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FUNGUS FLORA OF THE DOMINICAN REPUBLIC. XI. SOME UNRECORDED POLYPOROID AND CORTICIOID FUNGI S.L.

Abstract

Three polyporoid (Fomitopsis malicola, Haploporus alabamae, Porpomyces mucidus), and four corticioid s.l. (Phlebiopsis amethystea, Thelephora paraguayensis, Tremella fibulifera, Vuilleminia tropica) neotropical fungi all collected in the Dominican Republic are here represented and annotaded.

Riassunto

Vengono qui rappresentate con brevi note a commento tre specie poliporoidi (Fomitopsis malicola, Haploporus alabamae, Porpomyces mucidus) e quattro specie corticioidi s.l. (Phlebiopsis amethystea, Thelephora paraguayensis, Tremella fibulifera, Vuilleminia tropica) di funghi neotropicali raccolti in Repubblica Dominicana.

Key words *Basidiomycota, Aphyllophorales*, sub-tropical zone, Caribbean.

Introduction

Following our previous contributions to the knowledge of fungi of Dominican Republic (Angelini & Losi 2013a, 2013b, 2014, 2015, 2016, 2018, 2021, 2023 and 2024a, 2024b), here are represented other seven records not previously annotated. The collecting and research areas in the Dominican Republic have been described in detail in our previous works (Angelini & Losi 2013a, 2013b, 2014) and on the website *"Neotropicalfungi - Hongos de la Republica Dominicana"* (*www.neotropicalfungi.com*).

Legend ANGE: Angelini C., personal herbarium, waiting to be deposited in the Herbarium of the National Botanical Garden of Santo Domingo (Dominican Republic - JBSD).

TAXONOMY

Polyporoid fungi

Family *Fomitopsidaceae* Jülich 1982

(as defined in Angelini & Losi 2015)

Genus *Fomitopsis* P. Karst. 1881

Basidiomata pileate, effused reflexed or resupinate, or stipitate in a few species, variably coloured. **Hymenophore** poroid (in one species concentrically lamellate). **Hyphal structure** dimitic or (rarely) monomitic; **generative hyphae** clamped (clamps rare amongst mostly simple septa in one species), **skeletal hyphae** occasionally branched. **Cystidioles**, **hymenial cystidia** or **skeletocystidia** present in many taxa. **Hyphidia** occasionally present, as a rule simple. **Basidia** clavate, four-spored, normally under 25 μm long. **Basidiospores** hyaline, thin-walled or with a distinct wall (in two species slightly thick-walled), cylindrical to ellipsoid, rarely broadly ellipsoid or subglobose, 3-16 × 2-5.5 μm, inamyloid. Causing brown rot of dead wood of angiosperms and conifers (Spirin *et al.* 2024).

Fomitopsis malicola (Berk. & M.A. Curtis) Spirin

Basidiomata resupinate to effused-reflexed or sessile, often imbricate or fused laterally, individual pilei projecting up to 2 cm from the substrate and up 3 cm long, effused parts up to

4 cm in widest dimension, separable. Upper surface of pilei uneven, at first finely pubescent, later agglutinated glabrous or scrupose from tufted hyphae, brown, grayish to withish, azonate or with 2-3 indistinct zones; margin white, rarely cream to pale brown. **Pore surface** white to pale brown; **pores** angular, less often round, 2-4 per mm, frequently elongated-sinuous or somewhat daedaleoid, **tubes** concolorous or paler, up to 3 mm deep. **Context** omogenous, whitish to pale brown, up to 2 mm thick. **Hyphal system** dimitic; skeletal hyphae dominating, thick-walled, 2-6 μm in diam., with distinct lumen; **generative hyphae** thin-walled, 2-4 μm wide. **Basidia** not observed. **Basidiospores** cylindrical to narrowly ellipsoid, usually arcuate near apiculus, 9-10.2 × 3-3.5 μm. **Distribution** in the neotropics known from Caribbean (Spirin *et al*. 2016), Mexico, Costa Rica, Venezuela, Bolivia, Perù, Brazil, Argentina (GBIF). **Material studied** growing on trunks on the ground in a coastal broadleaf forest. 17 Nov. 2024, Sosua (P.to Plata), DR. *Exiccatum*: ANGE2017 (**Fig. 1**).



