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New records of polypores from southern Florida

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Abstract — Fifteen new records of polypore species are reported from the southern Florida, USA, with short comments to their key features, ecology, and distribution. The combination *Fomitiporia apiahyna* is proposed.

Key words — *Basidiomycota*, *Hymenochaetaceae, Polyporaceae,* taxonomy, invasive species

Introduction

The southernmost part of Florida south of Tamiami Trail (U.S. 41, which bisects Miami) lies in the tropical hardwood forest region of the state (Young & Giese 2003). This relatively small area contributes substantially to poroid xylophilous fungi diversity in the USA, and about 15% of USA polypore species published in a compendium by Gilbertson & Ryvarden (1986, 1987) probably are found only here. Although Ryvarden (2004) and Decock et al. (2007) published new data on southern Florida *Ganodermataceae* and *Hymenochaetaceae,* to our knowledge no new records have been added for the *Polyporaceae* since 1987.

Most of the territory belongs to Everglades National Park and is covered with regularly flooded wetland or with extensive mangrove stands along the coast. The rather uniform mangrove polypore flora from Brazil treated by Sotão et al. (2002) and Trierveiler-Pereira et al. (2009) is not the primary focus of our study.

Much higher polypore diversity is found in tropical hardwood forest areas with red-barked gumbo-limbo (*Bursera simaruba* (L.) Sarg. (*Burseraceae*)) the typical tree species. This forest-type, however, is confined to small tear-shaped

islands of "hardwood hammocks" that occur on raised peaty platforms above surrounding wetlands. As most are inaccessible by foot, the casual visitor is restricted to only a handful of such localities in the Everglades and several Miami city parks. Another distinctive Everglades locality comprises the remnant pine rockland fragments dominated by *Pinus elliottii* Engelm. (*Pinaceae*).

Several small state parks were also established in the Florida Keys archipelago. Their polypore flora is not as rich because many temperate tree species, such as southern live oak (*Quercus virginiana* Mill. (*Fagaceae*)) and sugarberry (*Celtis laevigata* Willd. (*Ulmaceae*)), together with their associated polypores reach their southern limits on the mainland. Also, Florida Keys hardwood hammocks are drier because of ocean breezes and low rainfall (Whitney et al. 2004). On the other hand, there are several tropical trees that occur only in the Keys and some polypore species seem to be growing only on them.

After exploring all these small localities several times, we have discovered some tropical polypores not yet recorded from the USA. We describe these below and also propose one new combination. Critical Florida collections were compared with our finds of the same or similar species from northern Florida, US Virgin Islands, Mexico, Belize, and Guatemala. Some species could be determined only after ITS rRNA region sequencing. Surprisingly, sequencing confirmed some of the most common polypores as new records.

Materials & methods

During December 2003, April 2009, August 2010, and December 2010, polypore specimens were photographed in situ, collected, dried, and examined microscopically mounted in Melzer´s reagent or 10% KOH. All specimens were deposited in private herbarium of the first author, with duplicates of some specimens maintained in the Prague Museum Herbarium (PRM).

DNA was isolated from selected polypore samples and the ITS rRNA region was sequenced to confirm the determination. 0.25 g of the context tissue from dried specimens was disintegrated 60 s with a steel ball in mixer mill MM301 RETSCH at room temperature. DNA was isolated using CTAB/NaCl extraction buffer (Murray & Thompson 1980), followed by repeated extraction with chloroform and isopropanol precipitation. Crude DNA was dissolved in 100 ml of sterile water and further purified using Wizard Clean Up kit PROMEGA. Resulting DNA solution (50 µl) was diluted ten times and 1 µl was used as template for amplification with ITS5 and ITS4 primers (White et al. 1990) in 25 ml reaction mixture using 55 °C annealing temperature. Amplified DNA was sequenced in the Genomics laboratory of Biology Centre, Academy of Sciences of the Czech Republic, České Budějovice, on ABI 3730xl DNA analyzer, using BigDye Terminator 3.1 kit.

