Synopsis Fungorum 27

FUNGIFLORA

Synopsis Fungorum 27

FUNGIFLORA

Nomenclaturial novelties proposed in this volume:

New genera

New Species:

New combinations:

.

ACKNOWLEDGEMENT
Nick Legon of Somerset, England has kindly read all papers in this issue and besides suggesting linguistic improvements, he has also pointed out inconsistencies and places with contradictory information in the keys and the descriptions. We are him very grateful for his critical review and would like to underline that mistakes that still are present, are to be blamed on the authors.

Kurt Hjortstam, in memoriam

Kurt Hjortstam died 8 December 2009 after a short period of illness.

He was born in in 1933 in Alingsås, a small town some 40 km east of Gothenburg, Sweden, where he underwent 7 years at primary school, the only formal education he ever had.

He then trained as a furniture upholsterer but left that profession after only a short time to try his skill as a bus and trailer driver, then as a stevedore at the harbour of Gothenburg followed by several other short time jobs after that.

His parents in law had a nursery which inspired him to learn more about vascular plants. With some friends he made an accurate inventory of the flora around Alingsås after which it took only a short time before he knew almost all the vascular plants of Western Sweden.

During an excursion with the Gothenburg Botanical Society he became aware of a man at the rear of the group picking up rotten sticks and examining them with a hand lens. His curiosity aroused, he asked the man, who turned out to be Prof. John Eriksson, what he was looking at and was duly shown what could be found growing on the undersides of rotten logs, small dead branches etc., that were lying on the ground.

To Kurt this was a completely unknown facet of the natural world and, fascinated by it, a few days later he sent a few sticks, with associated fungi, to John who responded immediately informing him that he had found one very rare species and one not previously known from Sweden. Thus was the start of an extraordinary mycological passion, rarely experienced by a non-academically educated person.

John Eriksson sensed very soon that he was confronted with a very gifted person and immediately arranged that Kurt obtained a good microscope and pertinent literature on Corticiaceae s. lato.

Since much of this literature was written in English, German and French, Kurt immediately started to study these languages and was soon proficient in reading and understanding them without any difficulty.

In 1969, together with John Eriksson, he published a small paper on some new species of *Hyphodontia* and discovered that the International Botanical Code demanded that new species should have a Latin description to be legitimate. Kurt then proceeded to teach himself Latin, in which he was soon fluent, much to the envy and frustration of his friends, such as the authors of this obituary, who do not have Kurt's phenomenal ability to learn languages.

When Corticiaceae of North Europe was started in 1971 Kurt was soon engaged as an assistant and later also as a co-author. Since the project was supported by the Swedish Research Council, he had a position as assistant at the University of Gothenburg for 4 years. Then Ryvarden in Oslo was able to hire him as an assistant, which was partly funded by the Norwegian Research Council, and partly by Fungiflora. During this time he commuted between Oslo and Alingsås, helping a long series of students in Oslo with their master's theses besides attending field excursions with the students. Since Kurt was also an excellent chess player it was natural that he also got the students and staff in Oslo interested in the game. But, however much we all tried, there was little, if any, chance to beat Kurt even if we gave him only 2 minutes playing time and ourselves 30 minutes. Eventually the chess clock had to be returned to Alingsås otherwise it was doubtful whether the students would had been able to fulfil their thesis work.

During his stay in Oslo he was shown the large collections of corticoid fungi accumulated by Ryvarden during his many excursions to different tropical countries. Kurt saw this as a challenge of another, much larger, dimension than he had been confronted with during his studies with the Nordic corticoid species.

He immediately started to go through old literature and, over a period of years, accumulated large databases of descriptions and keys for his personal use.

He made two trips to Brazil in 1985 and 1987 which gave him insight in the enormous variation there is in a tropical forest. However, the somewhat strenuous conditions experienced during collecting in tropical rain forests did not particularly attract him and he only made restricted collecting, mostly during a joint expedition with David Pegler and Leif Ryvarden in 1985.

He also travelled several time to England, to the Royal Botanic Gardens at Kew where he studied type collections and was eventually hired as a scientific officer in the mycological herbarium.

His wife, who was a hospital nurse, was unable, at the time, to find paid work in England and it became troublesome for the family to stay in two different countries. Thus, Kurt came back to Sweden, and returned to work as a driver again, researching fungi in his spare time, while receiving support from Fungiflora, until he had his pension.

Kurt Hjortstam had a very impressive scientific output. He has himself, or with others, described 181 new species. He also contributed greatly, to the classification of the corticoid fungi, with descriptions of 54 new genera and 129 new combinations. Between 1968 and 2009 he made 137 scientific publications plus another two published posthumously in this issue.

His main other interest, besides chess and mycology, was classical music and he had a tremendous knowledge of classical composers and their compositions, remembering and being able to recognise by ear, what he listened to.

That his garden was immaculate goes without saying!
All in all, Kurt was a man who never left anything half done. His abiding principle was that unless you put your whole energy and interest into anything, there was no sense of taking it up.

Many felt that Kurt was a loner and also that he could be rather critical, especially when someone drew conclusions which they could not scientifically support or were too pretentious.

He had however a critical attitude to his own results, something done naturally and not as a result of long academic training. His rather short contacts with the Swedish academic environment were a disappointment. He felt he was not respected for his knowledge but, on the contrary, felt he was misjudged. Whether this was true or something of his own imagination is difficult to decide, but it is a well known fact that autodidacts can be rather touchy when criticized. He was frustrated over his lack of any formal academic education which of course would have allowed him a permanent position at one of the Scandinavian Universities.

He admitted however that he was both flattered and grateful when the University of Gothenburg acknowledged his achievements by giving him an honorary doctor's degree in 1989.

We, who had the privilege to know Kurt and to work with him, remember him as a warm, generous and an almost incomprehensibly gifted fellow human. His life was not easy, partly since he had no permanent mycological position, thus, had to spread his talents to make a living, and that he tragically and prematurely lost two of his four children. What we, perhaps, shall remember best was his continual generosity in helping us when asked.
He truly lived up to Disraeli's well known words: "Life is too short to make it small."

Karl-Henrik Larsson & Leif Ryvarden

Nick Legon, England has kindly suggested linguistic changes for which we are grateful.

Publications by Kurt Hjortstam

1968: Hjortstam, K. 1968. Ett par för Skepplanda socken i västra Västergötland nya fanerogamer Svensk Bot. Tidskr. 62: 415–417.
Hjortstam, K. 1968. Kärlväxtfloran i Alingsås samt Bälinge, Hols och Horla socknar. Svensk Botanisk Tidskrift 62: 289–337.

1969: Eriksson, J. & Hjortstam, K. 1969. Studies in the *Botryobasidium vagum* complex (Corticiaceae). Friesia IX: 10–17.
Eriksson, J. & Hjortstam, K. 1969. Four new taxa of *Hyphodontia* (Basidiomycetes). Svensk Botanisk Tidskr. 63: 217–232.
Hjortstam, K. 1969. Studies in the Swedish species of the genus *Tomentella* (Thelephoraceae). I. Svensk Botanisk Tidskrift 63: 491–495.

1970: Eriksson, J. & Hjortstam, K. 1970. *Erythricium*, a new genus of Corticiaceae (Basidiomycetes). Svensk Botanisk Tidskrift 64: 165–169.
Hjortstam, K. 1970. Studies in the Swedish species of the genus *Tomentella* (Thelephoraceae). II. Svensk Botanisk Tidskrift 64: 421–428.

1971: Hjortstam, K. 1971. The genus *Paullicorticium* in Sweden (Basidiomycetes). Göteborgs Svampklubb Årsskrift 1971: 6–12.

1973: Hjortstam, K. 1973. *Jaapia argillacea* Bres. Bidrag till kännedom om en intressant basidiomycet. Göteborgs Svampklubb Årsskrift 1972–1973: 1–4.
Hjortstam, K. 1973. Studies in the Corticiaceae (Basidiomycetes) and related fungi of Västergötland in Southwest Sweden. Svensk Botanisk Tidskrift 67: 97–126.

1974: Hjortstam, K. 1974. Studies in the Swedish species of *Tomentella* (Thelephoraceae). III. The genus *Tomentellopsis*. Svensk Botanisk Tidskrift 68: 51–56.
Larsson, K-H. & Hjortstam, K. 1974. *Luellia*, a new genus in the Corticiaceae (Basidiomycetes). Svensk Botanisk Tidskrift 68: 57–63.

1976: Hjortstam, K. 1976. Notes on *Pseudotomentella* (Thelephoraceae). Göteborgs Svampklubb Årsskrift 1975–1976: 58–62.
Larsson, K-H. & Hjortstam, K. 1976. *Pseudoxenasma*, a new genus of Corticiaceae (Basidiomycetes). Mycotaxon 4: 307–311.

1977: Hjortstam, K. 1977. Floristiska notiser Svensk Botanisk Tidskr. 71: 185–186.
Hjortstam, K. 1977. Floristiska notiser (Västergötland, Älvsborgs län; Skaraborgs län Svensk Botanisk Tidskr. 71: 185–186.
Hjortstam, K. & Larsson, K-H. 1977. Notes on Corticiaceae (Basidiomycetes). I. Mycotaxon 5: 475–480.

1978: Eriksson, J. Hjortstam, K. & Ryvarden, L. 1978. The Corticiaceae of North Europe. Vol. 5. *Mycoaciella – Phanerochaete*. Fungiflora, Oslo, Norway.
Hjortstam, K. 1978. Enumeration of Corticiaceae and related fungi of Västergötland in SW Sweden. Göteborgs Svampklubb Årsskrift 1977–1978: 17–26.
Hjortstam, K. & Larsson, K-H. 1978. Notes on Corticiaceae (Basidiomycetes). II. Mycotaxon 7: 117–124.
Hjortstam, K. & Ryvarden, L. 1978. Notes on Corticiaceae (Basidiomycetes) III. Mycotaxon 7: 407–410.

1979: Hjortstam, K. 1979. A synopsis of the genus *Tubulicrinis* Donk sensu stricto (Corticiaceae). Göteborgs Svampklubb Årsskrift 1979: 45–61.
Hjortstam, K. 1979. Vedbeboende svampar från Råbäck på Kinnekulle. Svensk Botanisk Tidskrift 72: 321–326.
Hjortstam, K. & Ryvarden, L. 1979. Notes on Corticiaceae (Basidiomycetes) V. Mycotaxon 10: 201–209.
Hjortstam, K. & Ryvarden, L. 1979. Notes on Corticiaceae (Basidiomycetes).IV. Mycotaxon 9: 505–519.

1980: Hjortstam, K. 1980. Notes on Corticiaceae (Basidiomycetes) VII. A synopsis of the genus Amyloc*o*rticium Pouz. Mycotaxon 11: 430–434.
Hjortstam, K. & Høgholen, E. 1980. Notes on Corticiaceae (Basidiomycetes) VI. *Rogersella eburnea* nov.spec. Mycotaxon 10: 265–268.
Hjortstam, K. & Johannesen, E. 1980. Annotated list to the alpine wood fungus flora in Norway. Aphyllophorales and Myxomycetes in Dovrefjell National Park. Göteborgs Svampklubb Årsskrift 1980: 15–45.
Hjortstam, K. & Ryvarden, L. 1980. Studies in Tropical Corticiaceae (Basidiomycetes) I. Mycotaxon 10: 269–287.
Hjortstam, K. & Ryvarden, L. 1980. Studies in tropical Corticiaceae (Basidiomycetes).II. Mycotaxon 12: 168–184.

1981: Eriksson, J., Hallingbäck, T. & Hjortstam, K. 1981. Notes on *Ascocorticium anomalum* (Ellis & Harkn.) Schroet. ap. Engl.& Prantl. Göteborgs Svampklubb Årsskrift 1981: 1–11.
Eriksson, J., Hjortstam, K. & Ryvarden, L. 1981. The Corticiaceae of North Europe, Vol.6. *Phlebia–Sarcodontia*. Fungiflora, Oslo, Norway.
Hjortstam, K. 1981. Notes on Corticiaceae (Basidiomycetes) VIII. Two new species of *Tubulicrinis*. Mycotaxon 13: 120–123.
Hjortstam, K. 1981. Notes on Corticiaceae (Basidiomycetes) IX. Three new combinations in *Hypochniciellum*. Mycotaxon 13: 124–126.
Hjortstam, K. & Ryvarden, L. 1981. Studies in tropical Corticiaceae (Basidiomycetes).III. Two new species of *Laxitextum*. Mycotaxon 13: 35–40.
Hjortstam, K., Telleria, M.T., Ryvarden, L. & Calonge, F.D. 1981. Notes on the Aphyllophorales of Spain. II. Nova Hedwigia 34: 525–538.

1982: Hjortstam, K. & Larsson, K-H. 1982. Notes on Corticiaceae (Basidiomycetes). X. Mycotaxon 14: 69–74.
Eriksson, J., Hjortstam, K., Parmasto, E. & Ryvarden, L. 1982. (674) Proposal to conserve *Hyphodontia* Eriksson 1958 (Fungi, Corticiaceae) over *Kneiffiella* Karst. 1889. Taxon 31: 744–746.
Hjortstam, K. & Ryvarden, L. 1982. Studies in Tropical Corticiaceae (Basidiomycetes) IV. Type studies of taxa described by J.Rick. Mycotaxon 15: 261–276.
Hjortstam, K. & Ryvarden, L. 1982. Aphyllophorales from Northern Thailand. Nordic Journal of Botany 2: 273–281.
Hjortstam, K. & Stalpers, J. A. 1982. Notes on Corticiaceae (Basidiomycetes) XI. *Boidinia*, a new genus segregated from *Gloeocystidiellum*. Mycotaxon 14: 75–81.

1983: Eriksson, J. & Hjortstam, K. 1983. *Hyphodontia* versus *Grandinia* and some other actual problems in corticiology. Windahlia 12–13: 3–17.
Hjortstam, K. 1983. Studies in the genus *Hyphodontia* (Basidiomycetes). I: *Hyphodontia* John Erikss. sectio *Hyphodontia*. Mycotaxon 17: 550–554.
Hjortstam, K. 1983. Studies in tropical Corticiaceae (Basidiomycetes). V. Specimens from East Africa, collected by Leif Ryvarden. Mycotaxon 17: 555–572.
Hjortstam, K. 1983. Notes on Corticiaceae (Basidiomycetes). XII. Mycotaxon 17: 577–584.
Hjortstam, K. 1983. Notes on some species of *Tulasnella*. Windahlia 12–13:19–28.
Hjortstam, K. 1983. *Botryobasidium ellipsosporum*, new to Sweden. Windahlia

12–13: 29–31.

1984: Baici, A. & Hjortstam, K. 1984. A new species of *Cristinia* (Aphyllophorales, Corticiaceae) from North Italy. Sydowia Annales Mycologici 37: 11–14.
Eriksson, J., Hjortstam, K. & Ryvarden, L. 1984. The Corticiaceae of North Europe, Vol. 7. *Schizopora – Suillosporium*. Fungiflora, Oslo, Norway.
Hjortstam, K. 1984. Notes on Corticiaceae (Basidiomycetes). XIII. Mycotaxon 19: 503–513.
Hjortstam, K. 1984. Corticiaceous fungi of Northern Europe. Check-list of the species in the Nordic countries. Windahlia 14: 1–29.
Hjortstam, K. & Ryvarden, L. 1984. Some new and noteworthy Basidiomycetes (Aphyllophorales) from Nepal. Mycotaxon 20: 133–151.
Manjon, J.L., Hjortstam, K. & Moreno, G. 1984. *Dacryobolus phalloides* sp.nov. (Corticiaceae). Annales Jardin Botanico de Madrid 40: 297–301.

1985: Hallenberg, N., Hjortstam, K. & Ryvarden, L. 1985. *Pirex* genus nova (Basidiomycetes, Corticiaceae). Mycotaxon 24: 287–291.
Hjortstam, K. & Ryvarden, L. 1985. New and noteworthy basidiomycetes (Aphyllophorales) from Tierra del Fuego, Argentina. Mycotaxon 22: 159–167.

1986: Bononi, V.L.R. & Hjortstam, K. 1986. Fungos Corticióides do Brasil (Aphyllophorales). Rickia 13: 113–125.
Hjortstam, K. 1986. Notes on Corticiaceae (Basidiomycetes).XIV. Mycotaxon 25: 273–277.
Hjortstam, K. 1986. A contribution to the knowledge of *Pellidiscus pallidus*. Windahlia 15: 58–61.
Hjortstam, K. 1986. *Hypochnicium subrigescens*, a new species of Northern Europe. Windahlia 16: 69–71.
Hjortstam, K. & Bononi, V. L. R. 1986. Studies in Tropical Corticiaceae (Basidiomycetes) VI: A new species of *Steccherinum* from Brazil. Mycotaxon 25: 467–468.
Hjortstam, K. & Larsson, K-H. 1986. Notes on Corticiaceae (Basidiomycetes). XV. Some new species from Northern Europe. Mycotaxon 26: 437–443.
Hjortstam, K. & Larsson, K-H. 1986. Studies in Corticiaceae (Basidiomycetes). XVI. Some new taxa from Northern Europe. Windahlia 15: 49–58.
Hjortstam, K. & Ryvarden, L. 1986. Some new and noteworthy fungi (Aphyllophorales, Basidiomycetes) from Iguazu, Argentina. Mycotaxon 25: 539–567.

1987: Hjortstam, K. 1987. *Hyphodontia tenuicystidia* sp.nov. (Corticiaceae) from Argentina. Mycotaxon 28: 17.
Hjortstam, K. 1987. Studies in Tropical Corticiaceae (Basidiomycetes) VII. Specimens from East Africa, collected by L. Ryvarden. II. Mycotaxon 28: 19–37.
Hjortstam, K. 1987. A check-list to genera and species of corticioid fungi (Hymenomycetes). Windahlia 17: 55–85.
Hjortstam, K. & Bononi, V. L. R. 1987. A contribution to the knowledge of Corticiaceae s.l. (Aphyllophorales) in Brazil. Mycotaxon 28: 1–15.
Hjortstam, K. & Larsson, K-H. 1987. Additions to *Phlebiella* (Corticiaceae, Basidiomycetes) with notes on *Xenasma* and *Sistotrema*. Mycotaxon 29: 315–319.
Hjortstam, K. & Ryvarden, L. 1987. A note on *Anomoporia* (Polyporaceae, Aphyllophorales). Mycotaxon 28: 553–555.
Hjortstam, K. & Ryvarden, L. 1987. *Stereum magellanicum* sp.nov. from Tierra del Fuego. Transactions of the British mycological Society 89: 114–116.

1988: Hallenberg, N. & Hjortstam, K. 1988. Studies in Corticiaceae (Basidiomycetes). New species and new combinations. Mycotaxon 31: 439–443.
Hjortstam, K. & Ryvarden, L. 1988. Notes on the Corticiaceae of Northern China. Acta Mycologica Sinica 7: 77–88.
Hjortstam, K. & Ryvarden, L. 1988. *Tomentellago* gen. nov. (Thelephoraceae, Basidiomycetes) Mycotaxon 31: 39–43
Hjortstam, K., Larsson, K.H. & Ryvarden, L. with drawings by John Eriksson 1988. The Corticiaceae of North Europe, Vol. 1. Introduction and keys Fungiflora, Oslo, Norway.
Hjortstam, K., Larsson, K-H. & Ryvarden, L. with drawings by John Eriksson 1988. The Corticiaceae of North Europe, Vol. 8. Phlebiella, *Thanatephorus – Ypsilonidium.* Fungiflora, Oslo, Norway.
Hjortstam, K., Manjon, J. L. & Moreno, G. 1988. Notes on selected corticiaceous fungi from Spain and North Africa. Mycotaxon 33: 257–263.

1989: Blanco, M.N., Hjortstam, K., Manjon, J. L. & Moreno, G. 1989. Estudios micologicos en la Parque natural de Monfrague (Extremadura, España) III. Aphyllophorales. Cryptogamie, Mycologie. 10: 27–225.
Hjortstam, K. 1989. Corticioid fungi described by M.J. Berkeley. Kew Bulletin 44: 301–315.
Hjortstam, K. 1989. The sulphovanillin reaction in the Aphyllophorales. The Mycologist 3: 108–111.

1990: Hallenberg, N. & Hjortstam, K. 1990. *Hypochnicium erikssonii* sp.nov. instead of *H. sphaerosporum* – a necessary name alternation. Windahlia 18: 43–45.
Hjortstam, K. 1990. Corticioid fungi described by M.J. Berkeley II. Species from Cuba. Mycotaxon 39: 415–423.
Hjortstam, K. & Ryvarden, L. 1990. *Lopharia* and *Porostereum* (Corticiaceae). Synopsis Fungorum 4: 1–68.
Hjortstam, K. & Telleria, T. 1990. *Columnocystis*, a synonym of *Veluticeps*. Mycotaxon 37: 53–56.
Hjortstam, K., Spooner, B.M. & Oldridge, S.G. 1990. Some Aphyllophorales and Heterobasidiomycetes from Sabah, Malaysia. Kew Bulletin 45: 303–322.

1991: Hjortstam, K. 1991. *Athelopsis* instead of *Pteridomyces* (Corticiaceae, Basidiomycetes). Mycotaxon 42: 149–154.

1993: Hjortstam, K. & Grosse-Brauckmann, H. 1993. Two New species of *Cristinia* (Basidiomycotina, Aphyllophorales) and a survey of the genus. Mycotaxon 47: 405–410.
Hjortstam, K. & Ryvarden, L. 1993. Two new South American species of Corticiaceae (Basidiomycetes) with amyloid spores. Mycotaxon 47: 81–85.
Hjortstam, K., Ryvarden, L. & Watling, R. 1993. Preliminary checklist of non-agaricoid macromycetes in the Korup National Park, Cameroon and surrounding area. Edinburgh Journal of Botany 50: 105–119.

1995: Hjortstam, K. 1995. Two new genera and some new combinations of corticioid fungi (Basidiomycotina, Aphyllophorales) from tropical and subtropical areas. Mycotaxon 54: 183–193.
Hjortstam, K. 1995. Two new species of *Candelabrochaete* (Basidiomycotina, Aphyllophorales) Mycotaxon 56: 451–453.
Hjortstam, K. & Larsson, K-H. 1995. Annotated check-list to genera and species of corticioid fungi (Aphyllophorales, basidiomycotina) with special regards to tropical and subtropical species. Windahlia21: 1–75.
Hjortstam, K. & Larsson, K-H. 1995. A new species of *Hyphodontiella* Mycotaxon 56: 473–478.
Hjortstam, K. & Ryvarden, L. 1995. *Tomentella gigaspora* sp.nov. Mycotaxon 56: 181–184.

1996: Hallenberg, N. & Hjortstam, K. 1996. Four new species of corticioid fungi (Basidiomycotina, Aphyllophorales) from Argentina Mycotaxon 57: 117–123.

Hjortstam, K. & Ryvarden, L. 1996. New and interesting wood-inhabiting fungi (Basidiomycotina-Aphyllophorales) from Ethiopia. Mycotaxon 60:181–190.

1997: Hjortstam, K. 1997. *Dendrothele tetracornis*, a nev corticioid species from Sweden Windahlia 22: 13–14.
Hjortstam, K. 1997. John Eriksson. Publications, described genera, other taxa, and combination Windahlia 22: 7–12.
Hjortstam, K. & Larsson K-H. 1997. Corticioid fungi growing on ferns in northern Europe Windahlia 22: 49–56.
Hjortstam, K. & Melo, I. 1997. *Resinicium friabile* sp.nov. and a survey of the genus Resinicium (Basidiomycotina) Mycotaxon 65: 323–329.
Hjortstam, K. & Ryvarden, L. 1997. Corticioid species (Basidiomycotina, Aphyllophorales) from Colombia collected by Leif Ryvarden Mycotaxon 64: 229–241.

