Hidden in plain sight: *Artomyces microsporus* in the Polish mycobiota

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The genus *Artomyces* (Auriscalpiaceae, Russulales) comprises saprotrophic, wood-inhabiting fungi forming clavarioid basidiocarps with characteristic "crowned" branch apices. In Europe, four species are currently recognized: *A. pyxidatus*, *A. microsporus*, *A. cristatus*, and *A. piperatus*. The most common, *A. pyxidatus*, is widely distributed in Poland, but is nevertheless listed as vulnerable (V) on the national Red List due to the decline of riparian broadleaf forests. In contrast, the status and distribution of the remaining taxa, particularly *A. microsporus*, remain poorly understood in the region. The species was originally described from East Asia and was first recorded in Europe in Ukraine, in 2004.

Using a combined molecular (ITS rDNA) and micromorphological approach, we analyzed 74 specimens obtained from Polish fungaria, professional and amateur mycological networks, and our own field collections. Our results identified 26 collections as *A. microsporus* and 44 as *A. pyxidatus*. Notably, the oldest Polish specimen of *A. microsporus* dates back to 1965, suggesting that the species has been established in the region for several decades. Analysis of wood substrate indicated a marked ecological specialization. Basidiocarps of *A. microsporus* were found exclusively on dead wood of *Pinus sylvestris*, whereas *A. pyxidatus* predominantly occurred on decaying deciduous wood, particularly *Fagus* and *Populus*.

To evaluate the potential niche occupancy of *A. microsporus*, we compiled a database combining our specimens with visually verified records obtained from public databases. Species distribution modeling was conducted using MaxEnt based on climatic and soil variables. The most significant predictors were the mean temperature of the coldest quarter and various seasonal precipitation variables. The predicted potential distribution across continental Europe closely corresponds to the native range of *P. sylvestris*. However, the potential range in Fennoscandia appears to be limited by soil factors despite the presence of host trees. These results suggest that *A. microsporus* may be a common fungus in Central and Eastern Europe, and its status as an introduced species remains uncertain.

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