Results & discussion

Noteworthy collections are listed alphabetically by family, genus, and species. Descriptions are included for some species, with additional comments

on distribution, ecology, and diagnostic or critical characters. All species are new records to Florida.

Hymenochaetaceae Donk

Fomitiporia apiahyna (Speg.) Vlasák & Kout, **comb. nov.** Photo 1

MycoBank MB 519982

≡ *Fomes apiahynus* Speg., Bol. Acad. Nac. Ci. 11: 438, 1889.

Basidiomes perennial, sessile, triquetrous, ungulate, 3 × 2 × 1 cm; upper surface glabrous, sulcate, zonate, dark brown to black, margin acute, pore surface grayish-brown, the pores circular, 7–9 per mm, with thick, entire dissepiments; tubes 2 mm long each year, context yellowish brown, woody hard, up to 0.2 cm thick. Hyphal system dimitic, contextual skeletal hyphae brown in KOH, thick-walled, rarely branched, 2.5–5 µm in diam.; generative hyphae hyaline, thin-walled, 1.5–3 µm in diam., with simple septa. Basidia broadly ellipsoid, 7–10 × 4.5–6 µm, simple septate at the base, with 4 sterigmata. Basidiospores globose, hyaline, thick-walled, dextrinoid in Melzer´s reagent, 5–6 × 4.5–5 µm.

Specimens examined – **USA. Florida**: Collier County, Fakahatchee Strand Preserve, East Main Tram, 23. IV. 2009, sabal palm, leg. J. Vlasák Jr., det. J. Vlasák (JV1008/113), (JV1008/114); Monroe County, Florida Keys, Long Key State Park, 27. VIII. 2010, shrub, leg. & det. J. Vlasák (JV1008/46); Sarasota County, Myakka River State Park, 24. IV. 2009, sabal palm, leg. & det. J. Vlasák (JV1008/147A).

Distribution & ecology – from northern Argentina to Costa Rica (Ryvarden 2004). In southern Florida not rare, most often on living sabal palm (*Sabal palmetto* (Walter) Lodd. ex Schult. (*Arecaceae*)) but also on other substrates.

Photo 1: *Fomitiporia apiahyna* JV1008/113 on living sabal palm.

Comments – This species is remarkable for its very small thumbnail-sized applanate (more often ungulate) pilei. Its microscopic features are reminiscent of *Fomitiporia robusta* (P. Karst.) Fiasson & Niemelä: globose thick-walled strongly dextrinoid spores that are, however, distinctly smaller in *Fo. apiahyna* and an absence of setae. As molecular analysis clusters the species with *Fo. robusta/punctata* (Góes-Neto et al. 2002), we transfer this species to *Fomitiporia* Murrill as defined by Fiasson & Niemelä (1984).

Fomitiporia maxonii Murrill

Description – Ryvarden (2004:188).

Specimens examined – **USA. Florida**: Dade County, Miami, Fairchild Botanical Garden, 24. XII. 2003, leg. J. Vlasák Jr., det. J. Vlasák (JV0312/24.16-J, PRM915956); **US Virgin Islands**: St. John, 3. IX. 2004, leg. J. Vlasák Jr., det. J. Vlasák (JV0409/19-J, PRM915955).

Distribution & ecology – Costa Rica, Belize, Galapagos (Ryvarden 2004). Probably quite rare in the USA: we collected it only once in Florida (in Fairchild Botanical Garden) and also on US Virgin Islands. On dead hardwoods.

Comments – The species resembles *Fo. punctata* (P. Karst.) Murrill but has somewhat larger pores and smaller spores. It can be positively determined only after DNA sequencing. Sequences of our collections deposited in the GenBank (GU136210, GU136211) correspond perfectly to other published *Fo. maxonii* sequences (Decock et al. 2007).

Inonotus micantissimus (Rick) Rajchenb. Photo 2

Description – Ryvarden (2004: 136).

Photo 2: *Inonotus micantissimus* JV1008/80 on living *Ocotea coriacea*.

