

***Xeromphalina junipericola* sp. nov.**
(Tricholomataceae, Agaricales) from Spain

G. MORENO & M. HEYKOOP

Dpto. de Biología Vegetal (Botánica), Univ. de Alcalá de Henares
E - 28871 Alcalá de Henares, Madrid.

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Key words: *Xeromphalina junipericola*, Basidiomycetes, Agaricales s.l., taxonomy.

Summary: *Xeromphalina junipericola*, a new species occurring in *Juniperus thurifera* forests from Spain, is described and illustrated macro- and microscopically. It is characterized by the purplish to violaceous tinges of its pileus, stipe, and gills, the presence of ochraceous-orange floccose hairs on its pileus and stipe, and by its very small amyloid spores.

Zusammenfassung: *Xeromphalina junipericola*, eine neue Art aus den *Juniperus thurifera*-Wäldern Spaniens, wird makro- und mikroskopisch beschrieben und abgebildet. Kennzeichnend sind die purpurähnlichen bis violetten Farbtöne an Hut, Stiel und Lamellen, die ocker-orangen flockigen Haare an Hut und Stiel sowie die sehr kleinen amyloiden Sporen.

Introduction

The province of Guadalajara in Spain is of great interest from a botanical point of view since there are large areas covered with very well conserved autochthonous forests of *Juniperus thurifera* L. (*Junipereto hemisphaerico-thuriferae*), occurring especially on basic soils, sometimes mixed with *Quercus ilex* subsp. *ballota* (Desf.) Samp. (*Junipero thuriferae-Querceto rotundifoliae*), though occasionally also on acid soils. Further information on this vegetation can be found in ÁLVAREZ's (1992) work.

The *Juniperus thurifera* formations are very interesting mycologically and, although apparently no ectomycorrhizal taxa do occur in the latter, they are highly selective for both parasitic and saprophytic fungi. It is possible to find in this vegetation very rare species, characterized by an Iberian-North African distribution. In several previous studies in these areas we have collected some very interesting species, such as, e.g., *Antrodia juniperina* (cf. NIEMELA & RYVARDEN 1975), *Lenzitopsis oxycedri* (MANJÓN & MORENO 1981), *Mycenella margaritifera* (MORENO & MANJÓN 1979; HEYKOOP 1993), *Trametes junipericola* (MANJÓN et al. 1984), etc.

During two field works in these areas in autumn 1994, we have collected a very distinctive species of *Xeromphalina* which we are describing below.

The genus *Xeromphalina* Kühner & Maire belongs to the family Tricholomataceae Heim ex Pouzar (SINGER 1986). Its species are characterized mainly by the presence of a velutinous stipe covered with caulocystidia, its amyloid spores, and by its caespitose habit being generally lignicolous. From a taxonomic point of view we must stress the importance of the world revision of this genus made by MILLER (1968), as well as the works of SMITH (1953) in U.S.A., SINGER (1965) in South America, HORAK (1979) in Indomalaya and Australasia, and KLÁN (1984) in Europe.

***Xeromphalina junipericola* Moreno & Heykoop sp. nov. (Figs. 1-16)**

Material studied: Guadalajara: Ermita de los Enebrales, Tamajón, on trunks of *Juniperus thurifera*, 16. XI. 1994, leg. M. Heykoop & G. Moreno, AH 17049 (holotypus); *Ibidem*, 2.XII. 1994, leg. G. Moreno, M. Heykoop, M. Gaibar, I. Dobón, F. Arranz & F. Batres, AH 17050. Isotypus in ZT n° 6681 (Herb. Horak).

Etymology: *junipericola*, because of its fructification on *Juniperus*.

Latin diagnosis

Pileus 2-6 mm diam., globosus vel cyathiformis in aetate, fusco-rubellus vel fusco-purpureus, floccis flavido-aurantiacis praeditus. Lamellae decurrentibus, lamellulae sparsae interdum anastomosantibus, angustae, griseae vel griseo-violaceae. Stipe cylindricus 6-14 x 5-15 mm, concoloro vel plus minusve dilute, pruina alba praedita, basis gossypina ad hyphis ochraceo-aurantiacis. Sapore odoreque imperspicuis.

