  
**2562** dec. wood - Canada, BC 1994, herb.12817  
 Mating types: 3/10 Sequences: unpublished (ITS)  
**2566** dec. wood - Canada, BC 1994, herb.12805  
 Mating types: 1-10/  
**2584** - Sweden, VG 1994, herb.Hjm 17481, CBS: 106876  
 Mating types: 10/1,2,3,7  
**2691** dec. wood - Russia, Krasnodar 1996, herb.13009, CBS: 108553  
 Dupl. IRAN Sequences: unpublished (ITS)  
**2703** *Salix* - Russia, Krasnodar 1996, herb.13067, CBS: 108572  
 Dupl. IRAN Sequences: unpublished (ITS)  
**3184** branch - Iran, Gilan 2008, herb.16001  
 Dupl. IRAN

PENIOPHORA CINEREA (Fr.)Cke ssp FAGICOLA Hallenb. & E. Larss.  
 Compatibility group(s): C-1007,1474,1477,1484,1488,1788,1910, 2389

**1007** *Fagus* - Romania, Bist.-Nas. 1983, herb. 7952  
 Mating types: 3/5  
**1474** *Fagus* - Romania, Brasov 1985, herb. 9340  
 Mating types: 3/4,8  
**1477** dec. wood - Romania, Iasi 1985, herb. 9054, CBS: 103397  
**1484** *Fagus* - Romania, Neamt 1985, herb. 9218, CBS: 103427  
 Mating types: 1,2,3,4/5 ATCC: 64363 (PS), 64365 (SS-1), 64366 (SS-5)  
**1488** *Fagus* - Romania, Brasov 1985, herb. 9337, CBS: 103444  
 Mating types: 1,2/3,4,5,6  
**1788** *Fagus* - Spain, Huesca 1986, herb. 9808, CBS: 104156  
 Mating types: 1,2,6,7,10/3,4; 8/5,7,9 Sequences: unpublished (ITS) U80651  
 (LSU); AF506424 (LSU)  
**1910** *Fagus* - Denmark, Jylland 1987, herb. 10343  
 Mating types: 1,2,6/5,8,10; 9,3,4/7  
**2389** *Fagus* - Russia, Krasnodar 1991, herb.12112, CBS: 106144  
 Dupl. IRAN Mating types: 3/1,5,8; 7,9/2,4,6,10

PENIOPHORA CRUSTOSA Cooke

**3028** hardwood - New Zealand, Waikato 2004, herb.15185, CBS: 125882

Sequences: unpublished (ITS, LSU)

PENIOPHORA DECORTICANS Burt

**2004** Acer - Canada, BC 1988, herb. 10646, CBS: 104865

Mating types: 1,3,4,7/2,5,6,8 Sequences: U80653 (LSU)

PENIOPHORA ERIKSSONII Boid.

**1690** Alnus - Finland, PH 1986, herb. 9467, CBS: 103865

Sequences: AF210830 (ITS)

PENIOPHORA INCARNATA (Fr.)Karst.

Compatibility group(s): C-43,712,728,924,1020,1174,1502,1689,1837,1909,210  
0,2199, 2201, 2277, 2347,

2349, 2494, 2498, 2519

**712** Alnus - Canada, B.C. 1982, herb. 7204

Mating types: 2/3

**728** Alnus - Canada, B.C. 1982, herb. 7276

Mating types: 1,2/

**865** Rhamnus - Sweden, VG 1982, herb. 87, CBS: 108255, 108256

**924** con. wood - Scotland, Perthsh. 1983, herb. 7833, CBS: 108394

Mating types: 1/2 ATCC: 60032 (SS-1), 60033 (SS-2)

**1020** dec. wood - Romania, Iasi 1983, herb. 7981

**1174** dec. wood - Sweden, BO 1984, herb. 8191

**1502** dec. wood - Romania, Brasov 1985, herb. 9339, CBS: 103496

Mating types: 1,2,7/5,6

**1689** Populus - Finland, PH 1986, herb. 9479, CBS: 103862

Mating types: 6,7,9/1,2,3,4,5,8

**1837** dec. wood - Spain, Lerida 1986, herb. 10083

Mating types: 1-3/

**1909** Corylus - Denmark, Jylland 1987, herb. 10271, CBS: 104501

Mating types: 1,10/2,3,8; 4,6,9/5,7 Sequences: AF210831 (ITS); U80654 (LSU);  
AF506425 (LSU)

**2100** Rosa - Sweden, SK 1989, herb., CBS: 105125

Mating types: 1,5/4,6

**2199** dec. wood - Turkey, Trabzon 1989, herb. 11381, CBS: 105439

Dupl. IRAN Mating types: 1,6,10/5,8; 3/7 ATCC: 76922 (SS-7), 76939 (SS-1),  
76945 (SS-3), 76952 (SS-5), 76959 (PS)

**2201** Alnus - Turkey, Trabzon 1989, herb. 11435, CBS: 105449

Dupl. IRAN Mating types: 1,2,3,5/6,8; 4/7 ATCC: 76918 (SS-6), 76974 (SS-1), 76925 (PS)

**2277** *Alnus* - Turkey, Trabzon 1989, herb. 11487, CBS: 105764

Dupl. IRAN ATCC: 76930 (PS)

**2347** *Salix* - Denmark, Greenland 1991, herb.11824

Mating types: 8,9/1,5,6,7; 2/3,4,10

**2349** *Salix* - Denmark, Greenland 1991, herb.11905, CBS: 105981

Mating types: 1,4,7,10/9,6; 2,3,5,8/ dev. Sequences: unpublished (ITS)

**2494** *Nothofagus* - Argentina, T.d.Fuego 1993, herb.12432, CBS: 106607

Mating types: 4/1,3,5; 2/

**2498** *Nothofagus* - Argentina, T.d.Fuego 1993, herb.12484, CBS: 106617

Mating types: 6/1,2; 3,4,5/ Sequences: unpublished (ITS)

**2519** *Nothofagus* - Argentina, Chubut 1993, herb.12678, CBS: 106649

Mating types: 1,3/2,4,6,8; 5/7 Sequences: unpublished (ITS)

**2572** *Populus* - Finland, Etelä-Häme 1994, herb.12844, CBS: 106820

Mating types: 1,6,9/2,4,5,10; 7/3,8

**2573** *Populus* - Finland, Etelä-Häme 1994, herb.12837, CBS: 106825

Mating types: 1,3,6,9/2,4,10; 5,7,8/

**2574** *Alnus* - Finland, Etelä-Häme 1994, herb.12856, CBS: 106830

Mating types: 1,7,8,10/5,6,9; 4/2,3

**2578** *Salix* - Finland, Etelä-Häme 1994, herb.12826, CBS: 196848

Mating types: 1,6,8,(10)/4,7; 2/3,5,9

**2579** *Salix* - Finland, Etelä-Häme 1994, herb.12828, CBS: 106853

Mating types: 1/3,7,10; 4,5,8/6,9

**2871** *Alnus* - USA, Georgia 1998, herb.14256

Mating types: 2,3/5,8; 7/4,6 Sequences: unpublished (ITS)

**2889** *Alnus* - USA, N. Carolina 1998, herb.14302

Mating types: 3/2; 1,4/ Sequences: unpublished (ITS)

**3117** branch, log - Australia, Tasmania 2006, herb.15833

Sequences: unpublished (ITS)

**3137** *Carpinus* - Iran, Azerbadjan 2006, herb. MG 457

**3187** branch - Iran, Gilan 2008, herb. 16032

Dupl. IRAN Sequences: unpublished (ITS)

**3195** branch - Iran, E Azerbaijan 2008, herb. 16162

Dupl. IRAN Sequences: unpublished (ITS)

*PENIOPHORA INCARNATA* (Fr.)Karst. s.l.

**2706** dec. wood - Russia, Krasnodar 1996, herb.13084, CBS: 108583

Dupl. IRAN Mating types: 1-10/



PENIOPHORA LAETA (Fr.)Donk

Compatibility group(s): C-86,1005,1266,1475,1905, 2384, 2390,2729

**86** dec. wood - Iran, Gorgan 1978, herb. 2555

Dupl. IRAN Sequences: GU322867 (ITS)

**1005** Carpinus - Romania, Iasi 1983, herb. 7998

Mating types: 1-6/ Sequences: GU322862 (ITS)

**1266** Carpinus - Sweden, SK 1984, herb. 8557, CBS: 102917

Mating types: 1,3/4 Sequences: GU322861 (ITS)

**1470** Carpinus - Romania, Iasi 1985, herb. 9091, CBS: 103375

**1475** dec. wood - Romania, Cluj 1985, herb. 9358, CBS: 103393

Mating types: 1,5/2,3 Sequences: GU322864 (ITS)

**1500** Carpinus - Romania, Iasi 1985, herb.9229, CBS: 103487

**1905** Carpinus - Sweden, ÖL 1987, herb., CBS: 104491

Mating types: 1/4; 2,3,5,6,9,10/7,8 Sequences: GU322860 (ITS)

**2384** dec. wood - Russia, Krasnodar 1991, herb.12298, CBS: 106124

Dupl. IRAN Mating types: 1,6,9/2,4,5; 7,8/3,10 Sequences: GU322866 (ITS)

**2390** Carpinus - Russia, Krasnodar 1991, herb.12003, CBS: 106149

Dupl. IRAN Mating types: 1,2,3,4,10/6,8; 7/5,9 Sequences: GU322865 (ITS)

**2664** dec. wood - Russia, Krasnodar 1996, herb.12930, CBS: 108513

Dupl. IRAN

**2681** Carpinus - Russia, Krasnodar 1996, herb.12978, CBS: 108537

Dupl. IRAN Sequences: GU322869 (ITS)

**2729** Carpinus - Russia, Krasnodar 1996, herb.13150, CBS: 108673

Dupl. IRAN Mating types: 2,3/5,8; 6/9 Sequences: GU322863 (ITS)

**2764** Fagus - Turkey, Trabzon 1996, herb.13253, CBS: 108812

Dupl. IRAN Mating types: 1,3/7,8; 4,6/9,10,2,5 Sequences: GU322868 (ITS)

**3185** Fagus - Iran, Gilan 2008, herb.16022

Dupl. IRAN

PENIOPHORA LAURENTII (Lund.)Nannf.

**2321** Betula - Russia, Ural 1990, herb.VM , CBS: 105892

Sequences: unpublished (ITS)

PENIOPHORA LILACEA Bourd. & Galz.

**3206** branch - Iran, E-Azerbaijan 2008, herb.16228

Dupl. IRAN Sequences: unpublished (ITS)

PENIOPHORA LIMITATA (Fr.)Cke

Compatibility group(s): C-231,1012,1167,1481

**231** Fraxinus - Denmark, Jylland 1981, herb. 3572, CBS: 107249

Mating types: 2,3/

**1012** Fraxinus - Romania, Suceava 1983, herb. 7959

Mating types: 1-5/

**1167** Fraxinus - Sweden, BO 1984, herb. 8182

Mating types: 1,2,3,4/ Sequences: unpublished (ITS)

**1481** Fraxinus - Romania, Iasi 1985, herb. 9055, CBS: 103414

Mating types: 1-9/ Sequences: unpublished (ITS)

**2553** Fraxinus - Russia, Chechenia 1987, herb.TAA 126044

Sequences: unpublished (ITS)

PENIOPHORA LIMITATA (Fr.)Cke s.l.

**2762** dec. wood - Russia, Krasnodar 1996, herb.13249, CBS: 108802

Dupl. IRAN Mating types: 8,4/6; 3/1,5,9,10 Sequences: unpublished (ITS)

PENIOPHORA LYCII (Pers.)Höhn. & Litsch.

Compatibility group(s): C-26,48,1807,2104,2111,2122,2192,2387

**26** - Sweden, BO 1975, herb. 9487

**48** Quercus - Sweden, SK 1979, herb. 3057, CBS: 106982

**1807** dec. wood - Spain, Lerida 1986, herb. 10078, CBS: 104244

Mating types: 1/3; 2,4/ Sequences: unpublished (ITS)

**2104** dec. wood - Spain, Tenerifa 1989, herb. 11030, CBS: 105135

Mating types: 1,2,3,9/6; 4,7/5,8 ATCC: 76934 (SS-1), 76963 (SS-6), 76937 (PS)

**2111** dec. wood - Spain, Tenerifa 1989, herb. 10957, CBS: 105165

Mating types: 1,5/9; 2,3,8/4,6,10 ATCC: 76921 (SS-9), 76936 (PS)

**2122** dec. wood - Spain, Tenerifa 1989, herb. 10942, CBS: 105205

Mating types: 1,9/4,8; 2,10/3,5,6,7 ATCC: 76935 (PS), 76942 (SS-2), 76955 (SS-1), 76968 (SS-4)

**2192** dec. wood - Turkey, Trabzon 1989, herb. 11385

Dupl. IRAN Mating types: 1,3,10/2,5; 6/7,9 ATCC: 76931 (SS-1), 76932 (SS-2), 76940 (PS)

**2387** Cornus - Russia, Krasnodar 1991, herb.12273, CBS: 106131, 106134

Dupl. IRAN Mating types: 1,9,10,8/ 2,3,7,4,5,6; dev. Sequences: unpublished (ITS)

**2571** - Denmark, Vemmetofte 1994, herb.NN 6113, CBS: 106815

**2683** dec. wood - Russia, Krasnodar 1996, herb.12986, CBS: 108539

Dupl. IRAN

**3189** branch - Iran, Gilan 2008, herb.16037

Dupl. IRAN

**3194** branch - Iran, E Azerbaijan 2008, herb.16160

Dupl. IRAN

PENIOPHORA MANSURICA Parm.

**2541** Quercus - Russia, Khabarovsk 1982, herb.TAA 105064, CBS: 106743

**2542** Quercus - Russia, Primorsk 1985, herb.TAA 106167, CBS: 106744

PENIOPHORA MERIDIONALIS Boid.

Compatibility group(s): C-2116,2124,2336,2441

**2116** dec. wood - Spain, Gomera 1989, herb. 11152, CBS: 105185

Mating types: 1,6/7; 2,3,10/4,5,9 ATCC: 76929 (PS), 76941 (SS-4), 76954 (SS-1), 76975 (SS-2)

Sequences: unpublished (ITS), U80655 (LSU)

**2124** dec. wood - Spain, Tenerifa 1989, herb. 11071, CBS: 105212

Mating types: 1/3; 2,4,5/ ATCC: 76923 (PS), 76926 (SS-1)

**2336** Quercus - France, 1991, herb.GG 2355, CBS: 105949

Mating types: 1,8/2,3,4,5,7; 6,9/10

**2441** dec. wood - Spain, Salamanca 1991, herb.12313, CBS: 106384

Mating types: 7/5,6,8,10; 2/4,9

PENIOPHORA NUDA (Fr.)Bres.

Compatibility group(s): C-51,212,448,1006,1180,1256,1405,1407, 1547, 1809, 1967; C-1,2,3,5,2487,2611;

C-2193

**51** Fraxinus - Sweden, SK 1979, herb. 3070

**212** Prunus - Sweden, SK 1981, herb. 8465, CBS: 107220

Mating types: 3/1,2

**448** Populus - Sweden, VG 1982, herb. 13003

Mating types: 9/2,10; 11/3,6

**1006** dec. wood - Romania, Iasi 1983, herb. 7999

Mating types: 1,2,3,4,6/

**1180** Quercus - Norway, RO 1984, herb. 8393

Mating types: 1-5/

**1256** Fagus - Sweden, SK 1984, herb. 8638

Mating types: 1,2/5; 3,6/4 ATCC: 64369 (PS), 64370 (SS-1), 64371 (SS-3), 64372 (SS-4)

Sequences: unpublished (ITS)

**1405** Caragana - Russia, Armenia 1984, herb. 4439

**1407** Betula - France, Ain 1984, herb. 4583

**1547** Syringa - Sweden, VS 1985, herb. 2011

**1809** Betula - France, Roussillon 1986, herb. 10200, CBS: 104251

Mating types: 1/6,7,10; 5/3,4,8,9 Sequences: unpublished (ITS), U80656 (LSU)

**1967** *Fagus* - Sweden, HA 1987, herb., CBS: 104765  
Mating types: 1,7,8/3,9; 2,4,5,6,10/  
**2193** dec. wood - Turkey, Trabzon 1989, herb. 11591, CBS: 105416  
Dupl. IRAN Mating types: 4,6,10/1,2,3,5,7,8,9 ATCC: 76919 (SS-4), 76978 (SS-1), 76957 (PS)  
Sequences: unpublished (ITS)  
**2340** *Cornus* - Canada, Quebec 1991, herb. TRTC 51235, CBS: 105956  
Sequences: unpublished (ITS)  
**2341** *Cercis* - Canada, Ontario 1991, herb. TRTC 51240, CBS: 105957  
**2343** *Fraxinus* - Canada, Ontario 1991, herb. TRTC 51249, CBS: 105959  
**2344** *Fraxinus* - Canada, Ontario 1991, herb. TRTC 51251, CBS: 105960

PENIOPHORA NUDA (Fr.) Bres. - *Ulmus carpiniifolia*-type

**1** *Ulmus carp.* - Sweden, GO 1978  
**2** *Ulmus carp.* - Sweden, GO 1978  
**3** *Ulmus carp.* - Sweden, GO 1978  
**5** *Ulmus carp.* - Sweden, ÖL 1978, ATCC: 64367 (SS-2), 64368 (SS-3)  
**2487** *Ulmus carp.* - Sweden, Göteborg 1992, herb. TA, CBS: 106581  
Mating types: 1,2/3,6; 4/ Sequences: unpublished (ITS)  
**2611** *Ulmus minor* - Germany, Hessen 1995, herb. 12893  
Mating types: 1,3,5,6,9/4,8,10; 2,7/ Sequences: unpublished (ITS)

PENIOPHORA PICEAE (Pers.) John Erikss.

Compatibility group(s): C-1239, 2306; C-1822  
**1239** *Picea* - Norway, OP 1984, herb. 8440  
Mating types: 1-6/ Sequences: unpublished (ITS)  
**1822** *Abies* - Spain, Lerida 1986, herb. 9965, CBS: 104307  
Mating types: 1-8/ Sequences: unpublished (ITS)  
**2306** *Picea* - Norway, Akershus 1990, herb. 11618, CBS: 105837  
Mating types: 2/1,3,4,6; 5/ Sequences: U80657 (LSU)  
**2742** *Abies* - Russia, Krasnodar 1996, herb. 13200, CBS: 108732  
Dupl. IRAN Mating types: 3/5,7,10; 1,2,6,8,9/

PENIOPHORA PILATIANA Pouzar & Svrzek

**2552** *Pistacia* - France, Corsica 0, herb. LY 9737, CBS: 106763, 106774  
Sequences: unpublished (ITS)

PENIOPHORA PILATIANA Pouzar & Svrzek s.l.

