

A fourth site for *Cyphelium notarisii* (Physciaceae) in Spain

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Resumen: Hawksworth, D. L. *Cuarta cita para Cyphelium notarisii* (Physciaceae) en España. *Lazaroa* 24: 89-91 (2004).

Cuarta cita para *Cyphelium notarisii* encontrado en la Sierra de Guadarrama, concretamente en los Picos de la Higuera en La Pedriza del Manzanares, Comunidad de Madrid. La especie, que es rara en Europa, aparece sobre restos descortezados de *Pinus sylvestris*, entre bloques de granito. Se incluyen en el presente trabajo fotografías del hábitat y microfotografías y dibujos de las ascosporas. También se describen algunas de las diferencias encontradas en el número de células y en la dimensión de las ascosporas de los especímenes guadarrámicos, en relación a otros trabajos publicados.

Abstract: Hawksworth, D. L. *A fourth site for Cyphelium notarisii* (Physciaceae) in Spain. *Lazaroa* 24: 89-91 (2004).

A fourth site for *Cyphelium notarisii* has been found in the Picos de la Higuera in La Pedriza del Manzanares in the Sierra de Guadarrama, Comunidad de Madrid. The species, which is rare in many parts of Europe, occurred on a decorticate *Pinus* stump amongst granite boulders. Photographs of the habitat, and photomicrographs and line drawings of the ascospores, are included. Attention is also drawn to some differences in published details of the number of cells in the ascospores and their dimensions.

INTRODUCTION

Cyphelium notarisii (Tul.) Blomb. & Forssell 1880 is an exceedingly rare lichen in Spain. This conspicuous crustose species has a bright yellow-green areolate thallus with contrasting black plane to somewhat convex mazaedia and occurs on the bark and wood on coniferous trees, especially *Pinus* species in open well-lit habitats. The colour is due to rhizocarpic acid (TIBELL, 1969). The species was first reported from Spain by SARRIÓN & al. (1999) on the basis of specimens from just three localities: Rascafría in the Sierra de Guadarrama (Comunidad de Madrid), Berlanga del Duero (Soria), and Alcalá de la Selva in the Sierra de Gúdar (Teruel). There is a single old record from Moncôrvo in Portugal (SAMPAIO, 1917).

This note reports the discovery of a fourth site for this rare species in Spain.

RESULTS

The new collection is from the Sierra de Guadarrama in the UNESCO Biosphere Reserve, La Pe-

driza del Manzanares. It was abundantly developed on a single decorticate dead twiggy stump of a *Pinus* species jutting out of cracks in massive granite boulders (Figures 1-2). The thallus was characteristic of the species, although the mazaedial masses were more strongly convex than is usual in the species, appearing almost superficial when they were actually arising from immersed ascomata. The characteristic submuriform ascospores were 2-6 celled and 17.5-32.5 x 13-18 µm; the spores of the species have hardly ever been illustrated so both photographs and line drawings are presented here (Figures 3-4). These spore details differ somewhat from those reported by TIBELL (1999) who described them as 2-14 celled and 17-24 x 13-18 µm. However, TIBELL (1969, 1971) had previously indicated that the ascospores could reach 32 µm in length, and only illustrated spores that were 3-7 celled (TIBELL, 1969: Figure 1D, Pl. II figure 2). PURVIS (1992) gives the ascospores as 13-32 x 11-19 µm, again in agreement with the La Pedriza collection, but does not indicate the number of cells.

Specimen examined: SPAIN: Comunidad de Madrid: Sierra de Guadarrama, La Pedriza del Man-

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Figures 1-2.— Locality of *Cyphelium notarisii*, a decorticate *Pinus* stump between boulders on Picos de la Higuera in La Pedriza del Manzanares.

Figure 3.— Ascospores (MAF-LICH 10.205), x 800.

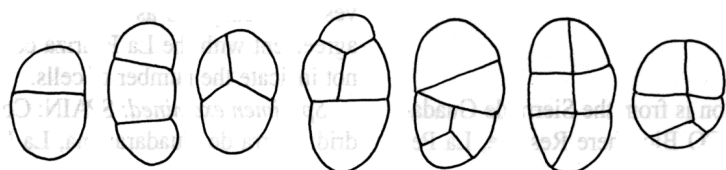


Figure 4.— *Cyphelium notarisii* (MAF-LICH 10.205). Ascospore outlines showing variations in septation. Scale = 10 μ m.

zanares, Picos de la Higuera, alt. 1134 m, 40° 44.329' N and 3° 53.933' W (accuracy 9 m), on decorticate *Pinus* stump emerging from granite boulders, 15 February 2004, D. L. Hawksworth (MAFLICH 10.205).

DISCUSSION

Cyphelium notarisii is unique in the genus in having multicellular ascospores. WEBER (1967) treated it as a subspecies of *C. tigillare* (Ach.) Ach. 1815, which also has a bright yellowish green thallus containing rhizocarpic acid but consistently two-celled ascospores, more superficial and convex ascomata, and occurs in similar habitats. In Spain, *C. tigillare* is more frequent but has a distinctly more southerly distribution, with records from Albacete, Ciudad Real, Granada, Jaén, Navarra, and Toledo (SARRIÓN & *al.*, 1999). The genus has traditionally been included in the family Caliciaceae, but it is now evident from molecular phylogenetic studies that this family is not distinct from the

Physciaceae, with *Cyphelium* belonging to the «*Buellia*-group» within the family (WEDIN & *al.*, 2002).

Cyphelium notarisii is continental in distribution and generally rare. Elsewhere in Europe it is known from Austria, the Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy (incl. Sardinia), Poland, Portugal, Sweden, Switzerland, the UK (England), and the Ukraine (TIBELL, 1971, 1999). Outside Europe, it appears only to be known from North America where it is reported from Colorado, South Dakota and Saskatchewan (WEBER, 1967; ESSLINGER & EGAN, 1995). It is almost always rare, is on the Red List for Austria (TÜRK & WITTMANN, 1986), Finland (TIBELL, 1999), and Sweden (THOR & ARVIDSSON, 1999), and rated «near threatened» and «nationally scarce» in the UK (WOODS & COPPINS, 2003), where it is now restricted to London and the extreme south-east of England (DOBSON, 2003; COPPINS & JAMES, 1974). The species clearly merits inclusion on any eventual Red List for Spanish lichen-forming fungi.

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