Antrodia pini-cubensis, a new polypore from the Caribbean area

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During a five month’s stay in Cuba (November 19, 1966 – April 19, 1967) the second author collected rich material of many macromycetes in various parts of this island. Ten species of polypores were selected from this material and published as rare or new species for Cuba (Kotlaba, Pouzar et Ryvarden 1984). Among these species, one very interesting resupinate polypore was mentioned which has been collected on 13. III. 1967 on a fallen, dead trunk of the East-Cuban endemic pine Pinus cubensis Gris. near Mayarí (SE of Holguín) in the mountains of Sierra de Nipe, province Oriente (eastern part of Cuba). Part of this material was sent to J. L. Lowe, who identified it at that time as Poria oleracea Davids. et Lomb. and, in the mentioned paper, it was cited as Antrodia oleracea (Davids. et Lomb.) Ryv.

In 1991, the first author studied several herbarium specimens of Poria oleracea Davids. et Lomb. on loan to the National Museum in Prague by the Forest Products Laboratory, Madison, U.S.A. and, at the same time, he also revised the above mentioned collection from Cuba. In a detailed comparative study, he ascertained that the Cuban fungus was surely not identical with Poria oleracea. He further found in the PRM herbarium an additional herbarium specimen of this fungus (PRM 879880), evidently a duplicate, which has been identified by L. Ryvarden
as *Antrodia cfr. oleagina*, i. e. the correct name of this species now appears to be *Amyloporia sordida* (Ryv. et Gilberts.) Vampola et Pouzar (see Vampola et Pouzar 1993). However, by a comparative study of the type of *Poria oleagina* Overh., from the mycological herbarium of the University of Pennsylvania (PACMA 00632), he came to the conclusion that Ryvarden’s identification also cannot be accepted and the Cuban fungus is a new species. As further study led to the same conclusion, we describe it below as a new species.

**Antrodia pini-cubensis** Vampola, Kotlaba et Pouzar, spec. nov.

Carposomata annua, resupinata, tenua, albida usque creamea, circa 1.5 - 7 x 0.6 - 1.7 cm; tubulis brevibus, 0.3 - 1.5 mm longis, poris minutis, 6 - 7 per 1 mm, rotundatis usque angulato-rotundatis. Systema hypharum dimiticum, hyphis generativis fibuligeris, tenuiter tunicatis, 2 - 4 μm latis; hyphis skeletici crasse tunicatis (cum tunica in solutione kalii hydroxydati introrsum incrassante), 2 - 4 μm latis, abundantibus, in subiculo saepe ramificatis. Hymenium basidiis late clavatis tetrasterigmaticis, 10 - 18 x 5 - 6.5 μm, et cystidiolis fusiformibus abundantibus, 8 - 18 x 4 - 5.5 μm, constitutum. Sporae hyalinae, laevis, tenuiter tunicatae, cylindricae, leniter arcuatae, 4.5 - 6.5 x 1.5 - 2.2 μm; omnes structurae non amyloideae, neque dextrinoideae, nec cyanophilae.


Carpophores annual, resupinate, very thin, forming small irregular patches measuring mostly only 1.5 - 7 x 0.6 - 1.7 cm, which are whitish to cream. Tubes are very short, merely 0.3 - 1.5 mm long, thin-walled, with entire edges, under strong magnification finely ciliate. Pores are very small, 6 - 8 per 1 mm, rounded or at some places also angulate rounded. Subiculum is extremely thin, cottony, nearly imperceptible, forming a very narrow sterile margin. The white woolly mycelium penetrates the fissures in the rotten wood.

Hyphal system is dimitic, formed by generative and skeletal hyphae. Generative hyphae are thin-walled, hyaline, branched, clamped, 2 - 4 μm wide; skeletal hyphae are unbranched, thick-walled, in the subiculum often branched, 2 - 4 μm thick; both hyphae are inamyloid and indextrinoid, but KOH solution causes an inward thickening of the skeletal hyphal wall. The hymenium is formed by basidia and numerous cystidioles. Basidia are broadly clavate, tetrasporic, with basal clamps, 10 - 18 x 5 - 6.5 μm. Cystidioles with basal clamps, slender fusiform with the apices sometimes sharp pointed, 8 - 18 x 4 - 5.5 μm. Spores are hyaline, smooth, thin-walled, cylindrical and slightly bent, inamyloid and indextrinoid, 4.5 - 6.5 x 1.5 - 2.2 μm. Collapsing spores are often strikingly wedge-shaped, narrowing to one end.
Fig. 1. *Antrodia pini-cubensis* Vampola, Kotl. et Pouzar.
A) spores, B) basidia, C) cystidia, D) generative hyphae, E) skeletal hyphae.
Del. P. Vampola
Locality: Cuba, north part of the province Oriente, in the Sierra de Nipe, SW of Mayarí (SE of Holguín), ca 500 m alt., on a fallen trunk of Pinus cubensis, 13. III. 1967, leg. F. Kotlaba (PRM 756464, 879880).

In the genus Antrodia s. l., there exist several resupinate species, which are either macro- or microscopically similar and may be mistaken for A. pini-cubensis.

Antrodia oleracea (Davids. et Lomb.) Ryv. grows on dead wood of frondose trees, especially oaks (it is unknown on conifers), and differs macroscopically by somewhat thicker carpophores with larger pores. Substantial differences, however, are present in the microstructure. The tubulotrama of A. pini-cubensis is dimitic with abundant thick-walled skeletal hyphae, whereas the tubulotrama of A. oleracea is monomitic and skeletal hyphae can only rarely be found and solely in the subiculum. The shape of the spores of both species is also different with those of A. pini-cubensis strikingly slender.

Macroscopically somewhat similar is Amylopora sordida (Ryv. et Gilberts.) Vampola et Pouzar. This species, however, forms perennial stratified carpophores of a darker colour and its skeletal hyphae wholly dissolve in a solution of KOH.

Macroscopically very similar is Antrodia albobrunnea (Rom.) Ryv. but it differs microscopically by the presence of very striking brown generative hyphae in the subiculum.

Antrodia infirma Renvall et Niemelä (1992), recently described from Finland, is also somewhat similar. However, we have studied a specimen of this species and it is obvious that it differs by the somewhat larger spores and the structure of the subiculum and trama, where the skeletal hyphae are very rare.

In spite of the fact that A. pini-cubensis has until now only been found in Cuba, it occurs possibly in other countries too and, besides Pinus cubensis, perhaps also on further hosts, especially conifers. When collecting and studying resupinate polypores from the tropics and subtropics, Antrodia pini-cubensis should be taken in consideration.

References

