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**SHORT COMMUNICATION**

# First record of a cold-period myxomycete species *Dianema depressum* (Lister) Lister in Poland

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**Abstract**

A myxomycete species, *Dianema depressum* is reported for the first time in Poland. It has been found in the Jaszowiec stream valley, localized in the Beskid Śląski Mts (the Carpathians) in November 2015. The cool period seems to be the typical time of the species' occurrence.

**Keywords**

*Dianema*; Mycetozoa; Myxomycetes; Protozoa; Carpathians

**Introduction**

The genus *Dianema* Rex belongs to the family Dianemataceae and counts 14 species [1]. It is characterized by sessile sporocarps or plasmodiocarps covered with single or double peridium, solid capillitial threads attached to the base of the sporophore and to the peridium, and pale spores [2]. The genus contains species with variously ornamented spores and various capillitium. *Dianema depressum* (Lister) Lister belongs to the group of species with reticulate spores and it is easily distinguished from other species from the group by ornamented capillitial threads joined at the tips. In Poland, only one species of the genus *Dianema* is known to date, *Dianema corticatum* Lister from a single locality in Silesia [3,4]. In the present paper, we report the second species of the genus, *Dianema depressum*, found at the locality in the Carpathians.

**Material and methods**

Material was collected during fieldwork devoted to the wildlife inventory of the Jaszowiec stream valley in the Ustroń Commune. Observations and measurements of the macromorphological characters of mature sporophores were done under stereoscopic microscope MST 132, PZO. Measurements of micromorphological structures were done under light microscope PZO SK14 with differential interference contrast. Unfortunately, the specimen was lost during shipment to the KRAM where it was planned to be deposited. However, because we could undoubtedly determine the specimen before it was lost and because it is a rare species we decided to publish its new record without a voucher specimen.

**Results: *Dianema depressum* (Lister) Lister**

The Polish specimen was typical in regard to all essential species' characters including depressed sporophores (Fig. 1b), inner peridium surface covered by a reticulate pattern



**Fig. 1** First Polish record of *Dianema depressum* (Lister) Lister. **a** Vegetation at the locality. **b** Group of sessile, depressed sporophores. **c** Inner surface of peridium from light microscope. **d,e** Spores with almost completely reticulate ornamentation from light microscope: top view (**d**), median view (**e**). Scale bars: **b** 10 mm, **c–e** 10  $\mu$ m.

(Fig. 1c), rough capillitium composed of unbranched threads joined at the tips, and almost entirely reticulate spores (Fig. 1d,e).

**Specimen examined.** The Carpathians, NW part of the Beskid Śląski Mts, Ustroń Commune, valley of the right-hand bank influent of the Jaszowiec stream valley (Fig. 1a), 49°42'22,5" N 18°50'51,9" E, ca. 450 m, on beech branch, November 2, 2015, leg. P. Chachuła, M. Fiedor.

**Notes.** The species has been described from southern part of Great Britain by Lister [5] (see also Plates 308–312 therein), who mentions five other records of the species. All these records are from winter months (December to March). It was also collected during

cool period in Spain [6] and all records of the species from France, the Netherlands, and England provided by Poulain et al. [7] are also from December to February. Also, German finds of this myxomycete are from late fall to spring (October–March) [8,9] and all European records of *Dianema depressum* from the GBIF web page [10] are from the period of October to April. Therefore, it seems that in Europe *Dianema depressum* may be considered a cold-period myxomycete, like *Licea clarkii* that share the same phenology [11]. In their survey of the montane Alpine forest in Germany made in second part of October, Schnittler and Novozhilov [9] recognized a group of late-fall myxomycetes for the species that prefer colder microclimate. Although they did not assign *Dianema depressum* to the group (because of a single record in the area), it is likely the species occurred there in the optimum of its phenology. *Dianema depressum* is a widespread but rare species. In Europe, it has been reported from Great Britain, Sweden, Portugal [12], Spain [6], the Netherlands, France, Germany [7,8], and Hungary [13] (for other localities, see GBIF web page). Here, we report it for the first time in Poland.

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