

***Tulasnella echinospora*: an unusual new species from Great Britain and Sweden**

Peter ROBERTS

Mycology Section, Royal Botanic Gardens, Kew,
Surrey TW9 3AB, UK
E-mail: p.roberts@rbgkew.org.uk

Résumé – Une nouvelle espèce du genre *Tulasnella*, *T. echinospora*, est décrite de la Grande Bretagne et de la Suède. Des remarques supplémentaires sont pourvues pour *Tulasnella violacea* (*sensu auct.*), *T. pallida*, et *T. brinkmannii*.

***Tulasnella* / Grande Bretagne / Suède**

Abstract – A new *Tulasnella* species, *T. echinospora*, is described from Great Britain and Sweden. Additional notes are provided on *Tulasnella violacea* (*sensu auct.*), *T. pallida*, and *T. brinkmannii*.

***Tulasnella* / Great Britain / Sweden**

INTRODUCTION

British *Tulasnella* species were reviewed in a series of papers (Roberts, 1992, 1993, 1994a, 1994b), since which time a new and unusual, spiny-spored species has been found in the British herbarium at Kew. The new taxon is described below, with reference to other *Tulasnella* species with similarly shaped but smooth basidiospores.

STUDIED SPECIES

Tulasnella echinospora P. Roberts **sp. nov.** (Fig. 1)

Tulasnella pallida Bres. *similis, sed basidiosporae spinosae, 9 – 12 × 5 – 6.5 μm.*

HOLOTYPE: England, Hampshire, Swarraton, 27 Dec. 1903, [Rev. W. Eyre] ex herb. C. Rea, (orig. det. as *T. violea*) K(M) 60329. **ADDITIONAL SPECIMEN:** Sweden, Västergötland, Alingsås, Målaregatan 12, on woody *Geranium* stems, 17 Mar. 2003, K. Hjortstam 18602, K(M) 113169.

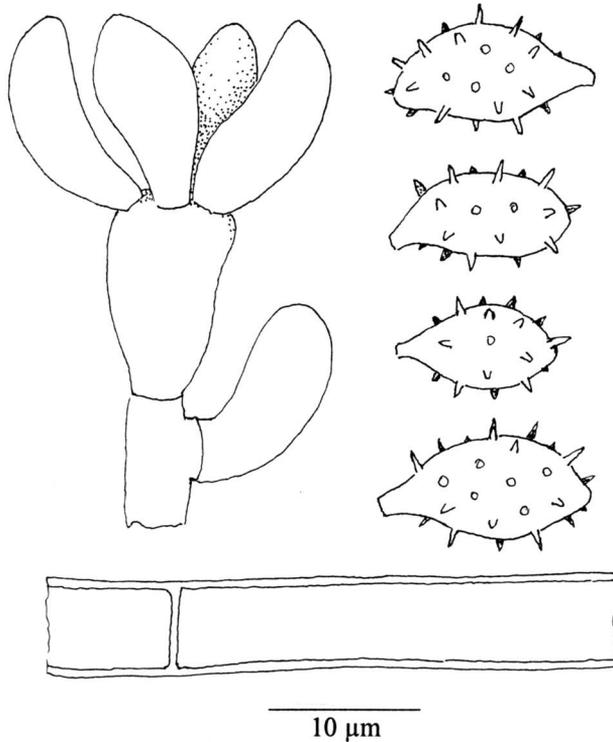


Fig. 1. *Tulasnella echinospora*. Basidium, basidiospores, and slightly thick-walled subicular hypha (holotype).

Basidiome effused, smooth, greyish-white when dried. *Hyphae* hyaline, 2.5-6.5 μm wide, unclamped, thin-walled in subhymenium, slightly thick-walled in subiculum. *Cystidia* absent. *Basidia* subglobose to ellipsoid, c. 15 \times 10-12 μm . *Sterigmata* four, ellipsoid becoming fusiform and eventually cylindrical. *Basidiospores* fusiform to amygdaliform ($Q = 1.8-2.2$), 9-12 \times 5-6.5 μm , many with sparse but distinct, acute spines 0.5-1.5 μm long.

An undescribed Taiwanese *Tulasnella* species with spiny spores was mentioned without comment in Langer (1994: p. 356), otherwise all known *Tulasnella* species are smooth-spored. Microscopic mounts taken from the holotype of *Tulasnella echinospora* contain a proportion of spiny spores, but some are smooth, suggesting that the spines only develop on older basidiospores after they are released from the sterigmata. Apart from the large and clearly visible spines (Fig. 1), the basidiospores of *Tulasnella echinospora* are very similar to those of *T. pallida* (below).

