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Fungiflora

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Further records and an updated checklist of the genus *Trametes* Fr. (Polyporales, Basidiomycota) in Tunisia and northern Africa

Ridha El Mokni and Leif Randulff Ryvarden

Department of Pharmaceutical Sciences 'A', Laboratory of Botany, Cryptogamy and Plant Biology, Faculty of Pharmacy of Monastir, Avenue Avicenna, Monastir-5000, University of Monastir, Tunisia and

Department of Forestry, Laboratory of Forest Ecology, National Research Institute of Rural Engineering, Water and Forests, Ariana-2080, IRESA, University of Carthage, Tunisia. ridhaelmokni@yahoo.fr) <https://orcid.org/0000-0003-3849-1039>

Department of Botany, University of Oslo, Norway. leifryvarden@ibv.uio.no

Abstract

The present paper reports three *Trametes* species as new to Tunisia.

Trametes trogii Berk. is reported as new to Africa while *T. aspera* (Jungh.) Bres. and *T. lactinea* (Berk.) Pat. are new to the country. *Trametes ochracea* (Pers.) Gilb. & Ryvarden is reported from two localities within Kroumiria oaks forests in Northwest Tunisia. A key to species of the genus reported from Tunisia is provided.

Keywords Basidiomycetes; Kroumiria; Polypore; Wood decay fungi

Introduction

Wood decaying fungi were collected during field surveys in Tunisian forests between 2012 and 2023 and seven species of *Trametes* were identified. A literature review (see e.g. Ben Hassine Ben Ali & Stephenson 2016; Ouali et al. 2018, 2021; El Mokni & El Aouni 2019) confirms the occurrence of *Trametes ochracea* (Pers.) Gilb. & Ryvarden besides the first records of *T. aspera* (Jungh.) Bres., *T. lactinea* (Berk.) Sacc. from Tunisia and northern Africa. *T. trogii* Berk. are reported as new to Africa. The collections are kept in the first author's private herbarium, Ridha El Mokni Private Collections (REMP). Duplicates are deposited in the Fungarium of the University of Oslo (O).

New records

Trametes aspera (Jungh.) Bres., (Fig. 1).

Hedwigia 53: 68, 1912. - *Polyporus asper* Jungh., Verh. Batav. Genootsch. Kunst. Wet. 17: 60, 1838.

Description. Ryvarden et al. (2022: 226-227) give a full description of this species.

Substrate and habitat in Tunisia. On dried branches of *Eucalyptus* sp. in a planted field.

Distribution in Africa. Cameroon, Ethiopia, Kenya, Tanzania and only Tunisia (CB, Nabeul, Dar Chichou) in northern Africa.

Remarks. The species may be easily distinguished by a reddish-brown pileus with forked hairs and erect processes and rather large pores.



Fig. 1. *Trametes aspera*, photo R. El Mokni (Dar Chichou, CB Tunisia, 25.05.2023)

Trametes lactinea (Berk.) Sacc., (Fig. 2).

Sylloge Fungorum 6: 343, 1888.- *Polyporus lactineus* Berk., Ann. Mag. Nat. History 10: 373 1843.

Description Ryvarden et al. (2022: 231-232) give a full description and a figure (Fig. 120) of this species.

Substrate and habitat in Tunisia. On dried branches of *Eucalyptus* sp. and *Pinus* sp. in a planted field.

Distribution in Africa. Widespread, but in Tunisia only recorded from Cap-Bon (Nabeul, Dar Chichou) in northern Africa.

Remarks. The species may be easily distinguished by its glabrous pileus in variable ochraceous to dirty unevenly brown colors.

***Trametes trogii* Berk., in Trog, (Fig. 3).**

Mitt. naturf. Ges. Bern 171-173: 52, 1850.

Description Ryvarden et al. (2017: 389-399) give a full description and a drawing (Fig. 352) of this species.

Substrate and habitat in Tunisia. On a dead stump of *Fraxinus angustifolia* on roadsides.

Distribution in Africa. This is the first report of the species in Tunisia (NW, Tabarka) besides northern Africa.

Remarks. The species may be easily distinguished by its smaller basidia and basidiospores. Moreover, basidiocarps are generally paler than those of the closely related *T. gallica* (Fr.) Fr.



Fig. 2. *Trametes lactinea*, photo R. El Mokni (Dar Chichou, CB Tunisia, 25.05.2023)



Fig. 3. *Trametes trogii*, photo R. El Mokni (Tabarka, NW Tunisia, 11.04.2017)

***Trametes ochracea* (Pers.) Gilb. & Ryvarden, (Fig. 4).**

North Am. Polypores 2: 752, 1987. - *Boletus ochraceus* Pers., Ann. Botanik (Usteri) 11: 29, 1794.

Description. Ryvarden et al. (2017: 394-395) give a full description and a figure (Fig. 347) of this species.

Substrate and habitat in Tunisia. on dead stump of *Populus alba* in a wet and mixed oak forest.

Distribution in northern Africa. Here, its third report from Tunisia (NW, Ghar Dimaou) in northern Africa.

Remarks. The species may be distinguished mainly by its usually much paler basidiocarps compared to *T. versicolor*, less strongly zonate and the lack of the black layer seen in the upper context of *T. versicolor*.



Fig. 4A. *Trametes ochracea*, photo R. El Mokni (Ghar Dimaou, NW Tunisia, 13.01.2023)



Fig. 4B. *Trametes ochracea*, photo R. El Mokni (Ghar Dimaou, NW Tunisia, 13.01.2023)

Key to Tunisian *Trametes* species

- | | |
|---|-------------------------|
| 1. Pores 1-2 per mm or larger. | 2 |
| 1. Pores 3-6 per mm. | 4 |
| | |
| 2. Pores radially elongated; pileus velutinate to glabrous; spores 4-6 μ m long. | |
| | <i>Trametes gibbosa</i> |

2. Pores round to angular; pileus hirsute, velvety strigose to scrupose; spores longer than 7 μm **3**
3. Context cream to isabelline; pores 1.5-2.0 per mm; spores 10-12 $\times$ 2.5-4.0 μm ***T. trogii***
3. Context cream ochraceous to pale fulvous; pores 1-2 (more rarely 3-5) per mm; spores 4.0-7.5 $\times$ 2.2-3.0 μm ***T. lactinea***
4. Pileus hirsute, white to grey; pore surface becoming cinereous with age. ***T. hirsuta***
4. Pileus tomentose to velutinate; pore surface white becoming pale with age..... **5**
5. Basidiocarps thin and flexible, pileus often with zones of strongly contrasting colours; pores 4-5 per mm; spores 5-6 $\times$ 2.0-2.5 μm ***T. versicolor***
5. Basidiocarps rigid to hard, pileus different; pores 3-4 per mm. **6**
6. Pileus with zones of white to brown shades; spores 6-8 $\times$ 2.0-2.5 μm . . ***T. ochracea***
6. Pileus dimidiate to flabelliform with dark fulvous to ferruginous patches when older; spores 9-12 $\times$ 3.0-4.5 μm ***T. aspea***

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Laetiporus gilbertsonii Burds. (Laetiporaceae, Basidiomycota) a new record for Africa from Tunisia

Ridha El Mokni & Leif Randulff Ryvarden

Department of Pharmaceutical Sciences 'A', Laboratory of Botany, Cryptogamy and Plant Biology, Faculty of Pharmacy of Monastir, Avenue Avicenna, Monastir-5000, University of Monastir, Tunisia. ridhaelmokni@yahoo.fr, <https://orcid.org/0000-0003-3849-1039> and

Department of Forestry, Laboratory of Forest Ecology, National Research Institute of Rural Engineering, Water and Forests, Ariana-2080, IRESA, University of Carthage, Tunisia.