Fig. 1. *Fomitopsis malicola.* ANGE2017. Foto di Claudio Angelini

Family ***Hydnodontaceae*** Jülich 1981
(as defined in Angelini & Losi 2016)

Genus ***Porpomyces*** Jülich 1982.

Basidiomata resupinate, soft. **Hymenophore** poroid. **Hyphal system** monomitic, **generative hyphae** with clamp connections, hyaline, with ampullate septa in hyphal cords. **Cystidia** absent. **Basidiospores** subglobose to ellipsoid, hyaline, thin-walled, smooth, inamyloid, indextrinoid, acyanophilous. On wood (Liu S.L. *et al*. 2022).

Porpomyces mucidus (Pers.) Jülich

Basidiomata resupinate, soft and cottony when fresh, brittle when dry. **Pore surface** white to cream-coloured, **pores** angular, 4-6 per mm, at first copulate then in parts elongated-sinuous, **tubes** concolorous up to 1 mm deep; margin white, byssoid-fibrillose to rhizomorphic or not

differentiated. Subiculum white, thin, about 0.5 mm thick. **Hyphal system** monomitic; cords present both in the subiculum and in the substratum, white. Hyphae clamped, thin- to slightly thick-walled, 2-5 µm wide, crystals occur frequently as aggregates of sharp bipyramides; ampullate septa frequent, in subiculum and more often in rhizomorphs, up to 12 µm wide. **Basidia** cylindrical, often with a slight median constriction, 9-15 × 4-5.2 µm, with four sterigmata. **Basidiospores** smooth, thin- to slightly thick-walled, broadly ellipsoid, ovoid to subglobose, 2.5-3.5(-4) × 2-3 µm. **Distribution** in the neotropics recorded from Puerto Rico, Costa Rica, French Guiana, Panama, Ecuador, Venezuela (GBIF), Argentina (Rajchenberg 2006). **Material studied** growing on ground branches in a mixed mountain forest with pines (*Pinus occidentalis* Sw.). 14 Jan. 2025, Jarabacoa (La Vega), DR. *Exiccatum*: ANGE2056 (**Fig. 2**).



Fig. 2. *Porpomyces mucidus.* ANGE2056. Foto di Claudio Angelini

Family ***Polyporaceae*** Fr. Ex Corda 1839
(as defined in Angelini & Losi 2014)

Genus ***Haploporus*** Bondartsev & Singer 1944

Basidiomata resupinate to pileate. **Hyphal system** monomitic, dimitic to trimitic with clamped **generative hyphae**; thick-walled, cyanophilous, and ornamented **basidiospores**, and causing a white rot (Man *et al.* 2023) mostly on angiosperms (Zhao *et al.* 2023).

Haploporus alabamae (Berk. & Cooke) Y.C. Dai & Niemelä

Basidiomata resupinate, soft corky consistency when fresh, hard and brittle when dry. **Pore surface** pale yellow ochre to pinkish buff, **pores** round to angular, 4-6 per mm, dissepiments entire, **tubes** concolorous up to 1,5 mm deep; margin distinct, white, byssoid. Subiculum white, thin, spongy-fibrous, up to 0,5 mm thick. **Hyphal system** dimitic; **generative hyphae** difficult to observe, with clamps, thin-walled, 2-3 µm wide, **skeletal hyphae** thick-walled, 2-4 µm wide, dextrinoid, with occasional branching. **Basidia** not observed. **Basidospores** cylindrical

to narrowly ellipsoid, hyaline, slightly thick-walled, with longitudinal rows of warts, (9-)10-12(-13) × 5-5.4(-6) µm, IKI-. **Distribution**: tropical and subtropical species (Gilbertson & Ryvarden 1987). **Material studied** growing on branches on the ground in a riparian broadleaf forest. 2 Feb. 2025, Sosua (P.to Plata), DR. *Exiccatum*: ANGE2068 (**Fig. 3**).