Curiously, after a first draft of this paper had been prepared, Dr Kurt Hjortstam sent in a second collection of *Tulasnella echinospora* from Sweden, almost 100 years after the holotype. The material is very similar, with some basidiospores smooth, some spiny.

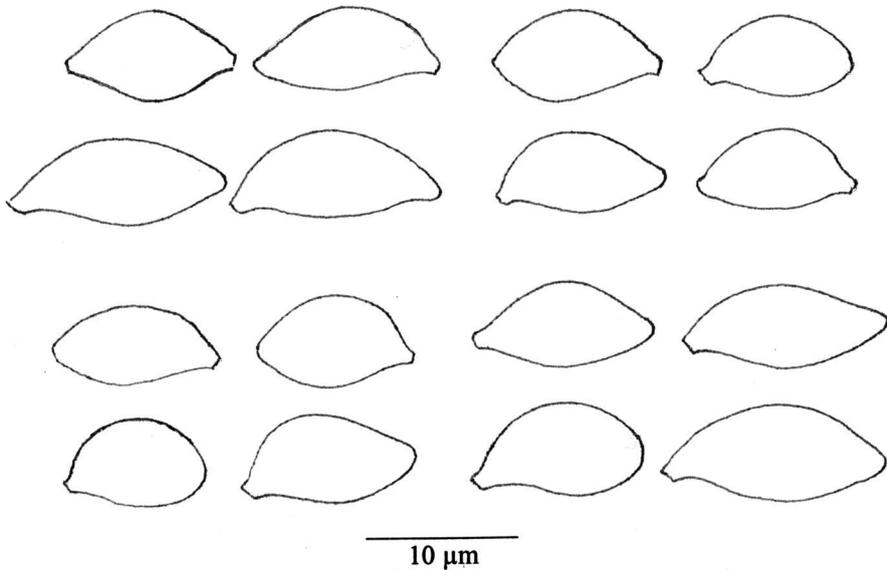


Fig. 2. *Tulasnella pallida*. Basidiospores: top left (four spores) Bovey, K(M) 42560; top right (four spores) Orley, K(M) 32879; bottom left (four spores) Esher, K(M) 60237; bottom right (four spores) Norway, K(M) 58311.

Tulasnella pallida Bres., *Ann. Mycol.* 1: 122 (1903) (Fig. 2)

Tulasnella violacea (Johan-Olsen) Juel, *Bihang till K. Svenska Vet.-Akad. Handl.* 23, Afd III, 12: 22 (1897) [*nom. dub.*; *sensu auct. pro parte*]

Basidiomes effused, dull violaceous to pink when fresh, greyish-white when dried. *Hyphae* hyaline, 2.5-6.5 μm wide, unclamped, thin-walled in subhymenium, slightly thick-walled in subiculum. *Cystidia* absent. *Basidia* subglobose to ellipsoid, 15-17 \times 10-12 μm , sometimes with short stem. *Sterigmata* four, ellipsoid becoming fusiform and eventually cylindrical. *Basidiospores* fusiform to amygdaliform, some occasionally oblong ($Q = 1.4\text{-}2.8$), (7.0 -) 9.5-15.5 \times 5-6.5 μm , smooth, somewhat similar to those of *T. calospora* (Boud.) Juel but distinctly shorter.

SPECIMENS EXAMINED: BALEARIC ISLANDS: Majorca, Bosc de Monnaber, on fallen wood, 13 Nov. 1992, P. Roberts 585, K(M) 26146; BELARUS: Belovezhskaya Pushtsha Res., Korolevomostorskoji, on fallen *Betula* branch, 24 Sep. 1969, E. Parmasto 54043, K(M) 46269; ENGLAND: Devon, Bovey Tracey, Great Plantation, on fallen coppice pole, 17 Nov. 1996, P. Roberts, K(M) 42560; Devon, Ipplepen, Orley Common, on fallen wood, 9 Dec. 1995, P. Roberts, K(M) 32879; Surrey, Esher Common, Winterdown Wood, on dead *Epilobium* stems, 21 Feb. 1999, P. Roberts, K(M) 60237; Surrey, Kew, Royal Botanic Gardens, Herbarium grounds, on (?) *Tilia*, anon., 1912, (orig. det. D.P. Rogers as *T. violacea*) K(M) 46262; NORWAY: Akershus, Drömtorp Gård (100 m SE of), on basidiomes of *Ischnoderma benzoinum*, 9 Jul. 1950, J. Stordal m4104,

