

FIMARIA HISPANICA (ASCOMYCETES) SP. NOV.

by

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Abstract. *Fimaria hispanica* Torre & Calonge is described as new taxon, being the first time that a species of this genus, within the *Ascomycetes*, is reported to Spain. With this new taxon there are now ten species of *Fimaria* in the world, all which are briefly commented and discussed in this article.

Resumen. Se describe *Fimaria hispanica* Torre & Calonge, como nuevo taxon para la ciencia, siendo ésta la primera vez que el género *Fimaria* (*Ascomycetes*) es citado en España. De esta forma son ya diez las especies de este género existentes en el mundo, todas las cuales son comentadas y discutidas brevemente en este artículo, comparándolas con la *F. hispanica*.

I N T R O D U C T I O N

The genus *Fimaria* was described by VELENOVSKY (1934), and later studied by BRUMMELEN (1962), who gave a detailed description of the original four species, but three of them under new combinations. DENNIS (1960) transferred *Peziza misturæ* Phillips to *Fimaria misturæ* (Phillips) Denis, KORF (1971) *Peziza ripensis* E. C. Hansen to *Fimaria ripensis* (E. C. Hansen) Korf, and SVRČEK & KUBIČKA (1965), ECKBLAD (1968) and SVRČEK & MORAVEC (1969) described three new species of *Fimaria*, making altogether a total of nine species in the world. No species of this genus has been previously reported from Spain.

During 1976 we studied a collection of *Fimaria* which did not match any of the described species. Following discussion with Dr. R. W. G. Dennis and Mr. B. M. Spooner, Royal Botanic Gardens, Kew, we concluded that the species was undescribed.

DESCRIPTION

Fimaria hispanica Torre & Calonge *sp. nov.*

Apothecia: 5-20 mm diam, sessili vel substipitatis, solitaria vel aggregata primus subsphaerica denique explanata, basi angustata, disco pallidus paulo post brunneolo, margine membranaceo, dentato-crenulatus. Pars exterior receptaculi cum membrana plicata pilosa brunneola. Excipulum: cum cellulis pigmentata, globosis vel subangulatis in stratum exterior 22-34 μm diam, cellulis subglobosis hyalinis in stratum intercalaris 8-20 μm diam, hyphis brevidus 10-20 μm diam, membranis 1-2 μm diam. Asci: 200-250 \times 12-17 μm , cylindraceuti, stipitati, apice obtusi, operculato instructi, sporis monostichis, membranis non amyloideis. Paraphyses: numerosae, moniliformes, simplices vel apice ramosae, 3-4 μm crassae cum granulis ochraceis. Sporae: 14-18 \times 9-12 μm , oblongo-ellipsoideae, laeves, tenuiter, tunicatae primus hyalinae denique pallidae. HOLOTYPE in vaccarum fimo lectus est, prope Hotel La Barranca, in Sierra de Guadarrama, provincia Matritensis, Hispania, 2 maius 1976, leg. Dr. M. García Rollan. In Hortus Regius Matritensis (MA) herbarium.

Ascocarps 5-20 mm diam, crowded or scattered (fig. 1), superficial or partly immersed, at first closed and subglobose then expanding (fig. 2 a b), showing a broad membranous, dentate crenulate or fimbriate margin, sometimes covered with a fine network of septate branched hyphae, often presenting a brown colour. At maturity the receptacle shows a cream-coloured hymenium, which is yellowish in young specimens and brownish in older ones. The apothecia appear normally sessile with a narrow base, although sometimes they may show a short stalk (fig. 2b). Excipulum is well differentiated, made up of large cells provided with intercellular pigment. The flesh is soft whitish and quite thin, up to 2 mm in thickness (fig. 2c). The external part of the excipulum is made up of two or three layers of bulbous cells from which septate hairs with a reddish-brown pigment emerge. The hairs are 5.6-8.4 μm diam, and of two kinds, either cell walls are 1-2 μm thick or walls 2-3 μm thick. The bulbous cells at the hairs initials are 22-34 μm diam. The excipulum layer near the margin has almost colourless, subglobose, angular or slightly elongated cells, 8-20 μm diam with thin cell walls. The central excipulum is composed of cylindrical, twisted, thin-walled, hyaline, irregularly inflated hyphae 10-20 μm diam (fig. 2c). Paraphyses typically branched at the tip, septate and with a very cha-