Specimens Examined – **USA**. **Florida**: Dade County, Miami, Matheson Hammock Nature Area, 30. VIII. 2010, *Ocotea coriacea*, leg. J. Vlasák, det. L. Ryvarden (JV1008/80, ITS rRNA JF692194); **US Virgin Islands**: St. John, 3. IX. 2004, leg. K. Vlasáková., det. J. Vlasák (JV0409/3-K, PRM902083). **JAMAICA**. Ocho Rios, 12. VI. 2008, leg. J. Vlasák Jr., det. J. Vlasák (JV0806/18-J).

Distribution & ecology – Argentine, Brazil, and Dominican Republic (Ryvarden 2004). We have collected this species before on US Virgin Islands and Jamaica; the ITS rRNA region sequences of these collections are nearly identical. All collections are from living hardwoods.

Comments – *Inonotus micantissimus* may be recognized by its resupinate or somewhat bulbous, very dark brown basidiomata, abundant setal hyphae as well as hymenial setae and large, globose, hyaline basidiospores, 10–13 μm in diam.

Fuscoporia callimorpha (Lév.) Groposo, C.L. Leite & Góes-Neto Photos 3–5

Descriptions – Ryvarden & Johansen (1980:145); Loguercio-Leite & Wright (1995).

Photo 3: *Fuscoporia callimorpha* JV0904/87, in situ.

Specimens examined – **USA**. **Florida**: Broward County, Davie, Tree Tops Park, 26.IV.2009 (JV0904/174, 178); 28.XII.2003 (JV0312/28.5-J); Everglades Nat. Park, Long Pine Key Campground, 27.VIII.2010 (JV1008/43); 29.VIII.2010 (JV1008/63); Everglades Nat. Park, Royal Palm, 19.IV.2009 (JV0904/33); 22.IV.2009 (JV0904/87, ITS rRNA JF692190&191, JV0904/88); 20.XII.2003 (JV0312/20.1-J, 20.5-J, ITS rRNA JF692192); 28.XII.2003 (JV0312/28.5-J); Dade County, Miami, Matheson Hammock Nature Area, 26.VIII.2010, leg. & det. J. Vlasák (JV1008/10); 19.IV.2009 (JV0904/13–16); 24.XII.2003 (JV0312/24.2-J,24.8-J); Highlands County, Highlands Hammock

Photo 4: *Fuscoporia callimorpha* JV0904/155, in collection.

St. Park, 25.IV.2009 (JV0904/155); Saint John County, St. Augustine, Washington Oaks St. Park, 20.XII.2002 (JV0212/7-J); Sarasota County, Myakka River St. Park, 24.IV.2009 (JV0904/143, 144); **US Virgin Islands**, St. John, 4.IX.2004, leg. J. Vlasák Jr., det. J. Vlasák, (JV0409/14-J, ITS rRNA JF692193, 15-J). **BELIZE**. Cockscomb Basin, 30.X.2006, leg. J. Kout, det. J. Vlasák (JV0610/13P-K). **GUATEMALA**. Tikal, 4.XI.2006, leg. J. Kout, det. J. Vlasák (JV0611/1P-K, K3C-K). **MEXICO**. **Veracruz**: Los Tuxtlas, 12.X.2006, leg. J. Kout, det. J. Vlasák (JV0610/S-K); **Chiapas**: Palenque, Campground, 19.X.2006, leg. J. Kout, det. J. Vlasák (JV0610/6P-K). **VENEZUELA**. Cueva el Guacharo, 22.II.2004, leg. J. Kout, det. J. Vlasák (JV0402/41, 42).

Distribution & ecology – Africa (Ryvarden & Johansen 1980), Central America (Lowe 1957), Brazil (Loguercio-Leite & Wright 1995). On dead hardwoods.