Epicutis hyphis cylindricis incrustantibus vittatis, fusco-flavidis, variabilibus mensuraeque. Basidiis 18-25 x 3-5 µm, tetrasporis, claviformibus. Sporis 3-4 x 2-2,5 µm, ellipsoideis, hyalinis, laevis, amyloideis. Cystidiis marginalibus, 30-40 x 5-8 µm, acies sterilibus, frequenter fusiformis, collo cylindrico longo angusto. Caulocystidiis 35-60 x 8-10 µm, cylindricis, lageniformis vel fusiformibus. Cum fibulis. Hyphis pileipellis purpureo-vinosis in NH₄OH, in 10% KOH trama purpureo-rubella, in H₂O omnis hyphis brunneis.

Holotypus: Hispaniae, Guadalajara, Ermita de los Enebrales, Tamajón, ad truncus *Juniperi thuriferis*, 16-XI-1994, leg. M. Heykoop & G. Moreno, in Herb. AH n° 17049 conservatus est; isotypus ZT n° 6681.

Description

Pileus 0,2-0,6 mm diam., globose to cyathiform at maturity, brown-reddish with vinaceous to brown-purplish tinges, covered with yellowish-orange flocci which are more abundant in immature specimens. Gills decurrent with scarce lamellulae, sometimes anastomosed, narrow, grey to grey-violaceous. Stipe cylindrical, 0,6-1,4 x 0,5-1,5 cm, concolorous to pileus or paler, covered with a whitish powdery „bloom“, with floccose base formed by ochraceous-orange hyphae. Taste and smell none.

Pileipellis consisting of cylindrical hyphae with encrusting pigment forming bands and brown-yellowish thread-like structures, very variable in shape and size, flexuous, tortuous, clavate, cylindrical or diverticulate. Basidia clavate, 4-spored, 18-25 x 3-5 µm. Spores 3-4 x 2-2,5 µm, ellipsoid, hyaline, smooth and amyloid. Cheilocystidia 30-40 x 5-8 µm, turning the lamella-edge sterile, variable in shape, frequently fusiform with a cylindrical neck, sometimes very long and narrow. Caulocystidia 35-60 x 8-10 µm, variable, cylindrical, lageniform to fusiform. Clamp connections present. In NH₄OH 10% hyphae of pileipellis turning purple-vinaceous; in KOH 10% pileitrama shows a purplish-reddish colour and in H₂O it is brown.

Discussion

Xeromphalina junipericola is characterized by the purplish to violaceous tinges of its pileus, stipe and decurrent gills, the presence of ochraceous-orange floccose hairs on its pileus, more pronounced when young and very persistent at the base of stipe. Microscopically the most striking characters are its small spores, caulocystidia, cheilocystidia and the reaction with KOH 10%.

Xeromphalina orickiana (Smith) Singer is the only taxon within this genus which shows similar violaceous or purplish tinges, but it differs from *X. junipericola* because of its longer spores (4,5-6 x 2-2,5 µm), and its habitat on redwood logs in California (U.S.A.).

Xeromphalina mesospora Singer, described by SINGER (1938) from Russia on decayed trunks in the Pineto-Laricetis altaicis, has a beige-yellow brown pileus and stipe, and spores which are 6,5-10 x 3-5 µm.