Department of Botany, University of Oslo, Norway. leifryvarden@ibv.uio.no

Abstract

Laetiporus gilbertsonii Burds. (Laetiporaceae, Basidiomycota) is reported for the first time from Tunisia as a new record to Africa and the Mediterranean area. It is described and illustrated on its host-plant.

Keywords: chorology, new record, Polyporales, *Laetiporus sulphureus* group.

Introduction

The genus *Laetiporus* Murrill (Laetiporaceae, Basidiomycota) is cosmopolitan in its distribution and causes brown rot in living hardwoods and conifers, and is known as a destructive pathogen in different hosts (Corner 1984, Rajchenberg 1994; Pires et al. 2016). According to Mycobank, Species Fungorum and Song et al. (2014, 2018), about 18-20 species worldwide are currently accepted in the genus out of which only one species is known from Tunisia and N Africa, *L. sulphureus* (Bull.) Murrill (El Mokni and El Aouni et al. 2019 ; Ouali et al. 2016, 2020 ; GBIF 2023a).

The genus is macroscopically characterized pileate, annual, sessile to stipitate, soft and fleshy basidioma and microscopically by inflated, simple septate generative hyphae and hyaline basidiospores (Ryvarden & Johansen 1980; Corner 1984; Ryvarden & Melo 2017). Due to wide variations in morphological features such as basidioma and basidiospores and the different host specificity on gymnosperm

or angiosperm of dead or living wood, *L. sulphureus* has been considered a species complex. Recently, molecular studies have confirmed eight well-supported clusters within the *L. sulphureus* species complex (Burdall & Banik 2001; Ota & Hattori 2003, 2008; Lindner & Banik 2008; Ota et al. 2009). Vasaitis et al. (2009) characterized the genetic variation and molecular relationships of *L. sulphureus* s.lat. from Europe, South America, Africa and Asia. The results indicate that each resolved cluster represents a distinct taxon within the *L. sulphureus* complex. Deep analysis made by the same team (Vasaitis et al. 2009) on specimens collected exclusively on *Eucalyptus* L'Hér., from Uruguay as representatives from South America, are grouped with *L. gilbertsonii* Burds. In Africa (Ryvarden et al. 2022:129-130), there is no report of *L. sulphureus* species from *Eucalyptus* species.

During recent surveys searching for poroid fungi along roads and in continuation with our previous records at national scale or for north Africa (see e.g., El Mokni & Ryvarden 2023a, 2023b), an interesting species of *Laetiporus* was found and identified as *L. gilbertsonii*. It is here reported from Africa and the Mediterranean area for the first time.

Material and methods

Data presented in the present work are based on specimens collected through fieldwork which was performed during the last three years in many regions of Tunisia. At the sampling localities, photographs of habit and habitat were taken using a Nikon COOLPIX P520 camera, some of them are here presented. The collected macrofungal samples were analysed in fresh or dry state. Taxonomic identification of the collected specimens was prepared on the basis of the following available literature containing identification keys and meticulous descriptions (see e.g., Ryvarden & Melo 2017). For most appropriate names of taxa, the nomenclatural database Index Fungorum (<http://www.indexfungorum.org/Names/Names.asp>) and the MycoBank Database (<http://www.indexfungorum.org/Names/Names.asp>) were followed. Occurrences in Tunisia were checked in some recent relevant literature (see e.g. El Mokni & El Aouni 2019; Ouali et al. 2016, 2020) than in the online database GBIF (2023a) whereas distributional ranges were based mainly on personal observations and followed by the national phytogeographic regions (*sensu* Cuénod et coll. 1954). Collected specimens are being kept in the author's private herbarium, Ridha El Mokni Private Collections (REMP). Establishment of a Botanical Garden is planned at the Faculty of Pharmacy of Monastir (Fac. Ph. Monastir), Monastir University, and these private collections would be an essential part of the herbarium of the University (Herb. Univ. Monastir) deposited in the Fac. Ph. Monastir. Nomenclature of vascular host-plants is mainly according to GBIF (2023b).

Results

Laetiporus gilbertsonii Burds, Fig. 1.

Harvard Papers in Botany 6:48, 2001.

Type: United States. California: San Francisco County, San Francisco, Golden Gate Park, North Pond near 43rd Street, on living *Eucalyptus* sp., 26. September 1997, K. P. Collins, CA-16 (Holotype: CFMR!).

Description (Figure 1). Basidioma annual, laterally stipitate, sessile or with broad stipe attachment, soft when fresh, hard when dry. Pileus dimidiate up to 5.4–14.5 × 5.8–11.1 × 0.6–2.0 cm, upper surface striated, azonate, yellow to pale brown when fresh and yellowish-brown to pale orange after dry. Margin involute. Context homogeneous, azonate, dense, up to 2.0 cm thick, cream to white. Pore surface cream to pale brown when fresh to yellowish-brown when dry, pores rounded, decurrent on stipe, 5–7 per mm, and tubes concolorous with the pore surface, up to 0.1 cm deep, dissepiments entire, thin to slightly thick. Hyphal system dimitic, context with generative hyphae simple-septate, inflated, thin walled, smooth, 10–18(–19) µm wide, and binding hyphae hyaline, densely branched, thick-walled, 5–10(–11) µm wide. Tubes composed of generative hyphae simple septate,



Figure 1. *Laetiporus gilbertsonii*, habit and habitat (Monastir, CE Tunisia, N-Africa) on the stump within a living tree of *Eucalyptus globulus*. Phot. R. El Mokni (06.12.2022).

frequently branched, parallel arrangement, hyaline, smooth and thin-walled, 5.0–7.0 μm wide, and skeletal hyphae hyaline, sinuous and wavy, thick-walled, 5.0–6.5 μm wide. Basidia clavate, hyaline, 4-sterigmated, thin-walled, 16–20 $\times$ 8.0–9.5 μm . Basidiospores broadly ovoid, hyaline, smooth, thin-walled, inamyloid, undextrinoid, 5.0–5.5 $\times$ 4.0–5.0 μm . (more details in Burdsall and Banik 2001: 48-50 and Figs. 9-12: 49).

Ecology and worldwide geographical distribution. Occurring on living trees, dead trunks and logs. It is associated with brown rot of *Quercus* spp. and *Eucalyptus* spp. It is reported from the United States, especially states adjacent to the Mexican border and the Pacific Ocean (Burdsall & Banik 2001). This is the first record of the species from the African continent and the Mediterranean area.

Substrate and habitat in Tunisia. *Laetiporus gilbertsonii* was found in 2022 with numerous basidiocarps up to a height of ca. 260 cm on the trunks of living trees of the Tasmanian blue gum (*Eucalyptus globulus* Labill., Figure 1) and the river red gum (*E. camaldulensis* Dehn.).