Comments – This annual, sometimes reviving, corky hard species is by far the most common pileate *Phellinus* in southern Florida. Accordingly, it is also a very variable species forming usually flat applanate pilei but sometimes also triquetrous or effused-reflexed basidiomes or fully effused (on the log underside) with detached sharp margin. No cuticle or black line develops under the pileus tomentum, which is quite persistent, usually structured in sharp zones (agglutinated in some), exuding a thin waxy layer that is somewhat shiny-glossy and silvery. This important field trait is, however, not obvious in old pilei with hardened surfaces. The pore surface is much more constant: fulvous

Photo 5: *Fuscoporia callimorpha* JV0312/20.1 and JV0312/20.5, in collection.

with a purplish tint and pores that are very small (7–9 per mm), very regular, round, and with thick dissepiments. Hymenial setae are short (≤ 25 μm), not much contrasting, abundant in some specimens but very rare and difficult to find in others. In the hymenium are thin-walled, ventricose cystidioles (necks ≤ 10 × 1.5-2 μm) that are not mentioned in descriptions but well pictured in Loguercio-Leite & Wright (1995). Basidiospores (oblong ellipsoid, hyaline, thin-walled, 3.5–4.2 × 2.2–2.9 μm) are always collapsed and difficult to find in winter and early spring collections.

This species is evidently a taxonomical problem. The ITS rRNA region sequence is identical with the GenBank sequence AY558649 from culture CBS 182.34. In 1934 Overholts isolated the culture in the USA as *Phellinus torulosus* (Pers.) Bourdot & Galzin. Tomšovský & Jankovský (2007) showed, however, that this sequence differs from the European *Fuscoporia (Phellinus) torulosa* (Pers.) T. Wagner & M. Fisch. Moreover, *Fu. torulosa* develops much thicker basidiomes that are very persistent, even on dead wood for more than 25 years. *Fu. torulosa* probably does not occur in the USA, for there are no reliable records (see also Rizzo et al. 2003) and we were not able to find it despite numerous excursions in Pennsylvania and Virginia where it should have optimal conditions for growth.

Phellinus roseocinereus (Murrill) D.A. Reid, described from North America and widespread in Central America (Lowe 1957), corresponds very well to this common Florida polypore. However, we agree with Ryvarden & Johansen (1980) and Loguercio-Leite & Wright (1995), who consider *P. roseocinereus*

identical to *Fu. callimorpha*, described originally from Madagascar. Corner (1991) was unable to detect any difference between *Phellinus senex* (Nees & Mont.) Imazeki from Asia and *P. callimorphus,* except for slightly narrower spores of the latter. The sequence of *Fuscoporia senex* (Nees & Mont.) Ghob.-Nejh. in GenBank AY558647 (isolate CBS 442.76 of B.K. Bakshi from India), which is really much more similar to our sequences than *Fu. torulosa,* still clusters separately (with 99% bootstrap support, not shown). Judging from the literature and our examinations of two *Fu. senex* specimens from China, we think that *Fu. senex* has only an indistinctly zonate pileus surface, lacks glossy zones, and produces broader spores (>3.5 μm; compared to always <3 μm in *Fu. callimorpha*). Also, older *Fu. senex* spores are sometimes slightly thick-walled and yellowish, never true in *Fu. callimorpha.*

Phellinus neocallimorphus Gibertoni & Ryvarden, known only from the type locality in Brazil, differs from *Fu. callimorpha* only by the absence of setae. Nevertheless, we also could not find any setae in some of our specimens (e.g. 0312/20.5) although in other respects, including rDNA ITS region sequence, the specimens were typical. More detailed study of *P. neocallimorphus* is needed, evidently.

Phellinus gilvus (Schwein.) Pat. is another quite similar species found in southern Florida, although not as often as elsewhere in the USA. The similar basidiomes are, however, glabrous, without tomentum, azonate, and softer. Although also hyaline and thin-walled, *Ph. gilvus* spores are ovoid and 3–3.5 μm broad.

We have sequenced nine collections of *Fu. callimorpha* from southern Florida, US Virgin Islands, and Mexico with markedly different pileus forms, and, except for a few mutations, all sequences are the same. We infer that there is no other similar species in the region.

