

Notes on some species of *Ascochyta* (Coelomycetes) new and rare for Poland

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Three species of *Ascochyta* (conidial fungi, Coelomycetes) are described in the paper. *Ascochyta urticae* A. L. Smith et Ramsbottom (on *Urtica dioica* L.) and *Ascochyta phomoides* Saccardo (on *Aegopodium podagraria* L.) are species new for Poland. *Ascochyta podagrariae* Bresadola (on *A. podagraria* L.) is known from one locality only. All species are rarely noted in the world.

Key words: microfungi, conidial fungi, Coelomycetes, ecology, distribution, Poland

INTRODUCTION

Fungi of the genus *Ascochyta* (Coelomycetes, conidial fungi) remain under-examined, with few monograph studies on the subject published (e.g. Mel'nik 1973, 2000; Punithallingham 1979, 1988; Sałata 2002). Fungi belonging to this important genus are mostly rare species, known from one or few localities. Only species causing diseases of cultivated plants are noted more frequently.

Three interesting species of the genus *Ascochyta* (Coelomycetes) were recently collected in Poland. Two of them, *A. urticae* A. L. Smith et Ramsbottom (on *Urtica dioica* L.) and *A. phomoides* Saccardo (on *Aegopodium podagraria* L.), are new for Poland. The third species, *A. podagrariae* Bresadola (on *Aegopodium podagraria* L.), has so far been known only from one locality (Madej 1974).

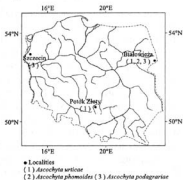


Fig. 1. Distribution of collected species in Poland.

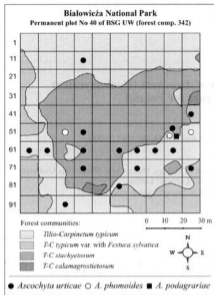


Fig. 2. Distribution of *Ascochyta* spp. in permanent plot No 40 of the Geobotanical Station of Warsaw University.

Salata 2002). The most important data on their structure are reported here.

Ascochyta urticae A. L. Smith et Ramsbottom

Leaf spots light brown, concentric, with a distinctive darker margin. Pycnidia on the lower surface of the leaf, scattered on the entire spot surface, light brown, globose, slightly flattened on top, diam. 90-180 μm . Conidia cylindrical or oblong-ellipsoid, straight or slightly bent, with slightly rounded ends, 2-celled, 10-12.5(-14) \times 3-4 μm (Fig. 3). According to the descriptions by Mel'nik (2000) and Salata (2002), pycnidia 120-180 μm , conidia 7-12 \times 2-4 μm .

Pycnidia with two-celled (10-15 \times 3-4.5 μm), three-celled (17.5-18 \times 3-4.5 μm) and four-celled (18.5-20 \times 3.5-4.5 μm) conidia were observed in isolated cases. This would suggest that the species belongs to the subgenus *Libertia*. However, as such structures occur only sporadically, it should still be included in the subgenus *Ascochyta* (Mel'nik 2000) (Fig. 4). **Host plant:** *Urtica dioica* L.

Sampling sites: 1. Nizina Północnopodlaska lowland, Białowieża Forest, Białowieża National Park, Forest Compartment No 342, Permanent plot No 40 of Białowieża Geobotanical Station of Warsaw University, June–November 1992-2002, leg. et det. W. Mułenko, and M. Kozłowska (LBLM 8556-8574). 2. Wyżyna Krakow-

Only *Ascochyta urticae* was recorded in the world more frequently. The fungus was known from few localities situated in western and north-eastern Europe as well as in one locality in south-western Asia (Mel'nik 1973, 2001). It was collected in two sampling sites in eastern and central Poland (Fig. 1). The two other species (*A. phomoides* and *A. podagrariae*) occur significantly less frequently. The occurrence area is limited to few European countries.

The localities of these species in the Białowieża Forest (Białowieża National Park) deserve special interest. *A. urticae* was collected for many years (between 1992 and 2002) throughout the vegetative season (from June to November) in this area. *Ascochyta phomoides* was collected three times, *A. podagrariae* only once (Fig. 2).

