

*Mollisia cortegadensis*





Fungal Planet 1019 – 18 December 2019

***Mollisia cortegadensis* De la Peña-Lastra & P. Alvarado, sp. nov.**

**Etymology.** The epithet refers to the place where it was found (Illa de Cortegada, Parque Nacional Marítimo-Terrestre de las Islas Atlánticas, Galicia, Spain).

**Classification** — *Mollisiaceae*, *Helotiales*, *Leotiomyces*.

**Apothecia** gregarious, from 0.5–4 mm diam, first slightly concave and then flattened, irregularly disc-shaped, umbilicated or depressed, sessile, centrally attached to the substrate. **Hymenium** smooth, wavy, gibbous, yellowish grey when fresh and orange-ochre when dry, with the external and central parts dark grey. **Asci** cylindrical-clavate 80–120 × 12–18 µm, 8-spored, with a conical apex and a base gradually narrowed into a medium-sized stalk with croziers, showing no reaction to IKI (Lugol's solution), and turning only slightly yellowish in KOH (no ionomidotic reaction). **Paraphyses** distinctly dimorphic, either cylindrical, inflated (molliform), or slightly broadened at the apex, with refractive vacuolar bodies at the top. In addition, the paraphyses extend beyond the asci. **Ascospores** elliptical with rounded ends, measuring 15–18 × 5.5–7 µm, with 1–2 small (< 1 µm) guttules at the poles. **Ectal excipulum** consisting of a brownish texture globose at the base, and globose elements in the surface. The margin lacks conspicuous protruding cells. The medullary tissue consists of gelatinized hyphae. Subicular hyphae sparse, hyaline and thick-walled. All observations made on fresh specimens.

**Distribution** — Currently known only from the type location in north-western Spain.

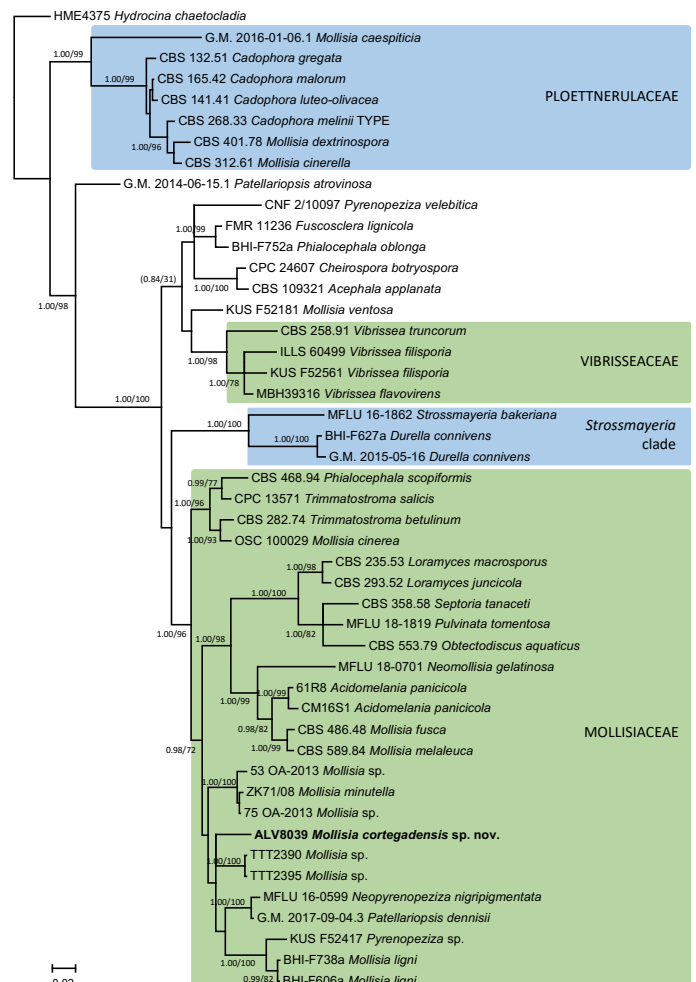
**Phylogeny** — The analysis of ITS and 28S rDNA suggests that the sample from Cortegada is related with the monophyletic *Vibrissia-Loramyces* clade (Wang et al. 2006, Hustad & Miller 2011, Han et al. 2014) of the *Mollisiaceae* s.lat. According to the family concepts proposed by Johnston et al. (2019), *M. cortegadensis* belongs to the clade of families *Mollisiaceae*, *Loramycesaceae* and *Vibrissaceae*, which could be merged into the oldest name *Mollisiaceae*.

**Typus.** SPAIN, Galicia, Pontevedra, Parque Nacional de las Islas Atlánticas de Galicia, Illa de Cortegada, N42°36'59.65" W8°46'59.22", 9.4 m asl, a group of ascomata at the tip of a dead attached twig of *Quercus robur*, 27 Apr. 2016, S. De la Peña-Lastra (holotype MSS906, ITS and 28S/LSU sequences GenBank MN129025 and MN129020, MycoBank MB831739).

**Notes** — *Mollisia cortegadensis* is characterised by its two types of paraphyses: slightly broadened at their tips and others strongly swollen, but all of them have conspicuous refractive vacuolar bodies that stain in cresyl blue. In addition, the fungus is drought-tolerant suggested by the dry photo and the inamyloid asci. *Mollisia spectabilis* has similar spore dimensions about

**Colour illustrations.** Location where *M. cortegadensis* was collected on Cortegada Island. Fresh apothecia; dry apothecia; elements of the hymenium; spores (two of them in IKI at the bottom); paraphyses, hymenium in KOH; ascus in IKI (-); ascus in water, base of an ascus showing the crozier, paraphyses; detail of paraphyses in cresyl blue, ectal excipulum; medullary excipulum; medullary excipulum in KOH, medullary excipulum in NH<sub>4</sub>OH; ascome margin; marginal cells; flanks. Scale bars = 50 µm (apothecia, ascus in water and medullary excipulum in KOH), 20 µm (other structures).

8–14 × 2.8–3.5 µm, but those of *M. cortegadensis* can be as long as 18 µm. In addition, *M. cortegadensis* is drought-tolerant and growing in clusters in the apical part of small decorticated branches of *Quercus robur*, while *M. spectabilis* grows on rotten leaves of *Q. robur* or underneath rotten *Quercus* logs (Kirschstein 1938). Other species similar to *M. spectabilis* such as *M. elegantior* and *M. olivascens* can be found in the same locality, but they have different spore dimensions and lack the orange ochre tones when dry (Richter & Baral 2008, Le Gal & Mangenot 1958). The putative phylogenetic relationship with *M. ligni* and *M. minutella* is only supported by a few shared ecological or morphological trait, since *M. ligni* has ascospores 6–10 × 2–3 µm, cylindrical paraphyses with low refractive vacuoles (Karsten 1873) and *M. minutella*, which is sometimes considered a synonym of *M. cinerea*, has ascospores 7–14 × 2.5–3 µm and the apices of asci stain blue in IKI (Karsten 1871).



50 % majority rule ITS-28S rDNA consensus phylogram of several lineages in the Mollisoid clade (Johnston et al. 2019), including families *Mollisiaceae*, *Loramycesaceae* and *Vibrissaceae* obtained in MrBayes from 1 650 sampled trees. Nodes were annotated if supported by ≥ 0.95 Bayesian PP (left) or ≥ 70 % ML BP (right). Non-significant support values are exceptionally represented inside parentheses.