Material examined (new records). TUNISIA. Bizerta, Bizerta-city, 37°16'19"N, 009°51'37"E, on *Eucalyptus camaldulensis* within roadsides, about 20 m a.s.l., 05 November 2022, *El Mokni s.n.* (REMPC!). Monastir, Monastir-city, 35°45'47"N, 010°49'44"E, on *Eucalyptus globulus* within roadsides, about 15 m a.s.l., 06 December 2022, *El Mokni s.n.* (REMPC!), *ibidem*, 05 January 2023, *El Mokni s.n.* (REMPC!). Sousse, Enfidha, 36°10'46"N, 010°16'53"E, on *Eucalyptus globulus* within roadsides from Takrouna to Ain Mdhakir, about 125 m a.s.l., 10 December 2022, *El Mokni s.n.* (REMPC!).

Comments. *Laetiporus gilbertsonii* is macroscopically characterized by pileate to stipitate basidioma, yellowish-brown to pale orange pilei with a white context and small round pores. Microscopically, the species is differentiated from other species of *Laetiporus* occurring in Tunisia by the broadly ovoid basidiospores, 5.0–5.5 μm height, (ellipsoid basidiospores and almost longer, 5.5–7.0 μm height in *L. sulphureus*). A key is here proposed for discriminating both species. In addition, Tunisian material could be ascribed more to *Laetiporus gilbertsonii* Burds. var. *pallidus* Burds. [Type: U.S.A. Florida, Wakulla County, Boneyard, on *Quercus* sp., 2 December 2000, Jonathan Caldwell TJV-2000-101 (Holotype: CFMR!)]. In fact, *L. gilbertsonii* var. *pallidus* differs from the typical variety (var. *gilbertsonii*) mainly in its pale colors. Instead of the bright orange pileus surface and lemon-yellow pore surface found in *L. gilbertsonii* var. *gilbertsonii*, the var. *pallidus* shows a pale orange to pink or rosy pileus surface and white or pale cream pore surface (see more in Burdsall and Banik 2001).

Key to known species of the genus *Laetiporus* in Tunisia (N-Africa).

- 1a.** Basidioma yellow to pale orange, pores 5–7 per mm, basidiospores $5.0\text{--}5.5 \times 4.0\text{--}5.0 \mu\text{m}$, on only *Eucalyptus globulus/camaldulensis* *L. gilbertsonii*
1b. Basidioma salmon orange, pores 2–4 per mm, basidiospores slightly narrower $5.5\text{--}7.0 \times (3.5\text{--}) 4.0\text{--}5.0 \mu\text{m}$, on *Pinus* spp. and *Melia azedarach* *L. sulphureus*

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Wood inhabiting fungi on driftwood from Varangerhalvøya, Finnmark, Norway

Leif Ryvarden

Institute of Biological Sciences, University of Oslo, P. O. Box 1045, Blindern, N-0316 Oslo, Norway, leif.ryvarden@ibv.uio.no

Abstract

21 corticioid and 3 poroid species are reported from coniferous driftwood of Siberian origin, deposited on a beach close to Makkaur light house in Båtsfjord, Finnmark county, Norway.

Introduction

On the outermost beaches of Finnmark, approximately at 70° N, there are numerous logs of coniferous driftwood. They originate in Siberia where flooding carries them down rivers and into the Polar Sea where they are transported by the drift ice across the Polar basin and down along the east coast of Greenland.

When the cold Polar water meet the warm Gulf current, the ice melts and releases the logs. They are then taken by the Gulf current and ultimately land upon the coasts of Iceland, Jan Mayen, Svalbard and Northern Norway. It is estimated that this round trip takes at least 5 years, based the fact that it took Nansen's famous ship "Fram" over three years in 1903 to cross the polar basin locked in the drift ice. After being stranded it is necessary for the logs to be removed from normal sea water level which happens under heavy storms. They will then slowly be depleted of the salt content on the outer surfaces. This is done by rain and melting snow and nobody knows the time scale here. Nevertheless, after a while surviving fungi start to appear on the lower side of the logs.

As shown in previous reports (Ryvarden 2010 and 2015) based on collections made at Varanger Peninsula, a surprising high number of species have been reported, many of them very far from the closest locality in which they are known. Inspired by these results, more collecting was done in August 2022 at a beach close to Makkaur light house at the mouth of Båtsfjord and the results are reported below.

All collections were made on coniferous driftwood and are deposited in the Oslo Fungarium (O), and the collecting numbering is that of the author.

List of species:

Corticiaceae

Acanthophysellum lividocoeruleum (P. Karst.) Parm. 50895.

Chaetoderma luna (Romell) Rauch. 50888.

Coniophora arida (Fr.) P. Karst. 50883.

C. puteana (Schum.) Karst. 50884.

Hyphoderma argillaceum Bres.) Donk 50886, 50908.

H. obtusum Eriksson 50882.

H. opuntiae (Nakasone & Gilbert.) Larsson 50894.

H. pallidum (Bres.) Donk 50902.

H. praetermissum (Karst.) Eriksson & Strid 50898.

H. setigerum (Fr.) Donk 50887.

Hyphodontia hastata (Litsch.) Eriksson 50904.

H. pallidula (Bres.) Eriksson 50896.

H. sambucii (Pers.) Jülich 50884.

Hypochnicium bombycinum (Sommerf.: Fr.) Eriksson 50893.

H. geogenium (Bres.) Eriksson 50880.

Phanerochaete sordida (P. Karst.) Eriksson & Ryvarden 50889.

Trechispora farinacea (Pers.: Fr.) Liberta 50885.

T. mollusca (Fr.) Liberta 50905.

Tubulicrinis chaetophorus (v. Höhn.) Donk 50907.

T. gracillimum (Fr.) Donk 50901.

T. subulatus (Bourd. & Galz.) Donk 50903.

Polyporaceae

Antrodia serialis (Fr.) Donk 50881.

A. xantha (Fr.) Ryvar den 50906.

Neolentinus lepideus (Fr.) Redhead & Ginns 50897.

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Some rare and new poroid species from Africa

Leif Ryvarden

Institute of Biological Sciences, University of Oslo, P. O. Box 1045, Blindern,
N-0316 Oslo, Norway, leif.ryvarden@ibv.uio.no

Abstract

The following new poroid species are described *Phellinus nanosporus* Ryvarden, *Wrightoporia pileata* Ryvarden, *Antrodiella nigroporella* Ryvarden, *Rigidoporus macroporus* Ryvarden. The following cythelloid genus and species are described as new, *Stiptocyphella africana* Ryvarden.

Introduction

Over years it has at my desk accumulated a number of specimens called “*Polyporus*” s. lato. As time goes by, I felt it was time to bring these species into circulation as they may helpful for identification of other specimens also set aside in a similar way.

All the holotypes are deposited in the fungarium of the University of Oslo (O).

Phellinus nanosporus Ryvarden, nova species Index Fung. 901640.

Holotype: Australia, Queensland, Albert River Circuit, Lamington National Park, 6. November 2001, on a dead hard wood log. Coll. A. M. Young LNP 423, in O.

Basidiocarps pileate, imbricate in dense clusters, individual pileus up to 3 cm wide, 5 cm long and up to 3 mm thick at the base, dense and hard when dry, pileus semicircular, adpressed velutinate in dense concentric zones, rusty brown paler towards the margin, pore surface dark brown, pores round, 8-10 per mm, invisible to the naked eye, tuber up to 1.5 mm deep at base, concolours with pre surface, context up to 1 mm thick at the base, dark brown and homogenous.