1998: Hjortstam, K. 1998. A checklist to genera and species of corticioid fungi (Basidiomycotina, Aphyllophorales) Windahlia 23: 1–54.
Hjortstam, K., Roberts, P.J. & Spooner, B.M. 1998. Corticioid fungi from Brunei Darussalam Kew Bulletin 53: 805–827.
Niemelä, T., Renvall, P. & Hjortstam, K. 1998. *Hagenia abyssinica* and its fungal decayers in natural stands Edinburgh Journal of Botany 55: 473–484

1999: Hjortstam, K. 1999. New corticioid taxa from Brazil, with a brief discussion on *Hydnum setulosum* (Basidiomycotina) Kew Bulletin 54: 755–761

2000: Hjortstam, K. 2000. Några nyfynd från Alingsås, Bälinge, Hols och Horla socknar i västra Västergötland. Calluna 17(2): 17–18.
Hjortstam, K 2000. Two new species of *Phanerochaete* (Basidiomycotina, Aphyllophorales), and a key to species from subtropical and tropical areas. Karstenia 40: 53–62.
Hjortstam, K. & Ryvarden, L. 2000. Corticioid species (Basidiomycotina, Aphyllophorales) from Colombia II. Mycotaxon 74: 241–252.

2001: Hjortstam, K. 2001 Two new species of *Brevicellicium* and a survey of tropical and subtropical species in the genus (Basidiomycotina, Aphyllophorels). Mycotaxon 79: 181–187.
Hjortstam, K. 2001 Tubulicrinaceae – a survey of the genera and species. Windahlia 24: 1–14.
Hjortstam, K. & Ryvarden, L. 2001 Corticioid species (Basidiomycotina,

Aphyllophorales) from Colombia III. Mycotaxon 79: 189–200.

2002: Hjortstam, K. & Ryvarden, L. 2002. *Australicium* (Basidiomycotina, Aphyllophorales) a new genus for *Corticium singulare* G. Cunn. Synopsis Fungorum 15: 18–21.
Hjortstam, K. & Ryvarden, L. 2002. *Leptocorticium*, a new genus among the corticioid fungi (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 15: 22–25.
Hjortstam, K. & Ryvarden, L. 2002. Studies in tropical corticioid fungi (Basidiomycotina, Aphyllophorales) *Alutaceodontia*, *Botryodontia*, *Hyphodontia* s.s. and *Kneiffiella*. Synopsis Fungorum 15: 7–17.
Hjortstam, K., Ryvarden, L. & Iturriaga, T. 2002. Studies in corticioid fungi from Venezuela I. (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 15: 26–30.
Melo, I. & Hjortstam, K. 2002. *Australohydnum dregeanum* (Basidiomycetes, Stereaceae) in Europe. Nova Hedwigia 74: 527–532.

2003: Melo, I. & Hjortstam, K. 2003. A new species of *Hyphodermella* (Basidiomycetes, Aphyllophorales) from Portugal. Nova Hedwigia 77: 351–355.

2004: Hjortstam, K. & Ryvarden, L. 2004. Tropical species of *Mycoaciella* (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 18: 14–16.
Hjortstam, K. & Ryvarden, L. 2004. Reevaluation of *Nodotia* Hjortstam, (corticioid fungi, Basidiomycotina, Aphyllophorales). Synopsis Fungorum 18: 17–19.
Hjortstam, K. & Ryvarden, L. 2004. Some new tropical genera and species of corticioid fungi (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 18: 20–32.
Hjortstam, K. & Ryvarden, L. 2004. Some new and noteworthy corticioid fungi (Basidiomycotina, Aphyllophorales) from Japan. Synopsis Fungorum 18: 8–13.

2005: Hjortstam, K. 2005. Corticioid fungi (Basidiomycotina, Aphyllophorales) from Gräskärr, Västergötland, Alingsås, Sweden. Synopsis Fungorum 20: 7–22.
Hjortstam, K. & Ryvarden, L. 2005. Notes on the genus *Epithele* from tropical South America (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 20: 23–32.
Hjortstam, K. & Ryvarden, L. 2005. New taxa and combinations in tropical

corticioid fungica (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 20: 33–41.
Hjortstam, K., Ryvarden, L. & Iturriaga, T. 2005. Studies in corticioid fungi from Venezuela II (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 20: 42–78.

2007: Kotiranta, H., Hjortstam, K., Miettinen, O. & Kulju, M. 2007. *Tubulicrinopsis* gen. nov. (Basidiomycota, Aphyllophorales) and notes on *Amaurodon pallidus*. Annales Botanici Fennici 44: 128–134.
Hjortstam, K. & Ryvarden, L. 2007. The genus *Palifer* (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 22: 7–10.
Hjortstam, K. 2007. A new species of *Paullicorticium* (Basidiomycotina, Aphyllophorales) from Brazil. Synopsis Fungorum 22: 11–13.
Hjortstam, K. & Ryvarden, L. 2007. Some species of corticioid fungi (Basidiomycotina, Aphyllophorales) from Costa Rica. Synopsis Fungorum 22: 17–24.
Hjortstam, K. & Ryvarden, L. 2007. Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics and the southern hemisphere. Synopsis Fungorum 22: 27–146.
Hjortstam, K. & Ryvarden, L. 2007. Studies in corticioid fungi from Venezuela III (Basidiomycotina, Aphyllophorales). Synopsis Fungorum 23: 56–107.
Mueller, G.M., Schnit, J.P., Leacock, P.R., Buyck, B., Cifuentes, J., Desjardin, D.E., Halling, R.E., Hjortstam, K., Iturriaga, T., Larsson, K-H., Lodge, D.J., May, T.W., Minter, D., Rajchenberg, M., Redhead, S.A., Ryvarden, L., Trappe, J.M., Watling, R. & Wu, Q. 2007. Global diversity and distribution of macrofungi. Biodiversity and Conservation 16: 37–48.

2008: Hjortstam, K. & Ryvarden, L. 2008. Some Corticioid fungi (Basidiomycotina) from Ecuador. Synopsis Fungorum 25: 14–27.
Hjortstam, K. & Ryvarden, L. 2008. Corticioid species (Basidiomycotina, Aphyllophorales) from Colombia IV. Synopsis Fungorum 25: 28–37.

2009: Hjortstam, K. & Ryvarden, L. 2009. Tropical distribution of species of *Mycoaciella* (Basidiomycotina) Synopsis Fungorum 26: 7–9.
Hjortstam, K. & Ryvarden, L. 2009. A preliminary checklist of Aphyllophorales from the Seychelles. Synopsis Fungorum 26: 10–23.
Hjortstam, K. & Ryvarden, L. 2009. A checklist of names in *Hyphodontia* sensu stricto - sensu lato and *Schizopora* with new combinations in *Lagarobasidium*, *Lyomyces*, *Kneiffiella*, *Schizopora*, and *Xylodon*. Synopsis Fungorum 26: 33–55.

Hjortstam, K., Roberts, P.J. & Spooner, B.M. 2009. Corticioid fungi from the Kimberley Region, Western Australia. Kew Bulletin 64: 353–368.

2010: Hjortstam, K. & Ryvarden, L. 2010. *Athelocystis capitata* a new genus and species from
Brazil and brief notes on *Athelopsis* (Corticioid fungi (Basidiomycota). Synopsis Fung. 27: 20-25.
Hjortstam, K. & Ryvarden, L. 2010. *Phanerodontia* and *Phaneroites*.
two corticioid taxa (Basidiomycotina) proposed from tropical areas. Synopsis Fung. 27: 26-33.

Athelocystis capitata, a new genus and species from Brazil, with brief notes on Athelopsis, Corticioid fungi (Basidiomycota)

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

The new genus *Athelocystis* with the type *A. capitata* is described. A brief survey of the genus *Athelopsis* is given and the new species *Athelopsis curvispora* from Colombia is described. *Athelopsis bicornis* is proposed as a nom. nov. with the basionym *Pteridomyces bisporus*. A key to *Athelopsis* is offered.

Athelocystis Hjortstam and Ryvarden gen. nov.
Basidioma resupinatum, leve. Systema hyphale ut videtur monomiticum; hyphae sine fibulis, potius rectae et uniformes, tenuitunicatae, leves ve, interdum incrustatae. Cystidia tibiiformia vel lecythiformia, ad apicem valde incrustata. Basidia sphaeropedunculata, tenuitunicata, 4 sterigmatibus, sporis anguste ellipsoideis, subfusiformibus, saepe sigmoideis, hyalinis, levibus, inamyloideis, indextrinoideis, acyanophilis.
Generic type: *Athelocystis capitata* Hjortstam & Ryvarden
Generitype specimen: Brazil, 4.II. 1987, D. Pegler, K. Hjortstam and L. Ryvarden. Hjortstam No.16822. K(M)163734.

Athelocystis capitata Hjortstam & Ryvarden sp. nov. Fig. 1 A
Basidioma resupinatum, leve, albidum vel cremicolor. Margo fibrillosus ex hyphis plus minus flabellate crescentibus formatus. Systema hyphale ut videtur monomiticum; hyphae subhymeniales sine fibulis, potius rectae et uniformes, circiter 2-3 µm latae, tenuitunicatae, leves; hyphae basales leviter crassiusculae, interdum incrustatae. Cystidia tibiiformia vel lecythiformia, ad modum 50-70 µm longa, ad apicem valde incrustata. Basidia sphaeropedunculata, tenuitunicata, 25 x 6-7 µm, 4 sterigmatibus. Sporis anguste ellipsoideis, subfusiformibus,

saepe sigmoideis, (9-)10-12 x 2.5-3 µm, hyalinis, levibus, inamyloideis, indextrinoideis, acyanophilis.
Holotype: Brazil, São Paulo, Santos, Cananeia, Ilha do Cardoso, on branches of deciduous wood, 4.II. 1987, D. Pegler, K. Hjortstam and L. Ryvarden. Hjortstam No.16822. K(M)163734. Paratypes: Ditto. L. Ryvarden Nos. 24723 and 24724. (GB,K).
Basidiocarp resupinate, effused, closely adnate, more or less membranous, hymenophore at first whitish, then cream-coloured, smooth, with a fibrillose margin composed of radially arranged hyphae.
Hyphal system apparently monomitic; basal hyphae straight and uniform, about 3 µm wide, thin-walled or with slight wall thickening, some strongly encrusted; subhymenial hyphae narrower, thin-walled; all hyphae lacking clamp-connections.
Cystidia tibiiform or lecythiform, thin-walled, 50-70 µm long and 5-8 µm wide near the ventricose base, apex strongly encrusted with yellowish amorphus matter.
Basidia thin-walled, 25-30 x 6-7 µm, sphaeropedunculate, with four sterigmata and with a basal simple septum.
Basidiospores narrowly ellipsoid to elongate pip-shaped, usually somewhat sigmoid and with the hilar appendix curved at an angle of 60-90 degrees, smooth, thin-walled, (9-)10-12 x 2.5-3 µm, inamyloid, indextrinoid, acyanophilous.
Substrate. Dead hardwood log.
Remarks. *Athelocystis capitata* is somewhat reminiscent of *Athelopsis* Oberw. ex Parmasto due to the pedunculate basidia. The latter has, however, differently shaped spores and hyphal strands. The new fungus is only known from the restinga forest, close to mangrove swamp.

Athelopsis Oberw. ex Parmasto,
Conspectus syst. corticiacearum: (Tartu) p. 41, 1968.
Generic type: *Corticium glaucinum* Bourdot & Galzin.
Basidiocarp resupinate, thin, pellicular or with hyphal pegs. Hyphal system monomitic; hyphae with, or more rarely without, clamp-connections. Cystidia present or absent. Basidia clavate, in most species typically pedunculate, at least when fully developed. Spores ellipsoid to cylindric or allantoid, hyaline, smooth, inamyloid or rarely amyloid.

Athelopsis curvispora Hjortstam & Ryvarden sp. nov. Fig 1 B
Athelopsis lembospora affinis et valde similis sed differt sporis distincte incurvatis.
Holotype: Colombia, Cundinamarcha, km 16 en la via Mosquera-La Mesam,

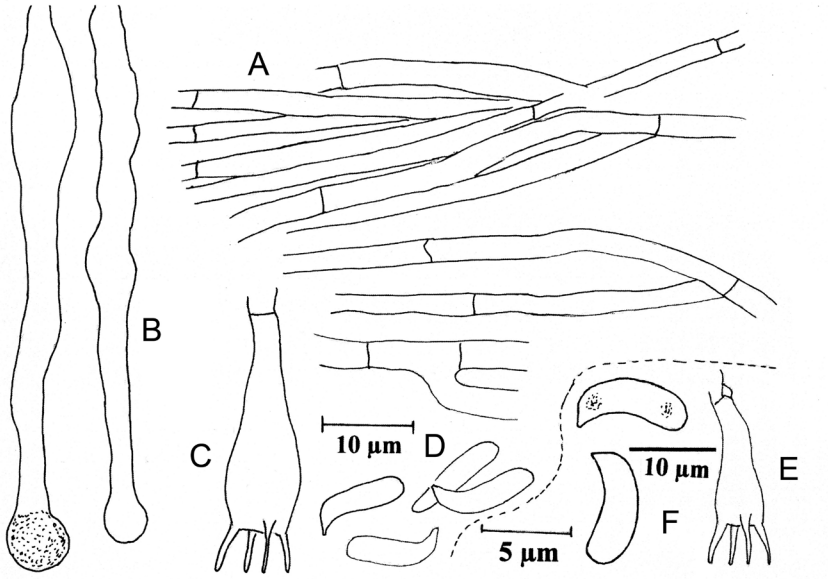


Fig 1. Left. *Athelocystis capitata*, hyphae, cystidia, basidium and spores. From the holotype. Right. *Athelopsis curvispora*, basidium and spores. From the holotype.

2700 m.a.s.l., on deciduous wood, 3.III.1978, Leif Ryvarden 15709 (O).
Basidiocarp thin, loosely adnate, hypochnoid to almost pellicular, not cracking, greyish white.
Hyphal system monomitic; hyphae 2-2.5(-3) um wide, thin-walled, hyaline, smooth, with clamp-connections on all septa, sparsely branched.
Cystidia lacking.
Basidia almost pedunculate, 18-20 x 4.5-5 µm, normally with four sterigmata and with a basal clamp connection, young basidia occasionally pleural and with two to four sterigmata. **Basidiospores** 6.5-7.5 x 2.5(-2.75) µm, distinctly curved, thin-walled, [hyaline ??], smooth, not glued together in pairs, fairly few in the specimen examined.
Remarks. Similar to *Athelopsis lembospora* (Bourdot) Oberw., but easily distinguished from it by the curved spores. Known only from the type locality.

Athelopsis lembospora is a fairly well known cosmopolitan species. It seems to prefer ferns like *Athyrium* and *Dryopteris* as substrates and, in tropical

areas, may be found on tree-ferns and palms.

There are several specimens of *A. lembospora* from Colombia, almost all on ferns and palms, whereas the new species may well prefer other substrates.

Athelopsis bicornis Hjortstam & Ryvarden nomen nov. for
Pteridomyces bisporus Boidin & Gilles, Bull. Soc. Mycol. France 104:65, 1988, non *Athelopsis bisporus* Hjortstamd & Ryvarden.
The genus *Pteridomyces* was considered a synonym of *Athelopsis* by Hjortstam (1991).
P. bisporus was at that time not transferred to *Athelopsis* mainly based due to the presence of dendrohyphidia.
After reconsideration we have decided that *Athelopsis* is probably the appropriate genus for the species based on the morphology of the basidia and spores.
The species is, according to the original description, characteristic by the lack of clamp connections, pedunculate basidia with two sterigmata and subovoid spores that are 9-10.5 x 6-8 µm. It is otherwise similar to *A. galzinii*.
It should be noted that both the generic name and the epithet were missing in the original description, but Index Fungorum considers page 65 as the place of valid publication since the name occurs in the legend below figure 32 on that page.
The species is not known outside the original locality in Reunion.

Key to species presently accepted in Athelopsis:

1. Hyphae without clamp connections 2
1. Hyphae with clamp connections 3

2. Hymenophore smooth, spores 9-11 x 3-3.25 µm **A. crystallifera** (Rick) Hjortstam.
2. Hymenophore with hyphal pegs, spores 9-10.5 x 6-8 µm **A. bicornis** Hjortstam & Ryvarden.

3. Cystidia present 4
3. Cystidia absent 6

4. Cystidia with oily contents, yellowish, refractive and cyanophilous, spores 6-8 x 2-3 µm
A. gloeocystidiata Gresl. & Rajchenb.
4. Cystidia otherwise 5

5. Cystidia vesicular, spores 8-9 x 4-5 µm **A. vesicularis** Hjortstam & Spooner.
5. Cystidia tubular, spores (4.5-)5 x 2.75(-3) µm **A. colombiensis** Hjortstam & Ryvarden.

6. Basidia with two sterigmata, spores acicular 14-19 x 2.3-3 µm **A. bispora** (Boidin & Gilles) Hjortstam & Ryvarden.
6. Basidia normally with four sterigmata 7

7. Hymenophore with hyphal pegs **A. galzinii** (Bres.) Hjortstam
7. Hymenophore smooth.....8

8. Spores strongly curved **A. curvispora** Hjortstam & Ryvarden
8. Spores otherwise shaped 9

9. Spores amyloid, **A. lacerata** (Litsch.) J. Erikss. & Ryvarden
9. Spores inamyloid 10

10. Hymenophore yellowish green with KOH, spores 5-5.5(-6) x 3-3.5 µm, usually single
A. virescens Hallenb. & Hjortstam.
10. Hymenophore no reaction with KOH, spores often glued together in pairs.....
.....11
11. Spores broadly ellipsoid **A. subinconspicua** (Litsch.) Jülich.
10. Spores otherwise.....11

11. Spores slightly sigmoid, 5-7 x 2 µm **A. baculifera**
11. Spores cylindrical or with a slight allantoid appearance 12

12. Generally on wood, spores 9-10 x 2-2.5 µm **A. glaucina** (Bourdot & Galzin) Oberw. ex Parmasto
12. Generally on ferns and palms, spores 6-7 x 2.5 um **A. lembospora** (Bourdot) Oberw.

Excluded species

Athelia cibotii Gilb. & Hemmes
Described from tree-ferns (1997) and from the description seems to be a taxonomic synonym of *Athelopsis lembospora*. The type has not been examined.

Athelopsis fusoidea (Jülich) Telleria.
A species of somewhat uncertain possession. Originally described in *Fibulomyces*, but also referred to *Leptosporomyces* by Kriegelsteiner (1991) and known only from coniferous wood.

Athelopsis hypochnoidea Jülich.
The same as *A. subinconspicua* (Litsch.) Jülich

Athelopsis lunata (Romell ex Bourdot & Galzin) Parmasto
Not an *Athelopsis*, but shows similarities with *Skvortzovia* Bononi & Hjortstam. Also noted by Ginns and Lefebvre from USA (Arizona) as *Trechispora* (1993). On coniferous wood (at least in Europe).

Athelopsis pausiaca (Liberta) Parmasto.
The same as *Luellia recondita* (H.S. Jacks.) K.H. Larss. & Hjortstam.

Athelopsis recondita (H.S. Jacks.) Parmasto.
This is the generic type of *Luellia* K.H. Larss. & Hjortstam.

Athelopsis viridula Parmasto.
This is the same as *Brevicellicium olivascens* (Bres.) K.H. Larss. & Hjortstam.

References

Bourdot H. and Galzin A.1928. Hyménomycètes de France.Marcel Bry: Sceaux, France. 762 pp.
Gilbertson, R. L. and Hemmes D. E. 1997. Notes on fungi on Hawaiian tree ferns. Mycotaxon 62:465-487.
Ginns, J. & Lefebvre, M. N. L. 1993. Lignicolous Corticioid Fungi (Basidiomycota) of North America. Mycol. Mem. 19:1-247.
Krieglsteiner, G.J. 1991. Über neue, seltene, kritische Makromyzeten in Westdeutschland (ehemalige BR Deutschland, Mitteleuropa). Zeitschrift für Mykologie 57:17-54

Phanerodontia and Phaneroites two corticioid taxa (Basidiomycotina) proposed from tropical areas

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

Abstract
The new genera *Phanerodontia and Phaneroites* are proposed.
The first to accommodate the new species *Phanerodontia dentata*, with a type specimen from Argentina and the second to accommodate *Radulum subquercinum* Henn., originally described from Java.
The following new combinations are proposed: *Phanerodontia irpicoides* from Brazil, and *Phanerodontia magnoliae*, originally described from USA (South Carolina), *Phanerodontia chrysosporium* (USA, Arizona), and *Phaneroites subquercinus*.

Phanerodontia Hjortstam & Ryvarden gen. nov.
Basidiomata resupinata, arcte adnata, hymenophoriis propemodo laevibus, tuberculatis, raduloides vel distincte aculeatis. Systema hyphale monomiticum. Hyphae tenuitunicatae vel crassiusculae, hyalinae, efibulatae. Cystidia praecipue tenuitunicata, tubularia, interdum incrustata. Basidia subclavata, tenuitunicata, 4 sterigmatibus. Sporae fere ellipsoideae, tenuitunicatae, leves, neque amyloideae neque dextrinoideae, neque cyanophilae
Generic type: *Phanerodontia dentata* Hjortstam & Ryvarden
Generitype specimen: Argentina, on deciduous wood, Ryvarden 20085 (O).

Basidiomes resupinate and closely attached to the substrata. Hymenophore tuberculate, rarely smooth, raduloid to distinctly hydnoid, whitish to pale brown. Subiculum thin to moderately thick, usually pale coloured. Hyphal system monomitic; subicular hyphae usually distinctly thick-walled. Aculeal hyphae mainly thin-walled, rarely becoming thick-walled, parallel and closely arranged in the middle part of the teeth. All hyphae hyaline, mostly lacking clamps, (but rarely single clamps may be observed on the subicular hyphae), inamyloid,

indextrinoid and acyanophilous. Cystidia few or absent, hyaline, thin-walled or with a slightly thickened walls, smooth or encrusted with granular matter. Basidia with four sterigmata, lacking a basal clamp. Spores ellipsoid, thin-walled, smooth, sometimes with a very slight sigmoid appearance, inamyloid, indextrinoid and acyanophilous.
Remarks. *Phanerodontia* is based on a species with a typically ornamented hymenophore but which may rarely be almost smooth. In a wide sense it approaches *Phanerochaete,* due to the lack of clamps.
The recently described *Phanerochaete odontoidea* Sheng H. Wu and *Ph. subodontoidea* Sheng H. Wu (2000) are, according to the descriptions and illustrations, possibly near the concept of *Phanerodontia* but both lack cystidia. We have been unable to examine their types or authentic material.

Phanerodontia dentata Hjortstam & Ryvarden spec. nov.
Basidiomata resupinata, arcte adnata, hymenophoriis distincte aculeatis. Systema hyphale monomiticum. Hyphae tenuitunicatae vel crassiusculae, efibulatae. Cystidia praecipue tenuitunicata, tubularia, interdum incrustata, 30-40(-60) x 4-5 µm. Basidia subclavata, tenuitunicata, 4 sterigmatibus. Sporae fere ellipsoideae, tenuitunicatae, leves, 4.5-5 x 2-2.25 (-2.5) µm neque amyloideae neque dextrinoideae, neque cyanophilae
Holotype: Argentina, Misiones, Iguazu National Park, Cataratas de Iguazu, on wood, 1-5.III.1982, Leif Ryvarden 20085 (O).
Basidiocarp resupinate, effused, closely adnate, hymenophore distinctly odontioid to hydnoid, aculei (1.5-)2-3(-4) mm long, conical, densely united, smooth, at first more or less ochraceous, then pale brown. Subiculum fairly thin, paler then the aculei, mainly ochraceous to pale brown.
Hyphal system monomitic; subicular hyphae hyphae 5-6(-7) µm wide, thick-walled, hyaline, often more or less encrusted with mineral granules, mostly lacking clamps or with only a very few present. Aculeal hyphae 3-3.5(-4) µm wide, thin-walled, hyaline, forming a core in the middle of each aculeus.
Cystidia 30-40(-60) µm x 4-5 µm, rare, tubular, thin-walled, hyaline.
Basidia 25-30(-40) x 4-5 µm, in a fairly dense tissue, with four sterigmata, lacking a basal clamp connection.
Basidiospores 4.5-5 x 2-2.25 (-2.5) µm, ellipsoid with the adaxial side slightly convex, smooth, thin-walled, inamyloid, indextrinoid, acyanophilous.
Substrate. On dead hard wood log.
Distribution. At present only known from Brazil and Ethiopia.
Remarks. Close to *Phanerodontia magnoliae*, but instead of a more or less tuberculate hymenophore, has a distinct odontioid to hydnoid appearance, with dense aculei up to 4-5 mm long. Microscopically the two species are almost

inseparable. See illustration by John Eriksson in Eriksson, Hjortstam and Ryvarden (1978) of *Phanerochaete raduloides* J. Erikss. & Ryv.
Specimens examined: Brazil, São Paulo, Parque Estados das Fontes do Ipiranga, on branches of deciduous wood, 31.XII.1969, B. Skvortzov SP107252 (SP, dupl. Hjm Priv. Herb.); ditto, on wood, 8.XII.1970, B. Skvortzov SP112302 (O;dupl.. Hjm Priv.Herb.), somewhat poor material; ditto on wood, C.S. Nakano and M.F. Filho SP128198 (SP as *Gloeodontia discolor*; dupl. Hjm Priv. Herb.). Ethiopia, Arussi Prov., Munessa Forest, east of Lake Langano, alt. c. 1800 m, on dead hardwood, 10.I.1973, Leif Ryvarden 8866 (O, Hjm Priv.Herb. and possibly in K as *Phanerochaete*).