**2733** *Pterocarya* - Russia, Krasnodar 1996, herb. 13168, CBS: 108689  
Dupl. IRAN Mating types: 1,2,3,9,10/4,6,7; 8/5

PENIOPHORA PINI (Fr.)Boid.

**2399** Pinus - Russia, Krasnodar 1991, herb.12252, CBS: 106187

Dupl. IRAN Mating types: 1,2,3,6,10/4,9; 5,7/8 Sequences: unpublished (ITS), U80658 (LSU)

PENIOPHORA PINI-group

**2177** Alnus - Taiwan, Taipei 1988, herb. WU880115, CBS: 105378

PENIOPHORA PITHYA (Pers.)John Erikss.

**2226** Picea - Turkey, Trabzon 1989, herb. 11321, CBS: 105556

Dupl. IRAN Mating types: 6,7/4,3 Sequences: unpublished (ITS)

PENIOPHORA POLYGONIA (Fr.)Bourd. & Galz.

Compatibility group(s): C-232,765,893,1903; C-2315

**232** Populus - Denmark, Jylland 1981, herb. 3536, CBS: 107250

**765** Populus - Canada, Ont. 1982, herb. 7466

**893** dec. wood - Denmark, Jylland 1983, herb. 7703, CBS: 108320

Mating types: 1/3; 2,5/4 ATCC: 60034 (SS-1), 60035 (SS-2), 60036 (SS-3), 60037 (SS-4)

**1903** Populus - Sweden, VG 1987, herb., CBS: 104484

Mating types: 1,4,6/8,10; 2,9/3,5,7 Sequences: unpublished (ITS), U80659 (LSU)

**2315** Salix - Russia, Ural 1990, herb.VM

Mating types: 1-10/ Sequences: unpublished (ITS)

PENIOPHORA PROXIMA Bres.

**1795** Buxus - Spain, Lerida 1986, herb. 10060

Mating types: 1,2,9/(6),8; 5/4,7 Sequences: unpublished (ITS), U80660 (LSU)

**2670** Buxus - Russia, Krasnodar 1996, herb.12955, CBS: 108519

Dupl. IRAN

PENIOPHORA PSEUDOVERSICOLOR Boidin

**2951** - , herb.MUCL32716, CBS: 125881

PENIOPHORA QUERCINA (Fr.)Cke

Compatibility group(s): C-15,1169,1467,1472,1480, 2388, 2391

**15** Quercus - Sweden, VG 1977, herb. 7706

**1169** dec. wood - Sweden, BO 1984, herb. 8184

Mating types: 1/2; 3/4

**1467** dec. wood - Romania, Iasi 1985, herb. 9079  
**1472** dec. wood - Romania, Iasi 1985, herb. 9268, CBS: 103384  
Mating types: 3,4,7/1,5,6,8 Sequences: unpublished (ITS)  
**1480** dec. wood - Romania, Iasi 1985, herb. 9068  
**2388** Quercus - Russia, Krasnodar 1991, herb.12286, CBS: 106139  
Mating types: 1,2,7,9/5,8; 3,4,6/10 Sequences: unpublished (ITS)  
**2391** dec. wood - Russia, Krasnodar 1991, herb.12005, CBS: 106154  
Dupl. IRAN Mating types: 4,(9)/8,3,1,7; dev.  
**2546** Quercus - Aserbaijan, Kusary 1983, herb.TAA 105231, CBS: 106758  
Sequences: unpublished (ITS)  
**2547** Quercus - Aserbaijan, Kusary 1983, herb.TAA 105233, CBS: 106759  
Sequences: unpublished (ITS)  
**2548** Quercus - Russia, Chechenia 1987, herb.TAA 107817, CBS: 106760  
Sequences: unpublished (ITS)  
**2549** Quercus - Poland, Kampinoski 1988, herb.TAA 150536  
**2550** Quercus - Aserbaijan, 1981, herb.TAA 104206  
Sequences: unpublished (ITS)  
**2554** Quercus - Estonia, Tartu 1993, herb.TAA 152656, CBS: 106776  
Sequences: unpublished (ITS)  
**2555** - Estonia, 1993, herb.TAA 152857, CBS: 106777  
**2687** Quercus - Russia, Krasnodar 1996, herb.12996, CBS: 108542  
Dupl. IRAN  
**2773** Quercus - Turkey, Trabzon 1996, herb.13273, CBS: 108844  
Dupl. IRAN

**PENIOPHORA RUFA** (Fr.)Boid.

Compatibility group(s): C-579, 2402

**579** wood - Canada, Que. 1982, herb. 6269, CBS: 107790

**2402** Populus - Russia, Krasnodar 1991, herb.12027

Dupl. IRAN Mating types: 6/1,3,4,5,10; 2,7,8,9/ Sequences: U80661 (LSU)

**PENIOPHORA RUFOMARGINATA** (Pers.)Litsch.

Compatibility group(s): C-1181,1473-PC-2110

**1181** Tilia - Norway, RO 1984, herb. 8394

Mating types: 5/3,4 Sequences: unpublished (ITS)

**1471** dec. wood - Romania, Iasi 1985, herb. 9248, CBS: 103379

Mating types: 1-8/

**1473** Tilia - Romania, Iasi 1985, herb. 9274, CBS: 103387

Sequences: unpublished (ITS)

**2110** dec. wood - Spain, Tenerife 1989, herb. 10941, CBS: 105160

Mating types: 1,3/2,4,5,6,8 ATCC: 76924 (SS-4), 76977 (SS-1), 96380 (PS)  
Sequences: unpublished (ITS)

**2543** *Tilia* - Poland, Chabowka 1988, herb.TAA 150533, CBS: 106748

**2544** *Tilia* - Moldavia, Kordy 1975, herb.TAA 59044

Sequences: unpublished (ITS)

*PENIOPHORA SCINTILLANS* Cunn.

**2180** *Bridelia* - Taiwan, Taipei 1988, herb. WU880512-7, CBS: 105380

**2183** *Premna* - Taiwan, S. Shiahn 1988, herb. WU880404-4, CBS: 105383

*PENIOPHORA SIMULANS* Reid

**2551** *Fagus* - France, Corsica, herb.LY 5152, CBS: 106762

Sequences: unpublished (ITS)

*PENIOPHORA* sp

**835** *Quercus* - USA, Texas, herb.DAOM 100760, CBS: 108204

**2197** *Rhodod.* - Turkey, Trabzon 1989, herb. 11488

Dupl. IRAN Mating types: 1-10/ Sequences: unpublished (ITS)

**2204** dec. wood - Turkey, Trabzon 1989, herb. 11281, CBS: 105464

Mating types: 9/2,3,7,8; 1,4,5,6,10/

**2569** -, 1994, herb.NN 7471

**2570** -, 1994, herb.NN 7567, CBS: 106814

**2865** hardwood - USA, Georgia 1998, herb.14236

Mating types: 2,7,4/3,5,6,1 Sequences: unpublished (ITS)

*PENIOPHORA VERSICOLOR* (Bres.)Sacc. & Syd.

Compatibility group(s): C-2108, 2115, 1156

**1156** *Pinus* - Spain, Canaria 1984, herb. 8171

Mating types: 4,6/5,7,9; 1,10/8

**2108** *Persea* - Spain, Tenerife 1989, herb. 11082, CBS: 105151

Mating types: 1,8/5,6,7; 2/3,4 ATCC: 76949 (SS-5), 76951 (SS-2), 76953 (SS-1), 76980 (SS-3), 76956 (PS) Sequences: unpublished (ITS)

**2115** *Erica* - Spain, Gomera 1989, herb. 11123, CBS: 105182

Mating types: 1,3/2,5; 4/ ATCC: 76947 (SS-1), 96369 (PS) Sequences: U80662 (LSU)

*PENIOPHORA VIOLACEOLIVIDA* (Sommerf.)Masee

Compatibility group(s): C-1428,1808, 2314, 2316, 2442

**428** *Populus* - Norway, Østfold 1985, herb. 8921, CBS: 103239

Mating types: 1,2,3,4,5,7,8/9,10; 6/ ATCC: 64373 (PS), 64374 (SS-1), 64375 (SS-9)

**1808** dec. wood - France, Pyr.Orien. 1986, herb. 10193, CBS: 104246

Mating types: 1,9,10/3,5,7; 6/2,4,8 Sequences: unpublished (ITS)

**2314** Salix - Russia, Ural 1990, herb.VM , CBS: 105860

Mating types: 2,5/3; 9/6,8

**2316** Salix - Russia, Ural 1990, herb.VM , CBS: 105870

Mating types: 1/3; 4/2,5,6,7 Sequences: unpublished (ITS)

**2442** Salix - Spain, Salamanca 1991, herb.12316, CBS: 106389

Mating types: 1,5,9/2,3,7,10; 8,4/6

**2575** Populus - Finland, Etelä-Häme 1994, herb.12845, CBS: 106835

Mating types: 2,3/4,5,7,8,10

**2576** dec. wood - Finland, Etelä-Häme 1994, herb.12829, CBS: 106840

Mating types: 1,2,5,6,8/7; 3/4,10

PENIOPHORELLA GUTTULIFERA (Karst.)K.H. Larss

**268** Betula - Sweden, TO 1981, herb. 3680, CBS: 107303

**629** Ulmus - Canada, Que. 1982, herb. 6525, CBS: 107873

**974** Betula - Scotland, Perthsh. 1983, herb. 7813

Mating types: H? Sequences: DQ647502 (ITS)

**2438** Pinus - Russia, Krasnodar 1991, herb.12012, CBS: 106370

Dupl. IRAN Mating types: 1,3,4,9,7,10/2,5,6,8 Sequences: DQ647501 (ITS); AY586667 (LSU)

PENIOPHORELLA ODONTIIFORMIS (Boidin & Berthet) K.H. Larss.

**2950** branch - Cameroun, , herb. MUCL32673

Sequences: DQ647498 (ITS)

**2955** Fagus - Japan, Tottori , herb. TMIC50047

Sequences: DQ647500 (ITS)

**2960** Angiosperm - Japan, Haha-Jima I, herb.TMIC34389

Sequences: DQ647496 (ITS)

PENIOPHORELLA PALLIDA (Bres.)K.H. Larss.

Compatibility group(s): C-457,515, 959,1782,2456; C-1059

**457** Picea - Norway, Nordl. 1982, herb. 160, CBS:

**515** dec. wood - Sweden, HL 1982, herb. 3471

Mating types: 1/2

**959** con. wood - Scotland, Perthsh. 1983, herb. 7884

**1059** Picea - Norway, Hedm. 1983, herb. 4618

**1429** Pinus - Norway, Östfold 1985, herb. 8922, CBS: 103244



Mating types: 1,3/

**1782** dec. wood - Sweden, VG 1986, herb. 6454

**2456** Abies - Russia, Krasnodar 1991, herb.12136

Mating types: 1,2,5,8,10/3,4,6,7,9

PENIOPHORELLA PERTENUIS (Karst.)Hallenb.&R.H.Nilsson

**824** dec. wood - Denmark, Sjaelland 1982, herb. 3868, CBS: 108184

Mating types: H Sequences: DQ647479 (ITS)

**2165** Erica - Spain, Tenerife 1989, herb. 11063

Mating types: H Sequences: DQ647485 (ITS)

**2218** Corylus - Turkey, Trabzon 1989, herb. 11553

Dupl. IRAN Mating types: H Sequences: DQ647483 (ITS)

**2247** Picea - Turkey, Trabzon 1989, herb. 11357, CBS: 105650

Dupl. IRAN Mating types: H Sequences: DQ647481 (ITS)

**2430** Abies - Russia, Krasnodar 1991, herb.12146

Dupl. IRAN Mating types: H Sequences: DQ647482 (ITS)

**2461** Abies - Russia, Krasnodar 1991, herb.12198

Mating types: 1,3,7,8/2,4,5,6 ATCC: 96357 (PS) Sequences: DQ647470 (ITS)

**2493** Nothofagus - Argentina, T.d.Fuego 1993, herb.12429, CBS: 106602

Sequences: DQ647486 (ITS)

**2495** Nothofagus - Argentina, T.d.Fuego 1993, herb.12436, CBS: 106608

Sequences: DQ647492 (ITS)

**2500** Nothofagus - Argentina, T.d.Fuego 1993, herb.12490, CBS: 106619

Sequences: DQ647488 (ITS)

**2512** Nothofagus - Argentina, T.d.Fuego 1993, herb.12587, CBS: 106633

Sequences: DQ647489 (ITS)

**2514** Nothofagus - Argentina, T.d.Fuego 1993, herb.12591

Sequences: DQ647490 (ITS)

**2521** Nothofagus - Argentina, Chubut 1993, herb.12688, CBS: 106658

Mating types: 2,4,5,7,8/; SS-2 clamped

**2529**broad-l. tree - Argentina, Chubut 1993, herb.12751

Mating types: 1,3,5/4

**2531** Austrocedrus - Argentina, Chubut 1993, herb.12756, CBS: 106699

Mating types: 2,5,6/4 Sequences: DQ647491 (ITS)

**2961** Eleagnus - Japan, Oita, herb.TMIC32107

Sequences: DQ647484 (ITS)

**2966** hardwood - New Zealand, Westcoast 2004, herb.15101, CBS: 125857

Sequences: DQ647480 (ITS)

**2967** podocarp - New Zealand, Westcoast 2004, herb.15115, CBS:

Sequences: DQ647487 (ITS)

**3094** branch, log - Australia, Tasmania 2006, herb.15697

Sequences: GQ409532

**PENIOPHORELLA PRAETERMISSA** (Karst.)K.H. Larss.

Compatibility group(s):

C-(PC)-259,275,402,465,493,1321,1358,1708,1828,1874,669,692; C-939,1052,1070,1211,1799,1804,2429; C-2130,2147; C-950,1682,2156,2160,2161; C-2414,2461; C-2521,2529,2531

**256** Pinus - Denmark, Jylland 1981, herb. 3498, CBS: 107280

**259** Betula - Sweden, TO 1981, herb. 3710

**275** Pinus - Denmark, Jylland 1981, herb. 3544ATCC: 60283 (SS-1), 60284 (SS-2)

**277** dec. wood. - Denmark, Jylland 1981, herb. 3494

Sequences: DQ647453 (ITS)

**282** Betula - Sweden, TO 1981, herb. 3614, CBS: 107314

Mating types: 4 dik.

**402** con. wood - Austria, Steierm. 1981, herb. 4569

Mating types: 1/2

**461** Picea - Norway, S.Trönd. 1982, herb. 2835

Mating types: H Sequences: DQ647450 (ITS)

**465** Picea - Canada, B.C. 1982, herb. 6608

Mating types: 1,3,4/5,6 Sequences: DQ647448 (ITS)

**493** Picea - Canada, B.C. 1982, herb. 6719, CBS: 107617

Sequences: DQ647449 (ITS)

**646** Thuja - Canada, B.C. 1982, herb. 6851

Mating types: 1,4/2,5 Sequences: DQ647447 (ITS)

**692** Alnus - Canada, B.C. 1982, herb. 7116, CBS: 107975, 107976

**758** Tsuga - Canada, Ont. 1982, herb. 7440, CBS: 108066

Sequences: DQ647471 (ITS)

**808** wood - Canada, Ont. 1982, herb. 7505, CBS: 108141

Mating types: clamps!

**900** Picea - Denmark, Jylland 1983, herb. 7717

Mating types: H Sequences: DQ647451 (ITS)

**939** Betula - Scotland, Perthsh. 1983, herb. 7807

Sequences: DQ647464 (ITS)

**950** Ulmus - Sweden, VG 1983, herb. KHL4363, CBS: 108460

Sequences: DQ647472 (ITS)

**962** Pinus - Scotland, Perthsh. 1983, herb. 7827

Sequences: DQ647460 (ITS)

**1052** dec. wood - Romania, Iasi 1983, herb. 7987  
 Mating types: 1,2/ Sequences: DQ647465 (ITS)  
**1070** dec. wood - BRD, Hessen 1983, herb. 4744  
**1211** dec. wood - Norway, HO 1984, herb. 8318  
**1321** Picea – Sweden, GO 1984, herb. 8721  
**1358** Fagus - Sweden, DS 1984, herb. 5170, CBS: 103164  
 Sequences: DQ647441 (ITS)  
**1533** dec. wood - Romania, Iasi 1985, herb. 9236, CBS: 103617  
 Mating types: H?  
**1682** dec. wood - Sweden, VG 1986, herb. 6283, CBS: 103830  
 Sequences: DQ647473 (ITS)  
**1708** Betula - Finland, PH 1986, herb. 9536, CBS: 103906  
 Sequences: DQ647444 (ITS); AY586671 (LSU)  
**1799** Fagus - Spain, Huesca 1986, herb. 9815, CBS: 104206  
 Mating types: 1,4,8,9,10/2,3,5,6,7 Sequences: DQ647454 (ITS)  
**1804** Fagus - Spain, Huesca 1986, herb. 9811  
 Mating types: SS-2 clamped Sequences: DQ647467 (ITS)  
**1828** Pinus - France, Roussillon 1986, herb. 10164  
 Mating types: 1,4,5,9/2,3,6,7,8,10 Sequences: DQ647443 (ITS)  
**1831** Abies - Spain, Lerida 1986, herb. 9943  
 Mating types: 1,3,5/2,4 Sequences: DQ647446 (ITS)  
**1845** Pinus - Spain, Lerida 1986, herb. 10053, CBS: 104393  
**1874** Abies - Spain, Lerida 1986, herb. 9996  
 Mating types: 1,2/ ATCC: 96352 (PS) Sequences: DQ647445 (ITS)  
**1926** Alnus - Denmark, Jylland 1987, herb. 10314, CBS: 104581  
 Mating types: H  
**2130** Pinus - Spain, Tenerife 1989, herb. 11192, CBS: 105236  
 Mating types: 1,6/2,3,4,5,7,8,9 Sequences: DQ647461 (ITS)  
**2147** Pinus - Spain, Tenerife 1989, herb. 10986  
 Mating types: 1,2,6/3,4,5 ATCC: 96353 (PS) Sequences: DQ647462 (ITS)  
**2156** Laurus - Spain, Tenerife 1989, herb. 10969  
 Mating types: 1,2/3  
**2160** dec. wood - Spain, Gomera 1989, herb. 11131  
 Mating types: 1,5/2,3,4 Sequences: DQ647474 (ITS)  
**2161** Laurus - Spain, Tenerife 1989, herb. 10970, CBS: 105333  
 Mating types: 1,2,3,5/4 ATCC: 96354 (PS)  
**2232** Alnus - Turkey, Trabzon 1989, herb. 11451  
 Dupl. IRAN Mating types: H Sequences: DQ647455 (ITS)  
**2371** Betula - Denmark, Greenland 1991, herb. 11803, CBS: 106067  
 Mating types: H Sequences: DQ647456 (ITS)