Phellinus calcitratus (Berk. & M.A. Curtis) Ryvarden Photo 6

Description – Ryvarden (2004: 162).

Specimens examined – **USA. Florida**: Broward County, Davie, Tree Tops Park, 26.IV.2009 (JV0904/167); Dade County, Miami, Matheson Hammock Nature Area, 30.VIII.2010, leg. & det. J. Vlasák (JV1008/83, ITS rRNA JF894114, JF894115); 26.VIII.2010 (JV1008/11); 19.IV.2009 (JV0904/12).

Distribution & ecology – South America, West Indies (Ryvarden 2004). Locally abundant in the Matheson Hammock Nature Area but rare elsewhere. Always on rather thick, old, decorticated logs, probably oaks.

Comments – This is a characteristic species with a broadly attached, applanate pileus with a sharp margin and thick crustulose black zone under hard tomentum. The very thin-walled tubes are unique for *Phellinus* species in the region. Spores are thick-walled, globose, yellow to brown. The sequence shows no homology with GenBank sequences.

Photo 6: *Phellinus calcitratus* JV1008/83.

Phellinus caribaeo-quercicola Decock & S. Herrera Photo 7

Description – Decock et al. (2006).

Specimens examined – **USA. Florida**: Broward County, Davie, Tree Tops Park, 26.IV.2009, leg. & det. J. Vlasák (JV0904/177, ITS rRNA GU594159); Everglades Nat.

Photo 7: *Phellinus caribaeo-quercicola* JV0904/28-J.
(The photo was taken one year after breaking off the original basidiome.)

Park, Royal Palm, 19.IV.2009, leg. J. Vlasák Jr., det. J. Vlasák (JV0904/28-J, PRM915960, ITS rRNA GU594158); 20.XII.2003 (JV0312/20.7-J).

Distribution & ecology – Described relatively recently from western Cuba as growing exclusively on *Quercus cubana* A. Rich. (Decock et al. 2006). Nevertheless, it seems not to be rare around Miami on dead stems and branches of *Q. virginiana*.

Comments – *Phellinus caribaeo-quercicola* produces large perennial bulbous or semipileate basidiomes, usually with several layers of rather long tubes. The rare to abundant thick-walled setae with hooked tips and subglobose thick-walled light yellowish spores are characteristic. The ITS rRNA of our collections corresponds perfectly to the published sequence (Decock et al. 2006).

Phellinus nilgheriensis (Mont.) G. Cunn. Photo 8

Description – Ryvarden & Johansen (1980:187).

Specimens examined – **USA**. **Florida**: Dade County, Hwy 41, Kirby Storter Boardwalk, 28.VIII.2010, leg. & det. J. Vlasák (JV1008/49); (JV1008/50); 23.IV.2009 (JV0904/112, PRM915957).

Distribution & ecology – Southeast Asia, Africa, Cuba (Ryvarden & Johansen 1980), French Antilles, and Guiana (David & Rajchenberg 1985), Brazil (Groposo et al. 2007); always on hardwoods. Not previously published from the USA. However, around the Kirby Storter boardwalk at a Hwy 41 wayside, the fungus grows on several living *Taxodium distichum* (L.) Rich. trees in the slough, approximately at the height of summer-time water level.

Comments – The applanate pilei, not as hard as in similar *Phellinus* species, are typically more or less glabrous with a narrow rounded margin and rather bright

Photo 8: *Phellinus nilgheriensis* JV1008/50 on living *Taxodium distichum*.

brown context. Lack of setae and subglobose thick-walled, yellow to rusty brown spores (in Melzer's) may remind of *Fomitiporia* when viewed in Melzer's reagent. It seems to be annual but reviving species— new tubes overgrow dead the previous year's tubes with the tube layers separated by a context tissue layer. The ITS rRNA of our collections corresponds perfectly to published sequence AY558633.

