

Second collection of *Tilletia avenastri* discovered in type material of *Trisetum imberbe*

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Abstract: Braun, U., Wölk, A. & Heuchert, B. 2014: Second collection of *Tilletia avenastri* discovered in type material of *Trisetum imberbe*. *Schlechtendalia* 27: 15–16.

In the course of phylogenetic-taxonomic studies on *Helictotrichon* and related oat-like grasses, type material of *Trisetum imberbe* has been re-examined. Distorted inflorescences with smut sori in ovaries have been observed, examined and identified as *Tilletia avenastri*. This is the second record of this smut fungus, which has recently been described from Lesotho.

Zusammenfassung: Braun, U., Wölk, A. & Heuchert, B. 2014: Zweiter Fund von *Tilletia avenastri* im Typusmaterial von *Trisetum imberbe* entdeckt. *Schlechtendalia* 27: 15–16.

In Verlauf von phylogenetisch-taxonomischen Arbeiten über *Helictotrichon* und verwandte haferartige Gräser wurde Typusmaterial von *Trisetum imberbe* untersucht. Deformierte Infloreszenzen mit Brandsori in den Ovarien wurden gefunden, untersucht und als *Tilletia avenastri* identifiziert, was den zweiten Fund dieses Brandpilzes darstellt, der erst jüngst aus Lesotho beschrieben worden ist.

Key words: smut fungi, *Tilletiaceae*, South Africa

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In the course of molecular phylogenetic and taxonomic-morphological examinations of *Helictotrichon* Besser and allied oat-like grasses, Wölk & Röser (2013) introduced the new genus *Trisetopsis* Röser & Wölk and reallocated several species of the former *Helictotrichon* complex to this genus, including *Avena turgidula* Stapf ($\equiv$ *Trisetopsis turgidula* (Stapf) Röser & Wölk, *Avenastrum turgidulum* (Stapf) Stapf). Syntype material of *Trisetum imberbe* Nees, deposited at HAL (South Africa, Cape, Leeuwenspruit, between Kraairivier and Witbergen, 4500' alt, J. F. Drège, January 1826–1834, HAL 0107178), an older synonym of *A. turgidula*, has been examined and exhibited distorted inflorescences with infected ovaries. Sevenster & Veldkamp (1983) mentioned an infection of type material of *Trisetum imberbe* by a *Tilletia* causing monstrous spikelets, and Schweickerdt (1937) referred to *Tilletia* in inflorescences of *Helictotrichon turgidulum*, but in both papers without exact identification of the causal agent. A detailed microscopic examination revealed infections by a smut fungus later identified as *Tilletia avenastri* Vánky recently described from Lesotho on *Avenastrum turgidulum* (Vánky 2011). *T. avenastri* was hitherto only known from the type collection. The present collection found in type material of *T. imberbe* is the second record of this smut fungus.

Smut spores in type material of *Trisetum imberbe* agree morphologically well with the original description of *T. avenastri*. Sori occur in infected ovaries as ellipsoid swellings, 0.5–1.5 mm diam., within the floral envelop, covered by a brown pericarp surrounding the brownish spore mass (Fig. 1). The individual smut spores are characterised as follows: Shape globose to subglobose, composed of pigmented spores, yellowish or with an olivaceous tinge, 15–20 μ m diam., wall thin, up to about 1 μ m, surrounded by a thick, firm, hyaline sheath, 3–5 μ m wide, combined diameter of spore and sheath 20–28 μ m, spinulose, spines coarse, arising from the spore wall, permanently embedded in the hyaline sheath, conical, 2–3(–4) μ m high and up to 2 μ m wide at the very base, colourless.

Literature

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Fig. 1: *Tilletia avenastris*, infected inflorescences in syntype material of *Trisetum imberbe* (HAL 0107178).

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