- 2373** *Betula* - Denmark, Greenland 1991, herb.11941  
Mating types: H Sequences: DQ647457 (ITS)
- 2375** *Betula* - Denmark, Greenland 1991, herb.11919, CBS: 106083  
Mating types: H Sequences: DQ647459 (ITS)
- 2376** *Betula* - Denmark, Greenland 1991, herb.11948, CBS: 106086  
Mating types: H ATCC: 96355 (PS) Sequences: DQ647458 (ITS)
- 2414** *Abies* - Russia, Krasnodar 1991, herb.12066  
Dupl. IRAN Mating types: 1,3,4/5,6,7,8,9,10,2 Sequences: DQ647469 (ITS)
- 2429** *Quercus* - Russia, Krasnodar 1991, herb.12268, CBS: 106328  
Dupl. IRAN Mating types: 1,2,3,4/5,6,7,8,9,10 ATCC: 96356 (PS) Sequences: DQ647466 (ITS)
- 2669** *Buxus* - Russia, Krasnodar 1996, herb.12954, CBS: 108518  
Dupl. IRAN
- 2702** dec. wood - Russia, Krasnodar 1996, herb.13065, CBS: 108571  
Dupl. IRAN
- 2956** - Japan, , herb.TMIC33862  
Sequences: DQ647476 (ITS)
- 2957** *Angiosperm* - Japan, Chiyoda-Ku , herb.TMIC33703  
Sequences: AJ534281 (ITS)
- 2958** *Angiosperm* - Japan, Chiyoda-Ku , herb.TMIC33702  
Sequences: AJ534279 (ITS)
- 2959** dec. Wood - Japan, Akita , herb.TMIC34061  
Sequences: DQ647452 (ITS)
- 3031** hardwood - Canada, Gaspé 2004, herb.AN  
Sequences: DQ647463 (ITS)
- 3138** *Cornus* - USA, Florida 1977, herb.HHB 9446sp  
Sequences: GQ409534 (ITS)
- 3190** branch - Iran, Gilan 2008, herb.16099  
Dupl. IRAN Sequences: unpublished (ITS)
- 3200** branch - Iran, E Azerbaijan 2008, herb.16187  
Dupl. IRAN Sequences: unpublished (ITS)
- 3208** branch - Iran, E-Azerbaijan 2008, herb.16239  
Dupl. IRAN Sequences: unpublished (ITS)

**PENIOPHORELLA PUBERA** (Fr.)Karst.

Compatibility group(s): C-58,321,537,1707,971,1922-23,1925,1928-31,1949-52,1955,1957, 1959, 2245, 2440; C-652; C-1503; C-1858

- 58** *Quercus* - Denmark, Jylland 1979, herb. 3130  
Mating types: 1,2/

**70** Pinus - Denmark, Jylland 1979, herb. 3170, CBS: 107003  
 Mating types: 1,2,3/  
**321** dec. wood - Sweden, VS 1981, herb. 3950, CBS: 107353  
 Mating types: 1,3/2; 1 dik. ATCC: 60012 (SS-1), 60346 (SS-2) Sequences:  
 DQ647506 (ITS)  
**537** Pinus - Canada, Que. 1982, herb. 6042  
**652** Thuja - Canada, B.C. 1982, herb. 6873  
 Mating types: 1,3/2 Sequences: unpublished (ITS)  
**913** Betula - Denmark, Jylland 1983, herb. 7728, CBS: 108369  
**953** Alnus - Sweden, ÖG 1983, herb. 13890, CBS: 108471  
**971** dec. wood - Sweden, ÖL 1983, herb. EL 4439  
 Sequences: DQ647503 (ITS)  
**1503** Pinus - Austria, Burgenland 1985, herb. 9365, CBS: 103501  
**1707** Picea - Finland, EH 1986, herb. 9510, CBS: 103901  
**1922** Corylus - Denmark, Jylland 1987, herb. 10266, CBS: 104561  
 Mating types: 1,2,3,4,10/5,6,7,8,9  
**1923** Alnus - Denmark, Jylland 1987, herb. 10311, CBS: 104566  
 Mating types: 1-10/  
**1925** Alnus - Denmark, Jylland 1987, herb. 10321, CBS: 104576  
 Mating types: 7/1,2,3,4,5,6,8,9,10  
**1928** Fagus - Denmark, Jylland 1987, herb. 10357, CBS: 104591  
 Mating types: 1,2,3,7,8,9/4,5,6,10  
**1929** Alnus - Denmark, Jylland 1987, herb. 10315, CBS: 104596  
 Mating types: 1,2,4,5,6,9/3,7,8  
**1930** Fagus - Denmark, Jylland 1987, herb. 10346, CBS: 104601  
 Mating types: 1,3,7,9,10/2,4,5,6,8  
**1931** dec. wood - Denmark, Jylland 1987, herb. 10291, CBS: 104606  
 Mating types: 1,2,6,9/3,4,5,7,8,10  
**1949** Picea - Denmark, Jylland 1987, herb. 10380, CBS: 104685  
 Mating types: 1,2,3,4,5,6,8,10/7,9 Sequences: DQ647504 (ITS)  
**1950** Picea - Denmark, Jylland 1987, herb. 10386  
 Mating types: 1,2,4,6,7,8,9/3,5,10  
**1951** Picea - Denmark, Jylland 1987, herb. 10382  
 Mating types: 2/3,4,5,6,7,8,9,10  
**1952** Betula - Denmark, Jylland 1987, herb. 10512  
 Mating types: 1,2,4,6,7,8,10/3,5,9 Sequences: DQ647505 (ITS)  
**1955** Picea - Denmark, Jylland 1987, herb. 10517  
 Mating types: 1,2,3,5,6,7,9,10/4,8  
**1957** Quercus - Denmark, Jylland 1987, herb. 10465, CBS: 104723  
 Mating types: 1,2,6,7,9/3,4,5,8,10

**1959** *Quercus* - Denmark, Jylland 1987, herb. 10459  
Mating types: 1,3,8/2,4,5,6,7,9,10  
**2245** dec. wood - Turkey, Trabzon 1989, herb. 11384, CBS: 105642  
Dupl. IRAN Mating types: 1,3,5,7,8/2,4,6 ATCC: 76820 (SS-1), 76849 (SS-2),  
76848 (PS)  
**2440** *Abies* - Russia, Krasnodar 1991, herb.12069, CBS: 106379  
Dupl. IRAN Mating types: 6,9/1,2,3,4,5,7,8,10 Sequences: DQ647507 (ITS)  
**2667** *Carpinus* - Russia, Krasnodar 1996, herb.12941  
Dupl. IRAN  
**2752** *Alnus* - Russia, Krasnodar 1996, herb.13228, CBS: 108773  
Dupl. IRAN Sequences: unpublished (ITS)  
**2826** hardwood - USA, N. Carolina 1998, herb.14051  
Sequences: unpublished (ITS)  
**2996** podocarp - New Zealand, Westcoast 2004, herb.15116  
Sequences: unpublished (ITS)  
**3033** hardwood - Canada, Gaspé 2004, herb.AN  
Sequences: unpublished (ITS)  
**3071** branch, log - South Africa, Eastern Cape 2005, herb.15578  
Sequences: unpublished (ITS)  
**3126** branch, log - Australia, Tasmania 2006, herb.15893  
Sequences: GQ409535 (ITS)  
**3130** branch, log - Australia, Tasmania 2006, herb.15924  
Sequences: GQ409536 (ITS)

**PHAEOLUS SCHWEINITZII** (Fr.)Pat.

**662** *Thuja* - Canada, B.C. 1982, herb. 6988, CBS: 107929  
**664** con. wood - Canada, B.C. 1982, herb. 6992, CBS: 107931

**PHANEROCCHAETE CALOTRICHA** (Karst.)Erikss. & Ryv.

**93** *Salix* - Sweden, DR 1980, herb. 3221, CBS: 107043  
**104** *Betula* - Sweden, DR 1980, herb. 3214, CBS: 107062

**PHANEROCCHAETE DEFLECTENS** (Karst.)Hjortst.

**287** con. wood - Sweden, TO 1981, herb. 3703  
Mating types: (1,3,4/2,5) H? ATCC: 64377 (PS)  
**1568** -, 1986, herb. neoh. 287 SS-2, CBS: 103698  
Mating types: 1-10/ Sequences: AF141619 (LSU)  
**2777** litter - Turkey, Trabzon 1996, herb.13283, CBS: 108864  
Sequences: GQ470644 (LSU)

PHANEROCHAETE LAEVIS (Fr.)Erikss. & Ryv.

**547** wood - Canada, Que. 1982, herb. 6099, CBS: 107727

**1797** Pinus - France, Bordeaux 1986, herb. 9684, CBS: 104198

**2008** Populus - Canada, BC 1988, herb. 10613, CBS: 104883

Mating types: H

PHANEROCHAETE SORDIDA (Karst.)Erikss. & Ryv.

**2105** dec. wood - Spain, Tenerifa 1989, herb. 11067, CBS: 105140

Mating types: H?

**2114** dec. wood - Spain, Tenerifa 1989, herb. 11024, CBS: 105177

Mating types: "5/1,2,3,4"

**2348** Betula - Denmark, Greenland 1991, herb.11939, CBS: 105976

PHANEROCHAETE TUBERCULATA (Karst.)Parm.

**305** dec. wood - Sweden, VS 1981, herb. 3951, CBS: 107333

Sequences: GQ470669 (LSU)

**368** dec. wood - Austria, Steierm. 1981, herb. 4214, CBS: 107410

Sequences: DQ470668 (LSU)

PHANEROCHAETE VELUTINA (Fr.)Karst.

**1815** dec. wood - Spain, Huesca 1986, herb. 9855, CBS: 104280

Sequences: DQ679917 (LSU)

PELLINUS LAEVIGATUS (Fr.)Bourd. & Galz.

**204** Betula - Sweden, VG 1981, herb., CBS: 107203

PELLINUS LUNDELLII Niemelä

**130** Betula - Sweden, DR 1980, herb. 3369, CBS: 107106

PELLINUS NIGRICANS (Fr.)Karst.

**120** Betula - Sweden, DR 1980, herb. 3337, CBS: 107088

**261** Betula - Sweden, TO 1981, herb. 3768, CBS: 107290

PHLEBIA ACERINA Peck

Compatibility group(s): C-553,568

**553** Acer - Canada, Que. 1982, herb. 6131

**568** Acer - Canada, Que. 1982, herb. 6189Sequences: AF141615 (LSU)

**3102** branch, log - Australia, Tasmania 2006, herb.15758, CBS: 125860

Sequences: unpublished (ITS)

**3112** branch, log - Australia, Tasmania 2006, herb.15812

Sequences: unpublished (ITS)

*PHLEBIA ACERINA* Peck s.l.

**2770** *Corylus* - Turkey, Trabzon 1996, herb.13266, CBS: 108837

Dupl. IRAN

*PHLEBIA ALBIDA* Fr.

**2359** *Betula* - Denmark, Greenland 1991, herb.11963

Mating types: H Sequences: AF141616 (LSU)

**2363** *Salix* - Denmark, Greenland 1991, herb.11811, CBS: 106035

Mating types: H

*PHLEBIA AUREA* (Fr.)Nakasono

**410** *Alnus* - Austria, Steierm. 1981, herb. 4396, CBS: 107464, 107465, 107466

Sequences: unpublished (ITS)

**815** *Acer* - Canada, Que. 1982, herb. 7563, CBS: 108157, 108158

Sequences: unpublished (ITS)

**2767** *Corylus* - Turkey, Trabzon 1996, herb.13259, CBS: 108827

Dupl. IRAN Sequences: HQ152309 (ITS)

*PHLEBIA BRESADOLAE* Parm.

**1242** dec. wood - Norway, OP 1984, herb. 8514

Mating types: 2,3,6,7,8,9/5 ATCC: 64376 (PS) Sequences: AF141617 (LSU)

*PHLEBIA CASPICA* Hallenb.

**3159** *Fagus* – Iran, Gilan 2008, herb. MGN820

Sequences: HQ153410 (ITS)

*PHLEBIA CENTRIFUGA* Karst.

Compatibility group(s): C-136,342,343,762,1013,1240,1802,1999,2396

**136** *Picea* - Sweden, DR 1980, herb. 3376, CBS: 107117

ATCC: 60110 (SS-3), 60323 (SS-1)

**342** *Populus* - Canada, Ont. 1976, herb. 3073, CBS: 107380

**343** *Abies* - Canada, Ont 1975, herb. 2974

**762** *Betula* - Canada, Ont. 1982, herb. 7456

**1013** *Picea* - Romania, Suceava 1983, herb. 8089

**1240** *Picea* - Norway, OP 1984, herb. 8461

**1802** *Abies* - Spain, Lerida 1986, herb. 9987, CBS: 104219

Mating types: 3,5,7,9/2,4,6,8,10

**1999** *Tsuga* - Canada, BC 1988, herb. 10756



Mating types: 1,2/

**2396** *Abies* - Russia, Krasnodar 1991, herb.12044, CBS: 106174

Dupl. IRAN Mating types: 2,6/1,4,7,8 Sequences: AF141618 (LSU)

**2810** - Sweden, SM 1997, herb.BN 2665, CBS: 125890

*PHLEBIA CHRYSOCREAS* (Berk. & M.A.Curtis) Burds.

**2980** hardwood - New Zealand, Westcoast 2004, herb.15023, CBS: 125889

Sequences: unpublished (ITS)

**2827** hardwood - USA, N. Carolina 1998, herb.14052

Sequences: HQ153411 (ITS)

*PHLEBIA FIRMA* Erikss. & Hjortst.

**1252** *Picea* - Norway, OP 1984, herb. 8434

Mating types: H? ATCC: 64378 (SS-1)

*PHLEBIA FUSCOATRA* (Fr.) Nakasone

Compatibility group(s): C-552,667,1040

**552** dec. wood - Canada, Que. 1982, herb. 6128

Mating types: 1/2,3,4

**667** *Alnus* - Canada, B.C. 1982, herb. 7003

Mating types: 1,3,5/; 2 dik.

**1040** dec. wood - Romania, Suceava 1983, herb. 8146

**1942** *Betula* - Denmark, Jylland 1987, herb. 10295

Mating types: H

**2386** dec. wood - Russia, Krasnodar 1991, herb.12230, CBS: 106129

Dupl. IRAN Mating types: H

**2727** *Corylus* - Russia, Krasnodar 1996, herb.13146, CBS: 108663

Dupl. IRAN

**2843** *Quercus* - USA, N. Carolina 1998, herb.14104

**2886** hardwood - USA, N. Carolina 1998, herb.14296

Mating types: 1,8,(3)/4,5,(7)

**3131** branch, log - Australia, Tasmania 2006, herb.15876, CBS: 125883

Sequences: unpublished (ITS, LSU)

*PHLEBIA GRISEO-FLAVESCENS* (Litsch.) Erikss. & Hjortst.

**1906** *Fagus* - Switzerland, Ticino 1987, herb., CBS: 104494

Mating types: 1,2,4,6,7,10/3,5,8,9

**1907** *Fagus* - Switzerland, Ticino 1987, herb., CBS: 104497

Mating types: 1,3,5,6,9,10/2,4,7,8 Sequences: AF141620 (LSU)

PHLEBIA LEPTOSPERMI (Cunn.)Stalpers cfr.

**2995** Nothofagus - New Zealand, Southland 2004, herb.15154, CBS: 126031  
Sequences: unpublished (ITS)

PHLEBIA LILASCENS (Bourd.)Erikss. & Hjortst.

Compatibility group(s): C-1226,1307-PC-1969; C-826,1801; C-698,2005;  
C-1320

**698** con. wood - Canada, B.C. 1982, herb. 7144, CBS: 107985, 107986

**826** dec. wood - Sweden, VG 1982, herb. 3992

Mating types: clamps!

**1226** Betula - Norway, RO 1984, herb. 8380

Mating types: 1,5/2,6; 3,4/

**1307** dec. wood - Sweden, SK 1984, herb. 8542, CBS: 103030

Mating types: 1,5/2; 3,4/6

**1320** Picea - Sweden, GO 1984, herb. 8733

**1514** Carpinus - Romania, Iasi 1985, herb. 9108, CBS: 103538

Mating types: H

**1715** dec. wood - Finland, EH 1986, herb. 9512, CBS: 103931

**1801** Fagus - Spain, Huesca 1986, herb. 9777, CBS: 104214

Mating types: 1,9/4,7,8; 6/2,3,5 Sequences: AF141621 (LSU)

**1969** Quercus - Denmark, Jylland 1987, herb. 10452, CBS: 104773

Mating types: 1,4,6/2,8,9; 3,5/7,10

**2005** Cham. - Canada, BC 1988, herb. 10725, CBS: 104870

Mating types: 1,2,9,10/3,4,5,6,7,8 Sequences: AF141622 (LSU)

**2885** hardwood - USA, N. Carolina 1998, herb.14293, CBS: 126029

Mating types: 2,4/3; (7/5)

PHLEBIA LINDTNERI (Pilat)Parm.

Compatibility group(s): C-501,1027,2413

**501** wood - Norway, Hedmark 1982, herb. 13234, CBS: 107642

**1027** dec. wood - BRD, Hessen 1983, herb. 4708

Mating types: 1,6,7,8/2,3,4 ATCC: 64379 (PS)

**2413** Abies - Russia, Krasnodar 1991, herb.12239, CBS: 106253

Dupl. IRAN Mating types: 1,2,8,10/3,4,5,6,7,9 Sequences: AF141623 (LSU)

PHLEBIA LIVIDA (Fr.)Bres.

Compatibility group(s): C-301,1290,2088,2189; C-759; C-1540; C-1703;

**301** Picea - Sweden, ÖG 1981, herb. 3876

Mating types: 1,3/2,4

**759** Tsuga - Canada, Ont. 1982, herb. 7442

Mating types: 1,2/

**1290** Picea - Sweden, HA 1984, herb. 8658

Mating types: 1,2,3,4/5 Sequences: HQ153414 (ITS)

**1540** dec. wood - Romania, Brasov 1985, herb. 9350

Mating types: 1-7/

**1703** Picea - Finland, PH 1986, herb. 9543

Mating types: clamps !

**2088** - Sweden, VG 1988, herb. 16979, CBS: 105111

Mating types: 9/2,4,5,6,7,10

**2189** dec. wood - Estonia, 1989, herb. 11242, CBS: 105403

Mating types: 1,3,4,8,9,10/5,6,7 Sequences: AF141624 (LSU)

PHLEBIA LUDOVICIANA (Burt)Nakas. & Burds.

**446** Betula nigra - USA, Wisc. 1979, herb. FP 101738, CBS: 107525

**2538** broad-l. tree - Argentina, Chubut 1993, herb.12774, CBS: 106730

PHLEBIA NITIDULA (Karst.)Ryv.