Hyphal system dimitic, generative hyphae 2-4 μm wide, hyaline and simple septate, skeletal hyphae rusty brown, thick walled 2-5 μm wide in tubes, up to 7 μm in context.

Basidia tetrasterigmatic, up to 14 µm long and 5 µm wide.

Basidiospores hyaline, broadly elliptic 2.5-3 x 1.7-2 µm.

Hymenial setae present, 15-20 x 4-6 µm, present, dark brown, sharply pointed, thick walled, many with a prolonged horizontal base.

Substrate. On an unknown hard wood log.

Distribution. Known only from the type locality.

Remarks. The small basidiospores and the invisible pores characterize this new species.

Wrightoporia pileata Ryvarden, nova species Index Fung. 901634.

Holotype: Kenya, Mafinga forest, coll. H. E. Brown, 2. August 1964, on unknown host. In Fungarium K, isotype in Fungarium O.

Basidiocarps pileate and effused, up to 12 cm wide and long, soft and fragile, light of weight, pileus up to 3 cm wide, 5 cm long and up to 1 cm thick at the base, semicircular, adpressed velutinate in wide and sulcate concentric zones, cinnamon brown, pores angular 1-3 per mm, in sloping parts semidaedaleoid, tubes up to 7 mm deep at base, concolours with the surface, context cinnamon-coloured, duplex, cottony soft, up to up to 3 mm thick at the base, upper part separated by thin black line, pileus cover dense and cinnamon coloured.

Hyphal system dimitic, generative hyphae 2-4 µm wide, hyaline and with clamps, skeletal hyphae pale rusty brown, thick walled, 2-5 µm wide in tubes, up to 6 µm in context, slightly dextrinoid in Melzers reagent.

Basidia tetrasterigmatic, up to 14 µm long and 5 µm wide.

Basidiospores hyaline, subglobose, 3-4 µm in diameter, finely asperulate and amyloid in Melzers reagent.

Substrate. On an unknown hard wood log.

Distribution. Known only from Kenya.

Remarks. The pileate basidiocarps and the large pores characterize this new species.

Key to the genus *Wrightoporia* in Africa

- | | |
|--|----------------------|
| 1. Pores large, 1-3 per mm, often lacerate | 2 |
| 1. Pores small, 4-8 per mm, round to angulas | 5 |
| 2. Basidiocarps distinctly pileate | W. pileata |
| 2. Basidiocarps resupinate..... | 3 |
| 3. Spores 3 x 2 µm, pores about 2 per mm | W. grandipora |
| 3. Spores larger and pores smaller | 4 |
| 4. Basidiocarps white to cream, basidiospores globose to subglobose, 5-6 x 4-5 µm | W. lenta |
| 4. Basidiocarps cream to pale brown, often with darker patches, basidiospores subglobose to broadly elliptic, 3.5-4.5 x 2.5-3.5(4) µm..... | W. avellanea |

5. Gloeocystidia present	W. gloeocystidiata
5. Gloeocystidia absent.....	6
6. Basidiocarps pileate	7
6. Basidiocarps resupinate.....	8
7. Spores 4-4.5 x 3-3.5 µm elliptic.....	W. cinnamomea
7. Spores 3-3.5 µm in diameter, globose	W. deviata
8. Generative hyphae with clamps.....	W. africana
8. Generative hyphae with simple septa.....	W. efibulata

Antrodiella nigroporella Ryvarden nova species Index Fung. no. 901635.

Holotype: South Africa, Natal: Maritzburg golf course, Scottsville, Pietermaritzburg, 24. January 1975, on rotten half buried basidiocarps of *Amauroderma* or *Ganoderma*, leg. N. H. Sinnott (coll.1594) & K. CC. Thomson, in Fungarium K, isotype in Fungarium in O.

Basidiocarps annual, resupinate with distinct margins, dense, up to 2 mm thick, pore surface deep brownish black, pores round, thick walled, 7-9 per mm; tubes and subiculum concolorous with the pore surface, tubes up to 2 mm deep; context 1 mm thick, slightly paler than the pores.

Hyphal system dimitic; generative hyphae with clamps, delicately thin-walled, 2-3 µm wide; skeletal hyphae dominating in the trama, thick-walled to solid, 3-5 µm in diam., straight to distinctly sinuous.

Basidia not seen.

Basidiospores 3-3.5 x 2 µm, allantoid, smooth, IKI-.

Substrate. Dead basidiocarp, either of a *Amauroderma* or a *Ganoderma* species.

Distribution. Known only from the type locality.

Remarks. The small pores, the tiny basidiospores and the substrate, make this a very distinct species.

Rigidoporus macroporus Ryvarden nova species Index Fung. no. 901650.

Holotype: Zambia: Makula stream gorge, Chitanga, on lower side of rotten trunk of *Acacia campylocatha*, leg. A. Angus, coll. M 1655, 28. June 1962, in Fungarium K, isotype in Fungarium O.

Basidiocarps annual, resupinate, dense and fragile, up to 3 mm thick, up to 8 cm in largest dimension, pore surface white as fresh, drying to ochraceous, pores round to angular, thick walled, 1-3 per mm; sterile margin adpressed felty, in parts up to 2 cm wide, tubes and subiculum concolorous with the pore surface, tubes up to 3 mm deep; context 1 mm thick.

Hyphal system monomitic; generative hyphae with simple septa, distinctly thick-walled, 2-3 µm wide; skeletal hyphae dominating in the trama, thick-walled to solid,

3-5 µm in diam., often branched in right angles.

Basidia not seen.

Basidiospores elliptic, 5-6 x 3-3.5 µm, smooth and IKI negative.

Cystidia apically encrusted, abundant in the dissepiments as hyphal ends, encrusted part up to 30 µm long and 8-12 µm wide, some cystidia apically smooth.

Substrate. On dead trunk of *Acacia campylocatha*.

Distribution. Known only from the type locality.

Remarks. The large pores and the abundant, apically encrusted cystidia are diagnostic for the species.

Key to African *Rigidoporus* species.

-
- | | |
|---|-------------------------|
| 1. Basidiocarp small and with a vertical, lateral stipe..... | R. biokoensis |
| 1. Basidiocarp differently shaped | 2 |
| 2. Basidiocarps resupinate..... | 3 |
| 2. Basidiocarps sessile to effused reflexed..... | 7 |
| 3. Cystidia absent | 4 |
| 3. Cystidia present in hymenium..... | 5 |
| 4. Hyphae dextrinoid, pores 6-9 per mm..... | R. dextrinoideus |
| 4. Hyphae non-dextrinoid, pores 5-7 per mm or larger | 6 |
| 5. Pores 5-7 per mm | R. crocatus |
| 5. Pores 1-3 per mm | R. macroporus |
| 6. Spores 3-4 x 2.5-3.5 µm, elliptic..... | R. subvinctus |
| 6. Spores larger | 7 |
| 7. Pore surface pinkish becoming darker when dry or touched, spores subglobose..... | R. vinctus |
| 7. Pore surface pale ochraceous, unchanged when dry, spores globose..... | R. undatus |
| 8. Encrusted cystidia present | 9 |
| 8. Encrusted cystidia absent..... | 10 |
| 9. Pileus more or less glabrous, no black line in context..... | P. lineatus |
| 9. Pileus tomentose with a black line between tomentum and context..... | R. tomentosus |

10. Basidiocarp thick and woody hard, pileus white to cream, spores 4.5-8 x 4-7 µm **R. ulmarius**
10. Basidiocarp thin and pliable when fresh, harder when dry, spores smaller **11**
11. Basidiocarps hoof-shaped, bone hard, pileus dark brown **R. perennis**
11. Basidiocarps sessile and more or less flat, pliable, pileus white pale reddish brown **12**
12. Pileus reddish-brown to dark ochraceous, pore surface bright orange to pale reddish brown, pores 5-9 per mm, spores 3.5-5 x 3.5-4 µm **R. microporus**
12. Pileus whitish becoming pale reddish with age, pore surface whitish, pores 12-15 per mm, invisible to the naked eye, spores 3.5-5 x 2.5-3 µm **R. delicatus**

Stiptocyphella africana Ryvarden, nova genus and species, Index Fung. 901641 and 901642.