Fig. 3. *Haploporus alabameae.* ANGE2068. Foto di Claudio Angelini

Corticioid fungi s.l.

Family ***Phanerochaetaceae*** Jülich 1982

(as defined in Angelini & Losi 2013)

Genus ***Phlebiopsis*** Jülich 1978

Basidiomata resupinate to effused-reflexed, membranaceous-subceraceous. The **hymenophore** is mostly smooth, but tuberculate, odontioid or even poroid hymenophore also occur in some species. Microscopically, *Phlebiopsis* is characterized by having a subiculum of mostly dense-compact texture, a **mono-dimitic hyphal system** with ordinarily simple-septate hyphae, and the presence of colorless to brown **lamprocystidia** or **skeletocystidia** (Chen *et al.* 2021).

Phlebiopsis amethystea (Hjortstam & Ryvarden) R.S. Chikowski & C.R.S. de Lira

Basidiomata separable, membranous to soft coriaceous, pliable, up to 1.5 mm thick, effused-reflexed to pileate, umbonate, fanshaped, dimidiate or broadly sessile, solitary or more often imbricate to fused laterally, individual pilei projecting up to 2.5 cm from the substrate and up 3.5 cm long. Upper **surface** of pilei more or less uneven, at first glabrous later tomentose to hirsute, sulcate-zonate, violet, lavender, bluish, whitish, grey, ochre to brown; margin thin, regular to wavy, whitish. **Hymenophore** smooth to radially wrinkled, purplish brown, purplish black, violet; the whole basidiome becomes beige to brown when dry often with purple hues on the hymenium. **Hyphal system** dimitic. **Generative hyphae** predominant, thin- to thick-walled,

simple-septate, hyaline to light brown, brown in mass in the conext, 3-5 µm in diameter, up to 10 µm wide in the tomentum; **skeletal hyphae** thick-walled to solid, up to 5 µm wide, subhyaline, some projecting into the hymenium as acute or obtuse **skeletocystidia**. **Cystidia** scattered in the basidioma, metuloid, with a variable cover of crystals, 50-70(-80) × 9-18 µm completely naked, to 30 µm with large, hyaline crystals; contextual metuloids brown to dark brown, hymenial metuloids subhyaline to pale brown. **Basidia** 25-35 × 5.5-6.5(-7) µm, clavate, with 4 sterigmata. **Basidiospores** narrowly ellipsoid to ellipsoid, thin- to slightly thick-walled, hyaline, (6-)6.5-8(-8.5) × 3.5-4(-4.2) µm; basidiospores in the holotypus, 5-6 × 3-3.5 µm (Hjortstam & Ryvarden 1990). **Distribution** *Phlebiopsis amethystea* is one of the most common stereoid fungi in Brazil, but rarely reported elsewhere (Ecuador, Welden 2010) even if the geographical distribution is apparently much wider due to the morphological similarities with *Ph. crassa* (Xavier de Lima *et al.* 2020). **Material studied** growing on trunks on the ground in a coastal broadleaf forest. 18 Jan. 2025, Sosua (P.to Plata), DR. *Exiccatum*: ANGE2063 (**Fig. 4**).

Remarks see Angelini & Losi 2013 as *Hjortstamia papyrina*.



Fig. 4. *Phlebiopsis amethystea.* ANGE2063. Foto di Claudio Angelini

Family *Vuilleminiaceae* Maire 1902

Basidiomata resupinate, rarely effused-reflexed, context homogeneous. **Hyphal system** monomitic. **Hyphae** hyaline, rarely yellowish, distinct or indistinct, thin- to somewhat thick-walled, clamps present in most taxa. **Hyphidia** present, strongly branched. **Basidia** large, utriform to narrowly clavate. **Basidiospores** large, hyaline, globose, ellipsoid to cylindrical or allantoid, smooth, inamyloid (Jülich 1981).