Compatibility group(s): C-351,1833,2028

**351** Salix - Sweden, UP 1981, herb. 5032

Mating types: 1,7/2,4,5,6,9 ATCC: 64380 (PS)

**1833** Pinus - Spain, Lerida 1986, herb. 10123, CBS: 104350

Mating types: 1,5/2,3 Sequences: unpublished (ITS)

**2028** Salix - Sweden, GÄ 1988, herb. 6784, CBS: 104964

Mating types: 2,3,4/5,7; 6,9/1,8 Sequences: AF141625 (LSU)

PHLEBIA NOTHOFAGI (G.H. Cunn.)Nakasone

**2969** hardwood - New Zealand, Southland 2004, herb.15183

Sequences: unpublished (ITS)

**3114** branch, log - Australia, Tasmania 2006, herb.15820, CBS: 125847

Sequences: unpublished (ITS)

PHLEBIA OCHRACEOFULVA (Bourd.&Galz.)Donk

Compatibility group(s): C-819,1995

**819** Alnus - Denmark, Sjaelland 1982, herb. 3939, CBS: 108167

Mating types: 1,3,5/2,4,6

**1566** - , 1986, neohaplont from FCUG 819, CBS: 103695

Mating types: 1,4/3,5,6,7,8,9,10

**1995** Populus - Canada, BC 1988, herb. 10680, CBS: 104826

Mating types: 2,3,5,8,10/1,4,6,7,9 Sequences: unpublished (LSU)

PHLEBIA QUELETII (Bourd. & Galz.)M.P.Christ.

**722** Salix - Canada, B.C. 1982, herb. 7240

Mating types: H? Sequences: AF141626 (LSU)

PHLEBIA RADIATA Fr.

Compatibility group(s): C-376,383,713,1024,1241,1792,1940,2423

**376** Prunus - Austria, Steierm. 1981, herb. 4188

Mating types: 1,2/3,4,5 ATCC: 60066 (SS-1), 60067 (SS-3)

**383** Fagus - Austria, Steierm. 1981, herb. 4583

**713** Alnus - Canada, B.C. 1982, herb. 7209

**1024** Fagus - Romania, Suceava 1983, herb. 8040

**1241** Alnus - Norway, OP 1984, herb. 8495

**1792** Fagus - Spain, Huesca 1986, herb. 9814, CBS: 104176

Mating types: 1,2,4,6,7/3,5

**1940** Quercus - Denmark, Jylland 1987, herb. 10461, CBS: 104642

Mating types: 1,2,4,7,10/3,5,6,8,9

**2423** Populus - Russia, Krasnodar 1991, herb.12118, CBS: 106300

Dupl. IRAN Mating types: 1,2,4,5,9/3,6,7,8 Sequences: AF141627 (LSU)

**2753** Alnus - Russia, Krasnodar 1996, herb.13236, CBS: 108778

Dupl. IRAN

**2962** hardwood - New Zealand, Napier 2004, herb.15272

Sequences: unpublished (ITS)

PHLEBIA RUFA (Fr.)M.P.Christ.

Compatibility group(s): C-144,208,257,313,705,755,930,1041,1262,1790-91,1935-37,1994, 2400; C-

2209,2397; C-489; C-583; C-2537,2517

**144** dec. wood - Denmark, Mön 1980, herb. 3382, CBS: 107131

**208** Fagus - Sweden, ÖG 1981, herb., CBS: 107212

Mating types: 1,3,4,5,6/8 ATCC: 60068 (SS-1), 60069 (SS-8)

**257** Fagus - Denmark, Jylland 1981, herb. 3532, CBS: 107281

**311** dec.wood - Sweden, NÄ 1981, herb. 4043, CBS: 107337, 107338

**313** Quercus - Sweden, VS 1981, herb. 4002, CBS: 107345

**489** wood - Canada, B.C. 1982, herb. 6637, CBS: 107609

**583** Populus - Canada, Que. 1982, herb. 6284

Mating types: 1/3; 2/4

**705** Alnus - Canada, B.C. 1982, herb. 7179

Mating types: 1/3

**755** Acer - Canada, Ont. 1982, herb. 7435

Mating types: 1,2 dik.

**930** dec. wood - Scotland, Perthsh. 1983, herb. 7902, CBS: 108415  
**1041** dec. wood - Romania, Suceava 1983, herb. 8114  
**1262** dec. wood - Sweden, SK 1984, herb. 8571, CBS: 102905  
**1790** Fagus - Spain, Huesca 1986, herb. 9783  
 Mating types: 1,5,6,8/2,3,4,7  
**1791** Fagus - Spain, Huesca 1986, herb. 9816, CBS: 104171  
 Mating types: 3,4,(1)/2,5,(6)  
**1935** Quercus - Denmark, Jylland 1987, herb. 10447, CBS: 104622  
 Mating types: 1,3,4,6,9/2,7,8  
**1936** Quercus - Denmark, Jylland 1987, herb. 10446, CBS: 104625  
 Mating types: 1,3,4,5,9/2,6,7,10  
**1937** Fagus - Denmark, Jylland 1987, herb. 10472, CBS: 104629  
 Mating types: 1,2,4,5,6,8,9,10/  
**1994** Populus - Canada, BC 1988, herb. 10676, CBS: 104821  
 Mating types: 3,7/1,2,4,5,6  
**2209** dec. wood - Turkey, Trabzon 1989, herb. 11456, CBS: 105489  
 Mating types: 1,2,4/3,5,6,7 ATCC: 76992 (PS), 76995 (SS-1), 76997 (SS-3)  
**2397** Fagus - Russia, Krasnodar 1991, herb.12094  
 Dupl. IRAN Mating types: 1,2,3,6,8,9/4,5,7,10 Sequences: AF141628 (LSU)  
**2400** Alnus - Russia, Krasnodar 1991, herb.12233, CBS: 106192  
 Dupl. IRAN Mating types: 2,4/1,3,6,7,8  
**2501** Nothofagus - Argentina, T.d.Fuego 1993, herb.12495, CBS: 106620  
**2502** Nothofagus - Argentina, T.d.Fuego 1993, herb.12498, CBS: 106621  
**2505** Nothofagus - Argentina, T.d.Fuego 1993, herb.12506, CBS: 106628  
 Sequences: unpublished (ITS)  
**2509** Nothofagus - Argentina, T.d.Fuego 1993, herb.12573, CBS: 106631  
**2517** Nothofagus - Argentina, Chubut 1993, herb.12673, CBS: 106641  
 Mating types: 1,2,3/ Sequences: unpublished (ITS)  
**2537** broad-l. tree - Argentina, Chubut 1993, herb.12772  
 Mating types: 1,6/2,3,4,5  
**2674** dec. wood - Russia, Krasnodar 1996, herb.12963, CBS: 108527  
**2722** Quercus - Russia, Krasnodar 1996, herb.13134, CBS: 108642  
 Dupl. IRAN Mating types: 2,4,10/5,6,(3)  
**2964** hardwood - New Zealand, Napier 2004, herb.15261, CBS: 126035  
 Sequences: unpublished (ITS)  
**2990** kahikatea - New Zealand, Westcoast 2004, herb.15085  
 Sequences: unpublished (ITS)  
**2994** podocarp - New Zealand, Waikato 2004, herb.15212  
 Sequences: HQ153428 (ITS)  
**2999** Nothofagus - New Zealand, Southland 2004, herb.15156, CBS: 126034

**3026** hardwood - New Zealand, Napier 2004, herb.15263

Sequences: HQ153412 (ITS)

*PHLEBIA SEGREGATA* (Bourd. & Galz.)Parm.

Compatibility group(s): C-319,1329,1735,1841,2274; C-2040

**319** Picea - Sweden, ÖG 1981, herb. 3865

**1329** Picea - Sweden, GO 1984, herb. 8689

Mating types: 1,5/6; 2,3,4/

**1735** Picea - Finland, PH 1986, herb. 9540

Mating types: 9/2,5,6; 1,4/3,7,10

**1841** Pinus - Spain, Huesca 1986, herb. 9828

Mating types: 2,3,8/7; 1,4,6,9,10/

**2040** con.wood - Canada, BC 1988, herb. 10777

Mating types: 8,9/2,4,5,6,7,10; 1,3/

**2274** Picea - Turkey, Trabzon 1989, herb. 11289

Dupl. IRAN Mating types: 5/6 (2,3/7) ATCC: 76987 (PS), 90064 (SS-6), 90073 (SS-5)

*PHLEBIA SERIALIS* (Fr.)Donk

**580** dec. wood - Canada, Que. 1982, herb. 6275

Sequences: AF141629 (LSU)

**2868** Pinus - USA, Georgia 1998, herb.14246

Mating types: 7/2,4; 1,2,5,6/ Sequences: HQ153429 (ITS)

*PHLEBIA* sp.

**385** Alnus - Russia, Krasnodar 1991, herb.12215, CBS: 106127

Dupl. IRAN

**2851** Tsuga - USA, S. Carolina 1998, herb.14144

Sequences: unpublished (ITS, LSU)

**3085** branch, log - South Africa, Western Cape 2005, herb.15505

Sequences: unpublished (ITS, LSU)

**3108** branch, log - Australia, Tasmania 2006, herb.15781

Sequences: unpublished (ITS, LSU)

**3110** branch, log - Australia, Tasmania 2006, herb.15799

Sequences: unpublished (ITS)

*PHLEBIA SUBOCHRACEA* (Bres.)Erikss. & Ryv.

Compatibility group(s): C-444,774,1989; C-819,1995 (*P. ochraceofulva*)

**444** Quercus - USA, Ariz. 1975, herb. 8494, CBS: 107519

Mating types: 1/2

**774** *Ulmus* - Canada, Ont. 1982, herb. 7525, CBS: 108083  
**1159** - , 1984, fructification in culture from FCUG 444  
Mating types: 2,4/1,3,5,8 Sequences: unpublished (LSU)  
**1161** - , 1984, fructification in culture from FCUG 819  
Mating types: 1,2,3,6,8/4,5,7 Sequences: AF141630 (LSU)  
**1817** - , 1986, fructification in culture from FCUG 1161, CBS: 104285  
Mating types: 1,2,10/3,4,5,6,7,8,9  
**1989** dec. wood - Switzerland, Ticino 1988, herb. EM 1677, CBS: 104796  
Mating types: 1,2,5,6/3,4,7,8,9,10 Sequences: unpublished (LSU)  
**3025** hardwood - New Zealand, Napier 2004, herb.15282, CBS: 125861  
Sequences: unpublished (ITS)

*PHLEBIA SUBOCHRACEA* (Bres.)Erikss. & Ryv. s.l.

**2737** dec wood - Russia, Krasnodar 1996, herb.13184, CBS: 108709  
Mating types: 5/2,4,8; SS-6 dik.

*PHLEBIA SUBSERIALIS* (Bourd. & Galz.)Donk

Compatibility group(s): C-445,449,736; C-2036  
**240** *Betula* - Sweden, TO 1981, herb. 3651, CBS: 107255  
**445** *Pinus* - USA, Mont. 1966, herb. 6074, CBS: 107522  
**736** con. wood - Canada, Ont. 1982, herb. 7337, CBS: 108021, 108022  
**1434** *Picea* - Norway, Oslo 1985, herb. 8935, CBS: 103253  
Mating types: clamps! Sequences: unpublished (ITS), AF141631 (LSU)  
**2036** *Pseudots.* - Canada, BC 1988, herb. 10683  
Mating types: 1,3,6/5,7,10; 2,8/4,9

*PHLEBIA TREMELLOSA* (Fr.)Burds. & Nakas.

Compatibility group(s): C-519,617,1261,1447,1787,1813, 2394  
**519** *Fraxinus* - Sweden, VG 1982, herb. 3489, CBS: 107671  
Mating types: 1,3,6,7,8,9/2,4,5 ATCC: 60027 (SS-2)  
**617** *Betula* - Canada, Ont. 1982, herb. 6438, CBS: 107861  
Mating types: 2 dik.  
**1261** *Fagus* - Sweden, SK 1984, herb. 8578, CBS: 102900  
Mating types: 1-4/  
**1447** *Fagus* - Sweden, VG 1985, herb. 9016, CBS: 103294  
Mating types: 2,5/3  
**1787** *Quercus* - France, Bordeaux 1986, herb. 9675, CBS: 104151  
Mating types: 1,4,6,7,10/2,3,5,8,9  
**1813** *Betula* - France, Roussillon 1986, herb. 10162, CBS: 104270  
Mating types: 1,2/3 Sequences: AF141632 (LSU)

**2394** *Fagus* - Russia, Krasnodar 1991, herb.12071, CBS: 106164  
Dupl. IRAN Mating types: 1,7,9/2,3,4,5,6,8 Sequences: unpublished (LSU)  
**2700** dec. wood - Russia, Krasnodar 1996, herb.13061, CBS: 108569  
Dupl. IRAN  
**2758** *Alnus* - Russia, Krasnodar 1996, herb.13244, CBS: 108792  
Dupl. IRAN Mating types: SS-1 with clamps!  
**3113** branch, log - Australia, Tasmania 2006, herb.15815  
Sequences: unpublished (ITS)

*PHLEBIA TRISTIS* (Litsch. & Lund.)Parm

**1842** *Pinus* - France, Pyr.Orien. 1986, herb. 10157  
Mating types: 1,5,7,8,9/2,3,4,6,10 Sequences: AF141633 (LSU)

*PHLEBIA TUBERCULATA* (Hallenb. & Larss.) Ghobad-Nejhad

C-395,1283,1455,1509,1518,1798,1812,1814,2127,2128,2221,2222,2242

**395** *Fagus* - Austria, Steierm. 1981, herb. 4607

Sequences: HQ153424 (ITS)

**1283** dec. wood - Sweden, SK 1984, herb. 8532, CBS: 102954

Mating types: 1,2/

**1455** *Fagus* - Sweden, VG 1985, herb. 9015

Mating types: 1,2,3,5,6/4 Sequences: HQ153420 (ITS)

**1509** dec. wood - Romania, Brasov 1985, herb. 9334, CBS: 103519

Sequences: HQ153423 (ITS)

**1518** *Fagus* - Romania, Neamt 1985, herb. 9219, CBS: 103556

Mating types: clamps!

**1798** *Fagus* - Spain, Huesca 1986, herb. 9813, CBS: 104201

Mating types: 1/2,3

**1812** *Fagus* - Spain, Huesca 1986, herb. 9893, CBS: 104266

Mating types: 1,4/2,3,5

**1814** *Abies* - Spain, Lerida 1986, herb. 9958, CBS: 104275

Mating types: 1,2,6,7,8,10/3,4,5,9 Sequences: HQ153426 (ITS)

**2127** dec. wood - Spain, Tenerife 1989, herb. 11020, CBS: 105224

Mating types: 1,3,4/2 ATCC: 76965 (SS-1), 76962 (SS-2), 90007 (PS)

Sequences: HQ153425 (ITS)

**2128** *Laurus* - Spain, Tenerife 1989, herb. 10968

Mating types: 1-7/ Sequences: HQ153422 (ITS)

**2221** *Fagus* - Turkey, Trabzon 1989, herb. 11534, CBS: 105540

Dupl. IRAN Mating types: 1,4,7/2,3,5,8 ATCC: 76950 (SS-1), 76966 (SS-2),  
90006 (PS)

**2222** *Alnus* - Turkey, Trabzon 1989, herb. 11429



Dupl. IRAN Mating types: 5/6; 1,2,4/ ATCC: 76960 (SS-5), 90008 (SS-6), 76967 (PS)

**2242** Alnus - Turkey, Trabzon 1989, herb. 11482

Dupl. IRAN Mating types: 1,3,4,5/2,8,9 ATCC: 76961 (PS), 76964 (SS-2), 96392 (SS-1)

Sequences: HQ153421 (ITS)

**2716** Fagus - Russia, Krasnodar 1996, herb.13120

Dupl. IRAN Sequences: HQ153417 (ITS)

**3157** hardwood - Iran, Gilan 2008, herb.MGN798

Dupl. IRAN Sequences: HQ153421 (ITS)

**3186** branch - Iran, Gilan 2008, herb.16030

Dupl. IRAN Sequences: HQ153418 (ITS)

#### PHLEBIA UDA (Fr.)Nakasone

Compatibility group(s): C--

668,707,1194,1451,1397,1825,2015,1326,2220,2243,2452

**668** Alnus - Canada, B.C. 1982, herb. 7011, CBS: 107937

Mating types: 2 dik.

**707** dec. wood - Canada, B.C. 1982, herb. 7187, CBS: 107989

Mating types: 1 dik.

**933** dec. wood - Scotland, Perthsh. 1983, herb. 7918, CBS: 108424

Mating types: SS-1 clamped!

**1194** Alnus - Norway, SF 1984, herb. 8303

Mating types: 1/3,4

**1326** Ulmus - Sweden, VG 1984, herb. 5147, CBS: 103078

Mating types: 1-3/

**1397** - , 1984, herb. neoh. 933

**1451**Alnus - Sweden, VG 1985, herb. 8979, CBS: 103311

Mating types: 1,2,7/3,4,5,6

**1825** Fagus - Spain, Navarra 1986, herb. 9714, CBS: 104317

Mating types: 1,2/

**2015** dec. wood - Canada, BC 1988, herb. 10660, CBS: 104913

Mating types: 1,2/

**2220** Alnus - Turkey, Trabzon 1989, herb. 11468, CBS: 105535

Dupl. IRAN Mating types: 1,5,6,8/3,4,7 ATCC: 76944 (SS-3), 76971 (SS-1), 76973 (PS)

**2243** Alnus - Turkey, Trabzon 1989, herb. 11424, CBS: 105633

Dupl. IRAN ATCC: 76928 (SS-2), 76970 (SS-1), 76972 (PS)

**2452** dec. wood - Russia, Krasnodar 1991, herb.12284, CBS: 106435

Dupl. IRAN Mating types: 1,2,3,4,5/6,7,8 Sequences: AF141614 (LSU)

**2663** *Fagus* - Russia, Krasnodar 1996, herb.12927  
Dupl. IRAN  
**2678** *Fraxinus* - Russia, Krasnodar 1996, herb.12971, CBS: 108534

PHLEBIELLA ARDOSIACA (Bourd. & Galz.)Larss. & Hjortst.

Compatibility group(s): C-406,1532,1539,2244,2285

**406** con. wood - Austria, Steierm. 1981, herb. 4175

Mating types: 1,4/2,3,5

**1532** *Fraxinus* - Romania, Iasi 1985, herb. 9057, CBS: 103612

**1539** dec. wood - Romania, Brasov 1985, herb. 9344

Mating types: 2,3,4,5,7/1,6

**2244** *Alnus* - Turkey, Trabzon 1989, herb. 11502

Dupl. IRAN Mating types: 1-10/ ATCC: 90051 (PS), 90057 (SS-2), 90070 (SS-1)

**2285** *Quercus* - France, 1989, herb. GG 1821

Mating types: 1,4,9,10/2,3,5,6,8; 7/

**2328** *Quercus* - France, Bains 1990, herb.GG 2092, CBS: 105925

Mating types: 2/3; 7,8/

**2879** hardwood - USA, N. Carolina 1998, herb.14282, CBS: 126045

Mating types: 5,6/7,8 Sequences: unpublished (ITS)

PHLEBIELLA PSEUDOTSUGAE (Burt)Larss. & Hjortst.