Holotype: Nigeria, Ibadan province, Moor Plantation, Rural Educational office compound, Coll. FRO no 26, I.M. I. no 60991 in Fungarium K.

Basidiocarp stipitate, flabelliform to funnel shaped, up to 7 cm high and 4 cm wide, probably soft when fresh, fragile when dry, indicated as light brown when fresh (indicated on the label), white to pale cream coloured when dry, stipe up to 3 cm long, 2-4 mm wide expanding upwards to the fertile part, lower part densely covered with fertile white cupulas, 2-3 mm wide 1 mm high, upper part of basidiocarps white and densely covered with adpressed circular to oblong patches of white mycelium on a dense pale brown parchment like subiculum.

Hyphal system monomitic, generative hyphae with very scattered clamps, 2-4 µm wide.

Basidia not seen.

Basidiospores subglobose, 4-5 µm wide, finely ornamented and IKI negative.

Gloeocystidia smooth, present, up to 20 µm long and 4-6 µm wide.

Substrate. On the ground.

Remarks. This is a very remarkable genus and species by its stipitate basidiocarp, a growth form being very unusual in Cyphellaceae.

Morphologically similar basidiocarps may also be found in *Musciniupta* Rehead, Lücking and Lawrey typified by *M. laevis* (previously often placed in the genus *Cyphellostereum*). For a description, see Lehman 2020: 321-325.

However, this species is morphologically very different by having a spatulate basidiocarp, rarely higher than 1 cm, with a smooth hymenophore besides growing on dead mosses.

New records:

The Kew Fungarium has kindly sent me a number of unnamed poroid samples from Africa for determination. Among them, besides the new species described above, there were numerous new records for many countries, and they are reported below. All specimens are deposited in the Kew Fungarium and all references to previous records are those reported in Ryvarden, 2023.

Ceriporiopsis gabonensis Decok & Ryvarden,

Zambia: Kitwe, on log of Pinus, 20. March 1975, leg. H. Ivory no 379/7. Previously known only from the type locality in Gabon.

Ceriporiopsis suballantoides Decock & Ryvarden,

Kenya, Casetto Forest station, 7200 ft., 14. November 1964, no substrate indicated, leg. A. Toomaye.

Ganoderma alluaudii Pat. & Hariot,

Zambia, Sereje, Kombe reserve, 1930, on the ground, leg. R. Lloyd. Previously known only from East Africa.

Ganoderma ochrolaccatum (Mont.) Pat.,

Mozambique, Sul de Save, Panda 20. January 1955, on the ground, leg. A. W. Exell no 584. Previously known only from Zimbabwe and South Africa.

Haploporus eichelbaumii (Henn.) Decock,

Natal: Skamrock, Winterskilood near Pietermaritzburg. 25. January 1975, on old *Prunus amygdalinus*, Leg. N. H. Sinnott no 1619. New to the country. Previously known from Malawi, Tanzania and Kenya.

Phellinus callimorphus (Lev.) Ryvarden,

Natal, Maritzburg, Scottsville, 24. January 1975, on unknown substrate, leg. N. Sinnott no. 1595. Previously known only from Madagascar and Rwanda.

Polyporus brunneopapirus Ryvarden,

Kenya. Karura forest, 1. December 1963, on unknown substrate, leg. H. Brown. Previously known only from the type locality in Zimbabwe.

Tyromyces centroafricanus Ryvarden,

Zambia: Kitwe, 15. January 1975, no substrate indicated, collector unknown. Previously known only from Central Africa.

Tyromyces luteus Ryvarden,

Zambia: Kitwe, 21. March 1978, no substrate indicated, leg. H. Ivory coll. 377/15. Previously known only from the type locality in Ethiopia.

Tyromyces microsporus Decock & Ryvarden,

Zambia, Kitwe, 8. April 1975, on dead *Pinus* sp. leg. H. Ivory 382/9. Uganda, Kanungu, Bwindi Forest National Park, on dead log of *Faurea salgina*, leg. Ipulet F 995, 12. November 2002. Previously the species was known only from the type locality in Gabon.

Tyromyces minutus Ryvarden,

Burundi, Muramvya province, Kigamba, entre Ijenda and Rusaka, 1980 m a. s. l. 18. April 1980, on living *Myrianthus holstii*, leg. J. Lambinon no 80/398 ex Fungarium BR.

References

Lehman, H. 2020: Cyphelloid Homobasidiomycetes in Schleswig-Holstein und Nachbargebieten, *Fungi Cimbricae* 2:1-432 pp., published privately.

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Some wood inhabiting species from Zimbabwe

V. Spirin

Botanical Museum, University of Helsinki, P. O Box 7, FIN-00014, Helsinki, Finland, viacheslav.spirin@helsinki.fi

&

L. Ryvarden

Institute of Biological Sciences, University of Oslo, O.O. Box 1066 Blindern, N-0316 Oslo, Norway, leif.ryvarden@ibv.uio.no

Abstract

118 corticioid are reported from Zimbabwe out of which most are new for the country. A series of specimens are named to genus waiting further identification.

Introduction

In 1986 one us (LR) started a series of training and collecting trips in Zimbabwe. Some results have already been reported in Ryvarden (2023 a and b). In the following a number of corticioid species out of which most are new to the country is reported and where the major part of the identifications was done by the first author. All collections were done on unidentified angiosperms trees unless cited differently.

The specimens are deposited in the Fungarium of the Oslo University (O), some in The Fungarium in the Botanical Museum of Harare with some duplicates in the Helsinki University Fungarium (H). The numbering of the collections is that of L. R and the exact collecting localities for the cited species can be taken from the following list:

Coll. 23506 - 707 Chimanimani, Skyline junction, Eastern mountains, 14 - 19. February.

Coll. 23708 - 786 White Horse inn, Mutare district, 20. February.

Col. 23787 – 810 Binga forest, Mutare district 20. February.

Col. 23811 - 882 Eastern province, Stapleford Forest reserve, Eastern Province 21. February.

Coll. 23883 - 959 Inyangani Nat. park, Nyanaga Mnts., Eastern Province, 22. February.

Coll. 23959 – 24003 Holdenby valley, Pungwe forest, Eastern province. 23. February.
Coll. 24004 – 026. Chitma river, Pungwe bridge, Eastern province 24 February.