Phanerodontia irpicoides (Hjortstam) Hjortstam & Ryvarden comb. nov.
Basionym: *Phanerochaete irpicoides* Hjortstam, Karstenia 40:53, 2000.
Basidiocarp resupinate, loosely adnate, hymenophore raduloid to irpicoid or almost poroid, ochraceous to pale brown, not changing colour in KOH, ridges 0.8 to 1mm high, and about 1-2 mm wide. Subiculum thin, concolorous with the hymenophore or somewhat darker.
Hyphal system monomitic; subicular hyphae 5-7 µm wide, distinct, thick-walled, hyaline but some encrusted with subhyaline crystals, often with right angled branching; aculeal hyphae similar, hyaline, more or less interwoven; subhymenial hyphae 3-4 µm wide, smooth, thin-walled or with slight wall thickening; all hyphae lacking clamps.
Cystidia about 40 x 3-5 µm, rare or difficult to detect, thin-walled, at first obclavate, blunt, or more rarely subcapitate, then almost subulate.
Basidia (20-)25-30 x 4-5(-6) µm, narrowly clavate to clavate, thin-walled, slightly constricted, with four sterigmata, lacking a basal clamp.
Basidiospores 6-7(-8) x (2.8-)3-3.2(-3.5) µm, ellipsoid, smooth, thin-walled, hyaline.

Distribution. Known only from the type (Brazil, Sao Paulo, Ubatuba, Ilha Anchieta, on decayed wood, 17-18.I.1987, L. Ryvarden 24235, K(M) 67355, isotype in O).
Remarks. The species shares the micromorphology with both *Ph. dentata* and *Ph. magnoliae*, but is easily separated from both by its hymenial configuration.

Phanerodontia chrysosporium (Burdsall) Hjortstam & Ryvarden comb. nov.
Basionym: *Phanerochaete chrysosporium* Burdsall, in Burdsall & Eslyn, Mycotaxon **1**:124, 1974.
The anamorph *Sporotrichum pruinosum* Gilman & Abbott is well known and has a cosmopolitan distribution, see Stalpers (1984).

Specimen examined: USA, Arizona, on dead wood of *Platanus*, 25.IX.1971, H.H. Burdsall 6251 (portion of holotype); Australia, Kimberley, Silent Grove Station, on dead wood, 25.IV.1988, B. Spooner AK387, K(M) 121933.

This is within the concept of *Phanerodontia*, although almost smooth, but microscopically is almost inseparable from the generic concept. For a comprehensive description and illustration see Burdsall (1985).
Known distribution in its teleomorph state. USA (Arizona), Europe, Iran as *Phanerochaete macrocystidiata* Hallenb., and Australia. See also Legon and Henrici (2005) for additional comments of its distribution.

Phanerodontia magnoliae (Berk. & M.A. Curtis) Hjortstam & Ryvarden comb. nov.
Basionym: *Radulum magnoliae* Berk. & M.A. Curtis, in Hooker´s Journ.Bot. 1:236, 1849.
Holotype: 'on the underside of branches of *Magnolia glauca* in moist places', South Carolina. No. 1097 (K). In the protologue as No. 1095, typing error? There is no such specimen in Kew as far as we have seen.
Original diagnosis, description, and comments are as follow: *resupinatum effusum, insolubile, margine tomentoso; hymenio carneo-ochraceo; aculeis elongates cylindricis obtusis.*
Effused, inseparable from the matrix. Subiculum tomentose, white, extremely thin towards the margin. Hymenium smooth, ochraceous with a reddish tinge. Teeth elongated, irregular, cylindrical, obtuse, smooth, often confluent. Allied to *R. molare*, but thinner, and having more elongated teeth.

Grandiniella magnoliae (Berk. & M.A. Curtis) Zmitr. & Spirin, Mycena 6:37, 2006.
Phanerochaete magnoliae (Berk. M.A. Curtis) Burdsall, Mycol. Memoir 10:95, 1985.
Phanerochaete raduloides J. Erikss. & Ryvarden, Corticiaceae North Eur. 5:1015, 1978.
Phanerochaete aculeata Hallenb., Iran. J. Pl. Path. 14: 62, 1978.
Odontia rufobrunnea H. Furuk., Bull. Gov. For. Exp. St. Meguro 261:27, 1974 (fide Maekawa 1993).
Radulum cumulodentatum Nikol., Mikol. Fitopatol. 4:477, 1970.
Phanerochaete cumulodentata (Nikol.) Parmasto, Conspectus syst. corticiacearum: (Tartu) p. 83, 1968 (basionym: *Radulum cumulodentatum* Nikol. 1961).

Radulum cumulodentatum Nikol., in Fl. Plant. Crypt. 6:87, 1961 (not validly published).
Adequate descriptions and illustrations of the species are in Eriksson, Hjortstam, and Ryvarden as *Phanerochaete raduloides* (1978), see also Burdsall (1985), and Maekawa (1993).

Remarks. It should be noted that Martinez and Nakasone (2005) reported *Phanerochaete aculeata* Hallenberg, described with an odontioid hymenophore, as the most common species on *Eucalyptus* in Uruguay. The material has not been studied by us, but it seems that it could well be the same as *Phanerodontia dentata*.
Tropical or subtropical distribution: Reported from USA (Florida) on *Quercus* sp. by Burdsall (1985) and from Uruguay on *Eucalyptus* by Martinez and Nakasone (2005).
Specimens examined: Iran, on wood, 3.VII.1976, Ershad and Hallenberg 1456, 23647, compared with type by Hallenberg (GB). Portugal, Beira Alta, Vouzela, Senhora do Castelo, on *Quercus suber*, ramo seco, 6.XI.1996, I. Melo and J. Cardoso 7107 (LISU 178196). Canary Islands, Gran Canaria, BCO, del terror, on Quercus, 29.XII.1975, A.-E. Torkelsen 6/76 (O).
Basidiocarp resupinate and closely adnate. Hymenophore usually tuberculate, rarely smooth, ochraceous to pale brown. Subiculum thin, paler than the aculei.
Hyphal system monomitic; subicular hyphae thick-walled, (5-)6-7 µm wide with wall 1-1.5(-2) µm thick, mainly branched at 90 degrees. Aculeal hyphae 3-5 µm wide, mainly thin-walled, rarely becoming thick-walled, parallel arranged in the middle of aculei. All hyphae hyaline and mostly lacking clamps, except for a few on the subicular hyphae, indextrinoid and acyanophilous. **Cystidia** about 50 µm x 4-7 µm, thin walled, generally few and sometimes difficult to find. **Basidia** 15-20 x 4-5 µm, with four sterigmata.
Basidiospores (4.5-)5-6(-7) x (2.25-)2.5-3 µm, ellipsoid, smooth, thin-walled.
Remarks. Recognized by the tuberculate appearance with thick-walled subicular hyphae, thin-walled cystidia and ellipsoid spores sometimes with a slight sigmoid appearance.

Phaneroites Hjortstam & Ryvarden gen. nov.
Basidiomata resupinata, arcte adnata, hymenophoriis plus minus tuberculatis vel aculeatis. Systema hyphale monomiticum. Hyphae tenuitunicatae, hyalinae, efibulatae. Cystidia nulla vel vix detecta, tenuitunicata. Basidia subclavata, tenuitunicata, 4 sterigmatibus. Sporae anguste ellipsoideae, tenuitunicatae, leves, neque amyloideae neque dextrinoideae, neque cyanophilae.
Generic type: *Radulum subquercinum* Henn.

Generitype specimen: Java, Salek, 11.IX. 1897. E. Nyman (S).
Etymology: from *Phanero(chaete)* and – *ites*. Indicates affinity.
Basidiome resupinate, adnate. Hymenophore slightly tuberculate or odontioid to hydnoid, hard and somewhat brittle with smooth conical aculei, about 0.5-1 mm long. Hyphal system monomitic; subicular hyphae hyaline, smooth, thin-walled; aculeal hyphae hyaline, slightly conglutinated, mostly lacking clamps, but a few may be observed on hyphae next to the substratum. Cystidia absent, but sometimes hyphal ends occur. Basidia 20-30 x 4.5(-6) µm, terminal, more or less clavate, with four sterigmata and lacking a basal clamp. Spores 4.5-6 x 2.5-3.5 µm, ellipsoid or subglobose, smooth, thin-walled, inamyloid, indextrinoid, acyanophilous.

Phaneroites subquercinus (Henn.) Hjortstam & Ryvarden comb. nov.
Basionym: *Radulum subquercinum* Henn., Monsunia I, Fungi 2:46, 1899.
Odontia subirpicoidea Rick, in Rambo Iheringia, Bot. 5:162, 1959.
Phanerochaete radulans Hallenb., Iran. J. Pl. Path. 14:67, 1978.
Radulodon subquercinus (Henn.) Hjortstam & Ryvarden, Mycotaxon 10:285, 1980.
Odonticium australe D.A. Reid, Kew Bull. 35:860, 1981.
Phanerochaete subquercina (Henn.) Hjortstam, Windahlia 17:58, 1987.
Efibula subquercina (Henn.) Zmitr. & Spirin, Mycena 6:33, 2006.
Basidiocarp resupinate, adnate, ochraceous, margin not determinable. Hymenophore odontioid to hydnoid, hard and somewhat brittle with smooth conical aculei, about 0.5-1 mm long.
Hyphal system monomitic; subicular hyphae smooth, thin-walled; aculeal hyphae 3-5 µm wide, parallel arranged, slightly conglutinated, some irregular, mostly lacking clamps, but a few may be observed on hyphae next to the substratum. Subhymenial hyphae similar in width, irregular, lacking clamps.
Cystidia absent, but hyphal ends may be present.
Basidia 20-30 x 4.5(-6) µm, terminal, more or less clavate, with four sterigmata and lacking a basal clamp.
Basidiospores 4.5-5(-6) x (2.5-)3-3.25(-3.5) µm, ellipsoid or subglobose, smooth, thin-walled, inamyloid, indextrinoid, acyanophilous.
Illustration: Ryvarden in Hjortstam and Ryvarden (1980).
Remarks. Apparently a rare species or may possibly be hidden among the names of other hydnoid corticioid taxa. With the exception of the type, known from Brazil and Zimbabwe, and from the Galapagos Islands as *Odonticium australe*. In addition *Phanerochaete radulans*, described from Iran, is obviously the same. Compare also Rattan (1977) who reported the species from India as *Mycoacia*

subochracea (Bres.) Parmasto. A specimen on *Olea europaea*, collected by I. Melo and J. Cardoso from Portugal, also seems to fit the concept.
Acia subochracea (Bres) Bourdot & Galzin, in Hym. Fr. p.417, 1928, from France, may be the same but we have not had the opportunity to examine the material.

Notes from the holotype of *Odonticium australe* in Kew:

Aculei 1-1.5 mm long, conical, crowded, brownish. Hyphae 3.5-4-5 µm wide, thin-walled, Spores 4.5-5 x 2.5-2.8(-3) µm, broadly ellipsoid (rather than narrowly ellipsoid) to cylindric. Subiculum pale yellow, hyphae agglutinated, but a few single clamps have been observed. There also appear to be a few cystidia (but which may be cystidioles or hyphal ends), these usually subcapitate, and about 20-25 µm long. Basidia with sterigmata not seen (as also noted by Reid), but there are abundant spores in the collection.
Reid mentioned the spores as measuring 4.5-6 x 1.75-2 µm, and varying from subcylindric to slightly allantoid. Apart from the presence of the presumed cystidioles, which could well be occasional, we prefer to place the species in synonymy with *Phaneroites subquercinus*.
Specimens examined: Java, Salek, 11.IX.1897, E. Nyman, type of *Radulum subquercinum* (S). Brazil, S. Salvador, 1943 Rick 17805, type of *Odontia subirpicoidea* Rick. (PACA, dupl. GB). Zimbabwe, Mashonaland, Binga Swamp Forest, approximately 40 km east of Harare, on wood, 14.I.1989, L. Ryvarden 25961 (O, dupl.. in Hjm Priv. Herb.). Ecuador, Galapagos Is., Santa Cruz, 30.V. 1976 Evans & Cronshaw 4 (K).
In addition there are two duplicates in Kew Herbarium, filed as *Phanerochaete subquercina*. Brazil. Canatareira, SP. 28.VII.1956, leg. B. & A.R. Teixeira and O. & K. Fidalgo SP 46722, filed in SP under *Odontia arguta*. India Kempty Falls, Mussoórie, UP, 29.VIII. 1968, H.S. Khara 4247, det *Sarcodontia subochracea* (Bres.) Nikol.
European specimen examined: Portugal, Ribatejo, Torres Novas, Zibreira, on *Olea europaea*, ramos apodrecido, 19.V.1999, I. Melo and J. Cardoso 7862 (LISU 178288).

Key to treated species

1. Subicular hyphae thin-walled, cystidia absent.....**Phaneroites subquercinus**
1. Subicular hyphae thick-walled, thin-walled cystidia present **2**
2. Hymenophore odontioid to hydnoid ..... **Phanerodontia dentata**
2. Hymenophore otherwise **3**
3. Hymenophore almost smooth .....**Phanerodontia chrysosporium**
3. Hymenophore ornamented, tuberculate or irpicoid to almost poroid.....**4**
4. Hymenophore raduloid to irpicoid, cystidia rare .....**Phanerodontia irpicoides**
4. Hymenophore tuberculate, cystidia often easily detected .....
.....**Phanerodontia magnoliae**

References

Burdsall, H. H. 1985. A Contribution to the Taxonomy of the Genus *Phanerochaete* (Corticiaceae, Aphyllophorales). Mycologia Mem. 10, 165 pp.

Eriksson, J. Hjortstam, K. and Ryvarden, L. 1978. The Corticiaceae of North Europe. Vol. 5. The Corticiaceae of North Europe. Vol. 5. *Mycoaciella* - *Phanerochaete*. Fungiflora, Oslo, Norway.

Hallenberg, N.1978. Wood-fungi (Corticiaceae, Coniophoraceae, Lachnocladiacae, Thelephoraceae) in N. Iran I. Iranian Journ. Plant Path. 14:38-87.

Hjortstam, K. and Ryvarden, L. 1980. Studies in Tropical Corticiaceae (Basidiomycetes) I. Mycotaxon 10:269-287.

Legon, N. and Henrici, A. 2005. Checklist of the British & Irish Basidiomycetes. Published in 2005 by Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, UK.

Maekawa, N. **1993.** Taxonomic study of Japanese Corticiaceae (Aphyllophorales) I**.** Rept. Tottori. Mycol. Inst. 31:1-149.

Martinez, S. & Nakasone, K.K. 2005. The genus *Phanerochaete* (Corticiaceae, Basidiomycotina) sensu lato in Uruguay. Sydowia 57:94-101.

Rattan, S. S. 1977. The Resupinate Aphyllophorales of the North Western Himalayas. Bibl. Mycol. 60:1-427.

Stalpers, J. A. 1984. A revision of the genus *Sporotrichum*. Stud. Mycol. 24:1-105.

Wu, Sheng H. 2000. Six new species of *Phanerochaete* from Taiwan. Bot. Bull. Acad. Sinica 41:165-174.

Studies in Neotropical polypores 26
Some new and rarely recorded polypores from Ecuador

Thomas Læssøe
Department of Biology, University of Copenhagen, Universitetsparken 15, DK-2100 København Ø, Denmark, thomasl@bio.ku.dk

&

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

Abstract
Eleven species are described as new to science: *Phellinus brevisetus, Abortiporus chocoensis, Ceriporia dentipora, C. merulioides, Ceriporiopsis jensii, C. lagerheimii, Dichomitus pendulus, D. ecuadoriensis, Oxyporus fragilis, Rigidoporus micropendulus* and *Trametes minuta*.
Ischnoderma albotexta is reported as new to the Americas.
The following taxa are rarely recorded and constitute new species records for Ecuador: *Ceriporia microspora* and *Junghuhnia neotropica*.
Keys are given to Neotropical species of *Phellinus* (with setal hyphae), *Ceriporia, Ceriporiopsis, Dichomitus, Oxyporus* (annual species), *Rigidoporus* (pileate taxa) and *Trametes*.

Introduction.
Ecuador is, like many other tropical countries, grossly under-sampled with respect to both macro-and microfungi.
In Ecuador the Swedish mycologist Gustav de Lagerheim made a very important early contribution when based in Quito in the late 19th century (Patouillard & Lagerheim 1891-95).
Although many further mycologists have worked in Ecuador hardly any of them had collected polypores before a series of expeditions to various regions of Ecuador were undertaken by T. Læssøe and co-workers from 1983 onwards.
A six-month residency based at Universidad Católica in 2002 made it possible to further explore the polypore funga of Ecuador. During this period a rather

large group of mycologists and students of mycology spent a week at the Yasuni Scientific Research Station in lowland Ecuador south of the Río Napo where Prof. L. Ryvarden brought his wide ranging expertise to a detailed inventory of polypores found in the area. Some of this material was reported by Ryvarden 2004.
In this paper we report only new taxa and some rarely recorded taxa.
The taxon base established for the inventory of fungal biodiversity in Ecuador (web-version at: http://www.mycokey.com/Ecuador.html) currently holds 333 polypore entries but the underlying specimen records of many of these needs revision. Nevertheless, it is clear that the polypore funga of Ecuador is a very rich one and they may be found from sea level right up to the shrubby tree line high in the Andes. Several of the more interesting new species have been collected in the wet north-western part that constitutes part of the Chocó biodiversity refuge.

Material and methods

All collections reported in this paper and made by L. Ryvarden were made at Yasuni Scientific Research Station, Yasuni National Park in Orellana province, 9-12 March 2002.
These specimens are deposited in QCA & O. Collections made by T. Læssøe and co-collectors were from various provinces in northern Ecuador, with material deposited in QCA, QCNE, C and in some instances also in O.

Taxonomy

HYMENOCHAETACEAE

Phellinus brevisetus Læssøe & Ryvarden sp. nov. Fig. 1
Ad. *Phellinum anchietanum* Decock & Ryvarden, sed setae hymenialis obtusae et rectae (acutae et curvae in *P. anchietano*).
Types: Ecuador, Los Rios province, Rio Palenque reserve, alt. 200 m, 8. Feb. 2003, on presumed dicot. trunk, T. Læssøe TL-10012 (holotype QCA, isotypes C (61932), O).
Basidiome perennial, resupinate, effused, hard, adnate, cushion like and up to 1 cm thick, margin absent, pore surface dark chocolate brown (blackish in living condition), pores more or less round, about 6-8 per mm, almost invisible to the naked eye, tubes dark snuff brown, up to 8 mm deep, subiculum up to 2 mm thick, dark brown, in parts with a black line towards the substratum.

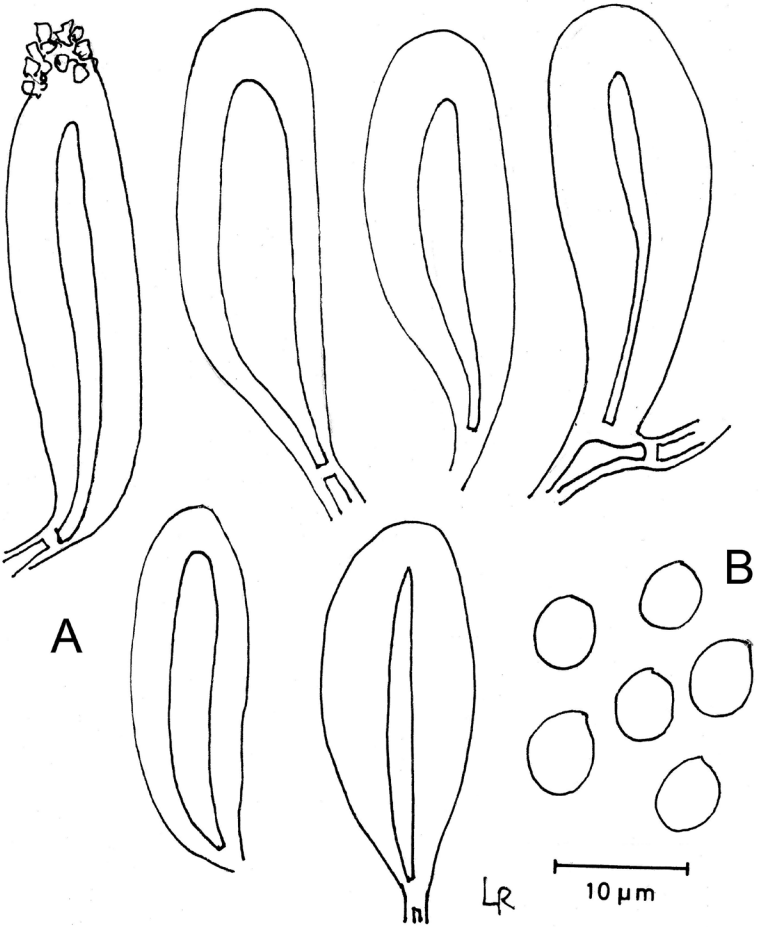


Fig. 1. *Phellinus brevisetus*, A) Hymenial setae, B) Basidiospores. From the holotype.

Hyphal system dimitic, generative hyphae 2-3 µm wide, delicately thin-walled; skeletal hyphae up to 3-5 µm wide, golden brown, dominating in the trama.
Setal hyphae up to 8 µm wide and 200 µm long, present in the context and margin, dark brown, obtuse, thick-walled.
Hymenial setae 35-60 x 8-15 µm, abundant, dark rusty brown, thick walled, cylindric and straight, with an obtuse apex, in parts with scattered apical crystals.
Basidia not seen.
Basidiospores 3-3.2 x 2-2.3 µm, broadly ellipsoid to subglobose, hyaline, thin-walled.
Substrata and Distribution. On wood. Known only on indeterminate hardwood from the type locality.
Remarks. Characterised by the straight, obtuse and wide setae, in combination with the tramal setae.

Key to Neotropical *Phellinus* species with setal hyphae
Descriptions of the species indicated in the key, can be found in Ryvarden (2004).