Compatibility group(s):

C-47,223,322,396,541,725,1265,1505,1718,1722,1739,1943-44, 1946-47, 1953, 2191 -PC-216,647

**47** con. wood - Sweden, SK 1979, herb. 3043

Mating types: 1,2,4/3,5,7

**216** *Pinus* - Sweden, HA 1981, herb. 3435

Mating types: 1,3 dik.

**223** *Pinus* - Sweden, HA 1981, herb. 3451, CBS: 107238

Mating types: 1 dik. ATCC: 60063 (SS-361/1), 60064 (SS-361/5)

**322** con.wood - Sweden, NÄ 1981, herb. 4070

**396** dec. wood - Austria, Steierm. 1981, herb. 4641, CBS: 107451

**422** - , fructification in culture from FCUG 361/3, CBS: 107481

**647** *Thuja* - Canada, B.C. 1982, herb. 6852

**725** con. wood - Canada, B.C. 1982, herb. 7257

**1265** *Picea* - Sweden, HA 1984, herb. 8655, CBS: 102915

**1505** *Pinus* - Austria, Burgenland 1985, herb. 9366, CBS: 103507

**1718** dec. wood - Finland, PH 1986, herb. 9475, CBS: 103943

Mating types: 2,3,7/5,6; 1,4/

**1722** Picea - Sweden, SM 1986, herb. 9568  
Mating types: 5/3,4  
**1739** dec. wood - Sweden, VG 1986, herb.9596  
Mating types: 1,4/3,5; 8/6,7  
**1943** Picea - Denmark, Jylland 1987, herb. 10395, CBS: 104656  
Mating types: 1,7/3,5,8,10; 2,9/4,6  
**1944** Picea - Denmark, Jylland 1987, herb. 10407  
Mating types: 1,2,8/3,6,7,9,10; 4/5  
**1946** Picea - Denmark, Jylland 1987, herb. 10397, CBS: 104671  
Mating types: 7/2,4,8; 1,3,5,6,9/  
**1947** Picea - Denmark, Jylland 1987, herb. 10521  
Mating types: 1,2,5,6,8/4,9; 10/3,7  
**1953** Picea - Denmark, Jylland 1987, herb. 10396, CBS: 104703  
Mating types: 1,7,9/2,5,10; 3,6/4,8  
Sequences: AY586696 (LSU)  
**2191** con. wood - Estonia, 1989, herb. 11238  
Mating types: 1,8/2,3,7; 4,5/

PHLEBIELLA sp.

**2464** Pinus - Russia, Krasnodar 1991, herb.12029  
Dupl. IRAN Mating types: 3,5/2,6

PHLEBIELLA TULASNELLOIDEA (Höhn. & Litsch.)Oberw.

Compatibility group(s): C-944,1164,1330,1338,1360,1970,2042; C-801

**801** wood - Canada, B.C. 1982, herb. 7230

Mating types: 3/2,4

**944** Fagus - Denmark, Jylland 1983, herb. 7750

Mating types: 1-5/

**1164** dec. wood - Sweden, BO 1984, herb. 8178

Mating types: 2,3/

**1330** dec. wood - Sweden, GO 1984, herb. 8771

Mating types: 1,2,5/6

**1338** Fraxinus - Sweden, VG 1984, herb. 5121, CBS: 103114

Mating types: 1,3/2,5,6

**1360** Fagus - Sweden, DS 1984, herb. 5157, CBS: 103169

**1970** Fagus - Denmark, Jylland 1987, herb. 10252

Mating types: 1-9

**2042** Fagus - Denmark, Jutland 1988, herb. 10844

Mating types: 1,6,8/2,3,4,5,7,9,10

PHLEBIOPSIS GIGANTEA (Fr.)Jül.

**1417** Picea - Norway, Oslo 1985, herb. 8901

Sequences: AF141634 (LSU); AF518585 (SSU); AF518687 (mtSSU); AF518718 (mtLSU)

**1482** Picea - Romania, Suceava 1985, herb. 9163, CBS: 103418

PHLEBIOPSIS RAVENELII (Cooke)Hjortst.

**2126** Erica - Spain, Tenerifa 1989, herb. 10963, CBS: 105219

Mating types: H? Sequences: GQ470675 (LSU)

**2216** Quercus - France, 1989, herb. 1680, CBS: 105518

Sequences: GQ470674 (LSU)

PHLEBIOPSIS sp.

**1862** dec. wood - Brazil, Sao Paulo 1987, herb. Hjm 16333, CBS: 104428

Mating types: 1,3,6,8,10/2,4,5,9

PHOLIOTA CONISSANS (Fr.)Mos.

**1273** - Sweden, VG 1984, herb. 84102, CBS: 102941

PHOLIOTA ELEGANS S.Jacobss.

**2253** dec. wood - Sweden, UP 1989, herb., CBS: 105679

PHOLIOTA GRAMINIS (Qué.)Sing.

**2480** - Germany, 1992, herb.Gröger, CBS: 106551

SS-9 clamped

PHOLIOTA LIMONELLA (Peck)Sacc.

**166** Alnus - Sweden, VG , herb., CBS: 107162

**747** Acer - Canada, Ontario 1982, herb.7402, CBS: 108045

**1456** Quercus - Sweden, VG 1985, herb.85092, CBS: 103334

**1717** Populus - Sweden, ME 1986, herb., CBS: 103940

**1736** Alnus - Sweden, UP 1986, herb., CBS: 104006

**2587** Populus - Finland, Etelä-Häme 1994, herb.12838, CBS: 106891

Mating types: 1/3,4,6,7; 2/8,9

PHOLIOTA LUBRICA (Fr.)Sing.

**141** - Sweden, VG 1980, herb.80165, CBS: 107123

**1293** - Austria, 1984, herb.SJ/Moser, CBS: 102988

PHOLIOTA PITYRODES (Fr.)

**2481** - Germany, Thüringen 1992, herb.Gröger, CBS: 106552

PHOLIOTA SPUMOSA (Fr.)Sing.

**884** Picea - Sweden, ME 1983, herb.SJ 83069, CBS: 108300

Mating types: SS-2 clamped!

PHOLIOTA SQUARROSA (Fr.)Kummer

**1535** Abies - Romania, Neamt 1985, herb. 9201, CBS: 103627

PLICATUROPSIS CRISPA (Fr.)Reid

Compatibility group(s): C-1335,1506

**1335** Ulmus - Sweden, VG 1984, herb. 5139, CBS: 103103

Mating types: 5/6; 1-4/

**1506** dec. wood - Romania, Brasov 1985, herb. 9343, CBS: 103512

PSATHYRELLA CORRUGIS (Fr.)Konrad & Maubl.

**2478** Fagus leaves - Sweden, BO 1992, herb.SJ 92036, CBS: 106549

PSATHYRELLA MICRORHIZA (Lasch)Konrad & Maubl.

**2482** soil - Sweden, VG 1992, herb.LÖ 256, CBS: 106560

**2485** soil - Sweden, SK 1992, herb.LÖ 342, CBS: 106570

SS-11 clamped

PSATHYRELLA PRONA (Fr.)Gill.

**2479** soil - Sweden, SK 1992, herb.LÖ 195-92, CBS: 106550

SS-11 clamped

**2483** soil - Sweden, SK 1992, herb.LÖ 308, CBS: 106564

PSATHYRELLA SPADICEOGRISEA (Schaeff.)Maire

**2560** soil - Sweden, SK 1994, herb.LÖ 221-93, CBS: 106781

SS-7 clamped

PSEUDOLAGAROBASIDIUM CONCENTRICUM (Cooke & Ellis)Hjortstam

**680** dec. wood - Canada, B.C. 1982, herb. 7095, CBS: 100847

**1993** Acer - Canada, BC 1988, herb. 10634, CBS: 100850, 104816

Mating types: 2,3/1,4,5,6 Sequences: EU569323 (LSU)

PUNCTULARIOPSIS SUBGLOBISPORA (Hallenb. & Hjortst.)Ghobad-N.

**2535** broad-l. tree - Argentina, Chubut 1993, herb.12761, CBS: 106719

Mating types: 6,1/2,5; 7/4 Sequences: HM046917 (ITS); Sequences: HM046932 (LSU)

PYCNOPORELLUS ALBOLUTEUS (Ell. & Ev.)Kotl. & Pouz.  
**2404** Abies - Russia, Krasnodar 1991, herb.12104, CBS: 106210  
Dupl. IRAN Mating types: heteroth.  
**2745** Abies - Russia, Krasnodar 1996, herb.13211, CBS: 108743  
Dupl. IRAN

PYCNOPORELLUS FULGENS (Fr.)Donk  
**2747** Abies - Russia, Krasnodar 1996, herb.13213  
Dupl. IRAN

RADULODON AMERICANUS Ryv.  
**578** Populus - Canada, Que. 1982, herb. 6262, CBS: 100846  
**735** Populus - Canada, Ont. 1982, herb. 7336, CBS: 100848, 108020  
Sequences: EU569322 (LSU)

RADULODON ERIKSSONII Ryv.  
**1988** - Switzerland, Ticino 1988, herb. 1676, CBS: 100849  
Sequences: EU569325 (LSU)  
**2922** - , herb. CBS: 126044

RADULOMYCES CONFLUENS (Fr.)M.P. Christ.  
Compatibility group(s): C-74,733,1071,1705,1818,1875,2368,2377,2434-PC-2146; C-1062; C-830  
**74** Sambucus - Denmark, Jylland 1979, herb. 3183  
Mating types: 1,7,9,10/3,8 ATCC: 60116 (SS-3), 60168 (SS-1)  
**733** Alnus - Canada, Ont. 1982, herb. 7315  
Mating types: 1/2  
**830** Ulmus - Sweden, VG 1982, herb.  
**1062** Rosa - Romania, Harghita 1983, herb. 8111  
**1071** dec. wood - Romania, Bist.-Nas. 1983, herb. 7944  
**1705** dec. wood - Finland, PH 1986, herb. 9481  
Mating types: 4,6/3,5  
**1818** Fagus - Spain, Navarra 1986, herb. 9717  
Mating types: 1/3,4; 2,5/  
**1875** dec. wood - Spain, Lerida 1986, herb. 10069  
Mating types: 1,2/  
**2146** dec. wood - Spain, Tenerifa 1989, herb. 11173

Mating types: 1,4/7; 2,3/9 ATCC: 76989 (SS-9), 90053 (SS-7), 96373 (SS-2), 96375 (SS-1)

**2368** *Betula* - Denmark, Greenland 1991, herb.11871

Mating types: 4/1,3; 2/

**2377** *Betula* - Denmark, Greenland 1991, herb.11856, CBS: 106091

Mating types: 5,6/1,2,3,4; dev.

**2434** dec. wood - Russia, Krasnodar 1991, herb.12265, CBS: 106350

Dupl. IRAN Mating types: 4,5,10,7/6,9; 1,2,3,8/

**2662** *Carpinus* - Russia, Krasnodar 1996, herb.12921

Dupl. IRAN

**2763** *Corylus* - Russia, Krasnodar 1996, herb.13250

Dupl. IRAN Mating types: SS-4 dik.

**3202** branch - Iran, E Azerbaijan 2008, herb.16203

Dupl. IRAN

**RADULOMYCES MOLARIS** (Fr.)M.P.Christ.

Compatibility group(s): C-2428,844,1453

**844** *Quercus* - Sweden, HA 1982, herb.

Mating types: 1/4

**1453** *Quercus* - Sweden, VG 1985, herb. 8970, CBS: 103321

Mating types: 1-4/

**1556** dec. wood - Romania, Iasi 1985, herb. 9066, CBS: 103682

**2428** *Quercus* - Russia, Krasnodar 1991, herb.12013

Mating types: 2/1,3; 4/

**REPETOBASIDIUM GLAUCOCANUM** (G. Cunn.)Stalpers

**3018** kahikatea - New Zealand, Westcoast 2004, herb.15073, CBS: 126715

**REPETOBASIDIUM MIRIFICUM** John Erikss.

Compatibility group(s): C-2020,2268,2506

**2020** *Pseudots.* - Canada, BC 1988, herb. 10811

Mating types: 1,2,3,4,8,10/5,7,9

**2268** *Picea* - Turkey, Trabzon 1989, herb. 11325

Mating types: 1,2,4,7,9/3,5,6,8 ATCC: 90054 (SS-3), 96367 (SS-1), 90069 (PS)

**2506** *Nothofagus* - Argentina, T.d.Fuego 1993, herb.12528

**2857** hardwood - USA, S. Carolina 1998, herb.14173

Mating types: 3,5,7/4,6,8; 2/ Sequences: unpublished (ITS)

**3036** *Pinus* - South Africa, Western Cape 2005, herb.15387

Sequences: unpublished (ITS)

RESINICIUM BICOLOR (Fr.)Parm.

Compatibility group(s): C-46,391,927,1026,1195,1308,1821,1827,1918-19,1932, 2030 ,2187, 2228 -PC-683

**46** con. wood - Sweden, SK 1979, herb. 3041 Mating types: 1,3,4/2

**391** Abies - Austria, Steierm. 1981, herb. 4469, CBS: 107447

Mating types: 1,2/3

**683** Pseudotsuga - Canada, B.C. 1982, herb. 7099

Mating types: 1,2,3/4

**927** con. wood - Scotland, Perthsh. 1983, herb. 7888

Mating types: 1/2 ATCC: 60114 (SS-2), 60115 (SS-1)

**1026** Picea - Romania, Bist.-Nas. 1983, herb. 7946

**1195** Picea - Norway, HO 1984, herb. 8320

Mating types: 1,2,3,5/4

**1308** Picea - Sweden, GO 1984, herb. 8687, CBS: 103035

Mating types: 1,2,4,6/3,5

**1821** Abies - Spain, Lerida 1986, herb. 9970, CBS: 104303

Mating types: 1,5,6,7,8,9,10/2,3,4

**1827** Abies - France, Roussillon 1986, herb. 10175, CBS: 104327

Mating types: 1,4,5/2,3

**1918** Picea - Denmark, Jylland 1987, herb. 10369, CBS: 104543

Mating types: 1,2,4,6,9/3,5,7,8,10

**1919** Picea - Denmark, Jylland 1987, herb. 10368, CBS: 104546

Mating types: 1,3,4,6,9/2,5,7,8,10

**1932** Picea - Denmark, Jylland 1987, herb. 10406, CBS: 104609

Mating types: 1,2,3,4,5/6,7,8,9,10

**2030** Populus - Sweden, GÅ 1988, herb. 6684, CBS: 104971

Mating types: 1,3,4,5,6,8/2,7,9,10

**2187** Picea - Estonia, 1989, herb. 11252, CBS: 105393

Mating types: 2,5/1,3,4,6,7,8,9

**2228** Picea - Turkey, Trabzon 1989, herb. 11540, CBS: 105566

Dupl. IRAN Mating types: 1,7,8,10/2,3,4,5,6,9 ATCC: 76998 (PS), 90065 (SS-2)

Sequences: AF141635 (LSU); AY586709 (LSU)

**2771** Picea - Turkey, Trabzon 1996, herb.13270, CBS: 108838

Dupl. IRAN

RESINICIUM FRIABILE Hjortst.& Melo

**2973** podocarp - New Zealand, Westcoast 2004, herb.15118, CBS: 126043

RESINICIUM FURFURACEUM (Bres.)Parm.



Compatibility group(s): C-108,113,119,121,492,644,1714,1725,2014-PC-378,590

**108** Pinus - Sweden, DR 1980, herb. 3259

Mating types: 1,3/4,6

**113** Pinus - Sweden, DR 1980, herb. 3275

Mating types: 3 dik.

**119** Pinus - Sweden, DR 1980, herb. 3317

**121** Pinus - Sweden, DR 1980, herb. 3311, CBS: 107091

Mating types: 3,5,6/4 ATCC: 60426 (SS-3), 60550 (SS-4)

**378** wood - Austria, Steierm. 1981, herb. 4250

Mating types: 1/2

**492** Picea - Canada, B.C. 1982, herb. 6714

Mating types: 1,6/2,3,4,5,7

**590** Pinus - Canada, Que. 1982, herb. 6305

Mating types: 3/4,7; 2,5/6

**644** Picea - Canada, B.C. 1982, herb. 6828

Mating types: 1 dik.

**1714** Picea - Finland, PH 1986, herb. 9524, CBS: 103928

**1725** Pinus - Sweden, SM 1986, herb. 9563, CBS: 103964

Mating types: 1,2,7/4

**2014** Picea - Canada, BC 1988, herb. 10693

Mating types: 3,10/4,6,8,9; 1,2,5,7/

**RIGIDOPORUS NIGRESCENS** (Bres.)Donk

**589** Ulmus - Canada, Que. 1982, herb. 6304, CBS: 107806

**RIGIDOPORUS SANGUINOLENTUS** (Fr.)Donk

**155** Picea - Denmark, Mön 1980, herb. 3398, CBS: 107146

**ROGERSELLA GRISELINIAE** (Cunn.)Stalpers

**2977** hardwood - New Zealand, Westcoast 2004, herb.15064, CBS: 126042

**SCHIZOPHYLLUM AMPLUM** (Lév.)Nakasone

**1478** dec. wood - Romania, Iasi 1985, herb. 9092, CBS: 103398, 103402

Mating types: 1-5/

**1803** dec. wood - Spain, Lerida 1986, herb. 10061

Mating types: 1,2,3/9; 4,7/5,6,8,10 Sequences: AF141873 (ITS); AY293169 (LSU); AY293222 (mtSSU); AY293251 (mtLSU)

**SCHIZOPORA FLAVIPORA** (Cke)Ryv.

Compatibility group(s): C-428,429,430,1053,1534, 2233-PC-1857

**428** - France, 1981, herb.LY-AD-3577

Mating types: 1/2

**429** Fagus - France, 1969, herb.LY-AD-742, CBS: 107497

**430** Quercus - France, Liorac 1972, herb.LY-AD-3057

**661** Picea - Canada, B.C. 1982, herb. 6978, CBS: 107928

Mating types: 1 dik.