List of species

Amaurodon viridis (Albert & Schw.) Schroeter, 23803 and 23804.
Aphanobasidium sp. 23607 and 23617.
Asterostroma cervicolor (Berk. & M. A. Curtis) Masee, 23576, 23632, 23719, 23731, 23956 and 23955.
Botryobasidium asperulum (Rogers) Boidin, 23748.
B. simile Pouzar & Holch -Jec., 23649 and 23964.
B. subcoronatum (Höhn.& Litsch.) Donk, 23693.
Botryobasidium sp. 23605b, 23960, 23966, 25151 and 25745.
Botryohypochnus bondarcevii Parmasto, 23957 and 26247.
Brevicellicium sp. 23791.
Candelabrochaete africana Boidin, 23747.
Ceraceomyces simulans (Berk. & Broome) Hjortst., 23616.
C. tessulatus (Cooke) Jülich, 23722.
Cerocorticium molle (Berk & M. A. Curtis) Jülich, 25959.
Cystidiodontia laminifera (Berk. & M. A. Curtis) Hjortstam 25899 and 25906.
Dendrocorticium sp. 25747.
Dendodontia bicolor (Talbot) Hjortstam & Ryvardeen, 23583 and 23706.
Dichostereum durum (Bourdot & Galzin) Pilat, 23638, 26245 and 24019.
Ductifera micropora (Kalchbr & Cooke) Wells, 26180.
Fibulomyces sp. 23940.
Gloeocystidiellum sp. 23694.
Haplotrichum conspersum (Link) Hol.jec., 23619 and 25754.
Hyphodontia breviseta s.l. (Karst.) Eriksson, 23920.
Hydnophlebia gorgonea Telleria, Duenas & Martin, 24021.
Hyphoderma medioburiense (Burt) Donk, 23915, 25785 and 25786.
H. setigerum (Fr.) Donk, 23787, 25768, 25772, 25778 and 25789.
H. transiens (Bres.) Parmasto, 25767.
Hyphoderma sp. 25769.
Hyphodermella corrugata (Fr.) Eriksson & Ryvardeen, 23743.
Hyphodontia abieticola (Boursto & Galzin) Eriksson, 23653 and 23725.
H. aspera (Fr.) J. Eriksson, 25960.
H. alutaria (Burt) J. Erisson, 23605, 23615, 23634 and 23951.
H. arguta (Fr.) J. Eriksson 23613.
H. aspera s.l. (Fr.) J. Eriksson 23968.
H. breviseta s.l. (P. Karst.) J. Eriksson, 26095.

H. cineracea s.l. (Bourdot & Galzin) J. Eriksson & Hjortst., 25794, 25795 and 25796.
H. microspora J. Erisson & Hjortst., 25670A.
H. pruni (Lasch.) Svercek, 23930, 27532.
H. sambuci s.l. (Pers.) J. Eriksson, 23593.
H. subalutacea (P. Karst.) J. Eriksson, 25873.
Hyphodontia sp. 23655, 23723, 23934, 24027 and 26092.
Hypochnicium polonense (Bres.) Å. Strid, 23913 and 23916.
Lagarobasidium detriticum (Bourdot) Jülich, 23658 and 23622.
Laxitextum lutescens Hjortstam & Ryvarden, 23635.
Lindtneria sp. 23770.
Megalocystidium aff. *luridum* (Bres.) Jülich, 23926, 23928.
Megalocystidium sp. 25958.
Mycocacia nothofagi s.l. (Cunningh.) Ryvarden, 23918, 23919.
M. uda (Fr.) Donk, 23570.
Mycocacia sp. 23744
Odonticium cf. *laxum* (Miller) Ryvarden, 25907.
Oliveonia sp. 23609.
Peniophora cf. *molesta* Boidin & Gilles, 25879.
Peniophora sp. 23792.
Peniophorella pallida (Bres.) K.-H. Larsson 25970.
Ppraetermissa s.l. (P. Karsten) K.-H. Larsson 23730, 24001, 25787, 25936, 25950, 25963 and 25969.
P. pubera (Fr.) P. Karsten, 24025.
Peniophorella sp. 25763.
Phanerochaete aff. *australis* Jülich, 23623, 23630B, 25748, 25770, 25889, 25937, 23992, 25968 and 23789.
P. crassa (Lev.) Burdsall, 25861, 25901 and 25952.
P. velutina (DeCandolle) P. Karsten, 25774.
P. xerophila Burdsal, 25951.
Phanerochaete sp. 23614A and 25896.
Phlebia acerina Peck, 23625.
P. livida s.l. . (Pers.) Bres., 23665.
Phlebia sp. 25743.
Phlebiella californica (Liberta) Larsson & Hjortstam, 23914.
P. tulasnellodea (Höhn. 6 Litsch.) Ginns & Lefebvre., 23621.
Phlebiopsis flavidoalba (Cooke) Hjortstam, 23582, 25758, 25762, 25890, 25892 and 23993.
Phlebiopsis sp 23989, 23949, 25779 and 25862.
Pseudolagarobasidium subvinosum (Berk. & Broome) Sheng Wu., 23637.

Radulomyces sp. 25579.
Resinicium sp. 24018.
Saccosoma sp. 25898. *copuloides cana* 27918.
Scotomyces subviolaceus (Peck) Jülich, 23650 and 23713A.
Scytinostroma duriusculum (Berk. & Broome) Donk 23805.
Sistotrema aff. binucleosporum Hallenb., 23923.
Sistotremastrum sp. 23646, 23654, 25206 and 26242.
Sphaerobasidium sp. 23945, 23954 and 23975.
Steccherinum sp. 23612, 23671, 23922, 25895 and 25973.
Subulicystidium brachysporum (Talbot & Green) Jülich, 25755, 25771, 25776, 25782, 25792, 25877, 25957, 25974 and 25075.
S. longisporum 23745.
Tjibodasia cf. pezizoides Holterm., 23942.
Trechispora aff. stellulata 23659.
T. araneosa (Höhn. & Litschauer) K.-H. Larsson, 23664.
T. nivea (Pers.) K.-H. Larsson, 23769.
T. cohaerens s.l. (Schwein.) Jülich & Stalpers 23965.
T. farinacea (Pers.:Fr.) Liberta 23611, 23680, 23963, 23976, 24002 and 24003.
T. minuta K.-H. Larsson, 26257.
T. nivea s.l. (Pers.) K.-H. Larsson 26331.
Trechispora sp. 23620, 23666 and 23991.
Tubulicium sp. 23988.
Vararia dussii s.l. Boidin & Lanq., 23705.
Vararia sp. 23657.
Vesiculomyces globosporus N. Maekawa, 25953.
Xenasma praeteritum (Jacks.) Donk 24026.
X. rimicola (P. Karst.) Donk 25775.

Coniophoraceae

Coniophora arida 25773 and 23994.

Heterobasidiomycetes

Auricularia africana Dai & Wu, 26455 and 27229.
Basiodendron excentrispora Roberts, 23780.
B. eyrei s.l. (Wakef.) Luck Allen, 26251.
B. radians s.l. (Rick) Roberts., 26243.
Eichleriella flavida (Pat.) Spirin & Maly. 23925 and 26246.
Exidiopsis aff. calcea (Pers.) Wells., 23590.
E. cystidia Höhnelt, 23724.
E. mucedinea (Pat.) Wells, 25876.