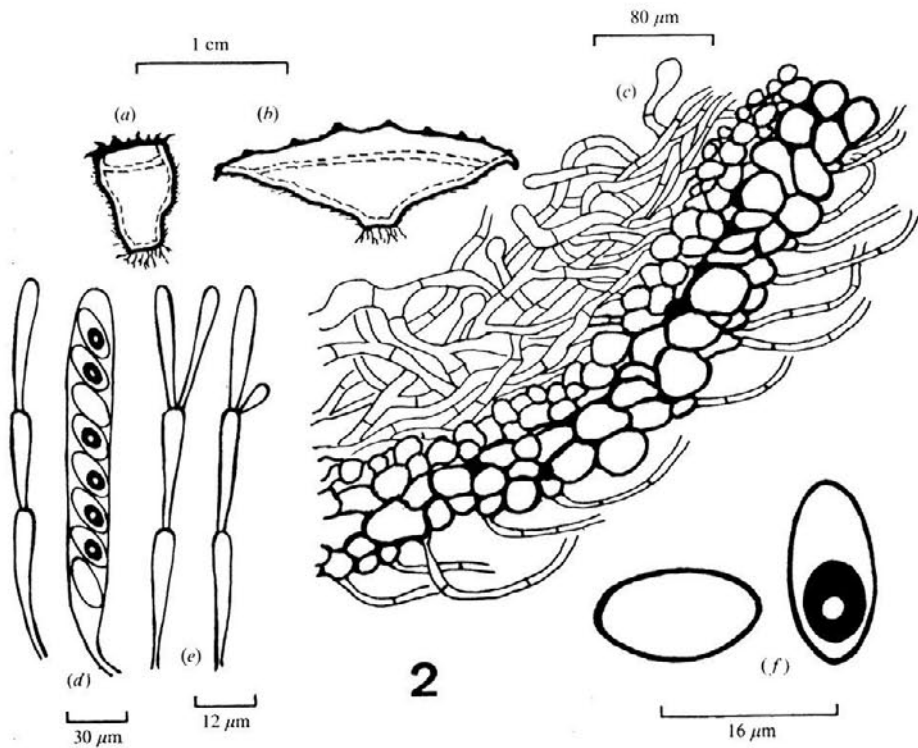


Fig. 1.—*Fimaria hispanica*. Fresh specimens on cowdung, x 1. 2

Fig. 2.—*F. hispanica* (a-b) Diagrammatic section of two states of the development of apothecia; (c) section of margin of apothecium; (d) ascus; (e) paraphyses; (f) spores, one containing a guttule

racteristic moniliform (fig. 2e) appearance, 200-250 μm in length and up to 5 μm in thickness at the swellings, with yellowish contents. *Asci* cylindrical, with a very short stalk (fig. 2d), rounded above, 200-250 \times 12-17 μm , 8-spored, the wall not blue in Melzer's reagent. *Ascospores* uniseriate, ellipsoid or oblong-ellipsoid, at first colourless then pale yellowish, 14-18 \times 9-12 μm , smooth, often containing a guttule (figs. 2d-f).

Specimen studied: Sierra de Guadarrama, near to Hotel «La Barranca», province of Madrid, Spain, living on cowdung under *Pinus sylvestris*, 1300 m alt., 2 May 1976, legit Dr. M. García Rollán, Herbarium MA, Holotype.

There is controversy concerning the identity of the genus *Fimaria* Velen., and *Pseudombrophila* Boud. The delimitations between these two genera are not clear. KORF (1972) distinguishes *Fimaria* by having an apothecium with a prominent, sterile marginal rim. DENNIS (1968) and ECKBLAD (1968), following BOUDIER (1907), separate *Fimaria* by its habitat on dung, while *Pseudombrophila* grows on plant debris and shows non-clavate paraphyses. According to KORF (1972), *Fimaria* comprises eight species, while *Pseudombrophila* is restricted to a single species closely related to *Fimaria*. Finally SVRČEK (1974) does not find real differences between the two genera and considers them identical.

We included our specimen in the genus *Fimaria* because it was growing on cowdung and has sterile marginal rim. *Fimaria hispanica* can easily be separated within the genus by the larger ascocarp and ascus, and the absence of sclerotium. The ascocarp in most species varies from 1-5 mm diam, and the ascus hardly ever reaches 200 μm in length. *Fimaria ripensis* (E. C. Hansen) Korf, is the closest relative as having ascocarps and asci similar in size, but it shows a well developed sclerotium (HANSEN, 1876). *F. hepatica* (Batsch per Pers.) Brumm., differs in the larger spores (22-35-38.5 \times 10-13 μm), and the habitat on mouse and rabbit dung (BRUMMELEN, 1962). Similar spore size is to be found in *F. misturæ* (Phill.) Dennis, *F. cervaria* (Phill. apud J. Stevenson) Brumm., *F. leporum* (Alb. & Schw. per Pers.) Vel. sensu Fuckel, and *F. theioleuca* (Roll.) Brumm., but they differ in all the other characters. Finally, the remaining three species *F. virginea* Svrček & Moravek, *F. porcina* Svrček & Kubička and *F. coprina* Eckblad have smaller spores (9,5-13 \times 5-6 μm) than *F. hispanica*.

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Addendum

Being the present article in press, JENG & KRUG have described a new *Fimaria*, *F. trochospora* Jeng & Krug *sp. nov.* (New records and new species of coprophilous *Pezizales* from Argentina and Venezuela, Can. J. Bot. 55: 2987-3000, 1977). This new species has sclerotium, ascocarps of 1-1.5 mm, asci of 165-225 \times 15-18 μ m and spherical ascospores of 10-13 μ m diam.

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