Polyporaceae Fr. ex Corda

Coriolopsis hostmannii (Berk.) Ryvarden — Photo 9

Description – Ryvarden (2007).

Specimens examined – (all on living buttonwood mangrove) **USA. Florida**: Collier County, Hwy 41, Collier-Seminole State Park, 24.XII.2003, leg. J. Vlasák, det. L. Ryvarden (JV1008/56, 57); 23.IV.2009, leg. & det. J. Vlasák (JV0904/125); 25.XII. 2003, leg. J. Vlasák Jr., det. J. Vlasák (JV0312/25.7-J); Monroe County, Florida Keys, Long Key State Park, 27.VIII.2010, leg. J. Vlasák, det. L. Ryvarden (JV1008/42).

Distribution & ecology – Pantropical. This species is probably confined to living buttonwood (*Conocarpus erectus* L. (*Combretaceae*)). Its ecology was extensively treated in several papers about buttonwood polypore populations (Bergeman et al. 2009, Parrent et al. 2004) using the name "*Datronia caperata* (Berk.) Ryvarden from buttonwood", even though the authors were aware that their fungus is not conspecific with typical *D. caperata*. Our ITS rRNA sequence

Photo 9: *Coriolopsis hostmannii* JV1008/42 on living buttonwood.

corresponds very well with their published sequences and differ from an authentic *D. caperata* sequence.

Comments – This is a very typical and relatively common species. Nonetheless, it appears in the mycological literature quite rarely under its proper name. It seems to be often misinterpreted, for example as *Datronia caperata*, a South American species with similar spores and pores but with a dark brown context, tough trametoid consistency, and coarsely hirsute pileus. *Coriolopsis hostmannii* looks more like a pileate *Inonotus* species because of its relatively soft context and bright brownish colors in all parts of basidiome. The pileus surface is glabrous to shiny-glossy, the pores are very small and regular, and the pore surface is characteristically uneven.

Coriolopsis polyzona (Pers.) Ryvarden

Description – Ryvarden & Johansen (1980: 291).

Specimens examined – **USA. Florida**: Dade County, Florida City, irrigation canal dam, 29.VIII.2010, *Ficus* sp., leg. J. Vlasák Jr., det. J. Vlasák (JV1008/64-J). **BELIZE.** Cockscomb Basin, 30. X. 2006, hardwood, leg. J. Kout, det. J. Vlasák (JV0610/A8-K). **JAMAICA.** Ocho Rios, 12.VI.2008, hardwood, leg. J. Vlasák Jr., det. J. Vlasák (JV0806/12-J). **MEXICO. Veracruz**: Montepio, 14.X.2006, hardwood, leg. J. Kout, det. J. Vlasák (JV0610/A16-K); Los Tuxtlas, 12.X.2006, hardwood, leg. J. Kout, det. J. Vlasák (JV0610/A14A-K).

Distribution & ecology – Pantropical, on dead hardwoods (Ryvarden & Johansen 1980:291). We collected this species many times in Mexico, Belize, and Jamaica but only once in Florida, in a typical man-influenced locality.

Comments – Common in South America and resembling the boreal *Trametes hirsuta* (Wulfen) Lloyd but with even more pronounced and more hirsute zones on pileus surface and larger, less regular pores that are often a bit elongated in various directions. The broader spores of *C. polyzona* are narrowly elliptic but not cylindric.

Navisporus floccosus (Bres.) Ryvarden Photo 10

Description – Torres-Torres et al. (2007).

Specimen examined – **USA. Florida**: Dade County, Miami, Old Cutler road alley, hardwood stump, 26.VIII.2010, leg. & det. J. Vlasák (JV1008/30, ITS rRNA JF692195).

Distribution & ecology – Africa, Southeast Asia (Ryvarden & Johansen 1980), Cuba, Mexico (Torres-Torres et al. 2007), Costa Rica (Mata et al. 2007).