**1053** Fagus - Romania, Iasi 1983, herb. 7986

Mating types: 1,3,5/ Sequences: AF145575 (ITS)

**1534** dec. wood - Romania, Iasi 1985, herb. 9073

Sequences: AF145573 (ITS)

**1857** dec. wood - Brazil, Sao Paulo 1987, herb. Hjm 16428

Mating types: 1,2/3,4,5; 6,9/4,7,8,10

**2233** Alnus - Turkey, Trabzon 1989, herb. 11420

Dupl. IRAN Mating types: 5,10/1,2,3,4,6; 9/7,8 ATCC: 90050 (SS-7), 90055 (SS-9), 90067 (SS-1), 96366 (PS)

Sequences: AF145574 (ITS)

#### SCHIZOPORA PARADOXA (Fr.)Donk

Compatibility group(s): C-57,358,359,482,1162,1517, 2425

**57** Rosa - Denmark, Jylland 1979, herb. 3125

**358** Corylus - Sweden, UP 1981, herb. 5026, CBS: 107390

**359** Corylus - Sweden, UP 1981, herb. 5027, CBS: 107392

Mating types: 1/2

**482** dec. wood - Norway, S. Trönd. 1982, herb. 12897

Mating types: 1/6

**1162** dec. wood - Sweden, BO 1984, herb. 8174

Mating types: 1,2/3,4; 5/

**1517** Carpinus - Romania, Neamt 1985, herb. 9202, CBS: 103552

Mating types: 2,6/1,4,5,7; 3/ Sequences: AF145572 (ITS)

**2425** dec. wood - Russia, Krasnodar 1991, herb.12300, CBS: 106309

Dupl. IRAN Mating types: 1,5/4,7,8; 2,9,10/3,6 Sequences: AF145571 (ITS)

#### SCHIZOPORA RADULA (Fr.)Hallenb.

Compatibility group(s): C-206,222,258,318,409,412,678,718,1055,1958,1972,2019, 2134-36 ,2239, 2433-

PC-2492,2496

**206** dec. wood - Sweden, VG 1981

Mating types: 1/2; 2 dik.

**222** Quercus - Sweden, HA 1981, herb. 3463, CBS: 107237

Mating types: 2 dik.

**258** Fraxinus - Denmark, Jylland 1981, herb. 3582, CBS: 107284

Mating types: (1)/2

**318** dec. wood - Sweden, VS 1981, herb. 3952, CBS: 107351

**409** Abies - Austria, Steierm. 1981, herb. 4163

**412** Castanea - Austria, Steierm. 1981, herb. 4700

**678** Alnus - Canada, B.C. 1982, herb. 7061, CBS: 107951

Sequences: AF145564 (ITS)

**718** Alnus - Canada, B.C. 1982, herb. 7234

Mating types: 2/3; 1 dik.

**1055** Fagus - Romania, Iasi 1983, herb. 7985

Mating types: 2/1,4; 3,5/ Sequences: AF145569 (ITS)

**1958** dec. wood - Denmark, Jylland 1987, herb. 10530

Mating types: 1,3,7,8/6,9; 5/2,4,10

**1972** Quercus - Denmark, Jylland 1987, herb. 10257, CBS: 104786

Mating types: 1/3; 2,4/ Sequences: AF145568 (ITS)

**2019** Alnus - Canada, BC 1988, herb. 10817, CBS: 104930

Mating types: 1/4,5,8; 2,3,7/6,9

**2134** dec. wood - Spain, Tenerife 1989, herb. 11102, CBS: 105253

Mating types: 1-4/ ATCC: 76983 (PS), 90052 (SS-2), 90059 (SS-1)

**2135** dec. wood - Spain, Tenerife 1989, herb. 10946, CBS: 105258

Mating types: 2/3,5; 1,4/ ATCC: 76984 (PS), 90071 (SS-3), 96374 (SS-2)

**2136** dec. wood - Spain, Tenerife 1989, herb. 11023, CBS: 105263

Mating types: 1,2,4/9; 3,5,6/8 ATCC: 90060 (SS-3), 90061 (SS-9), 96378 (SS-8), 90068 (PS)

Sequences: AF145565 (ITS)

**2239** Carpinus - Turkey, Trabzon 1989, herb. 11274, CBS: 105613

Dupl. IRAN Mating types: 1,3/4,6; 8,2/7,5 ATCC: 90062 (PS), 90063 SS-4)

Sequences: AF141613 (LSU)

**2433** Fagus - Russia, Krasnodar 1991, herb.12139

Dupl. IRAN Mating types: 2,3,6,8,9/5,10 Sequences: AF145570 (ITS)

**2492** Nothofagus - Argentina, T.d.Fuego 1993, herb.12428

Mating types: 2/3; 1/ Sequences: AF145567 (ITS)

**2496** Nothofagus - Argentina, T.d.Fuego 1993, herb.12448, CBS: 106611

Mating types: 2/1,3; 5/4,6

**2497** Nothofagus - Argentina, T.d.Fuego 1993, herb.12462, CBS: 106612

Sequences: AF145566 (ITS)

**3204** branch - Iran, E Azerbaijan 2008, herb.16205

Dupl. IRAN

SCOPULOIDES sp.

**2989** hardwood - New Zealand, Westcoast 2004, herb.15096, CBS: 126037

SCOPULOIDES HYDNOIDES (Cke & Mass.)Hjortst. & Ryv.

**103** Betula - Sweden, DR 1980, herb. 3243

Sequences: GQ470628 (LSU)

**147** wood - Denmark, Mön 1980, herb. 3387, CBS:

Sequences: GQ470676 (LSU)

**360** Populus - Sweden, UP 1981, herb. 5007, CBS: 107397

SCYTINOSTROMA ALBO-CINCTUM (Berk. & Br.)Boid. & Lanq.

**3081** branch, log - South Africa, Western Cape 2005, herb.15660, CBS: 126036

Sequences: unpublished (ITS, LSU)

SCYTINOSTROMA ALUTA Lanquetin

**3196** branch - Iran, E Azerbaijan 2008, herb.16165

Dupl. IRAN

**3198** branch - Iran, E Azerbaijan 2008, herb.16169

Dupl. IRAN

SCYTINOSTROMA GALACTINUM (Fr.)Donk

Compatibility group(s): C-597; C-1232

**597** Pinus - Canada, Que. 1982, herb. 6363, CBS: 107825

**687** wood - Canada, B.C. 1982, herb. 7089, CBS: 107966

**1232** Tilia - Sweden, UP 1984, herb. 4863

Mating types: 6,8,9/1,2,3,4,7,10 Sequences: AF506466 (LSU)

**2713** Pterocarya - Russia, Krasnodar 1996, herb.13112

Dupl. IRAN Mating types: 1/2,5,7; 6/3,4,8,9

SCYTINOSTROMA JACKSONII Boid.

**635** Picea - Canada, B.C. 1982, herb. 6626

Sequences: AF506467 (LSU)

SCYTINOSTROMA OCHROLEUCUM (Bres.& Torr.)Donk

**2831** On soil - USA, N. Carolina 1998, herb.14066, CBS: 126049

Sequences: unpublished (ITS, LSU)

**3111** branch, log - Australia, Tasmania 2006, herb.15808

Sequences: unpublished (ITS)

SCYTINOSTROMELLA NANNFELDTII (J. Erikss.)Freeman & Pet.

**1742** wood - Norway, Hedmark 1986, herb. 6476  
Mating types: 1,4,6/2,5,8,10; 7/11 Sequences: AF506472 (LSU)

**SCYTINOSTROMELLA OLIVACEOALBUM**

**2803** - USA, 1997, herb.FP 90196sp

**SERPULA HIMANTIOIDES** (Fr.)Karst.

**2024** Picea - Denmark, Jutland 1988, herb. 10877

Mating types: 1,3,5,6,7,10/8; 2,4/9 Sequences: AM076522 (ITS); AM076555 (LSU); AM076428 (beta-tub)

**SISTOTREMA ADNATUM** Hallenb.

**700** wood - Canada, B.C. 1982, herb. 7153, CBS: 107987

ATCC: 60113 (SS-2), 60287 (SS-3)

Sequences: DQ898665 (SSU mt); DQ898699 (LSU); DQ898725 (SSU); DQ898763 (RPB2)

**SISTOTREMA ATHELIOIDES** Hallenb.

**701** wood - Canada, B.C. 1982, herb. 7154

Mating types: 1/2 ATCC: 60169 (SS-2), 60322 (SS-1)

Sequences: DQ898664 (SSU mt); DQ898700 (LSU); DQ898724 (SSU); DQ898766 (RPB2)

**SISTOTREMA BIGGSIAE** Hallenb.

Compatibility group(s): C-782,789-PC-862

**782** Acer - Canada, Que. 1982, herb. 7584

Mating types: 1,3/4 ATCC: 60111 (SS-4), 60112 (SS-1) Sequences: DQ898662 (SSU mt); DQ898697 (LSU); DQ898723 (SSU)

**789** Abies - Canada, Que. 1982, herb. 7643, CBS: 108114

**862** Betula - USA, Wisc. 1982, herb. FP101111

Mating types: 5/12; 6/14

**SISTOTREMA BINUCLEOSPORUM** Hallenb.

**797** con. wood - Canada, B.C. 1982, herb. 7152

ATCC: 60054 (SS-2), 60055 (SS-4), 60620 (SS-3) - "0798" - 60321 (SS-1)

**SISTOTREMA BRINKMANNII** (Bres.)John Erikss.

Compatibility group(s): C-40,75,209,234-35,241-42,315,382,559,570,600,833, 1010, 1025, 2206, 2213-

PC-856-859; C-2055; C-2198,2215; C-2217

**40** dec. wood - Sweden, SK 1979, herb. 3029  
**75** Fraxinus - Denmark, Jylland 1979, herb. 3186  
Mating types: 1,5,7/4,9  
**209** con. wood - Sweden, ÖG 1981, herb. 12607, CBS: 107216  
Mating types: H  
**234** dec. wood - Denmark, Jylland 1981, herb. 3509  
**235** dec. wood - Denmark, Jylland 1981, herb. 3507, CBS:  
**241** Betula - Sweden, TO 1981, herb. 3692  
**242** Betula - Sweden, TO 1981, herb. 3706  
**244** Salix - Sweden, TO 1981, herb. 3755  
Mating types: H  
**315** dec. wood - Sweden, NÄ 1981, herb. 4068  
**382** Fagus - Austria, Steierm. 1981, herb. 4459  
**544** wood - Canada, Que. 1982, herb. 6083  
Mating types: H  
**556** dec. wood - Canada, Que. 1982, herb. 6138, CBS: 107746  
Mating types: 2/3  
**559** Acer - Canada, Que 1982, herb. 6156, CBS: 107755  
Mating types: H  
**570** Betula - Canada, Que. 1982, herb. 6197, CBS: 107777  
Mating types: 1,4/3; 2 dik.  
**600** dec. wood - Canada, Que. 1982, herb. 6375  
Mating types: 1/2,3; 4 dik. ATCC: 60056 (SS-1), 60618 (SS-2)  
**833** Pinus - France, Corsica 1982, herb. DAOM 129780  
Mating types: SS-1 clamped  
**856** Acer - USA, Mich. 1982, herb.HHB-7604  
Mating types: 1,5/4,7  
**857** Populus - USA, Ariz. 1982, herb.HHB-8638  
Mating types: 6,10/12,15  
**858** Populus - USA, Wisc. 1982, herb.HHB-9213  
**859** Pseudotsuga - USA, Oreg. 1982, herb.SH4 CB  
Mating types: 4,5/7,10  
**867** - , 1982, neohaplont from FCUG 544, CBS: 108257  
Mating types: SS-1 clamped!  
**871** - , 1982, neohaplont from FCUG 544, CBS: 108270, 108271  
**903** Picea - Norway, N. Trönd. 1983, herb. TH 31  
**1010** dec. wood - Romania, Bihor 1983, herb. 8144  
**1025** Pinus - Romania, Suceava 1983, herb. 8092  
**1912** Alnus - Denmark, Greenland 1987, herb. HK 82, CBS: 104516  
Mating types: H

**1913** Alnus - Denmark, Greenland 1987, herb.HK 82, CBS: 104521  
Mating types: H  
**2055** Fagus - Sweden, VG 1988, herb. 10898  
Mating types: 1,2,3,4,6/5 Sequences: DQ898654 (SSU mt); DQ898706 (LSU);  
DQ898712 (SSU); DQ898754 (RPB2)  
**2198** Alnus - Turkey, Trabzon 1989, herb. 11419  
Dupl. IRAN Mating types: 1,3,5,7,8,10/2,4,6,9 ATCC: 76993 (PS), 90001 (SS-  
1)  
Sequences: DQ898653 (SSU mt); DQ898705 (LSU); DQ898713 (SSU);  
DQ898753 (RPB2)  
**2206** Alnus - Turkey, Trabzon 1989, herb. 11412, CBS: 105474  
Mating types: 3,7/1,2,4,5,6,8,9,10 dev. ATCC: 76994 (PS), 90000 (SS-2), 90003  
(SS-1)  
Sequences: AF506473 (LSU)  
**2213** Alnus - Turkey, Trabzon 1989, herb. 11396  
Mating types: 9/2,3 ATCC: 76990 (SS-2), 90500 (SS-9)  
**2215** Alnus - Turkey, Trabzon 1989, herb. 11411  
Mating types: 1,4,6,7,8/2,3,5,9,10 ATCC: 76988 (SS-1), 76991 (PS)  
**2217** Fagus - Turkey, Trabzon 1989, herb. 11574  
Dupl. IRAN Mating types: 1,6/2,4,5,7,8,9; 3/ ATCC: 90056 (PS), 90058 (SS-1),  
96376 (SS-2)  
Sequences: DQ898655 (SSU mt); DQ898709 (LSU); DQ898715 (SSU);  
DQ898755 (RPB2)  
**2401** Fagus - Russia, Krasnodar 1991, herb.12122  
Dupl. IRAN Mating types: H  
**2407** Pinus - Russia, Krasnodar 1991, herb.12255, CBS: 106223  
Dupl. IRAN Mating types: H  
**2705** Carpinus - Russia, Krasnodar 1996, herb.13083  
Dupl. IRAN  
**2751** Alnus - Russia, Krasnodar 1996, herb.13227, CBS: 108768  
Dupl. IRAN Mating types: 2,3/1,4,5,9  
**2971** Nothofagus - New Zealand, Southland 2004, herb.15144  
Sequences: unpublished (ITS)

SISTOTREMA BRINKMANNII (Bres.)John Erikss. s.l.

**2748** Betula - Russia, Krasnodar 1996, herb.13216, CBS: 108754  
Dupl. IRAN Mating types: 1,3,7/2,4,5,6,8,9,10 Sequences: DQ898652 (SSU  
mt); DQ898704 (LSU); DQ898714 (SSU); DQ898752 (RPB2)

SISTOTREMA CONFLUENS Fr.

**298** soil - Sweden, VG 1981, herb. 3771, CBS: 107323  
Sequences: DQ898666 (SSU mt); DQ898711 (LSU); DQ898726 (SSU);  
DQ898761 (RPB2); DQ381837 (RPB2); DQ267125 (ITS)

**SISTOTREMA CORONILLA** (Höhn. & Litsch.)Donk in Rogers

Compatibility group(s): C-573,776,785,861,863,832-PC-784

**573** Acer - Canada, Que. 1982, herb. 6233

**776** Fagus - Canada, Que. 1982, herb. 7547

Mating types: 2,3,4,5/6

**784** dec. wood - Canada, Que. 1982, herb. 7595

Mating types: 1/2,3 ATCC: 60057 (SS-1), 60622 (SS-3)

**785** dec. wood - Canada, Que. 1982, herb. 7598

Sequences: AF506475 (LSU)

**832** Paper - Canada, Ont. 1982, herb. DAOM 52712

**861** Betula - USA, Mich. 1982, herb.HHB-7792

Mating types: 17/19; 10,26

**863** Acer - USA, Mich. 1982, herb.HHB-10379

Mating types: 9/14; 10/11 Sequences: DQ457641 (LSU); DQ381838 (RPB2)

**SISTOTREMA DIADEMIFERUM** (Bourd. & Galz.)Donk

**2776** Picea - Turkey, Trabzon 1996, herb.13282

Dupl. IRAN Mating types: 1-7/

**SISTOTREMA EFIBULATUM** (J. Erikss.)Hjortst.

**1175** Picea - Sweden, BO 1984, herb. 8192

Mating types: 1-10/ 11-18/ Sequences: DQ898661 (SSU mt); DQ898696  
(LSU); DQ898721 (SSU)

**SISTOTREMA EXIMUM** (Jacks.)Ryv. & Solh.

**2342** Pinus - Canada, Ontario 1991, herb. RGT 870531/05, CBS: 105958

Sequences: DQ898660 (SSU mt); DQ898695 (LSU); DQ898762 (RPB2),  
AY757261 (SSU)

**SISTOTREMA FARINACEUM** Hallenb.

**659** Populus - Canada, B.C. 1982, herb. 6935, CBS: 107925

Mating types: 1,5/3,4 ATCC: 60058 (SS-4), 60059 (SS-5), 60619 (SS-3), 60621  
(SS-1)

Sequences: DQ898707 (LSU); DQ898718 (SSU); DQ898756 (RPB2)

**SISTOTREMA HISPANICAUM** Duenas et al



**1941** Salix - Denmark, Jylland 1987, herb. 10506, CBS: 104646  
Mating types: 1/3

SISTOTREMA NOBLESII ined.

**831** - Canada, , herb.DAOM 147544, CBS: 108200

SISTOTREMA OBLONGISPORUM M.P.Christ. & Hauersl.

Compatibility group(s): C-303,469,511,512,721,834,2219, 2422; C-1408;  
C-1490; C-1954; C-2149; C-  
2117; C-2118

**303** Alnus - Sweden, VS 1981, herb. 3947

Mating types: 2,5/4

**469** dec. wood - Sweden, VG 1982, herb. 12980

Mating types: 1,5,6,8/2,3,4,7

**511** dec. wood - Sweden, VR 1982, herb. 3423, CBS: 107655

Mating types: 1,3,4,6,7,8/2,5,9,10 ATCC: 60060 (SS-9), 60616 (SS-4)

**512** dec. wood - Sweden, VR 1982

Mating types: 1,3,4,6/2,5,7,8,9,10 ATCC: 60617 (SS-9)

**721** dec. wood - Canada, B.C. 1982, herb. 7239

Mating types: 2/4

**834** Pinus - Austria, 1982, herb. DAOM 130616, CBS: 108203

**1490** dec. wood - Romania, Covasna 1985, herb. 9297, CBS: 103454

Mating types: 1,2,3,5,6,7/4,8 Sequences: DQ898657 (SSU mt); DQ898702  
(LSU); DQ898716 (SSU); DQ898758 (RPB2)

**1954** Quercus - Denmark, Jylland 1987, herb. 10456, CBS: 104708

Mating types: 1,2,3,5,6,8,10/4,7,9

**2117** Pinus - Spain, Tenerife 1989, herb. 11196, CBS: 105190

Mating types: 1,3,5,7,9/2,4,6,8,10 ATCC: 76985 (SS-1), 76999 (SS-2), 90002  
(PS)

Sequences: DQ898658 (SSU mt); DQ898703 (LSU); DQ898717 (SSU);  
DQ898759 (RPB2)

**2118** Pinus - Spain, Tenerife 1989, herb. 11200, CBS: 105192

Mating types: H ATCC: 76996 (PS)

**2149** Eucal. - Spain, Tenerife 1989, herb. 10935, CBS: 105297

Mating types: 1,2,7/4,5 ATCC: 90066 (SS-4), 96372 (SS-1), 96368 (PS)

**2219** Alnus - Turkey, Trabzon 1989, herb. 11466

Dupl. IRAN Mating types: 1,2,8,10/3,4,5,6,8,9 ATCC: 76986 (PS), 90072 (SS-  
1), 90217 (SS-3)

Sequences: DQ898656 (SSU mt); DQ898701 (LSU); DQ898719 (SSU);  
DQ898757 (RPB2)

**2422** *Alnus* - Russia, Krasnodar 1991, herb.11976, CBS: 106295  
Dupl. IRAN Mating types: 1,3/4,5,6 Sequences: AY757263 (SSU)

*SISTOTREMA OCTOSPORUM* (Höhn. & Litsch.)Hallenb.