Genus *Vuilleminia* Maire 1902

Basidiomata resupinate. **Hyphal system** monomitic, **hyphae** clamped, usually thin-walled, hyaline, **dendrohyphidia** present. **Basidia** long, utriform to clavate, pedunculated, sinuous, 4-spored. **Basidiospores** allantoid to ellipsoid, large, smooth, with oil drops, IKI-, CB- (Gorjón 2020).

Vuilleminia tropica Hembrom, A. Ghosh, A. Parihar & K. Das

Basidiomata resupinate, closely adnate, subceraceous when fresh, tough and somewhat brittle when dry. **Hymenial surface** smooth, glabrous to minutely felty, golden yellow to pale yellow ochre; margin white, byssoid. Subiculum up to 0,4 mm thick, white. **Hyphal system** monomitic; **hyphae** clamped, thin- to thick-walled, hyaline, 2-5 µm wide, mostly densely arranged; no cystidia; **hyphoid hymenial** elements simple or furcate towards the apices, embedded to projecting, infrequently present but true **dendrohyphidia** not observed. **Basidia** narrowly clavate, 45-55 × 7-10 µm, with four sterigmata. **Basidiospores** narrowly ellipsoid, cylindrical to suballantoid, slightly to moderately thick-walled, with oil inclusions in the protoplasm, 11-15 × 4.5-6.5 µm. **Distribution** described from India. *V. tropica* seems to be first reported from the Neotropics. **Material studied**: growing on trunks on the ground in a riparian broadleaf forest. 10 Apr. 2023, Sosua (P.to Plata), DR. *Exiccatum*: ANGE1868 (**Fig. 5**).

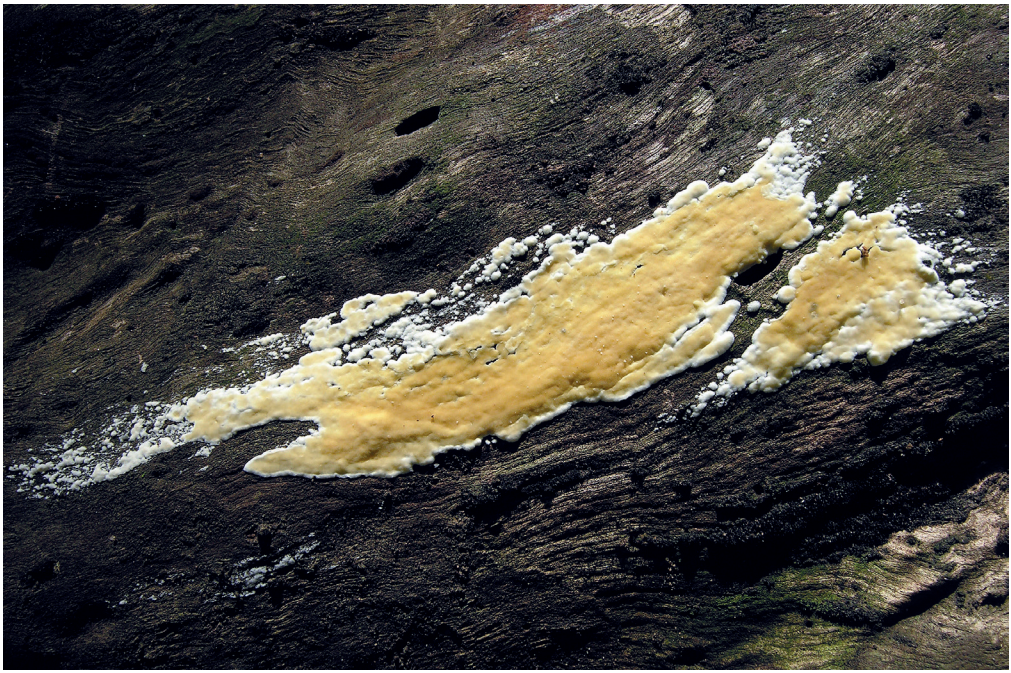


Fig. 5. *Vuilleminia tropica.* ANGE1868. Foto di Claudio Angelini

Family *Tremellaceae* Fr. 1821

Genus *Tremella* Pers. 1794

(as defined in Angelini & Losi 2024)