1. Basidiome resupinate 2
1. Basidiome pileate 8

2. Hymenial setae absent ..... **P. longisetulosus**
2. Hymenial setae present 3

3. Pores 2-3 per mm ..... **P. contiguus**
3. Pores 7-9 per mm 4

4. Basidiospores 5-7.5 µm long 5
4. Basidiospores shorter 6

5. Spores globose, 6.3-7.2 µm ..... **P. macrosporus**
5. Spores cylindric, 5-7 x 3-3.5 µm ..... **P. ferruginosus**

6. Hymenial setae more or less hooked, basidiospores subglobose 3-3.8 µm ..... **P. anchietanus**
6. Hymenial setae straight 7

7. Hymenial setae ventricose and acute, 20-35 x 6-9 µm ..... **P. rufitinctus**
7. Hymenial setae cylindric and obtuse, 35-60 x 8-15 µm ..... **P. brevisetus**

8. Hymenial setae absent 9
8. Hymenial setae present 10

9. Setal hyphae obtuse ..... **P. noxius**
9. Setal hyphae sharp and pointed ..... **P. neonoxius**

10. Basidiospores globose, 3-4 µm, setal hyphae obtuse, 5-8 µm wide
..... **P. lamaensis**
10. Basidiospores globose, 3.5-6 µm, setal hyphae acute, 7-20 µm wide
..... **P. portoricensis**

POLYPORACEAE sensu lato

Abortiporus chocoensis Læssøe & Ryvarden sp. nov**.**
Ad *A. fractipes* (Berk & M. A. Curtis) Gilbn. & Ryvarden sed pori 10-12/mm et chlamydosporae praesentes, in *A. fractipes* pori 4-5/mm et chlamydosporae nullae.
Types: Ecuador, Pichincha province, nr Nanegalito, km 49, Puma Sacha, trail going N down to river, alt.1700-1800 m, 22 Feb. 2003, rooting in soil next to big dying, dicot. tree, T. Læssøe et al., TL-10174 (holotype QCNE, isotypes C (62091), O) – photographs of live specimens can be found at http://www.mycokey.com/Ecuador.html.

Basidiomes annual, often fasciculate but may be solitary, laterally stipitate and spatulate with a thin straight margin, occasionally with several small pilei on the upper part of stipe, 1-4 cm wide, 1-5 mm thick, soft but fairly tough when fresh, brittle when dry; upper surface ochraceous to very pale cinnamon (in living condition cinnamon buff to yellowish brown), soft and finely adpressed velvety, in parts glabrous, appearing glabrous in living condition; stipe concolorous with the pileal surface or slightly darker and more uniform, up to 6 cm long in largest specimen (15-60 x 4-8 mm in living condition), flattened and expanded towards the pileus, below ground branched to support several pilei; pore surface white, pores 10-12 per mm, round, minute and invisible to the naked eye, slightly decurrent onto the stipe and sharply delimited toward the smooth and glabrous stipe; tubes white, about 1-1.5mm long; context in pileus and stipe white and duplex with a hard inner or lower white layer, upper or outer part ochraceous and of a much looser texture. Lacking significant smell in living and dead condition.
Hyphal system monomitic; hyphae 4-7 µm wide with clamps, in the subhymenium and trama thin-walled, in the context and especially the stipe

much more thick-walled and reminiscent of skeletal hyphae, but with scattered septa and large clamps.
Cystidia not seen.
Basidia 16-20 x 6-10 µm, broadly clavate, 4-sterigmate, with a basal clamp.
Basidiospores 4.5-6 µm, globose, smooth, hyaline, slightly thick-walled, negative in Melzer's reagent.
Chlamydospores present, 8-10 µm, globose, thick-walled, negative in Melzer's reagent.
Substrata. On wood. Presumably from buried roots of a still living dicot. tree.
Distribution. Known only from the type locality.
Remarks. Close to *Abortiporus fractipes*, but separated from it by the much smaller pores, and presence of chlamydospores, which to our knowledge have never been seen in *A. fractipes*. The duplex context is a common character for both species and should make it possible to identify them in the field. *Abortiporus* is typified by *A. biennis* (Bull.:Fr.) Singer, and characterized by a stipitate basidiome, duplex context and slightly thick-walled spores, all characters it shares with the new species described here and which make *Abortiporus* a suitable genus for it.

Ceriporia microspora I. Lindblad & Ryvarden. Mycotaxon 71:337, 1999.
Ecuador, Carchi province, cloud forest between Tufino and Maldonado, on the Tulcan- Maldonado road, alt. 2500-2800 m, 16 Feb. 2003, on *Chusquea* (Bambusoideae, Poaceae) twigs, T. Læssøe & J. Salazar, TL-10116 (QCA, C (62033)).
This is the second collection known of this inconspicuous species, originally described from Costa Rica. The fresh Ecuadoran material was white but dried citric yellow.

Ceriporia dentipora Ryvarden sp. nov. Fig. 2A
Ad *Ceriporiam reticulatam* (Hoffm.:Fr.) Domanski sed pori 1-2 per mm et sporae 5-6 x 2.7-3 µm (in *C. reticulata* pori 3-4/mm et sporae 7-9 x 2-3.5 µm).
Types: Ecuador, Orellana province, Yasuni National Park, Yasuni Scientific Research Station, alt. 300 m, 9-12 March 2002, on dead dicot. log, Ryvarden 44746 (QCA holotype, O isotype).

Basidiomes annual, resupinate; pore surface cream, the pores angular to hexagonal, 1-2 per mm with strongly dentate pore walls, up to 0.5 mm high, subiculum up to 200 µm thick, soft, cream coloured.
Hyphal system monomitic; hyphae 2.5-6 (7) µm wide, thin-walled, lacking clamps, with moderate branching, often at right angles.

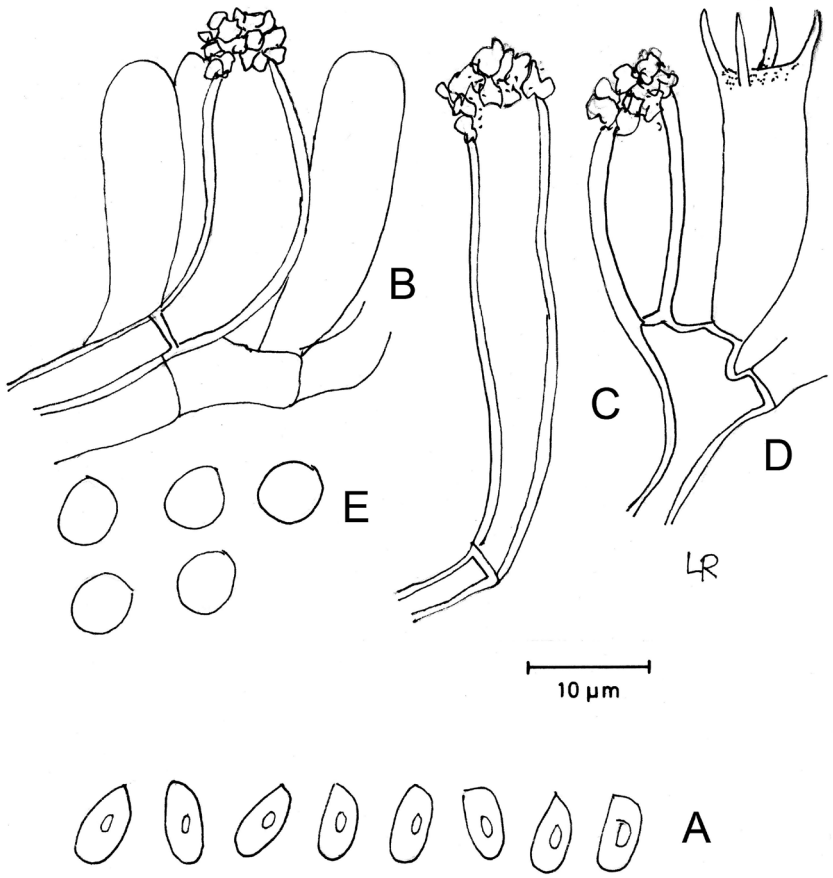


Fig. 2. *Ceriporia merulioidea* A) Hymenium with cystidia, B) Basidiospores, *C. dentipora*, C) Basidiospores. From the holotypes

Cystidia or other sterile hymenial elements lacking.
Basidia 10-12 x 5-6 µm, clavate, 4-sterigmate, unclamped.
Basidiospores 5-6 x 2.7-3 µm, cylindric to slightly oblong-ellipsoid, smooth, hyaline, with a large oil drop and negative in Melzer's reagent.
Substrata. On wood (an unknown dicot. log).
Distribution. Known only from the type locality
Remarks. Characterised by the strongly angular and very shallow pores with dentate pore walls. The spores are longer than those of *C. alachuana* (Murrill) Hallenberg, which has spores 4-5 µm long and smaller pores, 3-5 per mm. However, the colour of the two species is rather similar.

Ceriporia merulioidea Ryvarden sp. nov. Fig. 2B-E
Differt a *Ceriporiopsis cystidiata* Ryvarden & Iturriaga pori 1-2/mm et sporae globosae, in *C. cystidiata* poris 5-6/mm et sporae allantoideae.
Types: Ecuador, Orellana province, Yasuni National Park, Yasuni Scientific Research Station, alt. 300 m, 9-12 March 2002, on a small branch of a hard wood tree, Ryvarden 44587 (holotype QCA, isotype O).
Basidiomes annual, resupinate and meruloid on the substrate, brittle when dry,1 mm thick, pore surface white to pale cream when fresh, drying black to dirty whitish, pores thin-walled, angular, shallow,1-2 per mm, tube layer concolorous, up to 1 mm deep, subiculum very thin, cottony, white.
Hyphal system monomitic; generative hyphae 3-10 µm wide, hyaline, thin to slightly thick-walled, simple-septate, with sparse branching,
Cystidia 5-12 µm wide, up to 110 µm long, present in the hymenium, tubular, thin walled and apically encrusted.
Basidia 10-12 x 3.5-4.5 µm, clavate, 4-sterigmate, simple-septate at the base.
Basidiospores 5-6 µm, globose, thin-walled, and without reaction in Melzers reagent.
S**ubstrata.** On wood (small branch of an indet. hardwood tree)
Distribution. Known only from the type locality.
Remarks. Characterised by (in dried condition !) the black basidiomes with large tubular and apically encrusted cystidia and globose spores.

Key to neotropical species of *Ceriporia* Colours refer to dried basidiomes

1. Cystidia present..... 2
1. Cystidia absent 3

2. Spores globose, basidiomes blackish ..... **C. meruloidea**
2. Spores allantoid, basidiomes whitish ..... **C. cystidiata**

3. Basidiomes purplish or deep orange 4
3. Basidiomes white, ochraceous to pale brown..... 5

4. Basidiome purplish, pores 3-4 per mm ..... **C. purpurea**
4. Basidiome deep orange to reddish brown, pores 7-9 per mm .....**C. spissa**

5. Basidiospores allantoid, 7-9 µm long ..... **C. reticulata**
5. Basidiospores shorter or different 6

6. Basidiospores allantoid to cylindric 7
6. Basidiospores sub cylindric, ellipsoid to subglobose 8

7. Basidiospores allantoid, 4-6 µm long, pores thin-walled, 3-5 per mm .....**C. viridans**
7. Basidiospores cylindric 4-4.5 µm long, pores thick-walled, 2-3 per mm .....**C. albobrunnea**

8. Basidiospores sub cylindric to oblong ellipsoid 9
8 Basidiospores subglobose .....**C. xylostromatoides**

9. Pore surface evenly brown when dry, often with whitish margin .....**C. ferruginicincta**
9. Pore surface white, cream to pale tan or buff 10

10. Pores 6-8 per mm, basidiospores 3-3.5 x 1.5-2 µm ..... **C. microspora**
10.Pores and basidiospores larger 11

11. Pores round, 2-5 per mm, basidiospores 4-5 x 2-2.5 µm .....**C. alachuana**
11. Pores angular to hexagonal,1-2 per mm, basidiospores 5-6 x 2.6-3 .....**C. dentipora**

Ceriporiopsis jensii Læssøe & Ryvarden sp. Nov Fig. 3 A-B.
Ad *Ceriporiopsis flavilutea*, sed sporae 3.5-4.5 x 2-2.5 µm (2.8-3.5 x 2-3 µm in *C. flavilutea*).
Types: Ecuador, Orellana province, Tiputini field Station, alt. 190-270 m, on dead dicot. wood, 18. July 2004, T. Læssøe, J. H. Petersen & A. A. Jensen, TL-11520 (holotype QCNE, isotypes C & O) – photographs of live specimens can be found at http://www.mycokey.com/Ecuador.html.
Etymology: Named after one of the collectors and who also provided a beautiful pictures of the type in fresh condition.

Basidiomes annual, resupinate, adnate, up to 1 mm thick, margin narrow and white, pore surface
yellowish to cinnamon when fresh, olivaceous brown and shrunken with a dense agglutinated
structure when dry, pores slightly angular with entire dissepiments, 6-8 per mm, pore surface in parts
split, due to shrinking of the basidiome during drying, tubes concolorous, up to 0.8 mm deep,
context almost invisible, agglutinated and pale brown. With a distinct and strong smell of passion fruit
when fresh.
Hyphal system monomitic; hyphae 2-5 µm wide, with clamps, hyaline, thin- to distinctly thick-walled,
agglutinated and difficult to separate in microscopical preparations, in the dissepiments
partly with a fine encrustation and some with a slightly lobed apex.
Cystidia absent.
Basidia 15-20 x 4-7 µm, clavate**,** 4-sterigmate.
Basidiospores 3.5-4.5 x 2-2.5 µm, subcylindric, hyaline, thin-walled, with an oil drop.
Substrata. On wood (dead indet. hardwood).
Distribution. Known only from the type locality, but probably with a wider distribution in
the Amazon basin.
Remarks. Characterised by the dense basidiome which changes colour during drying, small, thin-walled
angular pores, the small subcylindric basidiospores and the smell of passion fruit when fresh.

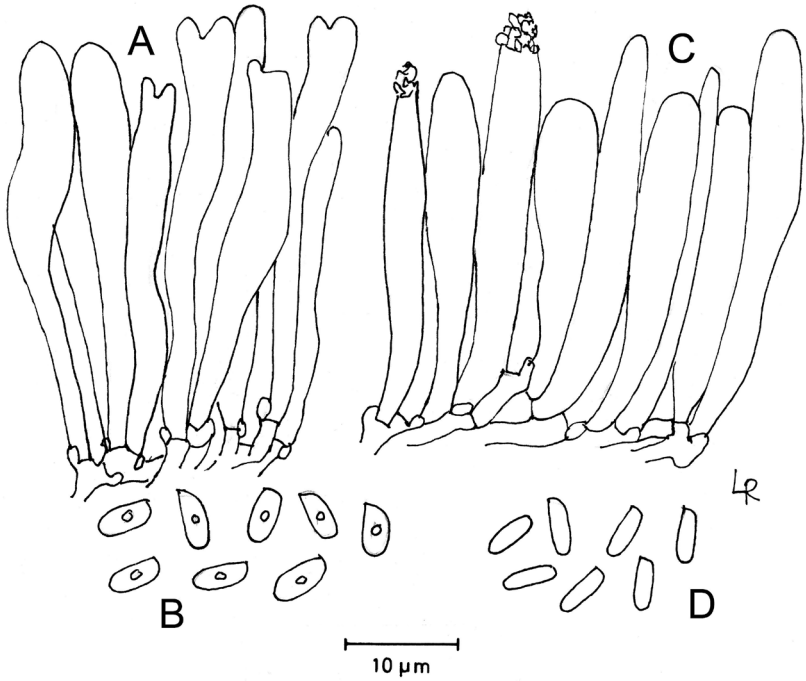


Fig 3. *Ceriporiopsis jensii*, A) Part of hymenium with lobed hyphae, B) Basidiospores, *C. lagerheimii*, C) Hymenium with encrusted cystidia, D) Basidiospores. From the holotypes.
Hel side

Ceriporiopsis lagerheimii Læssøe & Ryvarden sp. nov. Fig. 3. C-D
Differt a *Ceriporiopsis flavilutea* (Murrill) Ryvarden sporae 3.5-4.5 x 2-2.5 µm (in *C. flavilutea* 2.8-3.5 x 2-3 µm).
Types: Ecuador, Napo province, Cuyuja, alt. 2400 m, 4 May 2002, on underside of fallen dicot. trunk (*Alnus*?) in pasture, T. Læssøe, TL-9502 (holotype QCA, isotypes C (58240), O).
Etymology: Named after Carl Lagerheim, one of the first collectors of fungi from Ecuador.

Basidiomes annual, resupinate, up to 2 mm thick, margin thin and lacking cords, pore surface white

to cream-coloured, when fresh with some bluish hues in places, pores round to angular with irregular
dissepiments, 5-7 (8) per mm; tubes concolorous, up to 2 mm deep, context white, very thin and almost
invisible. Smell pleasant.
Hyphal system monomitic; generative hyphae 3-5 µm wide, with clamps, hyaline, thin- to distinctly
thick-walled,
Cystidia absent.
Basidia not seen
Basidiospores 3-3.5 x 1.5-1.7 µm, cylindrical, hyaline, thin walled and non-amyloid and non dextrinoid.
Substrata. On wood (dead indet. hardwood).
Distribution. Known only from the type locality.
Remarks. Characterised by the small angular pores and the small cylindric spores.

Key to neotropical species of *Ceriporiopsis*

1. Pores 6-8 per mm 2
1. Pores larger 5

2. Basidiospores cylindric to allantoid 2
2, Basidiospores ellipsoid 4

3. Basidiospores allantoid 3.5-5 x 1-1.2 µm ..... **C. loweii**
3. Basidiospores cylindric 3 - 3.5 x 1.5-1.7 µm ..... **C. jensii**

4 Basidiospores subcylindric 3.5-4.5 x 2-2.5 µm ..... **C. agglutinata**
4. Basidiospores ellipsoid, 3-3.5 x 2-3 µm ..... **C. flavilutea**

5. Basidiospores subcylindric, 8-10 x 3-4.5 µm ..... **C. cerrusata**
5. Basidiospores shorter, variously shaped 6

6. Pores irregular, up to 3 per mm becoming daedaeloid to sinuous 7
6. Pores more or less angular to round and smaller 8

7. Basidiospores 3-4 µm long, pores irpicoid to daedaeloid, 1-2 per mm ..... **C. latemarginata**
7. Basidiospores 4-5 µm long, pores round to angular, in parts split, 2-3 per mm ..... **C. balaenae**

8. Basidiospores subglobose 9
8. Basidiospores ellipsoid to cylindric 10

9. Basidiospores 2.5-3.5 x 2-2.5 µm ..... **C. mucida**
9. Basidiospores 5-6 x 4-5 µm ..... **C. rivulosus**.

10. Smooth, tubular cystidia present, basidiospores cylindric, 5-6 x 2.5-3.5 µm ..... **C. cystidiata**
10. Cystidia absent, basidiospores ellipsoid, 3.5-4.5 x 2.5-3 µm. 11

11. Basidiospores slightly amyloid, pore surface white ..... **C. myceliosa**
11. Basidiospores non-amyloid, pore surface pale brown ..... **C. umbrinescens**

Dichomitus ecuadoriensis Ryvarden sp. nov. Fig 4A
Differt a *Dichomitus anoectoporus* (Berk. & Curt) Ryvarden sporae 10-12 x 4.5-5.5 (-6) µm (in *D. anoectoporus* sporae 15- 16 x 6-8 µm).
Types: Ecuador, Orellana province, Yasuni National Park, Yasuni Scientific Research Station, alt. 300 m, 9-12 March 2002, Ryvarden 44728 (holotype QCA, isotype O).
Basidiomes annual, resupinate and cushion like, up to 7 x 2 cm long and wide and 3 mm thick in the centre, margin narrow and black, pore surface dark tan to ochraceous, pores round, about 4-5 per mm, with thick walls, tubes paler than pore surface, up to 3 mm deep and, in the thickest specimen, with a thinner zone above a thicker one (reflecting seasonal growth), context whitish to pale ochraceous, thin to almost invisible,
Hyphal system dimitic; generative hyphae 2-3 µm wide, with clamps, hyaline, thin- to thick-walled, richly branched in the subiculum; skeletal hyphae 2-3 µm wide, strongly dextrinoid in Melzer's reagent.
Cystidia absent.
Basidia not seen
Basidiospores 10-11 x 5-5.5 µm, cylindric to oblong-ellipsoid, hyaline, smooth, negative in Melzer's reagent.
Substrate. On dead hardwood log**.**
Distribution. Known only from the type locality.

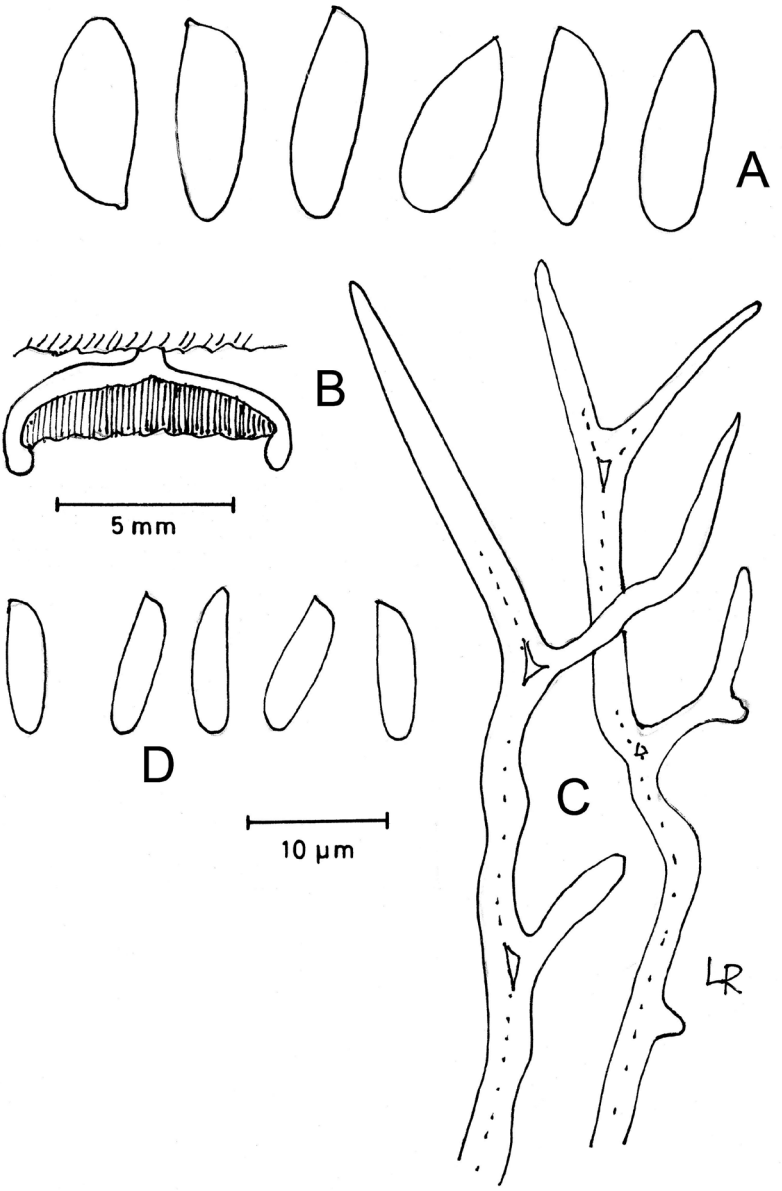


Fig. 4. *Dichomitus ecuadoriensis* A) Basidiospores, *Dichomitus pendulus* B) Basidioome, C) arboriform vegetative hyphae, D) Basidiospores. From the holotypes.

Remarks. Characterised by the cushion-like, resupinate basidiomes with a narrow black line along the margin which should make it possible to recognize the species in the field. Microscopically, the oblong-cylindric spores make this distinct.
Additional specimen seen: Same locality, R. 44622

Dichomitus pendulus Læssøe & Ryvarden sp. nov. Fig 4 B-D
Differt a *Dichomitus anoectoporus* (Berk. & M.A. Curtis) Ryvarden sporae 8-10 x 3-3.2 µm et basidioma pendens (in *D. anoectoporus* sporae 15- 16 x 6-8 µm et basidioma resupinata).
Types: Ecuador, Pichincha province, El crater Pululahua, alt. 2400 m, 2 Feb. 2003, on attached dead, dicot. branch covered with mosses, 1.5-2 m above the ground, T. Læssøe, TL-9948 (QCA holotype, isotypes C (61868), O).