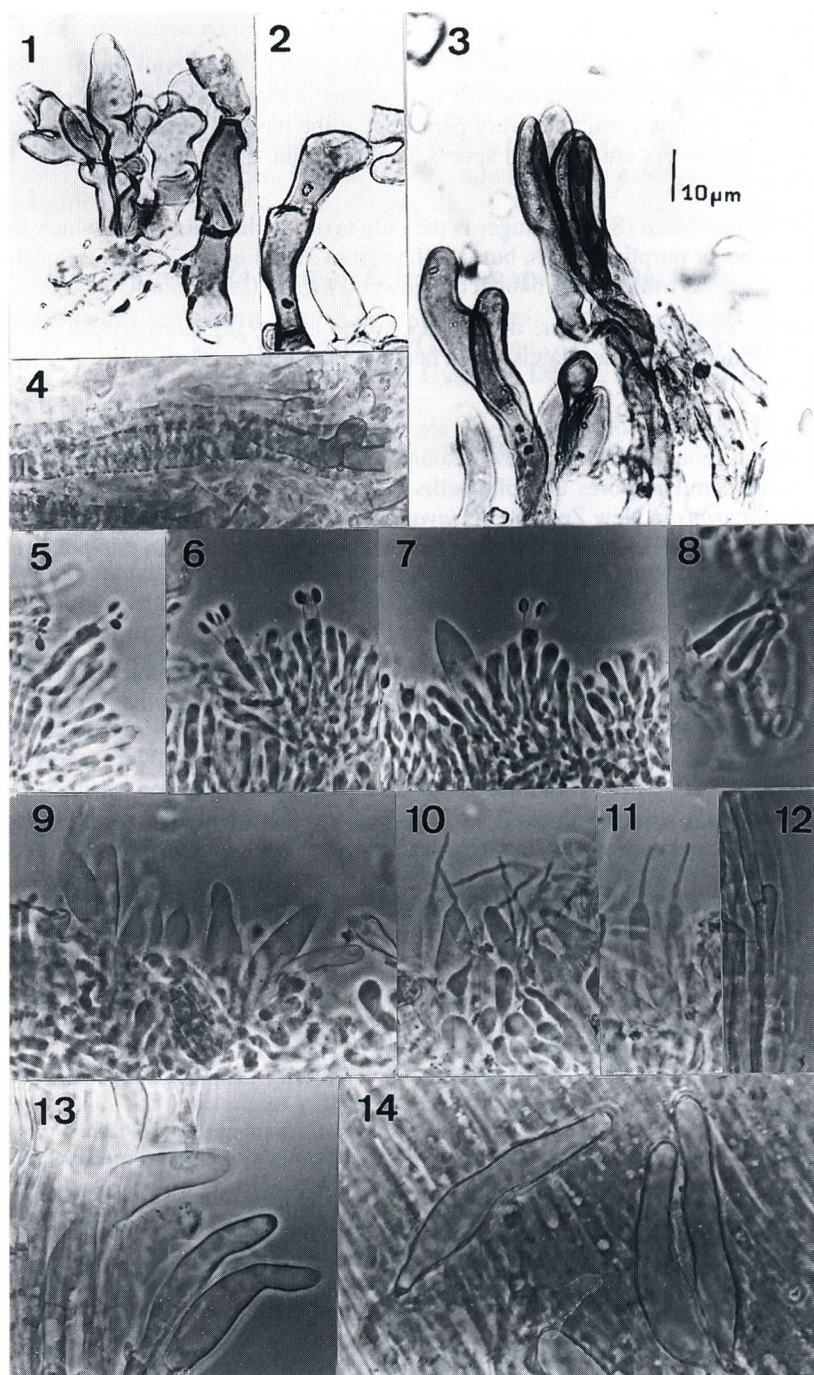
The spores of *Xeromphalina junipericola* are similar to *X. testacea* Horak, which fruits on tree ferns of the genus *Cyathea* in New Zealand, but its pileipellis is different. *X. podocarp*i Horak presents similar spores and pileipellis but its colour is completely different and it fruits on *Podocarpus* in New Zealand. *X. javanica* Horak shares similar spores but fruits on *Castanopsis* (Fagales) in Java (Indonesia); besides, it differs both in its pileipellis and cheilocystidia.

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Figs. 1-14: *Xeromphalina junipericola* Moreno & Heykoop, AH 17049 (holotypus);
1-4: pileipellis; 5-8: basidia and basidiospores; 9-11: cheilocystidia;
12: clamp connection; 13-14: caulocystidia.



Fig. 15: *Xeromphalina junipericola* Moreno & Heykoop, AH 17049 (holotypus): detail of gills and stipe



Fig. 16: *Xeromphalina junipericola* Moreno & Heykoop, AH 17049 (holotypus): basidiocarps.



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