Compatibility group(s): C-238; C-440; C-2203

**238** *Salix* - Sweden, TO 1981, herb. 3633

**440** - Sweden, VG 1982, herb. 12664, CBS: 107514

**2203** dec. wood - Turkey, Trabzon 1989, herb. 11580, CBS: 105459

Mating types: 1,3,4/2,5,6,7,9,10 dev.

**2822** hardwood - USA, N. Carolina 1998, herb.14023, CBS: 126038

Sequences: DQ898663 (SSU mt); DQ898698 (LSU); DQ898722 (SSU);

DQ898764 (RPB2)

*SISTOTREMA PORULOSUM* Hallenb.

Compatibility group(s): C-566,720

**566** *Acer* - Canada, Que. 1982, herb. 6183, CBS: 107771

Mating types: 3/4 ATCC: 60061 (SS-1)

**720** *Salix* - Canada, B.C. 1982, herb. 7237, CBS: 108003

Mating types: 1 dik.

*SISTOTREMA RADULOIDES* (Karst.)Donk

PC-613,1695

**613** *Acer* - Canada, Ont. 1982, herb. 6424

Sequences: AY647213 (LSU); AY757262 (SSU)

**1695** *Betula* - Finland, EH 1986, herb. 9499, CBS: 103873

Mating types: 5,6,7/9,10,1,2,3,4,8 Sequences: DQ898667 (SSU mt); DQ898710 (LSU); DQ898727 (SSU); DQ898765 (RPB2)

*SISTOTREMA RESINICYSTIDIUM* Hallenb.

Compatibility group(s): C-102; C-1231,2188

**102** *Betula* - Sweden, DR 1980, herb. 3242

**1231** *Populus* - Sweden, UP 1984, herb. 4912

Mating types: 1,3,4,6,7/2,5,8,9

**2188** *Picea* - Estonia, 1989, herb. 11247, CBS: 105398

Mating types: 1,3,5/2,4,6,7,8,9,10 Sequences: DQ898659 (SSU mt); DQ898708 (LSU); DQ898720 (SSU); DQ898760 (RPB2)

*SISTOTREMA SERNANDERI* (Litsch.)Donk

Compatibility group(s): C-1049; C-1523

**1049** dec. wood - Romania, Iasi 1983, herb. 7980

Mating types: 1-3/ Sequences: AY757264 (SSU)  
**1523** dec. wood - Romania, Iasi 1985, herb. 9023, CBS: 103575

SISTOTREMA sp.

**2000** Tsuga - Canada, BC 1988, herb. 10757, CBS: 104849

Mating types: H

**3043** branch, log - South Africa, Western Cape 2005, herb.15409

Sequences: unpublished (ITS)

SISTOTREMASTRUM NIVEOCREMEUM (Höhn. & Litsch.)John Erikss.

Compatibility group(s): C-531,748; C-367; C-1182; C-1188; C-845

**248** Betula - Sweden, TO 1981, herb. 3609, CBS: 107265

Mating types: 1 dik.

**531** Betula - Canada, Que. 1982, herb. 6012, CBS: 107694

Mating types: 1/2

**729** Alnus - Canada, B.C. 1982, herb. 7278, CBS: 108013

**748** Abies - Canada, Ont. 1982, herb. 7418

Mating types: 1/3

**845** Quercus - Sweden, VG 1982, herb. 7446

**1182** Alnus - Norway, SF 1984, herb. 8240

Mating types: H?

**1188** Betula - Norway, RO 1984, herb. 8373

Mating types: H?

**1317** dec. wood - Sweden, GO 1984, herb. 8819, CBS: 103053

Mating types: H?

**1491** Fagus - Romania, Neamt 1985, herb. 9213, CBS: 103457

Mating types: H

**2112** Eucal. - Spain, Tenerifa 1989, herb. 10931, CBS: 105168

Mating types: H? ATCC: 90128 (PS)

**2125** dec. wood - Spain, Tenerifa 1989, herb. 10936, CBS: 105216

Mating types: H ATCC: 90095 (PS)

**2153** dec. wood - Spain, Gomera 1989, herb. 11128, CBS: 105312

Mating types: H, (3/4; 1,2/) ATCC: 90140 (PS)

**2231** Alnus - Turkey, Trabzon 1989, herb. 11402

Dupl. IRAN Mating types: H ATCC: 90134 (PS)

**2265** Picea - Turkey, Trabzon 1989, herb. 11566, CBS: 105728

Dupl. IRAN Mating types: H ATCC: 90138 (PS)

**2362** Betula - Denmark, Greenland 1991, herb.11940, CBS: 106032

Mating types: H

**2699** Buxus - Russia, Krasnodar 1996, herb.13058Dupl. IRAN

**2717** *Fagus* - Russia, Krasnodar 1996, herb.13122, CBS: 108628

Dupl. IRAN

**2815** *hardwood* - USA, N. Carolina 1998, herb.14002

Sequences: unpublished (ITS)

**2858** *Quercus* - USA, N. Carolina 1998, herb.14182

Sequences: unpublished (ITS)

**3016** *podocarp* - New Zealand, Rotorua 2004, herb.15231

Sequences: unpublished (ITS)

*SISTOTREMASTRUM SUECICUM* Litsch. ex John Erikss.

Compatibility group(s): C-745,934,1741; C-1512

**745** *Pinus* - Canada, Ont. 1982, herb. 7389

Mating types: 1,3/2

**934** *Pinus* - Scotland, Perthsh. 1983, herb. 7849

Mating types: 1,2,6/3,4,7

**1512** *Picea* - Romania, Suceava 1985, herb. 9180

Mating types: 1,5/2,3,4,6

**1741** *Pinus* - Finland, EH 1986, herb. 9483

*SISTOTREMELLA PERPUSILLA* Hjortst.

**2908** *Abies* - USA, N. Carolina 1998, herb.14370, CBS: 126048

*SKELETOCUTIS CARNEOGRISEA* David

**2490** *Picea* - Sweden, Göteborg 1992, herb., CBS: 106593

*SKELETOCUTIS PERCANDIDA* (Malenc. & Berth.)Keller

**2119** *Pinus* - Spain, Tenerife 1989, herb. 11201, CBS: 105197

Mating types: 1,4/2,3,5

*SPONGIPELLIS DELECTANS* (Peck)Murr.

**761** *Acer* - Canada, Ont. 1982, herb. 7455, CBS: 108070

*STECCHERINUM BOURDOTII* Saliba & David

Compatibility group(s): C-1029,2236

**1029** *dec. wood* - Romania, Bist.-Nas. 1983, herb. 7934

**2236** *Alnus* - Turkey, Trabzon 1989, herb. 11434, CBS: 105599

Dupl. IRAN Mating types: 1/3,4 ATCC: 90100 (SS-3), 90106 (SS-1), 90110

(PS) Sequences: unpublished (ITS)

*STECCHERINUM FIMBRIATUM* (Fr.)John Erikss.

**543** *Betula* - Canada, Que. 1982, herb. 6079, CBS: 107712

**715** *Alnus* - Canada, B.C. 1982, herb. 7225, CBS: 107994

STECCHERINUM OCHRACEUM (Fr.)S.F.Gray

Compatibility group(s): C-352,2237; 2432-NC-2236 (*S. bourdotii*)

**352** *Corylus* - Sweden, UP 1981, herb. 5031

**2237** *Corylus* - Turkey, Trabzon 1989, herb. 11568, CBS: 105604

Dupl. IRAN Mating types: 1,4/2,3 dev. ATCC: 90096 (SS-1), 90099 (SS-2), 96391 (PS)

**2432** *Corylus* - Russia, Krasnodar 1991, herb.12303

Dupl. IRAN Mating types: 7/1,4,9; 2,5,6/3,8,10

**2897** *Liriodendron* - USA, N. Carolina 1998, herb.14320

Mating types: 3,4,5,6,7/2,(6) Sequences: unpublished (ITS)

STECCHERINUM sp.

**3015** podocarp – New Zealand, Rotorua 2004, herb. 15257

Sequences: unpublished (ITS)

STECCHERINUM TENUISPINUM

Compatibility group(s): C-2449, 2739

**2449** *Abies* - Russia, Krasnodar 1991, herb.12195

Dupl. IRAN Mating types: 1,3/5,7; 2,4,6,8/ Sequences: unpublished (ITS)

**2739** *Abies* - Russia, Krasnodar 1996, herb.13190

Mating types: 3,4/8; 6/

STEREUM HIRSUTUM (Fr.)S.F.Gray

**1022** dec. wood - Romania, Suceava 1983, herb. 7960

Sequences: U80663 (LSU); AF506479 (LSU)

STEREUM INSIGNITUM Quel.

**2666** dec. wood - Russia, Krasnodar 1996, herb.12939, CBS: 108515

Dupl. IRAN

STEREUM RUGOSUM (Fr.)Fr.

**2353** *Betula* - Denmark, Greenland 1991, herb.11952, CBS: 105999

Mating types: heteroth. Sequences: U80664 (LSU); AF506481 (LSU)

**2577** dec. wood - Finland, Etelä-Häme 1994, herb.12825, CBS: 106843

STEREUM sp.

**2997** kahikatea - New Zealand, Westcoast 2004, herb.15088

Sequences: unpublished (ITS)

TERANA CAERULEA (Fr.)Kuntze

**1816** dec. wood - France, Roussillon 1986, herb. 10205, CBS: 104282

Mating types: 1/2,3

**2796** - USA, N. Carolina 1997, herb.EL 56/97

Sequences: unpublished (ITS)

TINCTOPORELLUS EPIMILTINUS (Berk. & Br.)Ryv.

**2178** - Japan, 1989, herb., CBS: 105379

TRECHISPORA ALNICOLA (Bourd. & Galz.)Liberta

**1464** - , 1985, herb. 57683, CBS: 103357

**1465** - , 1985, herb. 57783, CBS: 103358

TRECHISPORA FARINACEA (Fr.)Liberta

**1727** Pinus - Sweden, SM 1986, herb. 9552, CBS: 103975

TRICHAPTUM ABIETINUM (Fr.)Ryv.

Compatibility group(s): C-132,982,1023,1102-4,1109,1115,1129,1185-86,1219,1370,1696,1789,2123

**132** Picea - Sweden, DR 1980, herb. 3373, CBS: 107111

**137** Picea - Sweden, DR 1980, herb. 3380

**982** con. wood - Sweden, VG 1983, herb. 186

**1023** Picea - Romania, Bist.-Nas. 1983, herb. 7953

**1102** Pinus - Norway, N. Trönd. 1983, herb. 139

Mating types: 6,9/11,13; 7,12/10

**1103** Pinus - Norway, N. Trönd. 1983, herb. 140

Mating types: 1,8/7; 2,3,4,5/6

**1104** Pinus - Norway, N. Trönd. 1983, herb. 142

Mating types: 1,8/7,6; 2/4,5,6

**1109** Picea - Sweden, DR 1983, herb. 159

Mating types: 1,4/2,3,5,6,7; 8/

**1115** Picea - Sweden, VG 1983, herb. 178

Mating types: 7/1,3,4,5,6; 2,8/

**1129** Picea - Sweden, SK 1983, herb. 210

Mating types: 3,5/9; 2/

**1185** Pinus - Norway, SF 1984, herb. 8296

**1186** Picea - Norway, HO 1984, herb. 8323

**1219** Picea - Sweden, JÄ 1984, herb. 276

**1370** *Picea* - Sweden, JÄ 1984, herb. 281, CBS: 103187  
**1696** *Picea* - Finland, EH 1986, herb. 9491  
**1789** *Abies* - Spain, Huesca 1986, herb. 9755  
**2123** *Pinus* - Spain, Tenerife 1989, herb. 10988, CBS: 105209  
Mating types: 1,2,4,7,9,10/3,5,6,8 ATCC: 90098 (PS)  
**2581** *Picea* - Finland, Etelä-Häme 1994, herb.12842  
Mating types: 1,8/2,3,5,10; 4/9 Sequences: AF141636 (LSU); AF347104 (LSU)

TRICHAPTUM BIFORME (Fr.)Ryv.

**2665** *Carpinus* - Russia, Krasnodar 1996, herb.12936, CBS: 108514  
Dupl. IRAN  
**2730** *Carpinus* - Russia, Krasnodar 1996, herb.13152, CBS: 108678  
Dupl. IRAN

TRICHAPTUM FUSCOVIOLACEUM (Fr.)Ryv.

Compatibility group(s): C-1699,1894  
**1699** *Pinus* - Finland, PH 1986, herb. 9452, CBS: 103880  
Mating types: 2,5/1,6,4  
**1894** *Pinus* - Sweden, VG 1986, herb. 669, CBS: 104469  
Mating types: 5,8,9,7,2/4,6,10,3; 1/

TUBULICRINIS BOREALIS John Erikss.

Compatibility group(s): C-339,439,795,1685,1754,1757  
**339** *Picea* - Sweden, NÄ 1981, herb. 4088  
**439** *Picea* - Sweden, VG 1982, herb. 12665  
Mating types: 1/4 ATCC: 60062 (SS-4), 60117 (SS-2), 62859 (SS-6), 64024 (SS-5)  
**795** *Pseudotsuga* - Canada, B.C. 1982, herb. 7079  
Mating types: 2,3/  
**1685** *Picea* - Sweden, VG 1986, herb. 6339, CBS: 103844  
Mating types: 1,3,4/2  
**1754** *Picea* - Sweden, VG 1986, herb. 6323  
Mating types: 1/7; 2,8/4,5,6  
**1757** *Picea* - Sweden, VG 1986, herb. 6318  
Mating types: 6,8/3,4,5; 1,7/

TUBULICRINIS CALOTHRIX (Pat.)Donk

Compatibility group(s): C-341,357,1724  
**341** *Pinus* - Sweden, SM 1981, herb. 4101  
Mating types: 1,3,4/2,5

**357** Populus - Sweden, UP 1981, herb. 5023

Mating types: 1,2,3/6,7

**1724** Pinus - Finland, EH 1986, herb. 9422

Mating types: 1-10/

**3041** branch, log - South Africa, Western Cape 2005, herb.15405, CBS: 126039

TUBULICRINIS GRACILLIMUS (Rog. & Jacks.)Cunn.

Compatibility group(s): C-285,787,912,1965,2374,2378-82; C-1251,1253;

C-417; C-1869,2157,2446--

2038; C-2148,2166

**285** Betula - Sweden, TO 1981, herb. 3619

Mating types: 1,4,5/2,6

**417** Pinus - Austria, Steierm. 1981, herb. 4346, CBS: 107480

**503** Abies - Canada, B.C. 1982, herb. 6707, CBS: 107644

**787** Populus - Canada, Que. 1982, herb. 7632

Mating types: 2/3

**912** Betula - Sweden, LY 1983, herb. 4151

Mating types: 1,9,10/3

**1251** Picea - Norway, OP 1982, herb. 8456

Mating types: 4/5

**1253** Picea - Norway, OP 1984, herb. 8433

Mating types: 3/2,4,5

**1869** Pinus - Spain, Lerida 1986, herb. 10129

Mating types: 1/2,3

**1965** Alnus - Denmark, Greenland 1987, herb. HK 82, CBS: 104757

Mating types: 1,3,5,7/4,6,9,10; 2/8

**2038** Chamaecyp. - Canada, BC 1988, herb. 10726, CBS: 105005

Mating types: 2,4,8/7; 1,9,10/6

**2148** dec. wood - Spain, Tenerife 1989, herb. 11070

Mating types: 2,3/4,6; 1,7,9,10/5,8 ATCC: 90131 (PS), 90132 (SS-5), 90136 (SS-2), 90137 (SS-4), 90139 (SS-1)

**2157** Pinus - Spain, Tenerife 1989, herb. 11206

Mating types: 1,2/ ATCC: 90135 (SS-1), 90218 (SS-2)

**2166** dec. wood - Spain, Tenerife 1989, herb. 11062

Mating types: 1,2,3,5,6/4,8 ATCC: 90141 (SS-1)

**2329** Betula - Russia, Ural 1990, herb.VM , CBS: 105930

Mating types: 1,5,6/2,9; 4/3,7,8,10

**2374** Betula - Denmark, Greenland 1991, herb.11851

Mating types: 1,10,2,5,6,7/3,4,8,9; dev.

**2378** Betula - Denmark, Greenland 1991, herb.11904, CBS: 106096



Mating types: 1,3,4/5,8,9; 2,7/10

**2379** *Betula* - Denmark, Greenland 1991, herb.11859

Mating types: 4,2/3,6,7,9,1; 5,8,10/ dev.

**2380** *Betula* - Denmark, Greenland 1991, herb.11854

Mating types: 2,7,8,9/1,4,5,6,3; dev.

**2381** *Betula* - Denmark, Greenland 1991, herb.11798, CBS: 106109

Mating types: 1,4,5,9,3/2,8; 6/7 dev.

**2382** *Betula* - Denmark, Greenland 1991, herb.11958, CBS: 106114

Mating types: 5,7,1,2/3,6,8,9,4

**2446** *Pinus* - Russia, Krasnodar 1991, herb.12262

Mating types: 1/2,4,7,10; 3,5,6/8,9

TUBULICRINIS MEDIUS (Bourd. & Galz.)Oberw.

Compatibility group(s): C-338,976; C-2459

**338** *Picea* - Sweden, SM 1981, herb. 4106

**976** - Norway, Hedm. 1983, herb. 4616

Mating types: 2,6,(1,5)/3,7,8,(9)

**2459** *Abies* - Russia, Krasnodar 1991, herb.12125

Mating types: 1-10/

TUBULICRINIS STRANGULATUS Larss. & Hjortst.