Basidiomes annual, pendant with a central point of attachment, round to oblong, up to 8 mm in diameter, upper surface glabrous, inner parts black and then brown to ochraceous, pore surface tan to ochraceous, pores round 6-7 per mm with thick walls, tubes concolorous 1-1.5 mm deep, context up to 250 µm thick, with an upper, very thin, black line exposed on the inner parts of the pileus
Hyphal system dimitic; generative hyphae 2-3 µm wide, with clamps, hyaline, thin- to thick-walled, richly branched in the subiculum; skeleto-binding hyphae present, 2-3 µm wide, hyaline, solid, sparingly branched, negative in Melzer's reagent.
Cystidia absent.
Basidia 15 x 7-8 µm, clavate, 4-sterigmate, with a basal clamp.
Basidiospores 8-10 x 3-3.2 µm, cylindric, hyaline, smooth, negative in Melzer's reagent.
Substrate On wood **(**attached, dead, branch of an indet. dicot. tree, covered with mosses).
Distribution. Known only from the type locality, where noted as very common by the collector.
Remarks. Characterised by the small pendant basidiomes, recalling a poroid *Aleurodiscus* species with reflexed margin, which makes this a species easily detected by a generalist collector rather than a devoted polypore expert !

Key to neotropical species of *Dichomitus*

1. Skeletal hyphae non-dextrinoid 2
1. Skeletal hyphae dextrinoid 4

2. Spores 8-10 x 3-3.2 µm ..... **D. pendulus**
2. Spores longer than 10 µm 3

3. Basidiospores 20-27 x 7-10 µm ..... **D. grandisporus**
3. Basidiospores 15-18 x 6 - 8 µm ..... **D. anoectoporus**

4. Pores 1-3 mm wide with a variable number of hyphal pegs 5
4. Pores 2-5 per mm, lacking hyphal pegs 6

5. Basidiospores 11-17 x 3-4.5 µm, hyphal pegs numerous ..... **D. setulosus**
5. Basidiospores 20-26 x 6-9 µm, hyphal pegs few ..... **D. mexicana**

6. Basidiospores cylindric, 8-10 x 2.5-3 µm..... **D. cylindrosporus**
6. Basidiospores ellipsoid to subcylindric, longer than 10 µm 7

7. Pores 4-5 per mm, spores 10-12 x 4.5-5.5 µm .....**D. ecuadoriensis**
7. Pores 2-4 per mm, spores 12-16 x 5-7 µm 8

8. Basidiome perennial, up to 1.3 cm thick, cork coloured ..... **D. perennis**
8. Basidiomes annual, up to 3 mm thick, white to pale straw coloured ..... **D. cavernulosus**

Ischnoderma albotexta (Lloyd) D.A. Reid. J. South Afr. Bot. 39:169, 1973.
Specimen examined: Ecuador, Napo province, Papallacta, Termas de Papallacta, alt. 3200 m, 10 June 2002, on big fallen, dicot. trunk, T. Læssøe, TL-9694 (QCA, C 58419).
Originally described from South Africa, this is a new species to the Americas. Field notes on the Ecuadorean specimen run as follows: Dark brown, triangular-pileate, pore surface staining red brown, tube layer thick. The context is soft, whitish to very pale brown.

Junghuhnia neotropica I. Lindblad & Ryvarden. Mycotaxon 71: 349, 1999.
Specimen examined: Ecuador, Orellana province, Yasuni National Park, Yasuni Scientific Research Station, alt. 300 m, 9-12 March 2002, on dead hard wood, Ryvarden 44560 (QCA, O).
Previously known only from Costa Rica where it was described based on pileate specimens. The Ecuadorian collection is resupinate apparently with a slight tendency towards becoming semipileate, but this is difficult to ascertain since the basidiomes have shrunk considerably during drying. Microscopical characters, i.e. spores and the swollen ventricose cystidia are identical with those of the type, thus it is treated as the same species.

Oxyporus fragilis Læssøe & Ryvarden sp. nov. Fig 5
Differt a *Oxyporus lacera* Ryvarden sporae 4-5 µm in diametro (in *O. lacera* 3-4 x 2-2.5 µm).
Types: Ecuador, Orellana province, Yasuni National Park, Yasuni Scientific Research station, alt. 300 m, 9. March 2002, on dead dicot. wood, Ryvarden 44534 (holotype in QC, isotype in O).

Basidiomes annual, resupinate, effused, up to 3 cm wide in the holotype, soft when fresh, fragile when dry, pore surface whitish, discoloured when fresh, greyish brown when dry, pores round to angular, invisible to the naked eye 7-9 per mm, tubes concolorous with pore surface, up to 1 mm deep, context up to 50 µm thick, dense, ochraceous, hardly visible to the naked eye.
Hyphal system monomitic; generative hyphae 3-8 µm wide, simple-septate, thin- to thick-walled, with occasional branching.
Cystidia 12-20 x 4-7 µm, abundant, clavate, arising in the subhymenium, thick-walled, with an apical crown of coarse crystals, but also as apically encrusted hyphal ends in the dissepiments.
Basidia 10-12 x 6-8 µm, clavate, with four sterigmata.
Basidiospores 4-5 µm, globose, hyaline, thin-walled, negative in Melzer's reagent.
Substrata. On wood (indet. dead hardwood).
Distribution. Known only from the type locality.
Remarks. Characterised by the tiny pores and the globose spores. With more comprehensive collecting in the Amazonas area, will probably be shown to be widespread in the area.

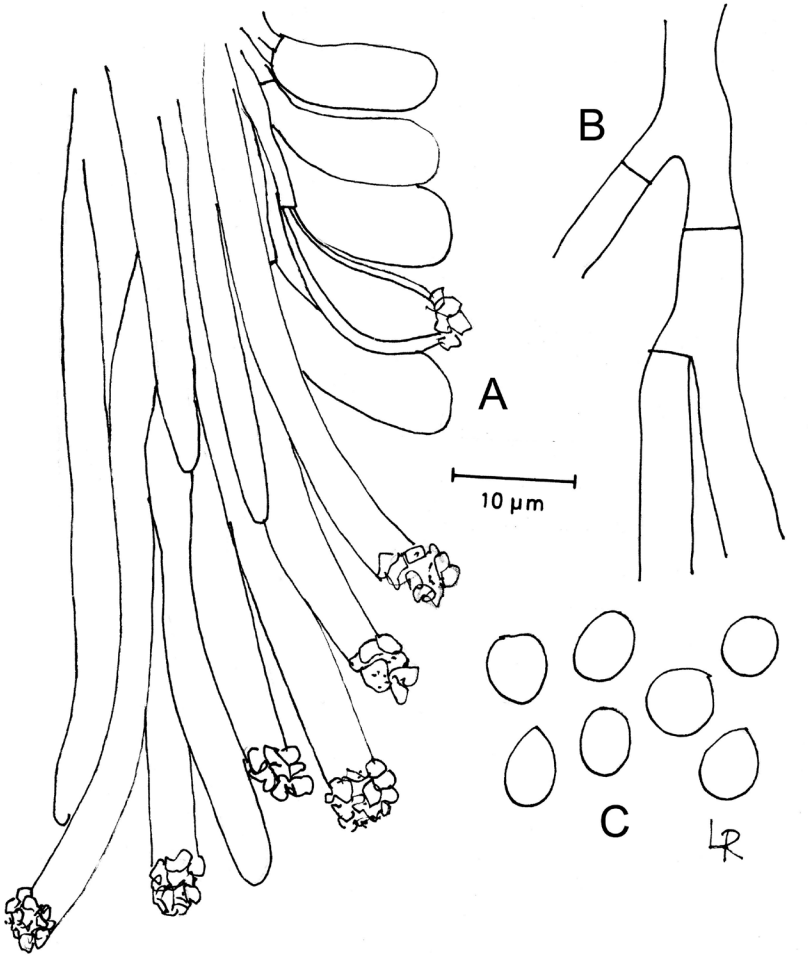


Fig. 5. *Oxyporus fragilis* A) Generative hypha, B) part of hymenium and dissepiments with apically encrusted cystidia, C) Basidiospores.
From the holotype.

Key to annual, resupinate, non-stratified neotropical Oxyporus species

1. Cystidia heavily encrusted 2
1. Cystidia with a small crown of crystals 3

2. Pores dentate and deeply split, 1-3 per mm, basidiomes white to ochraceous ... . **O. pellicula**
2. Pores entire and angular, 5-6 per mm, basidiomes cinnamon ....**O. neotropicus**

3. Spores globose, pores 7-9 per mm ..... **O. fragilis**
3. Spores ellipsoid, pores 1-6 per mm 4

4. Spores 5-7 µm long, pores usually 1-3 per mm .....**O. latemarginatus**
4. Spores 3-4.5 µm long, pores 4-6 per mm ..... **O. obducens**

Rigidoporus micropendulus Læssøe & Ryvarden sp. nov. Fig. 6
Differt a *Polyporus concrescens* (Mont.) Rajchenberg cystidia praesentia, in *R. concrescens* cystidia absentia.
Holotype: Ecuador, Napo province, ecological reserve Cayambe-Coca, El Chaco NE of Baeza, alt.1600 m, 11 May 2002, on large, moss covered palm trunk in a stream bed, T. Læssøe, TL-9547 (holotype QCA, isotypes C (58284)) – photographs of living specimens can be seen at http://www.mycokey.com/Ecuador.html).

Basidiomes minute, annual, pendant with a distinct central to lateral stipe (to 3 x 0.7 mm in living condition), pileus up to 4 mm in diameter (7 mm in living condition), often confluent, consistency firm / rubbery when fresh, cartilaginous and hard when dry, upper surface pale pinkish to beige, glabrous, azonate, pores round angular to round, tiny, 8-10 per mm, tubes to 1 mm deep, concolorous with pore surface, white to cream and staining reddish when fresh, context 200 µm thick pale pinkish..
Hyphal system monomitic; generative hyphae 3-7 µm wide in the trama, but up to 10 µm wide in the context, with simple septa, hyaline, thin- to thick-walled.
Cystidia abundant, up to 12 µm wide and 55 µm long, hyaline, thick-walled, partly bending into the hymenium and projecting slightly above it and then slightly apically encrusted, and partly as straight thick-walled hyphal ends in the hymenium.
Basidia 12-15 x 4-6 µm, clavate, 4-sterigmate.
Basidiospores 3.5-4 µm, globose, thin-walled, hyaline and non-amyloid.

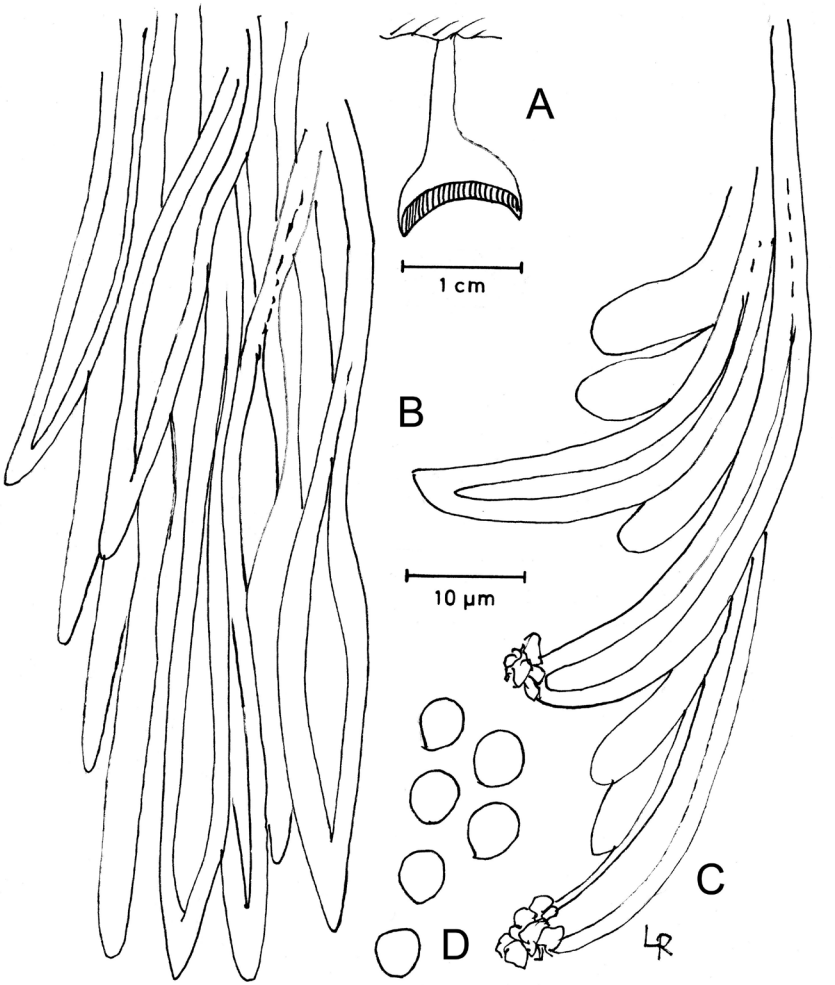


Fig. 6. *Rigidoporus micropendulus* A) Basidiome, B) Part of the hymneium with cystidia, C) Dissepiments with thick-walled, pointed cystidia, D) Basidiospores. From the holotype.

Substrata. On wood (moss covered, fallen trunk of a palm tree).
Distribution. Known only from the type locality. Possibly with a wider distribution in the Andes region since very easily overlooked due to the minute size.
Remarks. Characterised by the tiny pendant basidiomes and abundant cystidia. *R. concrescens* also forms confluent-fused pendant basidiomes, but lacks the thick-walled cystidia.

Key to pileate neotropical species of *Rigidoporus*

1. Basidiomes up to 6 cm thick, sp 7-10 x 6.5-10 mm ..... **R. ulmarius**
1. Basidiome rarely above 1 cm thick, sp less than 7 mm long. 2

2. Thick-walled cystidia present 3
2. Thick-walled cystidia absent 5

3. Basidiomes tiny, less than 7 mm in diameter, pendant ..... **R. micropenduus**
3. Basidiomes different and larger 4

4. Basidiomes laterally stipitate .....**R. biokoensis**
4. Basidiomes sessile to dimidiate ..... **R. lineatus**

5. Basidiomes pendant, first as individual up to 15 mm wide basidiomes, later fused to larger basidiome, upper surface greyish to pale brown ....**R. concrescens**
5. Basidiomes laterally stipitate to sessile or dimidiate, upper surface ochraceous to reddish orange when fresh 6

6. Pore surface bright to deep orange lacking a reddish tint, basidiomes often large and 0.5-2 cm thick at the base, growing in clusters ..... **R. aurantiacus**
6. Pore surface distinctly reddish, , basidiomes small to medium, rarely above 1 cm thick 7

7. Basidiomes sessile to dimidiate, ... **R. microporus**
7. Basidiomes laterally stipitate, ...8

8. Pileus ochraceous, finely tomentose and context with a dark line under the tomentum .....**R. amazonicus**

8. Pileus first white becoming brown to grey with age or drying, glabrous and no black line in the context .....**R. mutabilis**

Trametes minuta Læssøe & Ryvarden sp. nov.
Differt a *Trametes pavonia* (Hooker) Ryvarden basidioma minutum et sporae 7-8 x 2.5-3.5 µm (in *T. pavonia* 5-6 x 3-4 um*)*.
Types: Ecuador, Carchi province, on slope west of Maldonado, alt. 2100 m, 17 Feb. 2003, on small dicot. twigs, T. Læssøe, J. Salazar & A. Calvo, TL-10157 (holotype QCA, isotypes C (62074), O).

Basidiomes annual, pileate, dimidiate, coriaceous to flexible, up to 1 cm wide and long, and 0.5 mm thick at the base; upper surface persistently tomentose, multizonate, white to ochraceous, with a few green shades at the base due to algae in the tomentum, margin thin and wavy; pore surface white to pale ochraceous, pores round to angular, 8-9 per mm; tubes concolorous, up to 250 µm deep, dissepiments entire; context white, up to 250 µm thick with an very thin upper black zone, approximately 50 mm thick, towards the looser tomentum.
Hyphal system trimitic; generative hyphae 2-6 µm wide, with clamps, dominating in the surface tomentum; skeletal hyphae 2-5 µm wide, thick-walled to solid, hyaline to slightly tinted, negative in Melzer's reagent; binding hyphae 1-2 µm wide, tortuous, solid, hyaline, most frequent close to the base of the basidiome.
Cystidia or other sterile hymenial elements lacking.
Basidia 12 -15 x 5-6 µm, clavate, 4-sterigmate, with a basal clamp.
Basidiospores 7-8 x 2.5-3.5 µm, cylindric, hyaline, thin-walled, negative in Melzer's reagent **Substrata.** On wood (small twigs of an indet. hardwood)
Distribution. Known only from the type locality.
Remarks. A remarkable species, characterised by the tiny size of the basidiomes, and also by the fairly large spores, larger than usual for similar species such as *T. villosa* and *T. hirsuta.*

Key to neotropical *Trametes* species

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

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

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

4. Basidiome thin and flexible, rarely above 3 mm thick ..... **T. villosa**
4. Basidiome hard and rigid, up to 15 mm thick 5

5. Context duplex with a distinct black zone, at least close to the base; hymenophore split and almost hydnoid , spores 4.5-5.5 um long ..... **T. maxima**
5. Basidiome up to 2 cm wide, often effused reflexed, homogenous to duplex, but lacking a black zone; hymenophore regular, to slightly daedaeloid, about 1 mm wide spores 7-9 um long ..... **T. cervina**

6. Pileus hirsute to tomentose; context duplex, often with a black line between tomentum and context, at least close to the base 7
6. Pileus adpressed velutinate and dull to subshiny or soon becoming glabrous except for margin; context homogeneous although a cuticle may develop from the base with age 10

7. Pileus multizonate, often in different colours as tomentose and glabrous zones are alternating; pore surface white becoming pale tan with age ..... **T. versicolor**
7. Pileus azonate or with zones in different colours of white to ochraceous 8

8. Basidiome up to 1 cm wide and long, pores tiny, regular, spores cylindric 6-8 x 2.8-3.5 µm ..... **T. minuta**
8. Basidiome usually larger, spores ellipsoid to short cylindric, up to 6 µm long 9

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

10. Pores 1-3 per mm 11
10. Pores 4-7 per mm 12

11. Spores 10-15 µm long, skeletal hyphae dextrinoid ..... **T. frustrata**
11. Spores 4-7 µm long, skeletal hyphae non dextrinoid ..... **T. lactinea**

12. Dark reddish, brown or blackish cuticle spreading from the base 13
12. No cuticle spreading form the base, upper surface white, ochraceous becoming unevenly pale brown with age 15
13. Upper surface becoming greyish and black from base ..... **T. cingulata**
13. Upper surface becoming tan, brown to reddish from base or in zones 14

14. Upper surface usually zonate with variable colours in brown shades, not pointed hyphal ends in the hymenium ..... **T. ectypus**
14. Upper surface azonate, becoming reddish from the base, sharply pointed hyphal ends in the hymenium ..... **T. cubensis**

15. Context pale pinkish to cafe au lait, red to brownish with KOH fading to dark spot 16
16. Context white to ochraceous or cork coloured 17

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

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

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

19. Pore surface even, spores 3-4 x 2.5-3 µm ..... **T. ellipsospora**
19. Pore surface uneven, rigid and crested, spores not known ..... **T. ochroflava**

Acknowledgments
T. Læssøe was supported by a Danish government grant RUF. Co-collectors Jens H. Petersen and Javier Salazar are thanked all their help in the field.
The late Kurt Hjortstam, Alingsås, Sweden has kindly corrected and suggested changes in the Latin diagnosis.

References
Reid, D. A. 1973. A reappraisal of type and authentic specimens of Basidiomycetes in the Van der Byl Herbarium, Stellenbosch. J. South Afr. Bot. 39:141-178.
Patouillard, N. & Lagerheim, G. de 1891. Champignons de l'Équateur (pugillus I). Bulletin de la Société Mycologique de France 7: 158-184, pls XI-XII.
- 1892: Champignons de l'Équateur (Pugillus II). Bulletin de la Société Mycologique de France 8: 113-140, pls XI-XII.
1893: Champignons de l'Équateur. - (Pugillus III). Bulletin de la Société Mycologique de France 9: 124-165, pls VIII-X.
1895a. Champignons de l'Équateur (pugillus IV). Bulletin de l'Herbier Boissier 3(2): 53-74, pl.II.
1895b. Champignons de l'Équateur (Pugillus V). Bulletin de la Société Mycologique de France 11: 206-234.
Ryvarden, L. 2004: Neotropical Polypores Part 1. Synopsis Fung. 19:1-228.

Studies in neotropical polypores 27 More new and interesting species from Costa Rica

Milagro Mata
Instituto Nacional de Biodiversidad, P.O. Box 22-3100, Santo Domingo de Heredia, Costa Rica, mmata@inbio.ac.cr

&

Leif Ryvarden
Biological Institute, Univ. of Oslo , P.O. Box 1066, Blindern, N-0316 Oslo, Norway, leif.ryvarden@bio.uio.no

Abstract
Phellinus lopezii Mata & Ryvarden, *Ceriporia citrina* Mata & Ryvarden, Ceriporia dentipora Mata & Ryvarden, *Ceriporia incrustata* Mata & Ryvarden, *Ceriporiopsis costaricensis* Mata & Ryvarden, *Gloeoporus longisporus* Mata & Ryvarden, *Tyromyces cinnamomeus* Mata & Ryvarden, *Tyromyces duplex* Mata & Ryvarden and *Tyromyces incarnatus* Mata & Ryvarden are described as new. Keys to the neotropical species of *Ceriporiopsis* and *Ceriporia* are provided. *Inflatostereum glabrum*, *Inonotus pseudoglomeratus*, *Oxyporus lacera* and *Phellinus neonoxius* are reported as new to Costa Rica.

Introduction
For many years we have extensively collected polypores in Costa Rica and in addition numerous collections have been made by parataxonomists connected to INBio.
Amongst these collections there are many new taxa of poroid species and the present paper is the first in a series in which new taxa will be proposed. For a general survey of the polypores of Costa Rica, the reader is referred to http://atta.inbio.ac.cr/como_usar.htm

Description of species

HYMENOCHAETACEAE

Phellinus lopezii M. Mata & Ryvarden nov. Sp Fig. 1
Ad *Phellinus undulatus* (Murrill) Ryvarden sed sporae globosae, 3.5-4 µm in diameter et pori 7-9 per mm (in *P. undulatus* sporae ellipsoideae 3.5-4.5 x 2.5-3.3 µm et 4-6 pori per mm).
Holotype: Costa Rica, Guanacaste, área de conservación Arenal, P.N. Volcán Tenorio. Sector Hacienda Montezuma, 13 October 1999, leg. I. López 729 (INB 1546686), isotype in O.
Named after I. López, an eager and clever parataxonomist who has contributed to our current knowledge of wood inhabiting fungi of Costa Rica.

Basidiocarp resupinate, annual to biennial, adnate, effused, very hard, up to 3 mm thick, margin golden-brown, pore surface deep tobacco brown, dull, pores round, 7-9 per mm and invisible to the naked eye, tubes concolorous, up to 3 mm deep, context hardly visible, dark brown.
Hyphal system dimitic, generative hyphae simple septate, 2-4 µm wide, skeletal hyphae 3-5 µm wide, golden yellow to pale rusty brown when the walls thicken.
Hymenial setae abundant, 12-30 x 6-10 µm, mostly sub-ventricose to acuminate hooked, with a few straight ones also present.
Basidiospores 3.5-4.5 x 2.5-3.5 µm, globose, pale yellow, thin-walled, non-amyloid.
Substrata. On wood (a dead hardwood logs).
Distribution. Known only from the type locality.
Remarks. The tiny pores, the hooked setae and globose small basidiospores are the diagnostic characteristics. Closely related to *P. undulatus* from which it is separated by the tiny pores and small, globose, coloured basidiospores.

