

**HYGROCYBE MONTEVERDAE**  
**A new species of subgenus *Cuphophyllus* (Agaricales)**  
**from the Canary Islands (Spain)**

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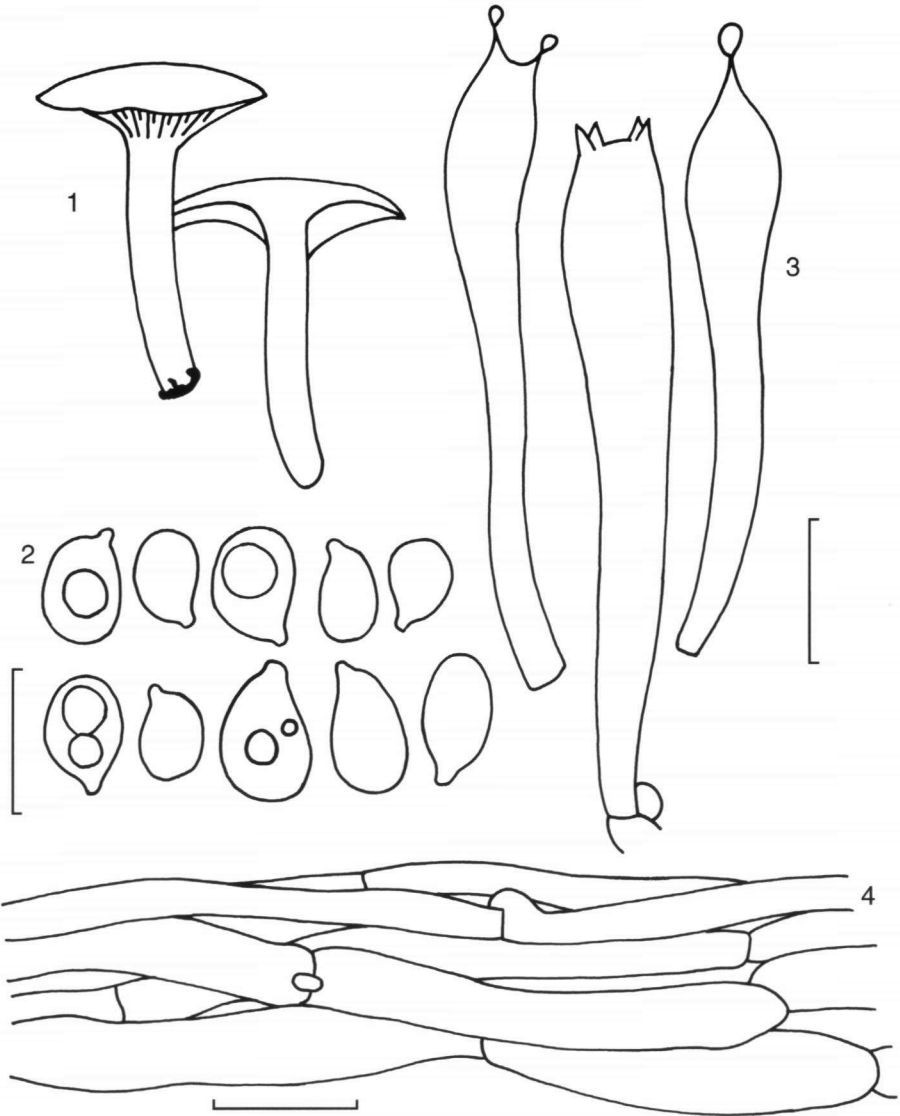
*Hygrocybe monteverdeae*, collected in monte-verde forest in the Canary Islands, is proposed as a new species belonging to subgenus *Cuphophyllus*. Its most remarkable character is the blackening lamellae after drying, being the sole species with this feature in the subgenus.

The 'monte-verde' (*Pruno-Lauretalia azoricae* Oberd. ex Rivas Mart. et al.) of the Macaronesian Archipelago (Açores, Madeira and Canary Islands) is traditionally misnamed 'laurisilva' (Rivas-Martínez et al., 1993) because of its similarity with the tropical montane lauroid and subtropical-temperate forest. It is a mediterranean hard-leaved forest with a great floristic diversity and predominance of trees, belonging to different plant families, with perennial, coriaceous and bright leaves similar to the leaves of laurel (*Laurus*). Its origin has been founded by the temperate-subtropical paleoflora extant at the end of the Tertiary at Mediterranean riversides which disappeared in the course of the pleistocene glaciations. This community survived on the islands as a plant relict of extraordinary singularity worldwide.

Its pluviometric regime is concentrated mainly in the coldest seasons, autumn and winter; the summer is more of arid character. The annual average precipitation is 600–1,000 mm. Its establishment between 300 and 1,000 m altitude at the northern slopes of the islands is caused by the incidence of the humid Atlantic winds, 'alisios', that support a pluviometric increase along the year by the horizontal precipitation phenomenon.