Compatibility group(s): C-978,1056,1419,1544,1744,1866,2273,2444; C-905

**905** - Sweden, LY 1983, herb. 4205

Mating types: 1,4,5/2,6

**978** - Norway, Hedm. 1983, herb. 4614

Mating types: 1,3,5,6/8

**1056** *Picea* - Romania, Suceava 1983, herb. 8077

Mating types: 2,3,5/6

**1419** *Picea* - Norway, Oslo 1985, herb. 8903

Mating types: 9,8,(3)/5,6,(1,2,4)

**1544** *Abies* - Romania, Neamt 1985, herb. 9193

Mating types: 1/5,6; 2,7,8/3,4

**1744** *Picea* - Sweden, VG 1986, herb. 6338

Mating types: 3,4/5

**1866** *Abies* - Spain, Huesca 1986, herb. 9753

Mating types: 1-5/

**2273** *Picea* - Turkey, Trabzon 1989, herb. 11505

Dupl. IRAN Mating types: 1,2,3/5,6,7,9; 4,8,10/

**2444** wood - Russia, Krasnodar 1991, herb.12267

Dupl. IRAN Mating types: 2,6/1,3,4; 8/5,7,9,10

TUBULICRINIS SUBULATUS (Bourd. & Galz.)Donk

Compatibility group(s): C-288,363, 914,1073,1292,1353,1783,1868, 1876, 2257, 2275-76, 2463; C-

496,1255,1546; C-1730

**288** Picea - Denmark, Jylland 1981, herb. 3478

Mating types: 1,3,6,7/2,4,5

**363** Populus - Sweden, UP 1981, herb. 5012

**496** Abies - Canada, B.C. 1982, herb. 6755

**540** Abies - Canada, Que. 1982, herb. 6047, CBS: 107706

Mating types: 1/2,3

**914** Pinus - Denmark, Jylland 1983, herb. 7762

Mating types: 1,4/2

**1073** Pinus - Scotland, Perthsh. 1983, herb. 7875

Mating types: 1-5/

**1255** Picea - Norway, OP 1984, herb. 8463

Mating types: 1/4

**1292** Picea - Sweden, HA 1984, herb. 8652

Mating types: 1/5,6; 3/2,4

**1353** Picea - Sweden, GO 1984, herb. 8686

Mating types: 1/2

**1546** Picea - Romania, Brasov 1985, herb. 9317

Mating types: 1,2,4,8/6

**1730** Pinus - Finland, EH 1986, herb. 9503

Mating types: 1,2/9; 6/10; 7/8

**1783** Pinus - Finland, PH 1986, herb. 9535

**1868** Pinus - Spain, Lerida 1986, herb. 10019

Mating types: 1-5/

**1876** Pinus - Spain, Huesca 1986, herb. 9791

Mating types: 1,2/

**2257** con. wood - Estonia, 1989, herb. 11230

Mating types: 1,4,6,7,8,10/9; 2,3,5/

**2275** con. wood - Estonia, 1989, herb. 11233

Mating types: 10/4,6,7,9

**2276** con. wood - Estonia, 1989, herb. 11240

Mating types: 1,7,9/4,5; 2,3,6,8,10/

**2463** Abies - Russia, Krasnodar 1991, herb.12179

Mating types: 2,3,5/6,9,10; 4,7,8/

TYROMYCES CHIONEUS (Fr.)Karst.

Compatibility group(s): C-267,601,2365,2369

**267** *Betula* - Sweden, TO 1981, herb. 3644  
**601** dec. wood - Canada, Que. 1982, herb. 6378, CBS: 107835  
**2365** *Betula* - Denmark, Greenland 1991, herb.11916, CBS: 106045  
Mating types: 9,1,5/3,6,7,8; dev.  
**2369** *Betula* - Denmark, Greenland 1991, herb.11900, CBS: 106062  
Mating types: 10/1-9

TYROMYCES HYPOLATERITIUS (Berk.)Ryv.  
**2084** - Zimbabwe, 1989, herb. LR 25987, CBS: 105098  
Mating types: 1,2,4,5,7/3,6

TYROMYCES sp.  
**340** *Ulmus* - Sweden, NÄ 1981, herb. 4023, CBS: 107376

UTHATOBASIDIUM FUSISPORUM (Schroet.)Donk  
**2732** *Morus* - Russia, Krasnodar 1996, herb.13163  
Dupl. IRAN

VELUTICEPS AMBIGUA (Peck)Hjortst. & Telleria  
**2907** *Abies* - USA, N. Carolina 1998, herb.14366, CBS: 126033  
Mating types: (4,8/7) Homothallic?

VESICULOMYCES CITRINUS (Pers.)Hagstr.  
**744** *Abies* - Canada, Ont. 1982, herb. 7349, CBS: 108037  
**1337** *Picea* - Sweden, GO 1984, herb. 8684, CBS: 103113

VUILLEMINIA ALNI Boid., Lanq., Gilles  
C-306,926,1697,1806,2227,2230,2405 -PC- 2598  
**306** *Alnus* - Sweden, VS 1981, herb. 3964  
Mating types: 2/4  
**926** *Alnus* - Scotland, Perthsh. 1983, herb. 7882  
Mating types: 1-5/ Sequences: HM046896 (ITS)  
**1697** *Alnus* - Finland, PH 1986, herb. 9470  
Mating types: 3,7/5,6; 4/1,2,8,9,10  
**1806** dec. wood - Spain, Lerida 1986, herb. 10062  
Mating types: 1,5/2,3; 4/ Sequences: HM046897 (ITS)  
**2227** *Alnus* - Turkey, Trabzon 1989, herb. 11421, CBS: 105561  
Dupl. IRAN Mating types: 1,6,7/2; 3,4/5 ATCC: 90101 (SS-3), 90102 (SS-2), 90108 (SS-1), 90109 (SS-5), 90105 (PS) - as *V. comedens* Sequences: HM046899 (ITS)

**2230** *Alnus* - Turkey, Trabzon 1989, herb. 11484  
Mating types: 3,4/5; 1,2/ ATCC: 90097 (SS-5), 90107 (SS-3), 90130 (PS) - as *V. comedens*  
Sequences: HM046900 (ITS)  
**2405** *Alnus* - Russia, Krasnodar 1991, herb.12123, CBS: 106215  
Dupl. IRAN Mating types: 1,8/5; 3/2,4,6,7,9,10 Sequences: HM046895 (ITS); U80665 (LSU)  
**2598** *Ulmus* - France, Cote-d`Or 1990, herb.LY 14589  
Sequences: HM046890 (ITS)  
**2599** *Alnus* - France, Pyr.-Atl. 1992, herb.LY 15331, CBS:  
Sequences: HM046899 (ITS)

#### VUILLEMINIA COMEDENS (Fr.)Maire

Compatibility group(s):C-1032; C-1468, 2445, 2595; PC-2392 (*V. coryli*)

**1032** dec. wood - Romania, Iasi 1983, herb. 8002

Mating types: 1-4/

**1468** dec. wood - Romania, Iasi 1985, herb. 9081, CBS: 103367

Sequences: HM046905 (ITS)

**2445** dec. wood - Spain, Salamanca 1991, herb. 12314

Mating types: 2/7 Sequences: HM046898 (ITS)

**2595** *Castanea* - France, Rhone , herb.LY 15783

Sequences: HM046891 (ITS)

**3135** *Carpinus* - Iran, Azerbadjan 2006, herb. MG 435

Dupl. IRAN Sequences: HM046893 (ITS)

**3192** branch - Iran, Gilan 2008, herb.16123

Sequences: HM046894 (ITS)

**3199** branch - Iran, E Azerbaijan 2008, herb. 16186

Dupl. IRAN Sequences: HM046892 (ITS)

#### VUILLEMINIA CORYLI Boid., Lanq., Gilles

Compatibility group(s): C-2280,2294,2392

**1038** dec. wood - Romania, Harghita 1983, herb. 8117

Mating types: H? Sequences: HM046903 (ITS); HM046904 (ITS)

**2280** *Corylus* - France, 1989, herb. GG 1835, CBS: 105771

Mating types: 1,5,8/4,9; 2,3/6,7 Sequences: HM046901 (ITS)

**2294** *Corylus* - Sweden, VG 1990, herb.M.L.

Mating types: 1,8,3,4,6,7/2,5,9,10 Sequences: HM046907 (ITS)

**2392** *Corylus* - Russia, Krasnodar 1991, herb.12164, CBS: 106159

Dupl. IRAN Mating types: 1-8/ Sequences: HM046906 (ITS)

**2724** *Corylus* - Russia, Krasnodar 1996, herb.13142

Dupl. IRAN Mating types: SS-3 dik. Sequences: unpublished (ITS)  
**2769** *Corylus* - Turkey, Trabzon 1996, herb.13262, CBS: 108832  
Dupl. IRAN Sequences: HM046908 (ITS)

#### VUILLEMINIA CYSTIDIATA Parm.

Compatibility group(s): C-2145,2154

**2145** *Rosa* - Sweden, BO 1989, herb. 11220, CBS: 105278

Mating types: 1/6,7,8,10; 2,5/3,4 Sequences: HM046912 (ITS); U80666 (LSU)

**2154** dec. wood - Spain, Tenerife 1989, herb. 11002

Mating types: 2,4,5,6,8/7,9,10; 1,3/ ATCC: 90103 (SS-7), 90129 (SS-2)

Sequences: HM046911 (ITS)

**2596** *Crataegus* - Austria, Niederöst. 1982, herb. LY 10018

Sequences: HM046909 (ITS)

#### VUILLEMINIA PSEUDOCYSTIDIATA Boid., Lanq., Gilles

**2600** *Crataegus* - France, Pyr.-Atl. 1991, herb.LY 14819

Sequences: HM046915 (ITS); HM046916 (ITS)

#### XYLOBOLUS SUBPILEATUS (Berk.& Curt.)Boid.

**2841** *Quercus* - USA, N. Carolina 1998, herb.14101, CBS: 126032

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### References

- Hallenberg, N. 1981. *Phlebia centrifuga* (Corticaceae, Basidiomycetes) - Compatibility between specimens from Sweden and Canada. Göteborgs Svampklubb Årsskrift 1981: 33-37.
- Hallenberg, N. 1983. Culture studies in *Hypochnicium* (Corticaceae, Basidiomycetes). Mycotaxon 16: 565-71.
- Hallenberg, N. 1983. *Hericium coralloides* and *H. alpestre* (Basidiomycetes) in Europe. Mycotaxon 18: 181-89.
- Hallenberg, N. 1983. On the *Schizopora paradoxa* complex. Mycotaxon 18: 303-313.
- Hallenberg, N. 1984. A taxonomical analysis of the *Sistotrema brinkmannii* complex (Corticaceae, Basidiomycetes). Mycotaxon 21: 389-412.

- Hallenberg, N. 1984. Compatibility between species of Corticiaceae s.l. (Basidiomycetes) from Europe and North America. *Mycotaxon* 21: 335-88.
- Hallenberg, N., Hjortstam, K., Ryvarde, L. 1985. *Pirex*, gen. nova (Basidiomycetes, Corticiaceae). *Mycotaxon* 24: 287-92.
- Hallenberg, N. 1985. On the *Hypochnicium eichleri* complex (Basidiomycetes). *Mycotaxon* 24: 431-36.
- Hallenberg, N. 1985. Compatibility between species of Corticiaceae s.l. (Basidiomycetes) from Europe and Canada. II. *Mycotaxon* 24: 437-43.
- Hallenberg, N. 1986 Culture studies in Corticiaceae. *Windahlia* 15: 9-18.
- Hallenberg, N. 1986. On speciation and species delimitation in *Peniophora cinerea*-group (Corticiaceae, Basidiomycetes). *Windahlia* 16: 73-80, 1986.
- Hallenberg, N. 1986. Culture studies in *Tubulicrinis* and *Xenasmatella* (Corticiaceae, Basidiomycetes). *Mycotaxon* 27: 361-375.
- Hallenberg, N., Bernicchia, A. 1987. Cultural studies in *Fibricium* (Corticiaceae, Basidiomycetes). *Mycotaxon* 30: 203-08.
- Hallenberg, N. 1987. Culture studies in Corticiaceae (Basidiomycetes). II. *Windahlia* 17: 43-47.
- Hallenberg, N. 1987. On speciation in Corticiaceae (Basidiomycetes). *Windahlia* 17: 19-25.
- Hallenberg, N. 1988. Species delimitation in Corticiaceae (Basidiomycetes). *Mycotaxon* 31: 445-466.
- Hallenberg, N. 1990. Culture studies in Corticiaceae (Basidiomycetes). III. *Windahlia* 18: 25-30.
- Hallenberg, N. 1990. Ultrastructure of stephanocysts and basidiospores in *Hyphoderma praetermissum*. *Mycol. Res.* 94: 1090-95.
- Hallenberg, N., Larsson, E. 1991. Distinctions between culture characters and electrophoretic patterns of sibling species in four different species complexes (Corticiaceae, Basidiomycetes). *Mycologia* 83: 131-41.
- Hallenberg, N. 1991. Speciation and distribution in Corticiaceae (Basidiomycetes). *Pl. Syst. Evol.* 177: 93-110.
- Hallenberg, N. 1991. Pairing tests with species of Aphyllphorales (Basidiomycetes) from two phytogeographically isolated areas. *Mycotaxon* 42: 355-86.
- Hallenberg, N., Larsson, E. 1992. Mating Biology in *Peniophora cinerea* (Basidiomycetes). *Can. J. Bot.* 70: 1758-1764.
- Hallenberg, N., Larsson, E. 1992. On taxonomy of *Phlebia livida*. *Mycol. Res.* 97: 351-354.
- Hallenberg, N., Larsson, K-H., Larsson, E. 1994. On the *Hyphoderma praetermissum* complex (Corticiaceae, Basidiomycetes). *Mycol. Res.* 98: 1012-1018.

- Hallenberg, N., Larsson, E., Mahlapuu, M. 1996. Phylogenetic studies in *Peniophora* (Basidiomycetes). *Mycol. Res.* 100: 179-187.
- Hallenberg, N., Parmasto, E. 1998. Phylogenetic studies in species of Corticiaceae growing on branches. *Mycologia* 90: 640-654.
- Parmasto, E., Hallenberg, N. Taxonomy of phlebioid fungi (Basidiomycota). 2000. *Nordic Journal of Botany* 20: 105-118.
- Paulus, B., Hallenberg, N., A., Buchanan, P, Chambers, G. 2000. Phylogenetic studies in *Schizopora* (Basidiomycota) based on internal transcribed spacer sequences. *Mycological Research* 104: 155-1163.
- Küffer, N., Hallenberg, N. 2000. Intraspecific variability in *Peniophora aurantiaca* (Basidiomycetes): A comparison between specimens from North America and Switzerland. *Nordic Journal of Botany* 20:713-716.
- Larsson, E., Hallenberg, N. 2001. Species delimitation in the *Gloeocystidiellum porosum-clavuligerum* complex inferred from mating experiments and nuclear rDNA sequence data. *Mycologia* 93: 907-914.
- Hallenberg, N., Küffer, N. 2001. Long-distance spore dispersal in wood-inhabiting Basidiomycetes. *Nordic Journal of Botany* 21(4): 431-436.
- Nilsson, H.R., Hallenberg, N. 2002. Phylogeny of the *Hypochnicium punctulatum* complex as inferred from ITS sequence data. *Mycologia* 95: 54-60.
- Nilsson, H., Hallenberg, N., Nordén, B., Maekawa, N., Wu, Sheng-Hua. 2003. Phylogeography of *Hyphoderma setigerum* (Basidiomycota) in the Northern Hemisphere. *Mycological Research* 107: 645-652.
- Larsson, E. & Larsson, K.H. 2003. Phylogenetic relationships of russuloid basidiomycetes with emphasis on aphyllorphoralean taxa. *Mycologia* 95: 1037–1065.
- Larsson, K.H., Larsson, E. & Kõljalg, U. 2004. High phylogenetic diversity among corticioid homobasidiomycetes. *Mycological Research* 108: 983–1002.
- Binder, M., Hibbett, D.L., Larsson, K.H., Larsson, E. Langer, E & Langer, G. 2005. The phylogenetic distribution of resupinate forms in the homobasidiomycetes. *Systematics and Biodiversity* 3: 113–157.
- Hallenberg, N., Nilsson, R.H., Antonelli, A., Wu, S.H., Maekawa, N., Nordén B. 2006. The *Peniophorella praetermissa* species complex (Basidiomycota). *Mycological Research* 111: 1366-1376.
- Moncalvo, J-M. Nilsson, R.H, Dunham, S, Bernauer, T, Matheny, P.B., McLenon, T., Weiss, M., Danell, E., Langer, G, Langer, E, Larsson, E, Larsson, K.-H. & Vilgalys, R. 2006. The cantharelloid clade: dealing with incongruent gene trees and phylogenetic reconstruction methods. *Mycologia* 98: 937–948.
- Paulus, B., Nilsson, H.R., Hallenberg, N. 2007. Phylogenetic studies in *Hypochnicium* (Basidiomycota), with special emphasis on species from New Zealand. *New Zealand Journal of Botany* 45: 139 - 150.

- Hallenberg N, Ryberg M, Nilsson RH, Wood AR, and Wu S-H (2008). *Pseudolagarobasidium* (Basidiomycota): on the reinstatement of a genus of parasitic, saprophytic, and endophytic resupinate fungi. *Botany* 86(11): 1319–1325.
- Wu SH, Nilsson RH, Chen CT, Yu SY, Hallenberg N (2010). The white-rotting genus *Phanerochaete* is polyphyletic and distributed throughout the phleboid clade of the *Polyporales* (Basidiomycota). *Fungal Diversity* 42: 107-118.
- Telleria MT, Duenas M, Melo I, Hallenberg N, Martin MP (2010). A reevaluation of *Hypochnium* (Polyporales) based on morphological and molecular characters. *Mycologia*, 102(6): 1426–1436.
- Hallenberg N, Yurchenko E, Ghobad-Nejhad M (2010). *Peniophora pseudonuda* is a synonym to *P. laeta*. *Mycotaxon* 112: 153–162.
- Ghobad-Nejhad M, Hallenberg N (2010). *Erythricium atropatanum* sp. nov. (Corticiales) from Iran, based on morphological and molecular data. *Mycological Progress* 10: 61-66.
- Ghobad-Nejhad M, Nilsson RH, Hallenberg N (2010). Phylogeny and taxonomy of the genus *Vuilleminia* (Basidiomycota) based on molecular and morphological evidence, with new insights into the Corticiales. *Taxon* 59 (5) : 1519–1534.
- Ghobad-Nejhad M, Hallenberg N (2010). Multiple evidence for recognition of *Phlebia tuberculata*, a more widespread segregate of *Phlebia livida* (Polyporales, Basidiomycota). *Mycological Progress* DOI 10.1007/s11557-010-0722-1.
- Ghobad-Nejhad M, Hallenberg N, Hyvönen J, Yurchenko E (2011). The Caucasus region as a source of European fungal diversity. *Fungal Diversity*, DOI 10.1007/s13225-011-0122-0.



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