POLYPORACEAE

Ceriporia citrina M. Mata & Ryvarden sp. nov. Fig. 2 A-B
Ad *Ceriporia reticulata* sed sporae ellipsoideae, 7-8 x 3.2-3.5 µm (in *Ceriporia reticulata* allantoideae et 7-9 x 2-3 µm).
Holotype: Costa Rica, Guanacaste, área de conservación Tempisque, P.N. Palo Verde, 3 July 2002, on dead *Coriolopsis* spp, cfr. *C. byrsina* (Mont.) Ryvarden, leg. M. Oses 2543 (INB 3443161), isotype in O.

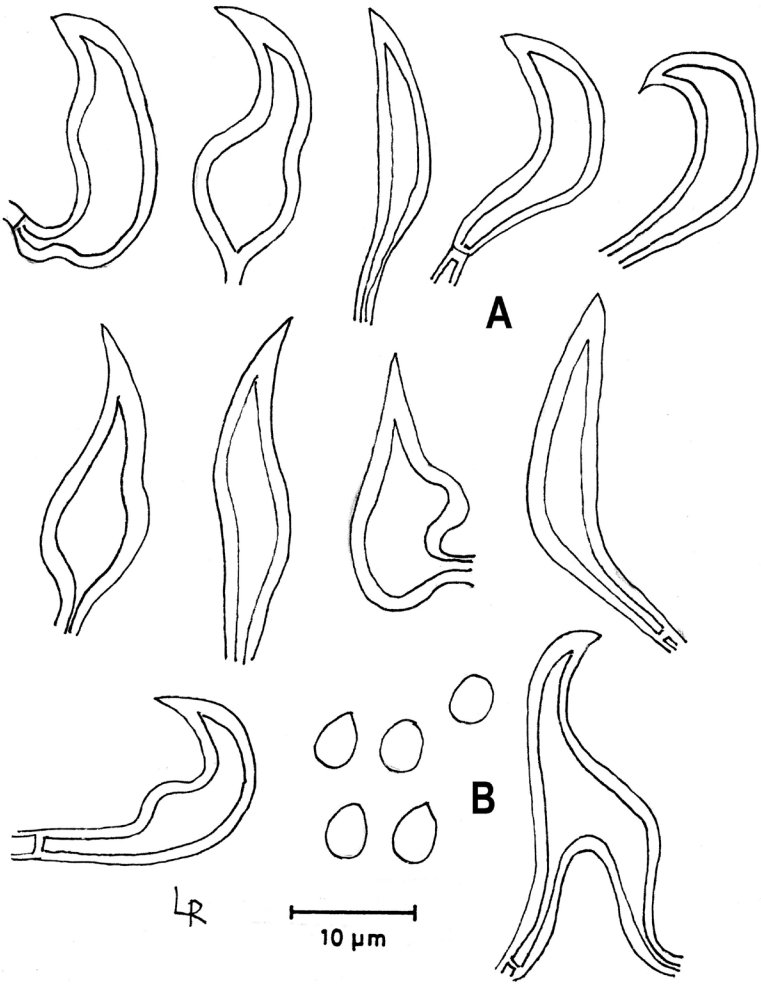


Fig. 1. *Phellinus lopezii* A) hymenial setae, B) Basidiospores. From the holotype.

Basidiomes annual, resupinate, adnate, up to 1 mm thick, margin narrow and pale yellow, pore surface
Citric yellow when fresh, fading slightly when dry, pores slightly angular with entire dissepiments, 1-3
per mm, tubes concolorous, up to 1 mm deep, context almost invisible, white and about 200 µm thick in
the centre of the basidiocarp.
Hyphal system monomitic; hyphae 3-6 µm wide in the subiculum, 2-5 µm wide in the trama,
with simple septa, thin walled, hyaline.
Cystidia absent.
Basidia 15-20 x 4-6 µm, 4-sterigmate.
Basidiospores 7-8 x 3.2 -3.5 µm, oblong-ellipsoid to subcylindrical, hyaline, thin-walled, and with an oil drop.
Substrata. On wood (a dead hard wood log) and dead basidiomes of a *Coriolopsis* spp., probably *C. byrsina* (Mont.) Ryvarden.
Distribution. Known from Costa Rica.
Remarks. Characterised by the citric yellow basidiocarp with angular pores and ellipsoid to cylindrical
basidiospores.

Ceriporia dentipora M. Mata & Ryvarden sp. nov. Fig 2. C
Ad *Ceriporia alachuana*(Murrill) Hallenberg sed sporae ellipsoideae, 5-6 x 2.5-3 µm et pori angulati (in *Ceriporia alachuana* cylindricae 4-5 x 2-2.3 µm et pori circularis)
Holotype: Costa Rica, Guanacaste, área de conservación Tempisque, Z. P. Nosara, Monte Alto, margen del río Nosara, 4. December 1999, leg. M. Oses 708, (INB 1546070), isotype in O.

Basidiomes annual, resupinate, adnate, up to 1 mm thick, margin narrow and pale yellow, pore surface
ochraceous pores irregular, angular, in parts also split in front, 2-3 per mm, tubes concolorous, up to 1 mm deep, context almost invisible, white and about 200 µm thick in centre of basidiocarp.
Hyphal system monomitic; hyphae 3-6 µm wide, with simple septa, thin-walled, hyaline.
Cystidia absent.
Basidia 12-18 x 5-7 µm, 4-sterigmate.
Basidiospores 5-6 x 2.5-3 µm, oblong-ellipsoid to cylindrical, thin-walled, hyaline.

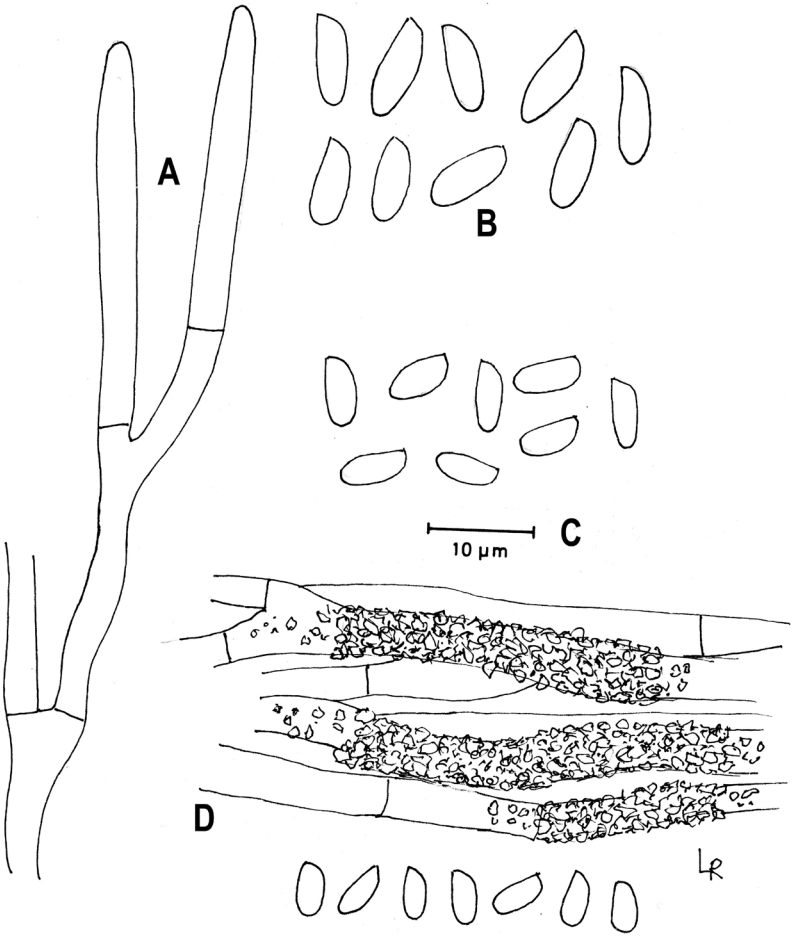


Fig. 2. *Ceriporia citrina*, A) Hyphae from the dissepiments, B) Basidiospores, *Ceriporia dentipora*, C) Basidiospores, *Ceriporia incrustata*, D) encrusted hyphae from the subiculum, E) Basidiospores. From the holotypes.

Substrata. On wood (a dead hardwood log).
Distribution. Known only from the type locality.
Remarks. Characterised by the ochraceous basidiocarp with irregular pores and cylindrical basidiospores.
From the previous species, separated by longer basidiospores,

Ceriporia incrustata M. Mata & Ryvarden sp. nov. Fig. 2 D-E
Ad *Ceriporia alachuana* (Murrill) Hallenberg sed *sporae* ellipsoideae, 3-3.5 x 1.8-2 µm et hyphae incrustata (in *Ceriporia alachuana* cylindricae 4-5 x 2-2.3 µm et hyphae glabra).
Holotype: Costa Rica, Puntarenas, área de conservación La Amistad Pacifico, Z.P. Las Tablas, Sitio Cotoncito, 28. September 2000, leg. Ryvarden 42844 B (O), isotype in INBio.

Basidiomes annual, resupinate, adnate, up to 1.5 mm thick, margin narrow and white, pore surface
ochraceous pores round, 6-8 per mm and invisible to the naked eye, tubes concolorous, up to 1 mm deep,
context almost invisible, white and about 400 µm thick in centre of basidiocarp.
Hyphal system monomitic; hyphae 3-5 µm wide, with simple septa, in the in the subhymenium thin-walled
and hyaline, but in the deep trama and context thick-walled and, in parts, heavily encrusted and then
with the appearance of deeply embedded, encrusted cystidia.
Cystidia absent.
Basidia 10-14 x 4-5 µm, 4-sterigmate.
Basidiospores 3-3.5 x 1.8-2 µm, ellipsoid, thin-walled, hyaline.
Substrata. On wood (a dead hardwood log).
Distribution. Known only from the type locality.
Remarks. Characterised by the resupinate ochraceous basidiocarp with tiny pores and strongly encrusted hyphae in the trama and context.

Key to neotropical species of *Ceriporia* (N.B Colours refer to dried basidiomes)

1. Cystidia present in the hymenium 2
1. Cystidia absent from the hymenium 3

2. Basidiospores globose, basidiomes blackish ..... **C. meruloidea**

2. Basidiospores allantoid, basidiomes whitish ..... **C. cystidiata**

3. Basidiomes purplish or deep orange 4
3. Basidiomes white, ochraceous to pale brown..... 5

4. Basidiome purplish, pores 3-4 per mm ..... **C. purpurea**
4. Basidiome deep orange to reddish brown, pores 7-9 per mm .....**C. spissa**

5. Basidiospores, 7-9 µm long 6
5. Basidiospores shorter 7

6. Basidiospores allantoid, basidiocarp white ..... **C. reticulata**
6. Basidiospores oblong ellipsoid to subcylindrical, basidiocarp pale citric yellow ..... **C. citrina**

7. Basidiospores allantoid to cylindrical 8
7. Basidiospores sub cylindrical, ellipsoid to subglobose..... 9

8. Basidiospores allantoid, 4-6 µm long, pores thin-walled, 3-5 per mm .....**C. viridans**
8. Basidiospores cylindrical 4-4.5 µm long, pores thick-walled, 2-3 per mm .....**C. albobrunnea**

9. Basidiospores subcylindrical to oblong ellipsoid 10
9. Basidiospores subglobose ..... **C. xylostromatoides**

10. Pore surface evenly brown when dry, often with whitish margin .....**C. ferruginicincta**
10. Pore surface white, cream to pale tan or buff 11

11. Pores 6-8 per mm, basidiospores 3-3.5 x 1.5-2 µm 12
11. Pores and basidiospores larger 13

12. Basal hyphae strongly encrusted ..... **C. incrustata**
12. Basal hyphae more or less smooth ..... **C. microspora**

13. Pores round, 2-5 per mm, basidiospores 4-5 x 2-2.5 µm ..... **C. alachuana**
13. Pores angular to hexagonal, 1-2 per mm, basidiospores 5-6 x 2.6-3 ..... **C. dentipora**

Ceriporiopsis costaricensis M. Mata & Ryvarden sp. Nov Fig. 3 A
Ad *Ceriporiopsis flavilutea*, sed sporae 4-5 x 2.5-2.8 µm (2.8-3.5 x 2-3 µm in *C. flavilutea*).
Holotype: Costa Rica, Limón, Area de conservación La Amistad Caribe, R.B. Hitoy Cerere, sendero Tepezcuintle, 16 August 2001, leg. R.Valladares 445 (INB 3467434)

Basidiomes annual, resupinate, adnate, up to 1 mm thick, margin narrow and white, pore surface
pale ochraceous, pores slightly angular with entire dissepiments, 3-4 per mm, tubes concolorous,
up to 0.8 mm deep, context almost invisible, agglutinated and white.
Hyphal system monomitic; hyphae 2-4 µm wide, with clamps; in the trama thin-walled and hyaline,
in the subiculum 3-6 µm wide, thin- to distinctly thick-walled.
Cystidia absent.
Basidia 10-15 x 4-5 µm, 4-sterigmate.
Basidiospores 4-5 x 2.5-2.8 µm, ellipsoid, thin-walled, hyaline and with an oil drop,
Substrata. On wood (a dead hardwood log).
Distribution. Known only from the type locality.
Remarks. Characterised by the ochraceous basidiocarp with angular pores and ellipsoid
basidiospores.

Key to neotropical species of *Ceriporiopsis*

1. Pores 6-8 per mm 2
1. Pores larger 5

2. Basidiospores cylindrical to allantoid 3
2. Basidiospores ellipsoid 4

3. Basidiospores allantoid 3.5-5 x 1-1.2 µm ..... **C. loweii**
3. Basidiospores cylindrical 3 - 3.5 x 1.5-1.7 µm ..... **C. lagerheimii**

4. Basidiospores subcylindrical 3.5-4.5 x 2-2.5 µm ..... **C. jensenii**
4. Basidiospores ellipsoid, 3-3.5 x 2-3 µm ..... **C. flavilutea**

5. Basidiospores subcylindrical, 8-10 x 3-4.5 µm ..... **C. cerrusata**
5. Basidiospores shorter, variously shaped 6

6. Pores irregular, up to 3 per mm becoming daedaeloid to sinuous 7
6. Pores more or less angular to round and smaller 8

7. Basidiospores 3-4 µm long, pores irpicoid to daedaeloid, 1-2 per mm ..... **C. latemarginata**
7. Basidiospores 4-5 µm long, pores round to angular, in parts split 2-3 per mm ..... **C. balaenae**

8. Basidiospores subglobose 9
8. Basidiospores ellipsoid to cylindrical 10

9. Basidiospores 2.5-3.5 x 2-2.5 µm ..... **C. mucida**
9. Basidiospores 5-6 x 4-5 µm ..... **C. rivulosus**.

10. Smooth, tubular cystidia present, basidiospores cylindrical, 5-6 x 2.5-3.5 µm ..... **C. cystidiata**
10. Cystidia absent, basidiospores ellipsoid, 3.5-4.5 x 2.5-3 µm. 11

11. Basidiospores slightly amyloid, pore surface white ..... **C. myceliosa**
11. Basidiospores non amyloid, pore surface ochraceous to pale brown 12

12. Pore surface brown (reminding of a *Phellinus* spp.) ..... **C. umbrinescens**
12. Pore surface pale ochraceous ..... **C. costaricensis**

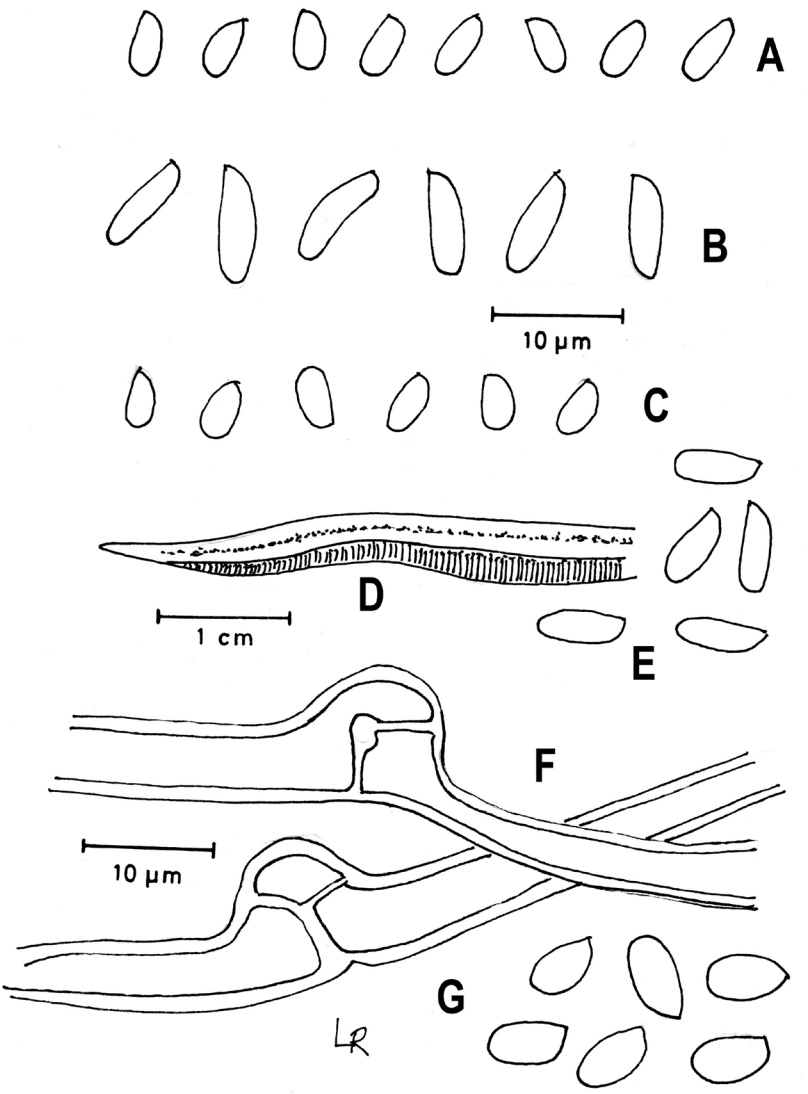
Gloeoporus longisporus M. Mata & Ryvarden sp. nov. Fig. 3B
Ad *Gloeoporus thelephoroides* (Hooker) G. Cunningham sed sporae 7-9 x 2-2.5 µm (3-3.5 x 0.7-1 µm in G. *thelephoroides*).
Holotype: Costa Rica, Guanacaste, area de conservación Tempisque, Z.P. Nosara, Reserva Forestal Monte Alto, sendero Shannon L. Ward, 20 May 2000, leg. M. Oses 872 (INB 3107395), isotype in O.

Basidiocarp pileate, sessile, dimidiate with a contracted base, semicircular, up to 2 cm wide, 1.5 mm thick at the base tapering towards a sharp margin, soft when fresh, dense and fragile when dry, upper surface glabrous, smooth, deep blackish brown, pore surface pale cream, pores round to slightly angular, (4) 5-6 per mm, tubes up to 250 µm deep, probably tough when fresh, dense and cartilaginous

when dry and limited towards to context by a dense zone, context white and cottony, up to 1.2 mm thick at the base.
Hyphal system monomitic; all hyphae without clamp connections, in the tubes 3-5 µm wide, in the context up to 10 µm wide with large clamps.
Cystidia absent.
Basidia 18-24 x 4-6 µm, clavate, with four sterigmata and a basal clamp.
Basidiospores 7-9 x 2-2.5 µm, allantoid, smooth, hyaline and without any reaction in Melzer's reagent.
Substrate. On wood (an unknown hardwood log).
Distribution. Known only from the type locality.
Remarks. Though only known from the type collection, we feel that the species should be described. The typical characters of *Gloeoporus*, i.e. a dense cartilaginous tube layer restricted by a dense layer towards the white and much looser context are present and, the allantoid basidiospores are also typical for the genus.

Tyromyces cinnamomeus M. Mata & Ryvarden nov sp. Fig. 3 C
Ad *Tyromyces chioneus* (Fr.) P. Karst., sed cinnamomeus and sporae 2-3 µm (albidus in and sporae 4-5 x 1.5-2 µm in *T. chioneus*)
Holotype: Costa Rica, Alajuela, área de conservación Arenal, P.N. Volcán Tenorio, Heliconias, sendero a Laguna La Danta, 2 April 2000, leg I. López 1199 (INB 3100066), isotype in O.

Basidiocarp annual, fanshaped to semistipitate, in the type 2 x 3 cm with a contracted and tapering base about 4 mm wide, up to 2 mm thick, probably soft and flexible when fresh, rigid and brittle when dry, upper surface glabrous, cinnamon to pale reddish-brown when dry, smooth then radially folded at the base and with darker radial lines towards the margin, with a faint layer of whitish hyphae toward the base and velutinate hairs becoming denser and covering the base completely with a white very thin, but dense tomentum, pore surface cinnamon, pores angular, 6-8 per mm with finely dentate dissepiments, tubes up to 300 µm deep and concolorous with the pore surface, context dense and cinnamon.
Hyphal system monomitic; generative hyphae with clamps, those of the context 3-10 µm wide with slightly thickened walls, in the trama 2-4 µm and thin-walled. All hyphae without reaction in Melzer's reagent.
Cystidia or other sterile hymenial elements absent.
Basidia 10-15 x 4-5 µm, clavate, with 4 sterigmata.
Basidiospores 3-3.5 x 2.5 µm, broadly ellipsoid to subglobose, thin-walled, hyaline, and without reaction in Melzer's reagent.



Substrata. On wood (an unknown hardwood.
Distribution. Known only from the type locality.
Fig. 3. *Ceriporiopsis costaricensis* A) Basidiospores, *Gloeoporus longisporus*, B) Basidiospores, *Tyromyces cinnamomea*, C) Basidiospores, *Tyromyces duplex*,

d) section through basidiocarp, E) basidiospores, *Tyromyces navarii*, F) hyphae from the context, G) Basidiospores. From the holotypes.
Remarks. The overall cinnamon colour, tiny pores and basidiospores make this a distinct species. The white, contracted and velutinate base in the type (with an otherwise glabrous pileus) are also striking characters.

Tyromyces duplexus M. Mata & Ryvarden nov sp. Fig. 3 D-E
Ad *Tyromyces chioneus* (Fr.) P. Karst, sed contexus duplex (homogenous in *T. chioneus*)
Holotype: Costa Rica, San José, area de conservación La Amistad Pacífico, P.N. Chirripó, Estación Santa Elena, sendero Alfonso, 13 April 1997, leg M. Segura 27 (INB 4232435), isotype in O.

Basidiocarp annual, fanshaped to semistipitate, in the type 3 x 3 cm with contracted and tapering base about 4 mm wide, up to 2 mm thick, probably soft and sappy when fresh, rigid and brittle when dry, upper surface dull with a compressed white cottony layer, about 0.5 mm thick above a very thin dark cartilaginous cuticle, which in one of the specimens of the type is partly exposed as a pale brown smooth and veined surface towards the point of attachment, pore surface cream, pores angular, 5-7 per mm, tubes white, up to 0.5 mm deep, context dense, pale cinnamon and separated from the white upper layer on the pileus by a cuticle.
Hyphal system dimitic; generative hyphae with large clamps, those of the cottony layer of the pileus 2-4 µm wide and with abundant clamps, 'those of the context in parts thick-walled 3-8 µm wide a very few skeletal hyphae observed in the trama, these 3-5 µm wide, thick-walled, hyaline and pale cinnamon. All hyphae without reaction in Melzer's reagent.
Cystidia or other sterile hymenial elements absent.
Basidia 10-15 x 4-6 µm, clavate, with 4 sterigmata.
Basidiospores 5-6.5 x 2.5-2.8 µm, cylindrical, thin-walled, hyaline and without reaction in Melzer's reagent.
Substrata. On wood (an unknown hardwood).
Distribution. Known only from the type locality.
Remarks. A remarkable species because of the distinctly duplex consistency with the cinnamon coloured context contrasting both the white upper compressed pileus layer and the white tubes. The cartilaginous zone above the context is easily seen even without a lens when the basidiocarp is sectioned, which should make the species easily recognizable in the field.

