

Contribution to chorology of *Xylobolus frustulatus* in Poland

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Xylobolus frustulatus (Pers.: Fr.) Boidin, one of the rare and threatened fungi in Poland, is reported from two new localities in Western Pomerania and Western Carpathians. Updated map of distribution of *Xylobolus frustulatus* in Poland is provided.

Key words: Basidiomycetes, Russulales, *Stereaceae*, macrofungi, distribution

INTRODUCTION

The genus *Xylobolus* is represented by two species in Europe: *Xylobolus frustulatus* (Pers.: Fr.) Boidin and *X. subpileatus* (Berk. & M. A. Curtis) Boidin, of which only the first has been reported from Poland (Wojewoda 2003).

In the whole Europe, *Xylobolus frustulatus* is widely distributed but not frequent (e.g. Kotlaba 1967, 1986; Lange 1974; Krieglsteiner 1991; Hansen, Knudsen 1997). In Poland, it is a rare species, although in some areas, e.g. in the Augustów Forest and the Białowieża Forest, it is relatively frequent (Wojewoda 2000a, 2003). Recently, it has been found both in the north (Western Pomerania) and south (Western Carpathians) of Poland. It is considered threatened and has been enlisted in the Polish red list of macrofungi (Wojewoda, Ławrynowicz 2006).

DESCRIPTION OF SPECIMENS

Xylobolus frustulatus (Pers.: Fr.) Boidin 1958

Basidiomata perennial, resupinate, 1-2(5) mm thick, from few to several cm long and broad; characteristically cracked, tuberculiform-frustulate and rarely appear narrowly reflexed, each frustule up to 1 cm in diameter, occasionally larger; greyish white, pale orange, brownish orange to greyish brown, sometimes with grayish violet tints when fresh. Hymenophore even to rugose or tuberculate. Cystidia of two types: acanthocystidia and pseudocystidia. Basidia clavate, 25-30(-35) × 4-5 μm

with 4 sterigmata. Basidiospores short-ellipsoid, smooth, thin-walled, hyaline, amyloid, $3.5\text{-}6(-7) \times 2.5\text{-}3(-3.5) \mu\text{m}$.

ECOLOGICAL NOTES. *Xylobolus frustulatus* grows most frequently on old decorticated stumps, branches and logs of deciduous trees, mainly of the genus *Quercus* (e.g. *Q. cerris*, *Q. frainetto*, *Q. petraea* and *Q. robur*), finding the most favourable conditions for development on old oak logs that have been laying in the forest for a long time (Figs 1, 2). Furthermore the specimens were recorded also on *Betula* sp., *Castanea* sp., *Liliodendron tulipifera*, *Pinus strobus* and *Pseudotsuga* sp., by other researchers (e.g. Chamuris 1988; Tortić 1988; Domański 1991; Ginns, Lefebvre 1993; Hansen, Knudsen 1997; Wojewoda 2003). *X. frustulatus* has been reported from Brandenburg both as saprotroph and parasite of old *Quercus* trees (Schmidt et al. 2008).

First of all, *Xylobolus frustulatus* is a saprobic fungus growing on dead wood, sporadically attacking living trees and inducing a characteristic white pocket rot in decorticated oaks (Otjen, Blanchette 1984; Jahn 1990; Domański 1991; Ginns, Lefebvre 1993).

In Poland, *Xylobolus frustulatus* occurs mostly in old tree stands, in areas being frequently under protection, e.g. in the Molenda reserve near Łódź or in the Białowieża National Park (Wojewoda 2000a). It has been recorded so far in deciduous and mixed forest with the participation of *Quercus*, e.g., in *Tilio-Carpinetum* Tracz. 1962 association (Orłóś 1961; Wojewoda 1978; Wojewoda et al. 1999; Skirgiełło 1997, 1998).

DISTRIBUTION

Xylobolus frustulatus is a widespread species, known from Europe, Asia, North America and Australia. In the North America, it has been recorded in Canada, Mexico and the United States (e.g. Chamuris 1988; Ginns, Lefebvre 1993). In Asia, it has been reported, among others, from Iran, Japan and Thailand (e.g. Imazeki, Hongo 1975; Hallenberg 1978, 1981; Hjortstam, Ryvarde 1982). In Europe, it occurs in many countries, e.g., in Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Norway, Spain and Sweden (e.g. Kotlaba 1967, 1986; Lange 1974; Jülich 1984; Telleria 1990; Kriegelsteiner 1991; Hansen, Knudsen 1997), being a rare fungus in some of them, e.g., in Norway and Finland (Hansen, Knudsen 1997).

In Poland, *Xylobolus frustulatus* is a rare species, being recorded so far most frequently in the north-eastern part of the country. The complete list of localities and the distribution map are published by Wojewoda (2000a). Recently, this species has been found in two new localities, i.e. in Tarnów in the Western Carpathians and in the Sońnica reserve in Western Pomerania (Fig. 3). The species was recently recorded from Brandenburg (Benkert 2001; Schmidt et al. 2008).