In Europe most species of *Hygrocybe* are found outside forests in old, poor grasslands, some in heathland and peat bogs (Arnolds, 1990). Some of these species are also occasionally and locally found in deciduous forests on moist, rather fertile and humous soils. In North-America most species of *Hygrocybe*, many of them conspecific with European species, are widespread in a variety of forest types (Hesler & Smith, 1963). This ecological differentiation is not yet well-understood. On the Canary Islands permanent, old pastures are almost absent. The 'monte-verde' constitutes the exclusive habitat for *Hygrocybe* species in the Canary Islands. All 19 cited taxa for the Canary Islands have been collected as terrestrial saprotrophic elements in the 'monte-verde' as well as in mixed 'monte-verde'-pine forests (Beltrán, 1980; Bañares et al., 1980, 1991, 1992, 1994; Bañares & Beltrán, 1982; Beltrán et al., 1987, 1989; Bañares, 1988; Dähncke, 1998). Consequently, the ecological preferences of this genus show more affinity to North-America than to Europe.

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Figs. 1–4. *Hygrocybe monteverdae* (holotype). 1. Habitus  $\times 1$ ; 2. spores; 3. basidia; 4. pileipellis. Scale bar = 10  $\mu\text{m}$ .

The present taxon was previously reported by Bañares et al. (1994) for the island of La Palma, where it was collected in humid sites of the 'monte-verde'. On that occasion, it was named *Hygrocybe pratensis* (Pers.: Fr.) Murril aff. var. *pallida* (Cooke) Arnolds because of its similarity to this taxon in habit, colours and microscopical details. It was noticed that the sporocarps were considerably smaller, and blackening

on drying. The latter feature was initially regarded as a possible anomaly. However, a second collection from the same locality shared the same characteristics. Therefore we decided to describe our collections as a new species in the subgenus *Cuphophyllus* Donk.

***Hygrocybe monteверdae* Bañares & Arnolds, spec. nov. — Figs. 1–4**

Pileus 10–40 mm latus, plano-convexus, albus, centro ochraceus, haud hygrophanus, siccus. Lamellae decurrentes, distantes, albidae, in exsiccata nigrescentes. Stipes 35–70 × 4–7 mm, aequalis, albus, deorsum attenuatus, pallide roseus. Caro concolor. Odor et sapor nulli. Sporae (5.5–)6–9 (–9.5) × 3.5–5 µm, Q = 1.4–1.9(–2.0), ellipsoideae, ellipsoideae-oblongae, ovoideae vel lacrimiformae. Basidia 39–53 × 5.5–6.5 µm, Q = 6.3–8.0 clavata, 4- et 2- (1-) sporigera intermixta. Lamellarum acies fertilis. Lamellarum trama irregularis, cellulis 32–103 × 3.5–12 µm. Pileipellis cutiformis, hyphis 2–4 µm latis. Fibulae frequentes. In monte-verde ad terram.

Holotypus: 'La Palma, MAB Reserve El Canal y Los Tilos (Puente-Nuevo), 1 Febr. 1991, Á. Bañares 6456' (TFC; isotypus in L).

Pileus 10–40 mm wide, plano-convex, not hygrophanous, white, to the centre ochraceous, slightly greyish brown when drying, rather thin-fleshy, not striate, not glutinous. Lamellae slightly decurrent, white but entirely blackening when drying, thickish and distant. Stipe 35–70 × 4–7 mm, slender, cylindrical, slightly tapering to the base, white, pale-pinkish to the base, brown-ochraceous at apex when drying. Context concolorous; taste and smell indistinctive. Spores (5.5–)6–9(–9.5) × 3.5–5 µm, Q = 1.4–1.9(–2.0), very variable, ellipsoid to ellipsoid-oblong or ovoid, often tapering to apiculus and more or less lacrimiform. Basidia 39–53 × 5.5–6.5 µm, Q = 6.3–8.0, slenderly clavate, 4- and 2-spored intermixed, some 1-spored. Cystidia absent. Hymenophoral trama on section distinctly irregular; elements 32–103 × 3.5–12 µm. Pileipellis a dry, poorly differentiated cutis of compact, repent hyphae, 2–4 µm wide, with ochre-yellowish intracellular pigment. Clamp-connections present.

Terrestrial, rare, among leaves in humid site of monte-verde forest, 800 m s.m., under *Laurus azorica* (Seub.) Franco, *Persea indica* (L.) K. Spreng, *Ilex canariensis* Poir. and *Dryopteris oligodonta* (Desv.) Pic.-Serm.

*Collections examined.* SPAIN: Canary Islands, La Palma, MAB Reserve El Canal y Los Tiles (Puente Nuevo), 1 Feb. 1991, Á. Bañares 6456 (holotype TFC; isotype in L); 10 Dec. 1998, Á. Bañares 8295 (TFC).

*Hygrocybe monteверdae* is a typical representative of subgenus *Cuphophyllus*. It is rather similar to *H. pratensis* (Pers.: Fr.) Murrill var. *pallida* (Cooke) Arnolds (= *H. berkeleyi* (P.D. Orton) P.D. Orton & Watling), but it differs in its smaller and more slender sporocarps, blackening lamellae and darker brown pilei when drying. In addition, *H. monteверdae* has a more compact pileipellis, without erect hyphae, and slightly larger spores. It differs from *H. virginea* (Wulf.: Fr.) P.D. Orton & Watling and allied species, except for the blackening lamellae, in the not hygrophanous, not striate pileus.

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