Exidiopsis sp. 23678 and 25783.
Henningsomyces sp. 25887.
Heterochaete cretacea Pat., 23729.
Heterochaete sp. 26258.
Heterochaetella dubia s.l. (Bourdto & Galzin) Bourdot & Galzin, 24028 and 24031.
Heteroradulum sp. 25883.
Protodontia africana 26241

Hymenochaetaceae

Hymenochaete anomala Burt, 25766.
H. cinnamomea s.l. (Pers.) Bres., 23935 and 23937.
H. cf. flavomarginata Pat., 25878.
H. unicolor Brk. & M. A. Curtis, 26091.

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A first checklist of corticioid fungi from Tanzania

Viacheslav Spirin

Botanical Museum, University of Helsinki, P. O. Box 7, FIN-00014 Helsinki University, Finland, viacheslav.spirin@helsinki.fi

&

Leif Ryvarden

Institute of Biological Sciences, University of Oslo, P. O. Box 1045, Blindern, N-0316 Oslo, Norway, leif.ryvarden@ibv.uio.no

Abstract

160 species from Corticiaceae (s. lato), 3 from Polyporaceae, 5 from Hymenochaetaceae, two from Coniophoraceae, two from Calvariaceae s.l. and two from Dacrymycetaceae besides 15 heterobasidiomycetes are reported from Tanzania, all of them apparently new to the country.

Introduction

The second author made two long collecting trips in Tanzania in 1973 and 1994 respectively, and numerous corticioid specimens were collected. The major part has been determined by the first author, and the results are reported below with the numbering of the second author. All specimens with proper labels are deposited in the Oslo University Fungarium (O) while some selected duplicates are kept in the Helsinki University Fungarium (FIN).

The numbering and the respective collection data are as follows for those interested in details as to specific specimens. Unless stated otherwise, all collections were made on unknown deciduous trees.

1973:

9940- 10742 - Tanga province, Usambara Mts., Amani. 17-19. January.

10743 – 10928 - Tanga province, Lushoto, West Usamabara mts., 20- 23. January.

10929 - 11092 - Uluguru Coast Province, Morning side Research Sta., 24 - 26. January.

1994:

- 33965 - 34141 Tanga province, Lushoto, West Usamabara mts., 20- 21. June.
34142 - 34216 Tanga province, Lushoto, West Usamabara mts., Msumabai, 22. June.
34217 – 34302 Arusha province, Baranga, Kilimanjaro south side, 23. June.
34303 - 34448 Arusha province, Mt. Meru, crater side, 24 - 26. June.

List of species

CORTICIOID FUNGI

- Aleurodiscus thoenii* (Boidin et al.) Nunez & Ryvarden, 10249, 34326.
Allescheriella crocea (Mont.) Hughes, 34270.
Amnocyttis sp. 33999.
Amphinema byssoides (Pers.) J. Eriksson, 9988.
Amylocorticium africanum Hjortstam, 34370, 33972, 34413B, 34423, 34447 and 34473.
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The genus *Tyromyces* in Africa

Leif Ryvarden

Institute of Biological Sciences, University of Oslo, P. O. Box 1045, Blindern,
N-0316 Oslo, Norway, leif.ryvarden@ibv.uio.no

Abstract

The genus *Tyromyces* in Africa has been revised and *Tyromyces cameroonensis* Ryvarden, *Tyromyces citrinellus* Ryvarden, *Tyromyces palmicola* Ryvarden and *Tyromyces reunionius* Ryvarden are described as new species. A key to the African species in the genus is provided.

Introduction

Over many years some African *Tyromyces* specimens have been accumulated on my desk and they have now been examined and 4 new species are described. The types with proper labels are deposited in the Oslo University Fungarium (O).

Main key to African species of *Tyromyces*

- | | |
|---|--------------|
| 1. On gymnosperms (<i>Juniperus</i> , <i>Podocarpus</i> or <i>Widringtonia</i>) | Key A |
| 1. On hardwoods | 2 |
| 2. Pileus dark brown to black and hirsute to strigose | Key B |
| 2. Pileus white, ochraceous to pale brown, velutinate to glabrous | 3 |
| 3. Pores 1-4 per mm | Key C |
| 3. Pores smaller 4-8 per mm | 4 |
| 4. Spores allantoid to cylindrical, | Key D |
| 4. Spores globose, to elliptic | Key E |

Key A On gymnosperms

- | | |
|--|------------------------|
| 1. On <i>Widringtonia</i> or <i>Juniperus</i> | 4 |
| 1. On <i>Podocarpus</i> | 2 |
| 2. Spores cylindrical 3.5-4 x 1.2-2 µm, pores 6-7 per mm | T. afrochioneus |
| 2. Spores elliptic, pores larger | 3 |

3. Spores 4-4.5 x 2.3-2.6 μm , pores 4-5 per mm **T. cinereobrunneus**
 3. Spores 3-3.5 x 2.2-3 μm , pores 5-6 per mm **T. ethiopicus**
4. On *Widringtonia* **T. widdringtoniae**
 4. On *Juniperus procera* **T. densiporus**

Key B - Pileus dark brown to black and hirsute

1. Spores allantoid **T. atrostrigosus**
 1. Spores elliptic **T. pelliculosus**

Key C - Pores up 3 per mm or larger

1. Spores elliptic 2
 1. Spores allantoid to cylindrical 4
2. Cystidia with crystal crown, basidiocarp minute up to 5 mm wide and long
 **T. minutus**
 2. Cystidia absent, basidiocarps wider than 1 cm 3
3. Globose chlamydospores present, pileus reddish to pale brown
 **T. chlamydosporus**
 3. Chlamydospores absent, pileus white **T. minitellus**
4. Spores 10-14 μm long **T. longisporus**
 4. Spores shorter 5
5. Spores allantoid, up to 1.5 μm wide **T. grandiporus**
 5. Spores cylindrical, 2-3 μm wide 6
6. Spores 3-3.5 x 1.5 μm **T. rabiensis**
 6. Spores larger 7
7. Pileus dark brown to ochraceous, spores 5-6 x 2-2.5 cylindrical to allantoid
 **T. dentatus**
 7. Pileus white to cream, spores 4.5-6 x 2.5-3 mm, cylindrical to elliptic
 **T. raduloides**

Key D – spores cylindrical to allantoid

1. Skeletal hyphae present **T. chioneus**
 1. Skeletal hyphae absent 2

2. Spores 4-5 μm long	3
2. Spores shorter.....	4
3. Spores 2 -2.5 μm wide, pileus citric yellow, soft and dull	T. citrinella
3. Spores 1.5-2 μm wide, pileus white to cream, in parts with a thin pellicle,	T. centroafricanus
4. Pores 7-8 per mm	T. microsporus
4. Pores 4-5 per mm	T. kenyensis