Comments – Remarkable, very large (≤ 50 cm wide × 10 cm thick) pilei reminding large *Ganoderma* P. Karst. distinguish this species. The glabrous pileus surface has a patchy black cuticle or thin azonate crust. The thick light brown context has a relatively soft consistency and is strikingly lightweight when dry. Because of large naviculate spores, this species is traditionally classified close to *Navisporus sulcatus* (Lloyd) Ryvarden, also a South Florida

Photo 10: *Navisporus floccosus* JV1008/30.

species, but very different, with small, effused-reflexed pilei and relatively large pores. Decock (2007) has commented critically on the taxonomical position of *N. floccosus*.

Skeletocutis diluta (Rajchenb.) A. David & Rajchenb. Photo 11

Description – David & Rajchenberg (1992).

Specimens examined – **USA. Florida**: Dade County, Everglades Nat. Park, Long Pine Key, Campground, 29.VIII.2010, *Pinus elliottii* log, leg. & det. J. Vlasák (JV1008/61, ITS rRNA JF692198); Long Pine Key, Pinelands Trail, 20.IV.2009, *Pinus elliottii* log, leg. & det. J. Vlasák (JV0904/44); (JV0904/45). **BELIZE**. Cockscomb basin, 30.X.2006, hardwood, leg J. Kout, det. J. Vlasák (JV0610/16-K, ITS rRNA JF692197); 29.X.2006, hardwood, leg J. Kout, det. J. Vlasák (JV0610/G4-K).

Distribution & ecology – Argentina, Africa (David & Rajchenberg 1992), Panama (Núñez & Ryvarden 1999). Mostly on hardwoods but the type was collected in Argentina on *Pinus taeda* L. (Rajchenberg 1983). In Florida it occurs on logs of slough pine (*Pinus elliottii*) in seasonally flooded parts of the Everglades Long Pine Key region. Probably not rare as we noted several quite disintegrated basidiomes in dry wintertime. During the next summer the whole area was a half meter under water and we could collect only one well developed specimen just on the edge of a water basin.

Comments – Dextrinoid to weakly amyloid skeletals that dissolve in KOH and the tiny spores make this species unmistakable. The species was originally described as "resupinate or effused-reflexed." Although our collections from Belize on hardwoods are always pileate, our Florida specimens (collected on pine) are strictly resupinate. Also, from the microphotography, the spores

Photo 11: *Skeletocutis diluta* JV1008/61 on *Pinus elliottii* log.

seem to be only 2.5 × 0.4 µm, smaller than published (3.1–3.5 × 0.5–0.8 µm). Nevertheless, the ITS rRNA sequences of Belize and Florida samples are nearly identical. Though originally described as a variety of *S. nivea* (Rajchenberg 1983), the ITS rRNA sequence shows no significant homology with *S. nivea* (Jungh.) Jean Keller but low homology with *S. chrysella* Niemelä (91%) and *S. kuehneri* A. David (90%).

Trametes lactinea (Berk.) Sacc.

This species is treated separately in Vlasák & Kout (2011).

Trametes ochroflava Cooke Photo 12

= *Daedalea microsticta* Cooke

Description – Fidalgo & Fidalgo (1967: 848).

Specimen examined – **USA. Florida**: Dade County, Miami, Fairchild Botanical Garden, *Albizia* stump, 24. XII. 2003, leg. J. Vlasák Jr., det. J. Vlasák (JV0312/24.17-J, PRM915968).

Distribution & ecology – South and Central America, Mexico, West Indies. Dead deciduous trees (Ryvarden & Aime, unpublished).