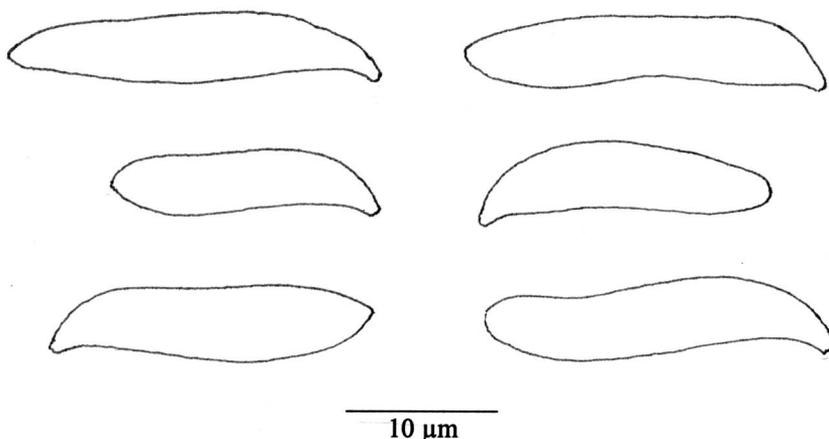


Fig. 3. *Tulasnella brinkmannii*. Basidiospores, Hertfordshire, K(M) 59776.

K(M) 58311; USA: Iowa, Iowa City, on wood, 24 Apr. 1932, D.P. Rogers, (as *T. violacea*) K(M) 55558.

Roberts (1994b) demonstrated that *Tulasnella violacea* was a *nomen dubium*, lacking an adequate description or type specimen, and that the name could equally be applied to *Tulasnella pallida* (with broadly fusiform basidiospores) or *T. brinkmannii* Bres. (with narrowly fusiform basidiospores). Van de Put & Antonissen (1996) noted this, but described and illustrated under the name "*Tulasnella violacea*" a taxon with intermediate spores which they considered distinct.

Examination of several new collections reveals a wide range of basidiospore sizes and shapes amongst the fusiform-spored *Tulasnella* taxa (Fig. 2). As originally described, *Tulasnella pallida* has weakly fusiform basidiospores up to 10.5 (- 12) μm long (illustrated from the type collection in Roberts, 1994b). However, in subsequent collections the basidiospores are often longer (up to 16 μm) and more distinctly fusiform. It was initially thought that two taxa, one short-spored (*T. pallida sensu stricto*) and one longer-spored ("*T. violacea*" *sensu* Van de Put & Antonissen), could be differentiated on micro-morphological grounds, but there seem to be too many intermediates to support such a split. Accordingly all the collections cited above are here referred to *Tulasnella pallida*.

Tulasnella calospora typically has much larger basidiospores, 16-30 μm long (illustrated in Roberts, 1994a), and as such appears distinct.

Tulasnella brinkmannii has spores which are considerably narrower (illustrated from the type collection in Roberts, 1994a). A new British collection (England, Hertfordshire, Luffenhall, on old *Pteridium* stem, 6 Jan. 1999, K. Robinson, K(M) 59776) is referable to this species (Fig. 3), but an earlier British collection, tentatively referred to *Tulasnella brinkmannii* in Roberts (1994a) is, on re-examination, *T. calospora*.

REFERENCES

- LANGER G., 1994 — Die Gattung *Botryobasidium*. *Bibliotheca Mycologica* 158: 1-459.
- ROBERTS P., 1992 — Spiral-spored *Tulasnella* species from Devon and the New Forest. *Mycological Research* 96: 233-236.
- ROBERTS P., 1993 — Allantoid-spored *Tulasnella* species from Devon. *Mycological Research* 97: 213-220.
- ROBERTS P., 1994a — Long-spored *Tulasnella* species from Devon, with additional notes on allantoid-spored species. *Mycological Research* 98: 1235-1244.
- ROBERTS P., 1994b — Globose and ellipsoid-spored *Tulasnella* species from Devon and Surrey, with a key to the genus in Europe. *Mycological Research* 98: 1431-1452.
- VAN DE PUT K. & ANTONISSEN I., 1996 — *Tulasnella*'s uit Vlaanderen. *Sterbeekia* 17: 44-69.