Key E - spores elliptic to globose

1. Spores globose to subglobose.....	2
1. Spores elliptic	3
2. Spores 2.5-3 x 2.5 μm 6-8 pores per mm.....	T. globosporus
2. Spores 4-5 x 3.5-4 μm 10-12 pores per mm	T. minutoporus
3. Cystidia present.....	T. minutus
3. Cystidia absent	4
4. Pores 6-9 per mm, hardly visible to the naked eye	5
4. Pores 2-6 per mm.....	6
5. Basidiocarps dorsally attached, more or less unchanged by drying, spores broadly elliptic, 2.7-3 μm wide	T. pendens
5. Basidiocarps sessile to effused, basidiocarps distinctly contracting by drying, spores narrowly elliptic, 2-2.5 μm wide	T. contractus
6. Spores 3-3.5 x 1.5 -2.3 μm	7
6. Spores larger.....	9
7. Pileus white, smooth	8
7. Pileus yellow, radially wrinkled.....	T. luteus
8. Spores 1.2-2.5 μm wide, oblong elliptic, pileus pure white	T. reunionius
8. Spores 2-2.3 μm wide, broadly elliptic, pileus with a thin brown cuticle.....	T. ethiopicus

9. Spores 4-5 x 2-2.5 μm elliptic 3-4 per mm, pileus glabrous, strongly veined, white to dirty white **T. striatus**
 9. Spores larger **10**
10. Spores 7-9 x 5-6 μm **T. palmicola**
 10. Spores smaller, i. e. 5-6 x 3.5-4.5 μm **11**
11. Pileus pale to dark brown, pores 2-4 per mm, spores 3.5-4.5 μm wide
 **T. brunneus**
 11. Pileus white, pores angular 4-6 per mm, spores 3-3.5 μm wide
 **T. cameroonensis**

Tyromyces cameroonensis Ryvarden, nova species Index Fung. IF901636.

Holotype: Cameroon, Mbolmayo forest reserve, Village Kombilie, some 45 km south of Youndè, 3. October, 2002, on dead wood, leg. C. Douonla-Radi no 389 in Fungarium O.

Basidiocarp annual, solitary, pileate, dimidiate to flabelliform, up to 3 cm wide and broad and up to 4 mm thick at the base, soft when fresh, brittle when dry, pileus whitish, dull, smooth and even when fresh, slightly folded when dry, azonate, pore surface white when fresh, pale ochraceous when dry, pores angular thin walled 4-6 per mm, tubes concolorous with pore surface, up to 1 mm thick. context pure white, homogenous, up to 2 mm thick.

Hyphal system monomitic, generative hyphae with clamps, 3-6 μm wide.

Basidia 12- 20 x 4-7 μm , tetrasterigmatic,

Basidiospores 5-6 x 3-3.5, oblong elliptic and IKI negative.

Substrate. On dead hard wood tree.

Distribution. Known only from the type locality.

Remarks. This new species is morphologically similar to *T. brunneus*, which however has a brown pileus, narrower spores and larger pores, i.e. 2-4 per mm.

Tyromyces citrinellus Ryvarden, nova species Index Fung. 901637.

Holotype: Zimbabwe, Eastern province, Mutare district, Stapleford forest reserve, 21. February 1986, coll. Ryvarden 23816B in Fungarium O.

Basidiocarp annual, solitary, pileate, flabelliform, up to 5 cm wide and broad, 5 mm thick at the base, soft when fresh, brittle when dry, pileus white, cream to unevenly dirty brown in parts with distinct radial lines, dull, azonate, pore surface citric yellow when fresh, fading to ochraceous when dry, pores thin walled angular,

4-6 (7) per mm, tubes concolorous with pore surface, up to 2 mm thick. context pure white, homogenous, 2 mm thick.

Hyphal system monomitic, generative hyphae with clamps, 2-5 μm wide, swelling to 8 μm in 3 % KOH.

Basidia not seen.

Basidiospores 4- 5 x 2 -2.5 μm , cylindrical to oblong subelliptic, IKI negative.

Substrate. Dead hard wood tree.

Distribution. Known only from the type locality.

Remarks. This new species is morphologically similar to those of *T. centroafricanus* which however, has round, thick-walled pores, a pileus in parts covered with a distinct pellicle and with distinctly cylindrical spores being only 1.5-2 μm wide.

***Tyromyces palmicola* Ryvarden, nova species Index Fung. 901638.**

Holotype: Senegal: Moy province, Casamence, Foret des Kabumayes, on dead oil palm, 16. July 1985, coll. D. Thoen no 7498 in Fungarium O.

Basidiocarp annual, solitary, pileate, flabelliform, up to 10 cm wide and broad, 2-5 cm thick at the base, soft when fresh, dense and hard when dry, pileus white, dull, azonate, pore surface white, thick walled angular, 5-7 per mm, tubes concolorous with pore surface, up to 2 mm thick. context pure white, homogenous, up to 5 cm thick.

Hyphal system monomitic, generative hyphae with rare clamps, 3-6 μm wide, in parts with very long segments without clamps and dichotomously forked, hyphal walls up to 1 μm thick.

Basidia 24-35 x 5-10 μm , tetrasterigmatic.

Basidiospores 7-9 x 5-6 μm , elliptic, smooth, thin-walled, IKI negative.

Substrate. On dead oil palm.

Distribution. Known only from the type locality.

Remarks. This is a remarkable species with its large whitish and dense basidiocarps in dry condition, rather small pores and fairly large spores.

***Tyromyces reunionius* Ryvarden, nova species Index Fung. 901639.**

Holotype: Reunion, Senter Botanique de Citas, 6. February 2001, on dead *Cryptomeria japonica*, leg. A. Hausknecht RE 03, in Fungarium O.

Basidiocarp annual, solitary, pileate, flabelliform, up to 10 cm wide, 7 cm broad and up to 1.5 cm thick at the base, soft when fresh, very brittle when dry and then with a very bitter taste, pileus white, dull, even, azonate, pore surface white when

fresh, pale ochraceous when dry, pores angular thin walled angular, 4-6 (7) per mm, tubes concolorous with pore surface, up to 1 cm thick. context pure white, homogeneous, up to 1 cm thick.

Hyphal system monomitic, generative hyphae with clamps, 2-6 μm wide.

Basidia 12- 15 x 4-7 μm , tetrasterigmatic.

Basidiospores 3-4 x 1.2-1.5 μm , oblong elliptic, smooth, thin walled and IKI negative.

Substrate. On dead log of *Cryptomeria japonica*.

Distribution. Known only from the type locality.

Remarks. This new species is morphologically similar to *T. ethiopicus* where the spores however, are wider, i.e. 2-2.3 μm , the pileus is in parts covered with a thin brown distinct pellicle besides the basidiocarp has a mild taste

Nomenclatorial adjustment

Leif Ryvarden

Institute of biological sciences, UiO, P. O. Box 1066 Blindern, N- 0316 Oslo, Norway, leif.ryvarden@ibv.uio.no.

On page 102 in “Poroid fungi of Africa” (Ryvarden et al 2022) there is a description of *Ganoderma subinsulare* Ryvarden. This is a nomen nudum since the name has not been validly published. It was meant to replace *Ganoderma insulare* Ryvarden 2020, nomen illegit, non *G. insulare* Pat. & Hariot 1903.

The following new name is proposed: *Ganoderma subinsulare* Ryvarden, Synopsis Fung. 41:5, 2020, Index Fung. No 901632.

A full description of the species can be found on the cited page in Poroid fungi of Africa.

References

Ryvarden, L., Decock, C, Mossebo, D. & Masuka, A. 2022: Poroid fungi of Africa, Synopsis Fung. 45:1-271.