Comments – *Trametes ochroflava* is characterized by large, flat, tough, whitish pilei with labyrinthine pores and brownish context and trama. Pores often appear also on pileus surface. The species was long known as *Daedalea microsticta* and only recently has the older and more appropriate name been

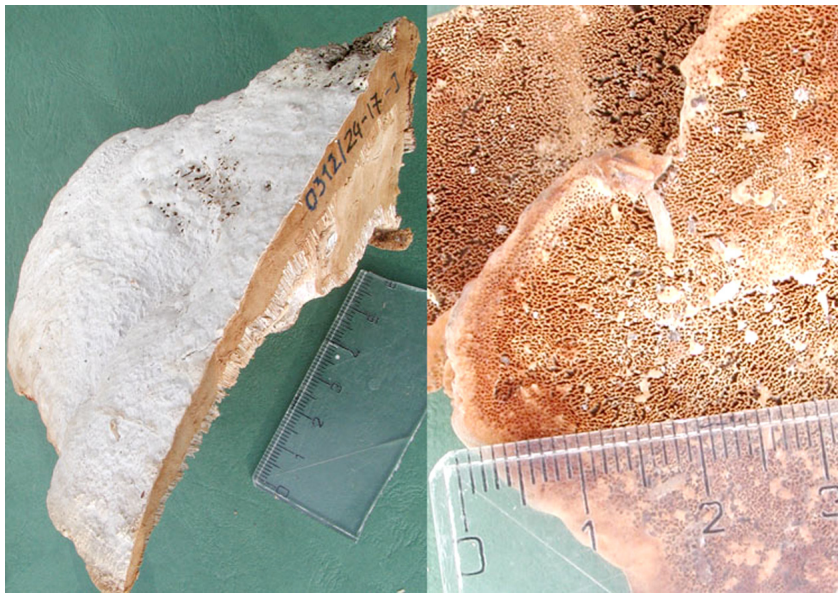

Photo 12: *Trametes ochroflava* JV0312/24.17 in collection.

applied (Ryvarden & Aime, unpublished). The type of rot is unknown but the sequence shows similarity to *Trametes* Fr., not *Daedalea* Pers. The sequence of our specimen is identical with the published sequence FJ403209.

Ceriporiopsis cystidiata C.L. Leite, G.V.C. Gonç. & Ryvarden

Description – Loguercio-Leite et al. 2001.

Inconspicuous, white resupinate polypore with 2–3 mm long tubes and very thin subiculum, margin and touched places somewhat yellowish when dry.

Specimen examined – **USA**. **Florida**: Dade County, Miami, Matheson Hammock Nature Area, 26.VIII.2010, hardwood, leg. & det. J. Vlasák (JV1008/26).

Distribution & ecology – up to now known only from the type locality: Brazil, dead hardwood.

Comments –The abundant hymenial cystidia and cylindrical but rather thick straight spores are diagnostic.

Wrightoporia bracei (Murrill) I. Lindblad & Ryvarden Photo 13

= *Amylosporus bracei* (Murrill) A. David & Rajchenb.

Description – Murrill 1921, Rajchenberg 1983.

Strikingly pinkish-violet resupinate polypore, widely effused on the substrate, with tiny pores (5–7 per mm). Spores amyloid, ovoid, 3.5–4 × 2.5–3 finely

Photo 13: *Wrightoporia bracei* JV1008/77 in situ.

echinulate, hyphal system dimitic, skeletal hyphae weakly dextrinoid, generative hyphae with simple septa.

Specimen examined – **USA**. **Florida**: Monroe County, Florida Keys, Key Largo, John Pennekamp Coral Reef State Park, 29.VIII.2010, hardwood, leg. & det. J. Vlasák, (JV1008/77, ITS rRNA JF692199).

Distribution & ecology – Argentina (Rajchenberg 1983), French Antilles (David & Rajchenberg 1985), Bahamas, Puerto Rico (Murrill 1921). Tropical hardwood forest.

Comments— Contrary to original description, this specimen is strongly rhizomorphic, perhaps due to the growth on an underside of a log and its violet colors are unchanged after drying. The species was transferred to *Amylosporus* Ryv. by David & Rajchenb. (1985), but the rRNA ITS sequence shows only low homology with *Wrightoporia lenta* (Overh. & J. Lowe) Pouzar and *W. luteola* B.K. Cui & Y.C. Dai (GenBank) and none at all with *Amylosporus campbellii* (Berk.) Ryvarden (our sequences JF692200, JF692201).

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