

Unguiculella tityrii: a fimicolous and fungicolous novelty to the mycoflora of Britain (NBR 216)

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Unguiculella tityrii (Velen.) Huhtinen & Spooner, a tiny discomycete with whitish apothecia associated with pyrenomycete fruitbodies mainly in rabbit dung has been found in several localities in Scotland and one in England. It was previously unknown in Britain. A description and brief account of this species is provided.

***Unguiculella tityrii* (Velen.) Huhtinen & Spooner in *Kew Bulletin* (2003) 58: 750**

Basionym: *Ascophanus tityrii* Velen., *Monogr. Discom. Bohemiae* p. 361 (1934).

Apothecia 0.2-1.0 mm in diam when fresh, mostly solitary on fruitbodies of coprophilous pyrenomycetes, more rarely many apothecia occurring together, rarely without obvious contact to perithecia, globular to convex, or shallowly cupulate, watery greyish white when fresh, margin minutely fimbriate, disc often minutely scurfy (Fig 1). *Ectal excipulum* of large-celled *textura prismatica*, cells 11-18 x 4-8 µm, thin-walled; not staining in CB, CR, MLZ. *Hairs* present in most populations, most abundant at the margin, more scanty on flanks, narrowly conical to lageniform, undulating-straight to apically curved, smooth, aseptate, apical part slightly firm-walled, refractive in CB, CR, dull in MLZ, wall CB-, CR+, rarely hairs scarce to totally lacking. *Asci* cylindrical-clavate, 29-43 x 6.0-8.0 µm, $x = 36.2 \times 6.9 \mu\text{m}$, $Q = 4.1-6.7$, $Q = 5.3$ in MLZ ($n = 20$, from 3 populations), eight-spored, apically rounded, lacking a well-developed pore, MLZ-, arising from croziers. *Spores* ellipsoid, with rounded ends, 4.6-7.6 x 2.8-3.2 µm, $x = 5.7 \times 3.0 \mu\text{m}$, $Q = 1.7-2.1$, $Q = 1.9$ in MLZ ($n = 20$, from 2 populations), aseptate, hyaline, smooth, firm-walled, mostly symmetrical, more rarely slightly inequilateral, without guttulae in dry material. *Paraphyses* of two types: those equalling the asci or often shorter than asci are cylindrical, thin-walled, 2.0-3.8 µm wide, terminal cell often slightly widened or lageniform, septal intervals typically short, 6-9 µm; protruding paraphyses mostly similar to hairs, with refractive walls (Fig 2).

Ecology: on dung of rabbit, rarely of deer, in association with perithecia of *Podospora* spp.

British specimens examined: ENGLAND: Surrey, Esher (near), The Ledges, on rabbit dung, 02.V.1993, Spooner (K(M)23971). SCOTLAND: Inverness-shire, Cairngorm, on red deer dung, 26.V.1997, Richardson 28/97 (E); Argyll, Benderloch, Tralee Bay, on rabbit dung, 7.III.1999, Wilberforce (K(M) 60822); Midlothian, N. Allermuir, on rabbit dung, 30.X.1997, Richardson 125/97 (E); Midlothian, Braid Hills, on rabbit dung, 22.XI.1997, Richardson 127/97 (E); Midlothian, Arthur's Seat, on rabbit dung, 05.XII.1997, Richardson 130/97 (E); Midlothian, Aberlady, on rabbit dung, 26.XII.1997, Richardson 140/97 (E). **New British record No 216.**

This species was recently transferred to the genus *Unguiculella* (Huhtinen & Spooner, 2003), on the basis of hair and paraphysis characteristics and structure of the excipulum. A fungicolous habit is unusual in this genus, but is known for several species, including the European *U. aggregata* (Feltg.) Höhn., and *U. jamaicensis* Zhuang & Korf, the latter having similarly hyaline excipular cells. Although hooked, tapered hairs and a fungicolous habit are typical of species of *Unguiculariopsis* Rehm, these differ from the present species in several respects, notably in their pigmented excipulum and thin walled spores (Zhuang, 1988). In *Unguiculella tityrii*, the apothecia often arise directly from the ostiole of species of *Podospora*, but they may also grow on dung seemingly without any connection to pyrenomycetes. In such cases, it may be that the apothecia occur on developing fruitbodies or in