Tyromyces navarrii M. Mata & Ryvarden nov sp. Fig. 3 F-G
Ad *Tyromyces singeri* Ryvarden sed sporae subglobosae 4-5 x 3.5-4.5 µm (6-8 x 3-4 µm in *T. singeri*). Named after the clever and very competent parataxonomist Enia Navarro who has contributed considerably to our knowledge of the polypores of Costa Rica.
Holotype: Costa Rica, Cartago, área de conservación La Amistad Pacífico, P.N. Tapantí -Macizo de La Muerte, Estación La Esperanza del Guarco, 6 May 2000, leg. E. Navarro 1977 (INB 3101490), isotype in O.

Basidiocarp annual, pendant almost circular in shape but with a few lobes at the periphery, about 4 cm in diameter and 3 mm thick at the base, probably soft and sappy when fresh, rigid and brittle when dry, upper surface glabrous, slightly veined, probably as a result of the drying, deep red at the point of attachment, becoming pinkish towards the periphery as the thickness of the basidiocarp decrease, pore surface a bright but pale red, pore mouth finely incised, pores angular, 3-5 per mm, tubes up to 1.5 mm deep, drying fragile and cartilaginous, context dense and horny, about 1 mm thick, stipe short and irregular, about 1 cm long.
Hyphal system monomitic; generative hyphae with large clamps, thin-walled, 3-5 µm wide in the tubes, in the context 3-8 µm wide.
Cystidia or other sterile hymenial elements absent.
Basidia 10-14 x 4-5 µm, clavate, with 4 sterigmata.
Basidiospores 4-5 x 3.5-4.5 µm, subglobose to oval, hyaline and non amyloid.
Substrata. On wood (an unknown hardwood).
Distribution. Known only from the type locality.
Remarks. A remarkable species with pendant habit and reddish colour. Superficially reminiscent of *Merulius incarnatus* Schw., but easily separated from it by the pores, the pendant habit and different basidiospores.

New records for Costa Rica

Podoscyphaceae
Inflatostereum glabrum (Lév.) D.A. Reid
For a detailed description see. Reid (1965:144).
Specimen examined: Costa Rica, Puntarenas, área de conservación La Amistad Pacífico, Z.P. Las Tablas, Sitio Tablas, 23 June 1999, leg. Ryvarden 41808 (INB 3564617)

Hymenochaetaceae
Inonotus pseudoglomeratus Ryvarden
This species is a new record to Costa Rica. Known only from the type locality in Venezuela and Belize (Ryvarden, 2004).
For detail description see Ryvarden (2002).
Specimen examined: Costa Rica, Puntarenas, área de conservación La Amistad Pacífico, Z.P. Las Tablas, Estación Biológica Las Alturas, sendero a Cerro Chai, 21 July 2000, leg. E. Navarro 2299 (INB 3110475)

Schizoporaceae
Oxyporus lacera Ryvarden
This species is a new record to Costa Rica. Previously known only from Belize.
For a detailed description see Ryvarden 2007..
Specimen examined: Costa Rica, Puntarenas, área de conservación Pacífico Central, Reserva Biológica Carara, 24 June 1991, leg. Ryvarden 29723 (INB 4231084)

Hymenochaetaceae
Phellinus neonoxius Ryvarden
This species is recorded for the first time to Costa Rica. Known only from the type locality in Panama (Ryvarden, 2004)
For detailed taxonomic description of this species see Ryvarden (2004)
Specimen examined: Costa Rica, Puntarenas, área de conservación Osa, P.N. Corcovado, Estación Biológica Sirena, sendero río Claro, 28 June 2000, leg. E. Fletes 1722 (INB 3108522)

References
Reid, D. A. 1965. A monograph of the stipitate Stereoid Fungi. Beih.Nova Hedwigia 18:1-382.
Ryvarden, L. 2002. Studies in Neotropical Polypores 17. New Neotropical *Inonotus* species. Synopsis Fung. 15:70-80
Ryvarden, L. 2004. Neotropical Polypores. Part. 1. Introduction, Ganodermataceae & Hymenochaetaceae. Synopsis Fungorum 19. FUNGIFLORA. Oslo, Norway. 229 p.
Ryvarden, L. 2007. Studies in neotropical polypores 23. New and interesting wood-inhabiting fungi from Belize. Synopsis Fung. 23:32-50.

Studies in neotropical polypores 28
Two new species from Amazonas, Brazil

by

Maria A. De Jesus
Instituto Nacional de Pesquisa de Amazonia, INPA, CxP 478, Bairro Petropolis, CEP 69.083-000, Manaus, Amazonas, Brazil, ranna@inpa.gov.br

&

Leif Ryvarden
Bilogical Inst. Univ. of Oslo, , P. O. Box 1066, Blindern, N-0316, Oslo, Norway, leif.ryvarden@bio.uio.no

Abstract
Phaeolus amazonica M. A. De Jesus & Ryvarden and *Perenniporia amazonica* M. A. De Jesus & Ryvarden are described as new.

Phaeolus amazonica M. A. De Jesus & Ryvarden nova species Fig. 1
Ad *Phaeolus schweinitzii* (Fr.) Pat., sed sporae 5-6 x 4-4.3 µm (in *P. schweinitzii* 6-9 x 4.5-5 µm).
Holotype: Brazil: Roraima state, Maraca Ecological Station, of, 61º 48' W, - 3º 38' S, 28 September, 2008, leg Ricardo 4434, in INPA, isotype in O.
Basidiocarps annual, laterally stipitate on the ground, stipe lateral, short, stout and tapering towards the base, up to 4 cm long and 2 cm in diam., pale yellowish brown; pileus circular to slightly spathulate, up to 6 cm long, 5 cm wide and 1 cm thick, rather soft, pale yellowish brown becoming patchily brown when the upper hyphae agglutinate with age, but lacking a cuticle as such, slightly tuberculate, glabrous and azonate, pore surface yellowish brown, darker where touched, finally light brown when dry, pores thin-walled, round or angular, 2-4 per mm, tubes up 3 mm deep, pale yellowish brown, context fibrous and dense, whitish yellow but red with KOH, up to 6 mm thick; tube layer decurrent, distinct from context, greenish to rusty brown, up to 1.5 cm thick.
Hyphal system dimitic; contextual hyphae 3-6 µm wide, dark brown to yellowish-brown in KOH, thin- to thick-walled, simple-septate; skeletal hyphae 4-7 µm**,** thick-walled and dark brown, apparently without septa.
Cystidia only a single one seen, 60 x 12 µm pale brown, clavate, smooth.
Basidia 18-20 x 5-7 µm, 4-sterigmate.

Basidiospores 5-6 x 4-4.3 µm, ellipsoid to ovoid, hyaline, smooth, negative in Melzer's reagent.
Substrata. Terrestrial but possibly arising from wood such as buried roots.
Distribution. Known only from the type locality.
Remarks. Superficially resembles a species of *Inonotus* even if the light yellowish context is unusual in the genus. To ascertain its status it was sequenced and although this was only partially successful, it was clear that the species does not belong in Hymenochaetaceae. The only alternative, given the colour, partly stipitate basidiocarps and simple septate generative hyphae, would then be *Phaeolus* but, even though the characteristic cystidia of the type species (*P. schweinitzii*) are lacking, it seems better at the present time not to describe a new genus until more specimens are collected in the future.

Perenniporia amazonica M. A. De Jesus & Ryvarden nov. species Fig. 2.
Ad *Perenniporia gomezii* Rajchenberg & Wright., sed hyphae skeletales dextrinoideae (non dextrinoideae in *P. gomezii*).
Holotype: Brazil, Roraima state, Maraca Ecological Station, of, 61º 48' W, - 3º 38' S, 27 April 2008, leg Ricardo 4428, in INPA, isotype in O.
Basidiocarps annual, widely effused, woody hard, resupinate, adnate, 4-5 cm in the largest piece, up to 3 mm thick, pore surface dark grey, pores circular and isodiametric, 6-8 per mm, tube layer concolorous with pore surface or violaceous grey, on sloping substrates up to 3 mm deep, subiculum whitish to wood coloured, almost invisible, up to 200 µm.
Hyphal system dimitic; generative hyphae 2-5 µm wide hyaline to pale yellow, thin-walled, with clamps; skeletal hyphae 2-8 µm wide, hyaline to pale brown, thick-walled to almost solid, with a rounded apex, nonseptate, unbranched, strongly dextrinoid and, in the dissepiments, projecting like cystidia or pseudosetae, smooth then slightly encrusted.
Cystidia absent, but see above.
Basidia 15-20 x 5-7 µm, clavate and with four sterigmata.
Basidiospores 7.5-8.5 x 2.8-3.5 µm, pip shaped or oblong-ellipsoid, truncate, hyaline to very pale yellow, thick-walled, weakly dextrinoid in Melzer's reagent.
Substrata. On wood of indet. hardwood trees.
Distribution. Known only from the Amazonas basin in Brazil.
Remarks. Characterized by the dark grey basidiocarps, tiny pores, strongly dextrinoid skeletal hyphae which project cystidia-like into the dissepiments and oblong, non dextrinoid, slightly pip shaped basidiospores.
This new species is undoubtedly close to *Perenniporia gomezii* which differs by the presence of thick-walled, branched generative hyphae and non dextrinoid skeletal hyphae. Basidiospores are almost identical in both species.

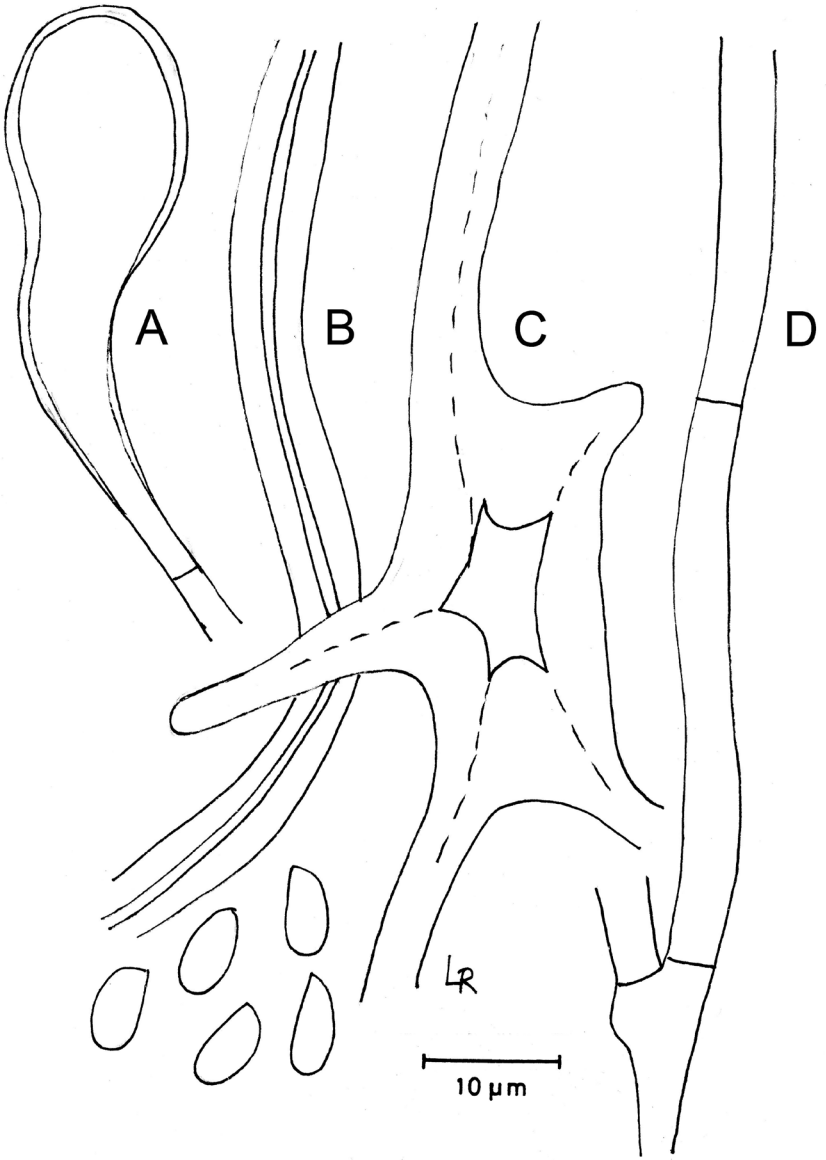


Fig. 1. *Phaeolus amazonica*. A) Cystidium, B) Skeletal hypha, C) Swollen segment of skeletal hypha, D) generative hyphae, E) Basidiospores. From the holotype.

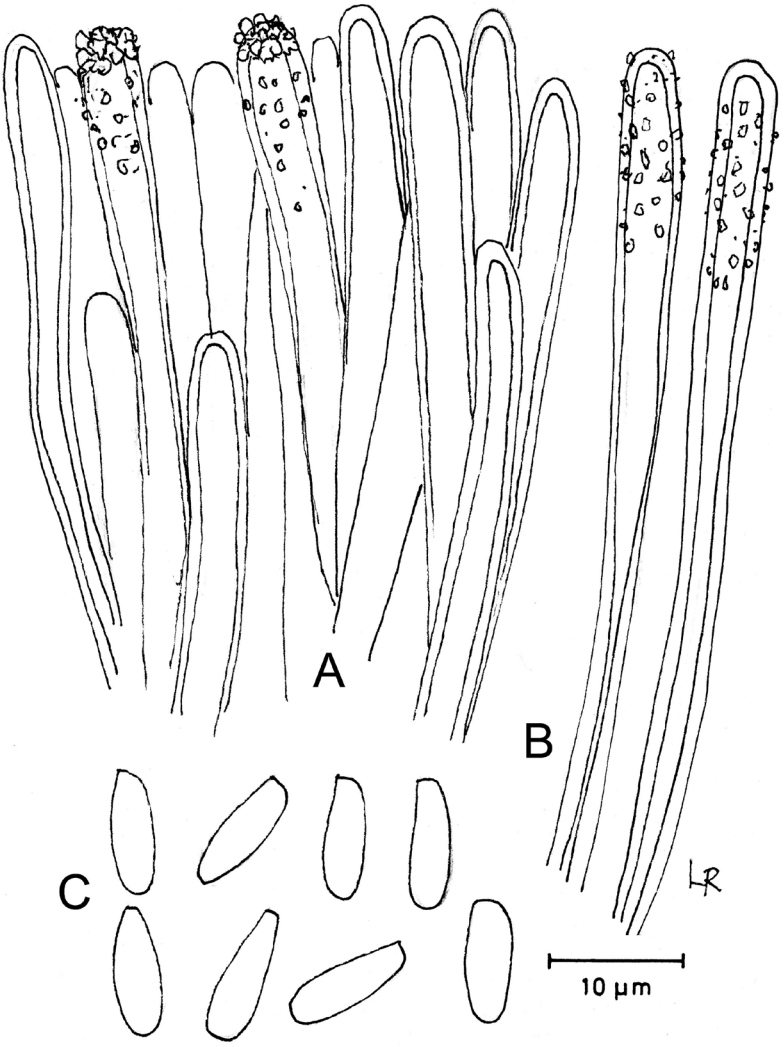


Fig. 2. *Perenniporia amazonica* A) Skeletal hyphae from the dissepiments, B) Skeletal hyphae from the context, C) Basidiospores. From the holotype.

Specimens examined:
As holotype, leg. Riccardo 5594 (INPA and O).
As holotype, , 26 March 2008, leg. Adilio 4343
Amazonas, Roriama, P. N. do Vinua, 17 November 2009, leg. Leite 6219.

Studies in Neotropical polypores 29
Some new and interesting species from the Andes region in Venezuela

L. Ryvarden,
Biological Institute, University of Oslo, P. O. Box 1066 Blindern, N-0316
OSLO, Norway, leif.ryvarden@bio.uio.no
&
Teresa Iturriaga
Departamento Biología de Organismos, Universidad Simón Bolívar,
Apartado 89000 Sartenejas, Baruta, Edo. Miranda, Venezuela

Abstract
Antrodiella cinnamomea Iturr. & Ryvarden, *Diplomitoporus microsporus* Iturr. & Ryvarden, *Junghuhnia globospora* Iturr. & Ryvarden, *Oxyporus andinus* Iturr. & Ryvarden, *Oxyporus brunneus* Iturr. & Ryvarden and *Rigidoporus nevadensis* Iturr. & Ryvarden are described as new, with keys to the respective neotropical species in each genus.
Skeletocutis chrysella Niemelä is reported as new for America

Introduction.
In 2001 Dr. Otón Holmquist of the University of Los Andes (ULA) invited us to join him on a mycological expedition to the Mérida province in Venezuela. The province is located in the Andes mountain range and collecting was undertaken in different localities at altitudes between 2000 to 2650 metres.
Among the polypores collected were a small number of specimens for which we could not find a suitable name and they are thus described as new, with a key to neotropical species in their respective genera.
All specimens are deposited in the Oslo Herbarium (O) with duplicates in VEN.

Antrodiella cinnamomea Iturriaga & Ryvarden nov. sp. Fig. 1 A-B.
Ad *Antrodia luteocontext*a Ryvarden & Meyer sed contextus cinnamomeus (luteus in *A. luteocontexta*).
Holotype: Venezuela, Mérida prov., Parque Nacional Sierra Nevada, Sector La Mucuy, elev. 2650 m, 1 February 2001, on hardwood log, Leg. L. Ryvarden 43626 (O), isotype in VEN.
Basidiocarps annual, pileate, up to 1.5 cm wide and long and 4 mm thick at the base, varying from effused reflexed to dimidiate to almost pendant, flexible when

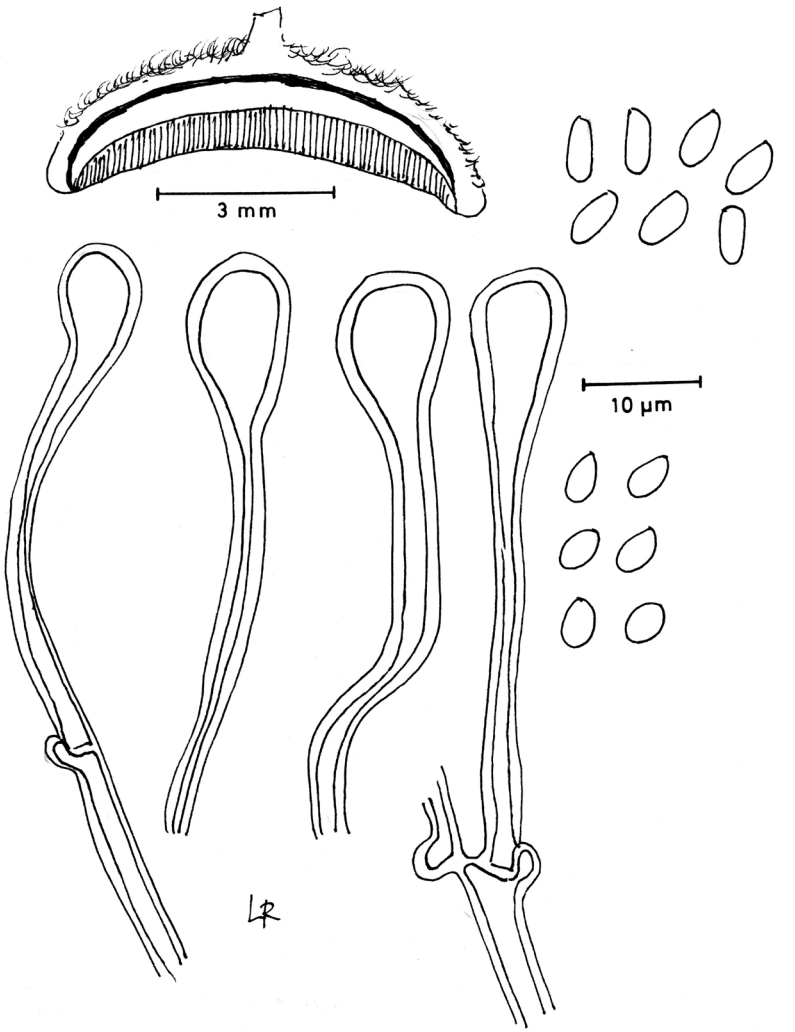


Fig. 1. *Antrodiella cinnamomea* A) Section through the basidiocarp, B) Basidiospores, *Diplomitosporus microsporus* C) Cystidia, D) Basidiospores. From the holotypes.

fresh, dense and hard when dry, pileus semicircular and bent when dry, whitish, finely pubescent, tomentum up to 250 µm thick, disappearing from the base to expose a dark reddish, glabrous cuticle, pore surface ochraceous, pores round (4)5-6 per mm, tubes to 1 mm deep, concolorous with the pore surface, context up to 2 mm thick at the base, dark cinnamon, contrasting with the tubes and separated from the tomentum of the pileus by a thin black line,
Hyphal system dimitic; generative hyphae 2-4 µm wide in the subiculum, with clamps, hyaline, thin-walled, branched; skeletal hyphae 2-5 µm wide, hyaline, thick-walled to solid.
Cystidia absent.
Basidia 12-15 x 4-5 µm, clavate, 4-sterigmate, with a basal clamp.
Basidiospores 3-3.5 (4) x 1.5-2.0 µm, sub-cylindrical, hyaline, smooth, negative in Melzer's reagent.
Substrate. On wood (indet. dead hardwood)
Distribution. Known from the type locality.
Remarks. Differs from others in the genus mainly by the duplex pileus with a dark cinnamon context, separated by a dark line (which ultimately becomes a cuticle) from a thin, adpressed white tomentum.

