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The first record of *Tulostoma melanocyclum* in Poland

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The paper presents information on *Tulostoma melanocyclum* Bres., a species new for Poland. The fungus was found in the xerothermic grassland *Thalictro-Salvietum pratensis* in the neighbourhood of Busko Zdrój, about 45 km S of Kielce.

Key words: *Tulostoma melanocyclum*, *Gasteromycetes*, xerothermic fungi, thermophilous fungi.

INTRODUCTION

There are 17 species of the genus *Tulostoma* known from Europe, and 4 species occurring in Poland: *Tulostoma brumale*, *T. fimbriatum*, *T. kotlabae* and *T. squamosum* (Rudnicka-Jezierska 1991). All the species in our country are rare and disappearing. As their ecological requirements are concerned, these species are connected with dry, warm, sun-lit, psammophilous and xerothermic habitats. *Tulostoma fimbriatum* is relatively the most frequently recorded species.

HABITAT

Tulostoma melanocyclum Bres., a species new for Poland, was found on July 05th, 1986. Subsequently, this finding was confirmed on July 15th, 1994, in the xerothermic grassland *Thalictro-Salvietum pratensis*, in the Zwierzyniec village, near Busko Zdrój, 45 km S of Kielce (Fig. 1). The patch where the fruit-bodies were found, was situated on the 35° inclined slop with the S exposition, on the rendzinas originating from the Miocene calciferous sandstone. The floristic composition of this phytocoenosis is as follows: cover of herb layer c–100%, cover of moss d–10%; area of record–30 m^2,

Agropyron intermedium 4.5, *Achillea pannonica* +.2, *Adonis vernalis* +, *Arenaria serpyllifolia* +, *Asperula cynanchica* 1.2, *Coronilla varia* +, *Euphorbia cyparissias* 1.1, *Gypsophila fastigiata* 2.3, *Helianthemum ovatum* 2.3, *Medicago falcata* 1.2, *Pimpinella saxifraga* +, *Poa compressa* +.2, *Potentilla arenaria* 1.2, *Scabiosa ochroleuca* +, *Thymus marschallianus* +.2, *Abietinella abietina* d 1.2, *Cladonia* sp. d +, *Dermatocarpon hepaticum* d +, *Bryum caespiticium* d 1.2.

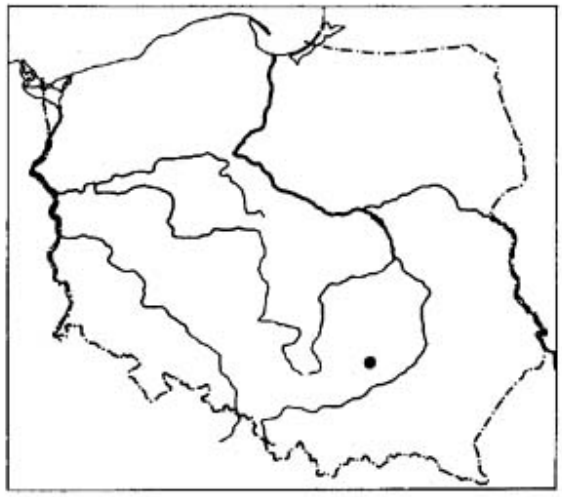

Fig. 1. Locality of *Tulostoma melanocyclum* in Poland

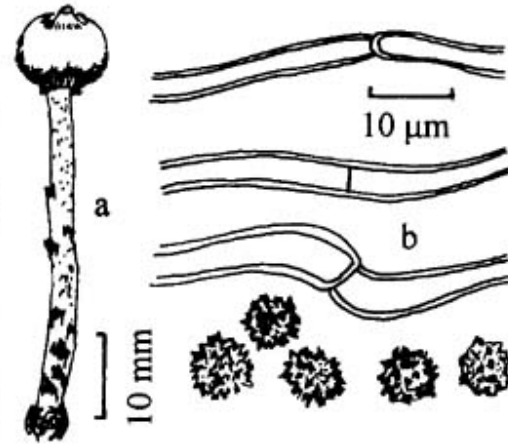

Fig. 2. *Tulostoma melanocyclum*: a – fruit-body, b – capillitium, c – spores

DESCRIPTON OF THE SPECIMENS

The fruit-bodies of *T. melanocyclum* resemble *T. brumale* but differ from the latter in colour and the spore size (Table 1). The fruit-bodies are rod-shaped. The head is of ochre-rust colour, globose, 8–10 mm in diameter, with a short, tubular, straight cut off peristome. The stem is 3–5 cm long, 3–4 mm in diameter, ochre-brown or chestnut in colour, grooved with infrequent more or less protruding small scales.

The spores are almost globose, spiny, 5.4–7.2 (8.4) µm (Fig. 2). Their dimensions are slightly bigger than those in the literature. According to Kreisel (1984) spores of *T. malanocyclum* are 4.0–4.5 µm; according to Pilát (1958) – 5.7–6.5 (7) µm; according to Jülich (1984) – 5–7 µm. The closest to the presented specimens are dimensions given by Wright (1987) – 4.8–7.3 µm. Capillitium almost colourless, thick-walled, 5–7 µm in diameter, slightly branched, with thickenings around septa.

The material collected was deposited in the herbarium of the Department of Botany, Institute of Biology, Jan Kochanowski Świętokrzyska Academy in Kielce.

Table 1
Selected features of fruit-bodies of several *Tulostoma* species

Selected features	*T. melanocyclum*	*T. brumale*	*T. squamosum*	*T. fimbriatum*	*T. kotlabae*
Spores in μm	4.8–7.2	3.9–5.7	4.8–6.5	5–8	4–6
Perystome	straight, tubular	straight, tubular	straight, tubular	fimbriate, tall	straight, tubular, low
Colour of stem	dirty brown, chestnut	light yellowish brown	dark brown	dirty brown, ochre-brown	whitish
Scales on stem	single, square, ± projecting	very small and delicate, appressed and projecting, with age absent	small, dense, sharp, dark brown	narrow, appressed or projecting	different size
Septa	thickened	very few	slightly thickened and light yellowish	rare	not thickened

DISTRIBUTION

Wright (1987) defines *T. melanocyclum* as a typically European species, particularly of southern character. In Europe it is known from: Austria, Belgium, Czech Republic, France, Germany, Great Britain, Holland, Hungary, Italy, Luxembourg, Macedonia, Portugal, Slovakia and Sweden. Outside Europe it was found in North America (Mexico, USA), South America (Brazil) and in Asia (Russia – Astrakhan).

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Tulostoma melanocyclum pierwszy raz zebrana w Polsce

Streszczenie

Autor przedstawia opis nowego dla Polski gatunku *Tulostoma melanocyclum* Bres. Grzyb znaleziony został po raz pierwszy 05.07.1986 roku we wsi Zwierzyniec, w okolicach Buska Zdroju, w murawie kserotermicznej *Thalictro-Salvietum pratensis*. Owocniki *T. melanocyclum* podobne są do owocników *T. brummale*. Porównanie wybranych cech owocników krajowych gatunków z rodzaju *Tulostoma* zamieszczono w tabeli 1. Materiał zielnikowy znajduje się w Zakładzie Botaniki Akademii Świętokrzyskiej w Kielcach.