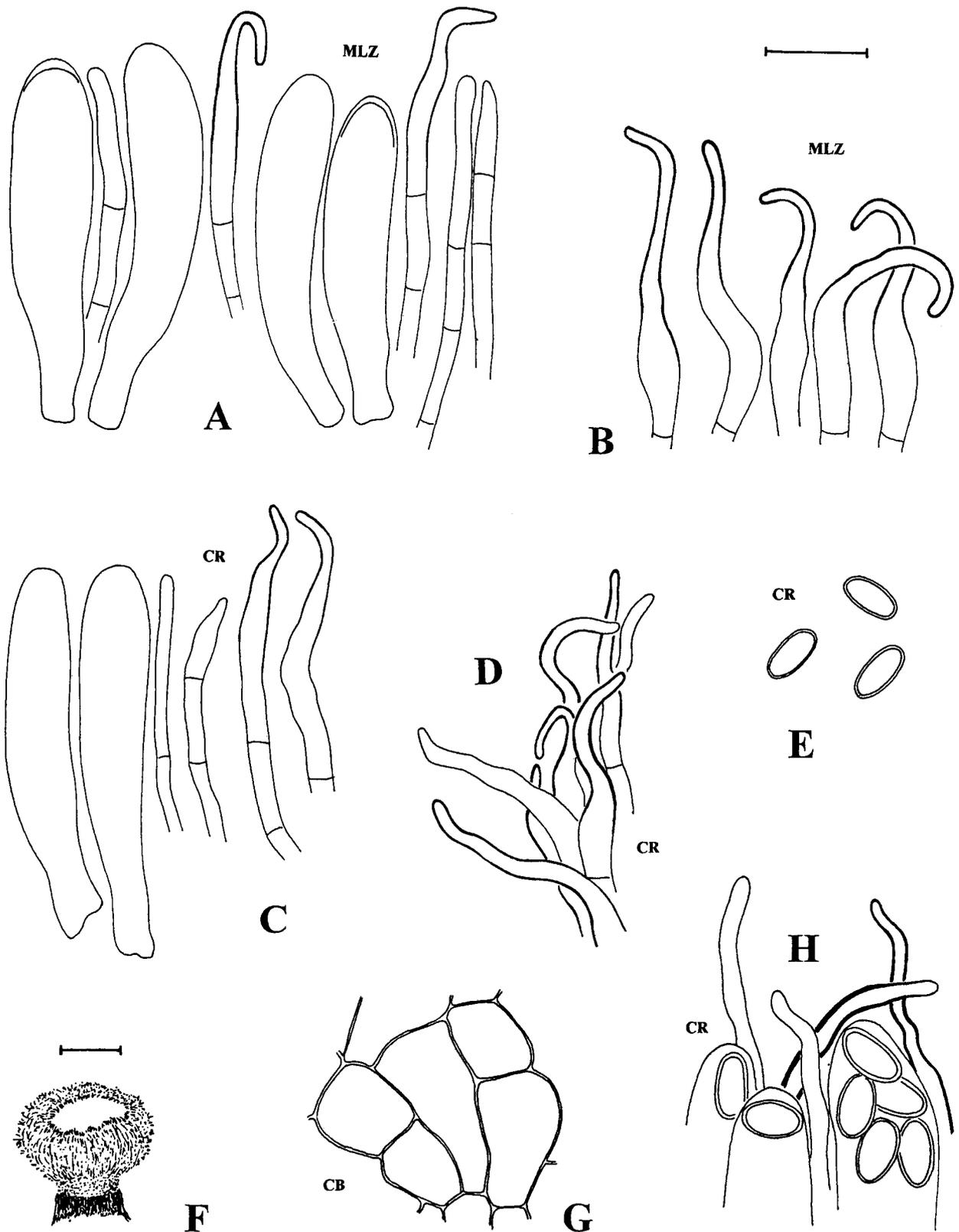


Fig 2 *Unguiculella tityrii*: A) Asci and paraphyses B) Marginal hairs C) Asci and paraphyses D) Hairs from flanks E) Ascospores F) Dry apothecium G) Ectal excipulum in surface view H) Hymenial detail with protruding paraphyses. A-B: Richardson 130/97, C-E: Richardson 28/97, F: Richardson 127/97, G: Wilberforce 7 Mar. 1999, H: Sweden, Småland, Hälleberga, Lundqvist 3354b. Scale bar 10 μ m, for apothecium 100 μ m.



Fig 1 *Unguicullella tityrii*: apothecia on *Podospora tetraspora* at Ulvshale, Mon, Denmark (Thomas Laessøe 5740, C). Photo Jens H. Petersen.

connection with pyrenomycetous mycelium.

The total known range of *U. tityrii* extends from Central and Western Europe to Denmark, Sweden, Greenland and Colorado. As discussed by Huhtinen & Spooner (2003), different populations from throughout this range show a marked variability with regard to ascus size and the amount of firm-walled hairs and paraphyses. This variability is also evident in British material, although on a more restricted scale. Variability in ascus size is not great except for one collection (Richardson 28/97) where asci with a normal size range occur together with others some 70-80 μm long. Hairs are regularly coupled with hair-like, protruding paraphyses in all but one British specimen (Wilberforce, 7 Mar. 1999), where one apothecium was totally lacking hairs and similar paraphyses, but an apothecium from another pellet showed abundant hairs and hair-like paraphyses. Amongst the stable

characteristics in this species are the spores with their rather uniform size, thick walls and eguttulate contents. The mechanism of ascus dehiscence remains unclear and observations from fresh specimens would be of great interest.

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References

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