NEW LOCALITIES. 1. The Western Carpathians, the Pogórze Ciężkowice Foothills, Tarnów - Góra Św. Marcin Mt., *Tilio cordatae-Carpinetum betuli* Tracz. 1962, on stump of *Quercus robur*; 20.09.2001, leg. et det. M. Piątek, KRAM F-52185 (hitherto unpublished). Grid square Fe-77. Observed again on the same stump in October 2006 roku (Piątek, personal communication). 2. The Western Pomerania region, the Southern Pomeranian Lakeland, the Równina Wałecka Plain: the Sońnica reserve (Świerczyna Forest District, forest section no. 44a), ca 2 km S of Sońnica village and ca 5.5 km NE of Świerczyna village, *Luzulo pilosae-Fagetum* W. Mat. et A. Mat. 1973,

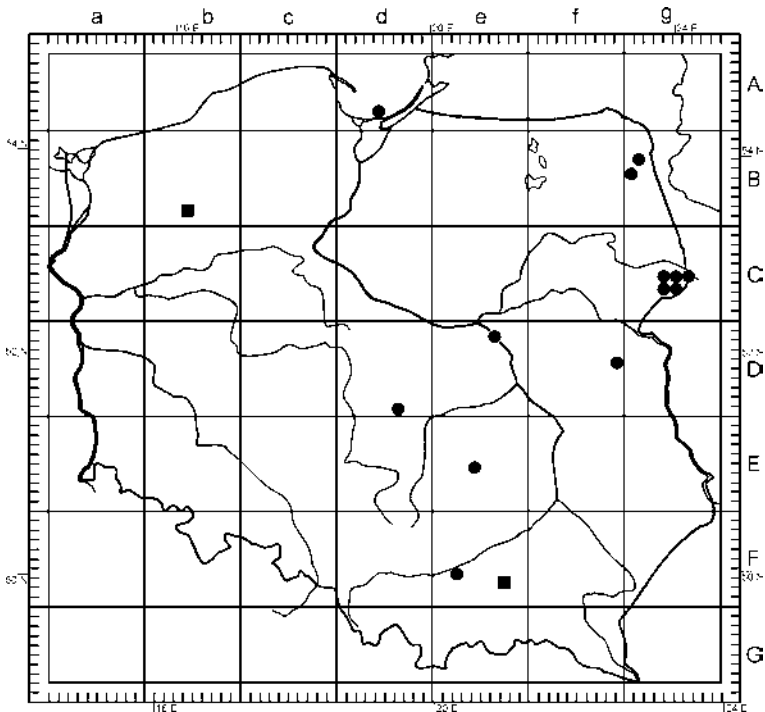


Fig. 3. Distribution of *Xylobolus frustulatus* (Pers.: Fr.) P. Karst. in Poland, in the ATPOL grid square system (Wojewoda 2000b): ■ – new localities, ● – known localities.

on dead and old log of *Quercus*; 24.10.2006, leg. et det. M. Stasińska, KRAM F and SZUB. Grid square Bb-84.

Xylobolus frustulatus has been found in the Sośnica reserve in October 2006. This is the first documented locality of that species in the western part of Poland. Earlier, it was reported by Orłóś (1951) from the area of Warcin but the author did not specified the exact location of its occurrence; in consequence it was not taken into consideration when preparing the map of geographical distribution by Wojewoda (2000a).

The Sośnica reserve is situated within a large forest complex, some 2 km to the south of the Sośnica village in the Wierzychowo district in Western Pomerania. The fruitbodies of *Xylobolus frustulatus* grew on old decorticated oak log, most likely of *Quercus petraea*, as only this oak species occurred in the reserve. The fruitbodies were found on only one log, in the patches of *Luzulo pilosae-Fagetum* W. Mat. et A. Mat. 1973 association.

Within the area of the Sośnica reserve, a 240-280 years old beech-oak tree stand with many monumental specimens of *Fagus sylvatica* and *Quercus petraea* is protected here (Paton 1998). Moreover, old oak logs are also found here, which brings about suitable conditions for development of *Xylobolus frustulatus*.

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Nowe stanowiska *Xylobolus frustulatus* w Polsce

Streszczenie

Xylobolus frustulatus, drewnowiec popękany rośnie na starych okorowanych pniakach, gałęziach i kłodach drzew liściastych, głównie z rodzaju *Quercus* (np. *Q. petraea* i *Q. robur*). Występuje przeważnie w starych drzewostanach, na terenach często objętych ochroną, np. w rezerwach przyrody.

W Polsce drewnowiec popękany jest grzybem rzadkim, umieszczonym na czerwonej liście grzybów wielkoowocnikowych w kategorii V (narażone). Ostatnio stwierdzony został na dwu nowych stanowiskach. Pierwsze z nich znajduje się na Górze Św. Marcina w Tarnowie w Karpatach Zachodnich, natomiast drugie w rezerwacie przyrody „Sośnica” na Pojezierzu Południowopomorskim.

Xylobolus frustulatus w rezerwacie „Sośnica” został stwierdzony w październiku 2006 roku. Owocniki rosły na starej okorowanej kłodzie dębu, prawdopodobnie *Quercus petraea*, w płatach *Luzulo pilosae-Fagetum* W. Mat. et A. Mat. 1973. Jest to pierwsze w pełni udokumentowane stanowisko, tego gatunku z zachodniej części Polski. Warto dodać, że ostatnio grzyb ten notowany był w Brandenburgii i innych terenach w Niemczech.



Fig. 1. *Xylobolus frustulatus* in Sośnica reserve (photo M. Stasińska).



Fig. 2. The site of *Xylobolus frustulatus* occurrence (photo J. Prajs).