Tremella fibulifera Möller

Basidiomta sessile, firmly gelatinous, irregularly pustulate at first, becoming cerebriform to slightly foliose with undulate lobes, up to 2 cm in diam., surface smooth, from hyaline to translucently white or yellowish when fresh drying buff-coloured. **Internal hyphae** thin- to thick-walled, 2.5-6 µm in diam., hyaline, with obvious clamp connections often medallion-like (clamp complexes); **hyphidia** hyaline, 0.5-1.5 µm wide, thin-walled, branched. **Basidia** broadly ellipsoid, ovoid, clavate to subglobose, 2-4 celled, usually longitudinally septate, with a basal clamp connection, 14-20(-25) × 10-16 µm, with oil drops; sterigmata up to 120 µm long and up

4.5 µm in diameter. **Probasidia** globose to subglobose, 10-14 µm across, mostly proliferating directly from basidial clamps. **Basidiospores** broadly ellipsoid, ovoid to subglobose, hyaline, thin-walled, with pronounced apiculus, 7-12 × 5.5-9 µm; **conidia** present, hyaline, thin- to slightly thick-walled, globose, ellipsoid to ovoid, 1-4 µm across. **Distribution**: morphologically the specimen studied (Ange2030) agrees with *T. fibulifera s.s.* examined from Brazil by Fan *et al.* (2021). **Material studied** growing on ground trunk in a mixed mountain forest with pines (*Pinus occidentalis*) in association with *Pyrenomycetes* and *Schizopora radula*. 26 Nov. 2024, Jarabacoa (La Vega), DR. *Exiccatum*: ANGE2030 (**Fig. 6**).



Fig. 6. *Tremella fibulifera.* ANGE2030. Foto di Claudio Angelini

Family ***Thelephoraceae*** Chevall 1826

Genus ***Thelephora*** Ehrh. ex Willd.

(as defined in Angelini & Losi 2018)

Thelephora paraguayensis Corner

Basidiomata up to 3.5 cm high and 2.5 cm wide, gregarious, leathery when fresh, hard and brittle when drying, centrally stipitate and clavarioid with narrow, smooth, branches; blackish, purplish black, purplish brown. Lower branches cylindrical, cylindrical to flattened in upper parts, apices often filiform, cylindrical to flattened sub-cristate, concolorous or paler than the lower branches. **Stipe** cylindrical, surface smooth, blackish, in part immersed in the ground, up to 15 × 4 mm. **Hyphal system** monomitic, **hyphae** commonly clamped and infrequently simple-septate; subhymenium and hymenium cyanescent in 3% KOH. Contextual hyphae subhyaline to brown, thin- to slightly thick-walled, 2-4 µm in diam; subhymenial hyphae thin-walled, short-celled, 3-7 µm in diam. **Basidia** 25-55 × 7-8 µm, with four sterigmata. **Basidiospores** broadly ellipsoid to globose, brown, aculeolate, 7-10 × 6-8.5(-10) µm, including

ornamentations. **Distribution** in the neotropics, recorded from Brazil, Colombia, Paraguay (GBIF). **Material studied** growing in the meadow on the edge of a mountain mixed forest with pines (*Pinus occidentalis*). 26 Nov. 2024, Jarabacoa (La Vega), DR. *Exiccatum*: ANGE2029 (**Fig. 7**).



Fig. 7. *Theleohora paraguayensis*. ANGE2029. Foto di Claudio Angelini

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