Key to Neotropical *Antrodiella* species

1. Basidiocarp resupinate 2
1. Basidiocarp pileate 3

2. Basidiospores 4-5 x 2.5-3 µm, pores angular 4-5 per mm ..... **A. incrustans**
2. Basidiospores 2.5 x 2 µm, pores round 8 per mm ..... **A. subundata**

3. Pores angular in parts irregular 1-5 per mm, or in parts larger 4
3. Pores more or less regular, 4-8 per mm 8

4. Basidiospores subglobose to ellipsoid 5
4. Basidiospores allantoid to cylindrical 6

5. Spores subglobose, 3-3.5 x 2.5-3 µm ..... **A. angulatoporia**
5. Spores ellipsoid, 3.6-5 x 2-2.5 µm ..... **A. multipileata**

6. Pileus and context straw-coloured ..... **A. luteocontexta**
6. Pileus and context whitish 7

7. Spores allantoid, 1-1.3 µm wide ..... **A. dentipora**

7. Spores cylindrical, 1.8-2.2 µm wide .....**A. brasiliensis**

8. Basidiospores allantoid to oblong ellipsoid, up to 2 µm wide 9
8. Basidiospores broadly ellipsoid to subglobose, wider than 2 µm 12

9. Pileus adpressed tomentose, context cinnamon separated from the tomentum by a black line .....**A. cinnamomea**
9. Pileus glabrous, no black line in context 10

10. Basidiospores oblong ellipsoid 3-4 x 1.2-2 µm .....**A. murrillii**
10. Basidiospores allantoid to cylindrical 4-4.5 x 1-1.5 µm 11

11. Pileus brown to pale chestnut, pores 10-12 per mm, context dominated by almost solid skeletal hyphae ..... **A. versicutis**
11. Pileus ochraceous to pale brown, pores 6-7 per mm, context dominated by wide generative hyphae, only few skeletal hyphae present..... **A. duracina**

12. Basidiospores 4-5 x 3 µm ..... **A. reflexa**
12. Basidiospores shorter than 4 µm 13

13. Pileus cream, to straw-coloured to pale brown, context more or less as the tubes or paler, basidiocarps often effused reflexed .....**A. semisupina**
13. Pileus brown to purplish black or chestnut, context brown and darker than the tubes, basidiocarp mostly fan shaped with tapering base 14

14. Pileus finely tomentose, slowly becoming glabrous, no hymenial cystidia present, context with dark horizontal lines, with age dense and resinous .....**A. hydrophila**
14. Pileus glabrous, small smooth cystidia arising from bent skeletal hyphae present in the hymenium, no narrow resinous band in context which however may become very dense and dark when aging ..... **A. liebmannii**

Diplomitoporus microsporus Iturr. & Ryvarden nova sp. Fig 1 C-D.
Ad *Diplomitoporus stramineus* Ryvarden & Iturr., sed sporae globosae, 2.5-3 µm in diametro (ellipsoideae 4-4.5 x 2.7-3 µm in *D. stramineus*).
Holotype: Venezuela, Est. Amazonas, Yutaje, on dead hard wood log, 12 June 1997, L. Ryvarden 40506, in herb O, isotype in VEN.
Basidiocarps annual, resupinate, adnate, up to 0.6 mm thick, pore surface pale to dark ochraceous, pores round and thick-walled, 6-8 per mm, invisible to the

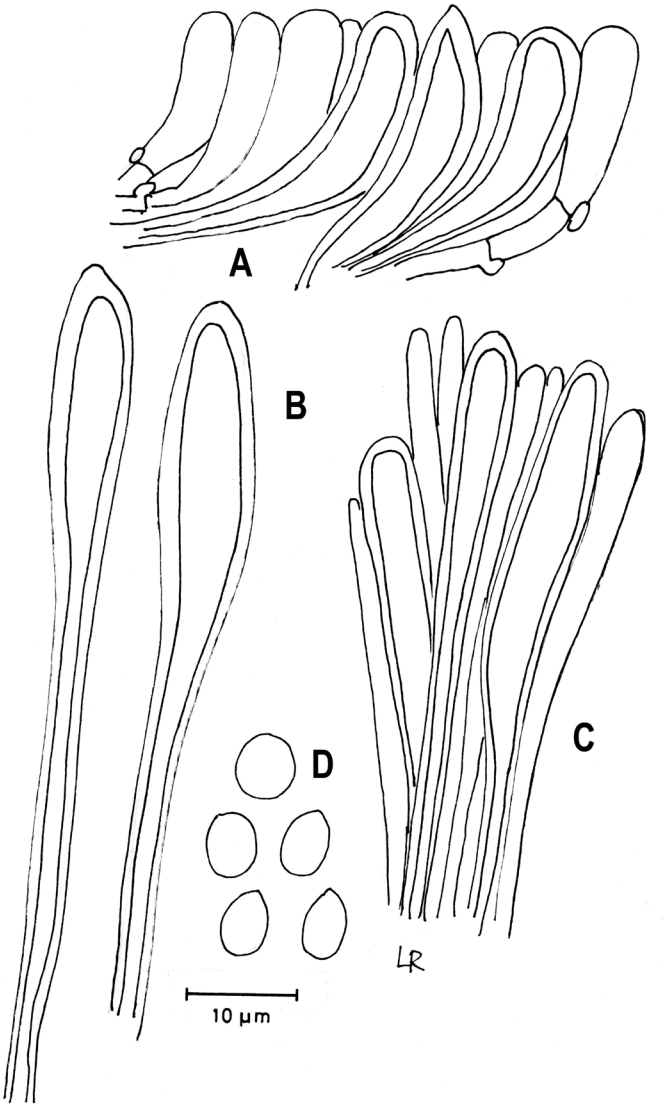


Fig. 2. *Junghuhnia globosporus* A) Part of hymenium with cystidia, B) embedded cystidia from the context, C) Cystidia from the dissepiments, D) Basidiospores. From the holotype.

naked eye, in the type slightly incised since collected on a sloping substrate, tubes concolorous, up to 0.5 mm deep, context dense, white to very pale wood-coloured, about 100 µm thick.
Hyphal system dimitic; generative hyphae 3-5 µm wide, with clamps; skeletal hyphae 4-6 µm wide, dominating in the whole of the basidiocarp, thick-walled to solid, straight to slightly sinuous, non-amyloid.
Cystidia 6-10 µm wide x up to 50 µm long, present in the context, thick-walled with a bulbous apex, hyaline, smooth and non-amyloid.
Basidia 8-12 x 5-6 µm, broadly clavate, with 4 sterigmata with a basal clamp.
Basidiospores 2.5-3 µm wide, globose to slightly subglobose, hyaline, non amyloid.
Substrate. On wood (indet. dead hardwood)
Distribution. Known only from the type locality.
Remarks. Characterized by the tiny globose basidiospores and bulbous, smooth, thick-walled cystidia in the context.

Junghuhnia globospora Iturr. & Ryvarden nov sp. Fig 2
Ad *Junghuhnia luteoalba* (P. Karsten) Ryvarden sed sporae globosae (allantoideae in *J. luteoalba*).
Holotype: Venezuela, Mérida prov., Monte Zerpa, elev. 2000,, 29 January 2001, on dead hardwood log, Ryvarden 43503 (O), isotype in VEN:
Basidiocarp annual, resupinate, effused, adnate, up to 3 mm thick, papery and flexible with reflexed margin when dry, in the type up to 8 x 8 cm and 0.7 mm thick, pore surface cream, margin very narrow, smooth, concolorous with the pore surface, abhymenial side cream coloured, smooth and glabrous, pores angular, thin-walled, 5-6 per mm, tubes whitish, very shallow (about 250 µm deep), context cream, soft and up to 400 µm thick.
Hyphal system dimitic; generative hyphae 2.5-4 µm wide, with clamps, thin-walled; skeletal hyphae 2-4 µm wide, thick-walled, solid.
Basidiospores 4-5 µm wide, globose, hyaline, thin-walled, non-amyloid.
Basidia 12-14 x 3-5 µm, clavate and with four sterigmata and a basal clamps.
Substrate. On wood (of an indet. hardwood tree)
Distribution. Known only from the type locality.
Remarks. Characterised by the papery thin and flexible basidiocarp and globose basidiospores.

Key to neotropical species of *Junghuhnia*

1. Basidiocarp pileate 2
1. Basidiocarp resupinate 6

2. Spores minute 2.5-3 x 2-2.5 µm 3
2. Spores larger 4

3. Cystidia clavate and encrusted ..... **J. minuta**
3. Cystidia smooth or with a few scattered crystals and with swollen pointed apex and usually with an elongated base ..... **J. neotropica**

4. Pores round, 5-7 per mm, cystidia encrusted 5
4. Pores radially elongated, 3-5 per mm, cystidia smooth ..... **J. sobrius**

5. Spores broadly ellipsoid to subglobose 4-5 x 3.5-4 µm ..... **J. undigerus**
5. Spores ellipsoid, 3.5-4.5 x 2.4-3.5 µm ..... **J. semisupiniformis**

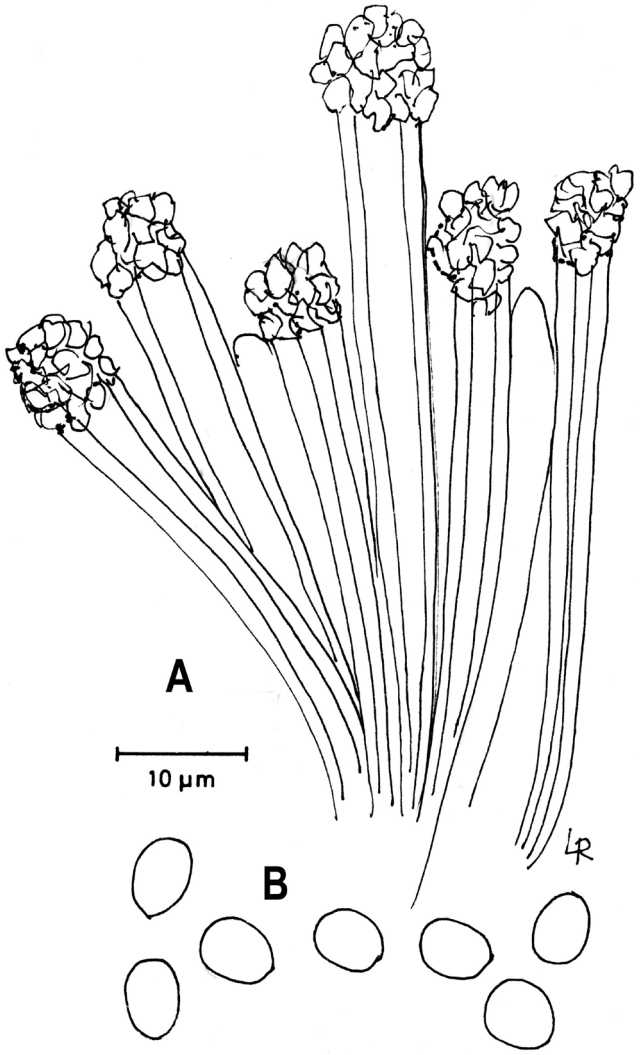
6. Pore surface yellow becoming reddish when bruised, skeletal cystidia finely encrusted ..... **J. carneola**
6. Pore surface white, cream to pale pink, cystidia club like smooth or with coarse crystals 7

7. Spores subcylindrical, 2.5-3.5 x 1-1.5 µm, pore surface first ochre then brownish orange ..... **J. polycystidifera**
7. Spores broadly ellipsoid to globose 8

8. Spores ellipsoid, 4-4.5 x 2-2.5 µm, pore surface pale orange pink ..... **J. nitida**
8. Spores globose to subglobose 9

9. Basidiospores 2.5-3 x 2-2.5 µm, pore surface first ochre, then patchily discoloured, and finally pale brownish ..... **J. subundata**
9. Basidiospores globose 4-5 µm wide, pore surface cream coloured ..... **J. globospora**

Junghuhnia cfr. neotropica Lindblad & Ryvarden
Venezuela, Mérida prov., Monte Zerpa, by Mérida city, elev. 2000 m, 29 January 2001, on dead *Phellinus* sp. L. Ryvarden 43706.



This species, was originally described from Costa Rica based on pileate specimens (see Lindblad & Ryvarden xx) but the Venezuelan collection is resupinate!

Fig 3. *Oxyporus anidinus* A) Cystidia from the dissepiments, B) Basidiospores. From the holotype.

However it is identical with the type with regard to the microscopical characters. Since the specimen from Mérida is small, we refrain from describing it as a new species based on the resupinate habitat and distinct host until other collections are found which may confirm it as a separate taxon.

Oxyporus andinus Iturr. & Ryvarden sp. nov. Fig. 3.
Differt a *Oxyporus fragilis* Ryvarden sed sporae 5-6 µm in diametro et pori 5-6 per mm (in *O. fragilis* 4 -5 µm wide et pori 7-9 per mm).
Holotype: Venezuela, Mérida province, Monte Zerpa by Mérida city, elev. 2000, 29 January 2001, on dead hard wood log, Leg. L. Ryvarden 43451 (O), isotype in VEN.
Basidiomes annual, resupinate, effused, up to 3 cm in the holotype, soft when fresh, fragile when dry, pore surface deep ochraceous, pores angular, 5-6 per mm, tubes concolorous with pore surface, up to 1.5 mm deep, context dense, cream coloured, about 100 µm thick.
Hyphal system monomitic; generative hyphae 3-6 µm wide, simple-septate, thin- to thick-walled, with occasional branching,
Cystidia 20-55 µm from septum to apex, abundant, clavate, arising in the subhymenium and bending into the hymenium, thick-walled and with an apical crown of coarse crystals, also present as apically encrusted hyphal ends in the dissepiments.
Basidia 15-22 x 4-6 µm, clavate, with four sterigmata.
Basidiospores 5-6 µm wide, globose, hyaline, thin-walled, negative in Melzer's reagent.
Substrate. On wood (dead hardwood) and on an old polypore (see below).
Distribution. Known only from the type locality.
Remarks. Characterised by the angular pores and large globose spores.
Specimen examined: Same locality as the holotype, but on the pore surface of old *Inonotus* sp. L. Ryvarden 43494 (O and VEN).

Oxyporus brunneus Iturr. & Ryvarden sp. nov. Fig. 4.
Differt a *Oxyporus fragilis* Ryvarden sed sporae 5-6 µm in diametro et pori 2-3 per mm (in *O. fragilis* 4 -5 µm wide et pori 7-9 per mm).
Holotype: Venezuela, Aragua province, Rancho Grande Research Station, Parque Nacional Henri Pittier, 14 April 1999, on dead hard wood log, Leg. L. Ryvarden 41463 (O), isotype in VEN.

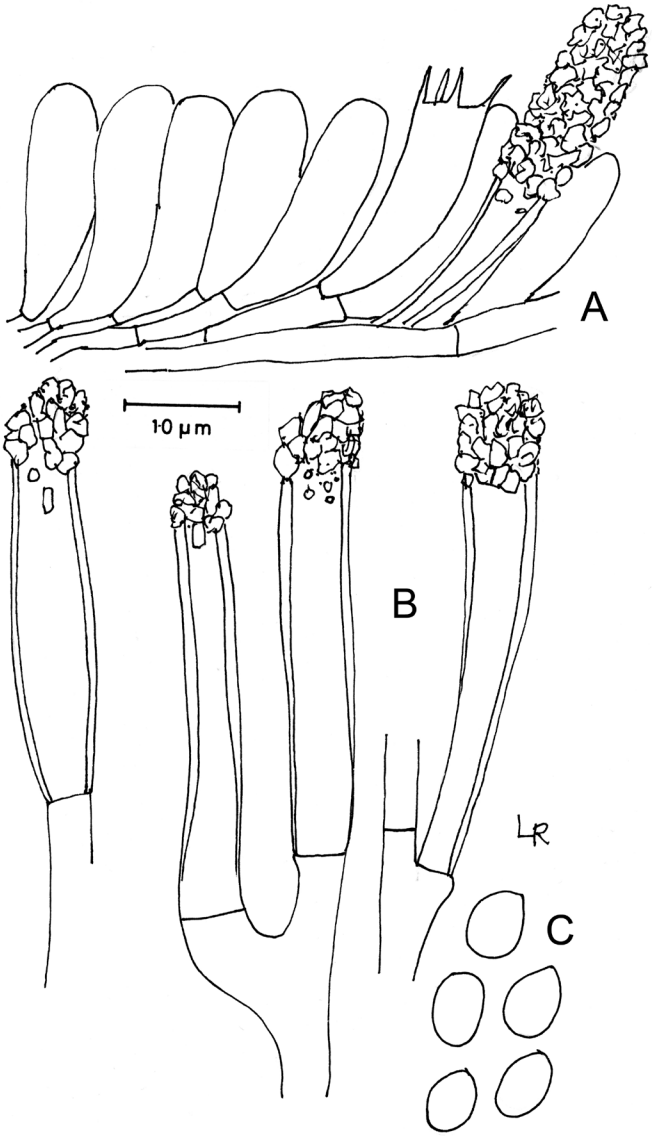


Fig. 4. *Oxyporus brunneus* A) Hymenium with cystidium, B) Cystidia from the trama and dissepiments, c) Basidiospores. From the holotype.

Basidiomes annual, resupinate, effused, up to 5 x 3 cm in the holotype, soft when fresh, fragile when dry, pore surface olivaceous brown to deep ochraceous, pores angular, irregular, almost meruloid, 2-3 per mm, pore mouths partly lacerate to dentate, tubes concolorous with pore surface, up to 1 mm deep, context dense, ochraceous, up to 300 µm thick.
Hyphal system monomitic; generative hyphae 3-8 µm wide, simple-septate, thin- to slightly thick-walled, with occasional branching.
Cystidia 20-55 µm from septum to apex, abundant, clavate, arising in the subhymenium and bending into the hymenium, thick-walled and with an apical crown of coarse crystals, also present as apically encrusted cystidia embedded in the trama and partly hyphal ends in the dissepiments.
Basidia 18-25 x 6-8 µm, clavate, with four sterigmata.
Basidiospores 5.5-6.5 µm wide, globose, hyaline, thin-walled, negative in Melzer's reagent.
Substrate. On wood (dead indet. hardwood)
Distribution. Known only from the type locality.
Remarks. Characterised by the brownish colours, irregular, large and angular pores and large globose spores.

Key to annual, resupinate, non-stratified Neotropical *Oxyporus* species

1. Cystidia heavily encrusted 2
1. Cystidia with a small crown of crystals 5

2. Pores dentate and deeply split, 1-3 per mm 3
2. Pores entire and angular, 5-6 per mm 4

3. Basidiomes white to ochraceous ..... **O. pellicula**
3. Basidiomes olivaceous brown to deep ochraceous ..... **O. brunneus**

4. Basidiocarps cinnamon, basidiospores cylindrical to oblong ellipsoid, 4-5 x 1.5-2 (2.) µm**.** ..... **O. neotropicus**
4. Basidiocarps ochraceous, basidiospores globose, 5-6 µm wide, ... **O. andinus**

5. Spores globose, pores 7-9 per mm ..... **O. fragilis**
5. Spores ellipsoid, pores 1-6 per mm 6

6. Spores 5-7 µm long, pores usually 1-3 per mm ..... **O. latemarginatus**
6. Spores 3-4.5 µm long, pores 4-6 per mm ..... **O. obducens**

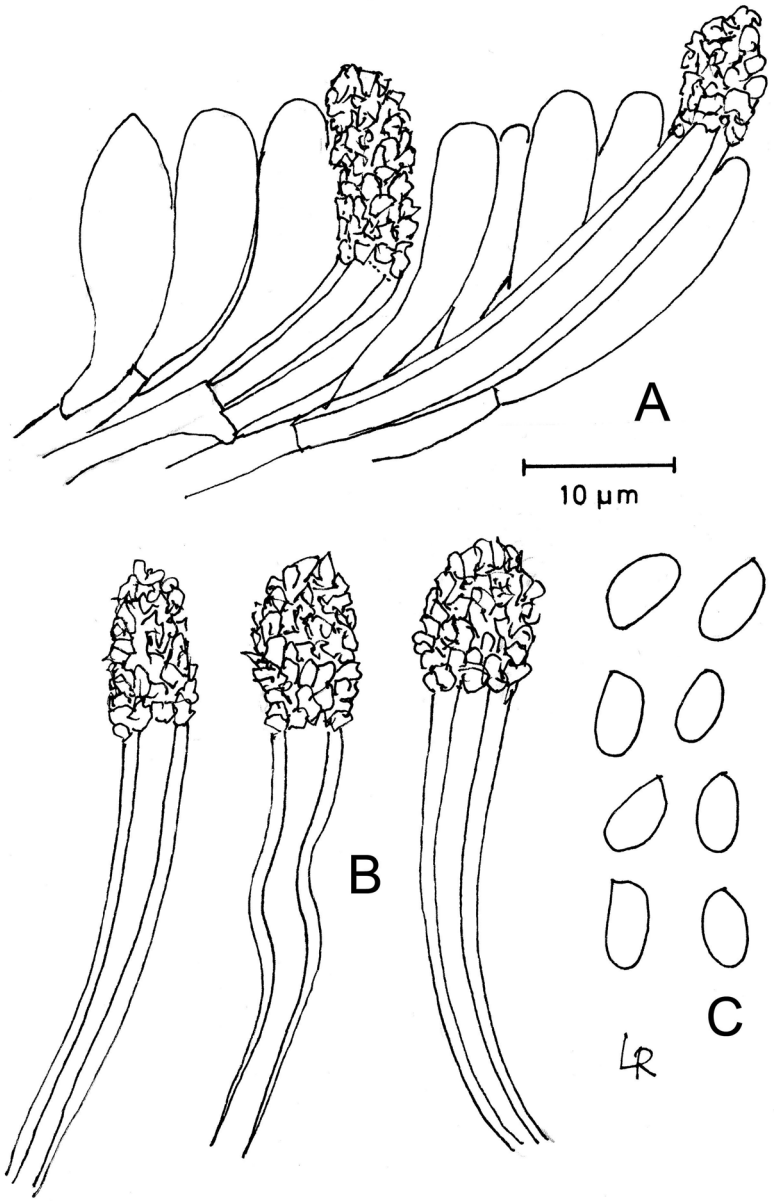


Fig. 5. *Rigidoporus nevadensis*, A) part of hymenium with cystidia, B) cystidia from the trama, C) Basidiospores. From the holotype.

Rigidoporus nevadensis Iturr. & Ryvarden sp. nov. Fig. 5
Ad *Rigidoporus undatus* (Pers.:Fr.) Donk, sed sporae ellipsoideae 3-4 x 2.4-2.7 µm (globosae 5-6 µm in diametro in *R. undatus*).
Holotype: Venezuela, Mérida prov., Parque Nacional Sierra Nevada, Sector La Mucuy, elev. 2650 m, 1 February 2001, on hardwood log, Leg. L. Ryvarden 43645 (O), isotype in VEN.
Basidiocarps effused-reflexed, pileus 1 mm long x 5 mm wide x 2 mm thick, upper surface smooth, glabrous, ochraceous but at the base with agglutinated reddish hyphae seemingly beginning as a thin cuticle, margin narrow white, pore surface cream coloured to pale orange, shiny when turned under incident light, pores angular and slightly lacerate, 5-8 per mm, tubes concolorous, 2 mm deep, context to 0.5 mm thick white.
Hyphal system monomitic; generative hyphae 3-6 µm in diam, simple septate, hyaline, thin- to thick-walled.
Cystidia up to 8 µm wide becoming narrower towards the simple septum from which they originated, and up to 60 µm long, abundant, thick-walled, partly bending into the hymenium and projecting slightly above it, heavily encrusted in the apical part.
Basidia 14-20 x 4-6 µm, clavate, 4-sterigmate.
Basidiospores 3-4 x 2.4-2.7 µm, ellipsoid, hyaline, smooth, thin-walled, non-amyloid.
Substrate. On wood (of an indet. dead hardwood tree).
Distribution. Known only from the type locality.
Remarks. Characterised by the reflexed basidiocarps with a cream to orange pore surface and the rather small ellipsoid basidiospores, which make this species distinct in a genus where most species have globose spores.

Key to neotropical pileate *Rigidoporus* species

1. Basidiomes up to 6 cm thick, spores 7-10 x 6.5-10 µm ..... **R. ulmarius**
1. Basidiomes rarely above 1 cm thick, spores less than 7 µm long. 2

2. Thick-walled cystidia present 3
2. Thick-walled cystidia absent 6

3. Basidiomes tiny, less than 7 mm wide, pendant ..... **R. micropendulus**
3. Basidiomes different and larger 4

4. Basidiomes laterally stipitate ..... **R. biokoensis**
4. Basidiomes sessile to dimidiate 5

5. Pore surface cream to orange, basidiospores ellipsoid ..... **R. nevadensis**
5. Pore surface reddish to buff when dry, basidiospores globose..... **R. lineatus**

6. Basidiomes pendant, first as individual basidiomes up to 15 mm wide, later fused to larger basidiomes, upper surface greyish to pale brown.....**R. concrescens**
6. Basidiomes laterally stipitate to sessile or dimidiate, upper surface ochraceous to reddish orange when fresh 7

7. Pore surface bright to deep orange without a reddish tint, basidiomes often large and 0.5-2 cm thick at the base, growing in clusters ..... **R. aurantiacus**
7. Pore surface distinctly reddish, basidiomes small to medium, rarely above 1 cm thick 8

8. Basidiomes sessile to dimidiate ..... **R. microporus**
8. Basidiomes laterally stipitate 9

9. Pileus ochraceous, finely tomentose and context with a dark line under the tomentum .....**R. amazonicus**
9. Pileus first white becoming brown to grey with age or drying, glabrous and without black line in the context .....**R. mutabilis**

Skeletocutis chrysella Niemelä.
Venezuela, Mérida, Bosque San Eusebio, Zona de las Carbonera, elev. 2100 m, 31January 2000, on dead *Phellinus* sp. New to America.
Previously this species was only known from Europe where restricted to old basidiocarps of *Phellinus chrysoloma* (Fr.) Donk. Thus, it is rather conspicuous to find it in such a remote place in the Andes and on a different host (*P. chrysoloma* is restricted to coniferous host in the boreal conifer zone). However, previously few neotropical mycologists have collected dead basidiocarps of polypores to look for saprotrophs, thus the species may be more widely distributed throughout America.

Acknowledgements
We are indebted to Professor O. Holmquist, University of Los Andes (ULA) Mérida who kindly invited us and took care of all practical matters during our visit to Mérida.
Also to Dr. O. Miettinen, University of Helsinki who has kindly confirmed the determination of *Skeletocutis chrysella.*
Nick Legon England has critically revised the manuscript and suggested improvements for which we are grateful.

RYGGTITTEL:

SYNOPSIS FUNGORUM 27