All the species were described and illustrated in the monographs quoted (Mel'nik 1973, 2000;

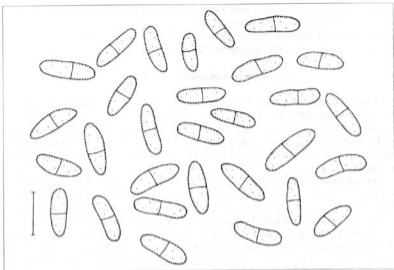


Fig. 3. Typical conidia of *Ascochyta urticae* A. L. Smith et Ramsbottom on *Urtica dioica* L. (bar = 10 μ m).

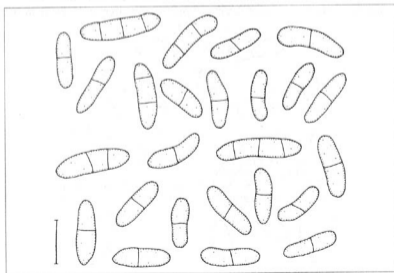


Fig. 4. Other types (2-3-4-celled) of conidia of *Ascochyta urticae* A. L. Smith et Ramsbottom on *Urtica dioica* L. (bar = 10 μ m).

ska-Częstochowska Upland, Potok Złoty, Park Dworski, shrubs near a stream, rare, October 1999, leg. et det. M. Ruszkiewicz-Michalska (LOD 457).

General distribution: Europe (United Kingdom, Estonia, Russia – St. Petersburg region), Asia (USSR – Georgia) (Mel'nik 2000).

Ascochyta phomoides Saccardo

Leaf spots greyish-brown. Pycnidia on the lower leaf side, immersed in tissue, scattered on the entire spot surface, globose, diam. 150-200 μm . Pore conspicuously visible, diam. 15-25 μm . Conidia oblong-ellipsoid, unstricted, rounded at the ends, usually straight, some slightly bent, usually 2-celled, 6-10 \times 2.5-3 μm (Fig. 5). According to Sałata (2002), conidia 6-10(-12.5) \times 3-4 μm . **Host plant:** *Aegopodium podagraria* L.

Sampling site: Nizina Północnopodlaska lowland, Białowieża National Park, Forest Compartment 342, Permanent plot No 40 of Białowieża Geobotanical Station of Warsaw University, 5 Sept. 1994, 28 Sept. 1992, leg. W. Mułenko, det. M. Kozłowska (LBLM 8553, 8554); 18 June 1995, leg. et det. W. Mułenko (LBLM 8555).

Notes: According to Mel'nik (2000), *Ascochyta phomoides* occurs only on three plant species of the family Apiaceae: *Anethum* sp., *Angelica sylvestris* L. and *Eryngium* sp. According to Sałata (2002), the range of host plants is significantly greater and comprises species belonging also to other genera: *Aegopodium* L., *Anthriscus* Pers., *Carum* L., *Chaerophyllum* L., *Daucus* L., *Levisticum* Hill. and *Pimpinella* L.

General distribution: According to Mel'nik (2000), the species was noted in four European countries (France, Germany, Hungary, Poland). No information, however, on the occurrence of the species in Poland is given in the Polish mono-

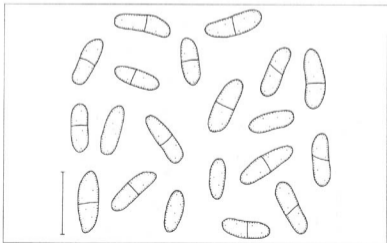


Fig. 5. Conidia of *Ascochyta phomoides* Saccardo on *Aegopodium podagraria* L. (bar = 10 μm).

graph of the species (Sałata 2002). The author (Sałata, l.c.) only estimated that the species could be found. It is treated as a species new for Poland here.

Ascochyta podagrariae Bresadola

Leaf spots light brown. Pycnidia on both leaf sides, immersed in tissue, scattered on the entire spot surface, light brown, globose, diam. 110–160 μm . Conidia cylindrical, straight, rounded at the ends, constricted, usually 1–2-celled, 15–26 \times 5–8 μm . Description consistent with the findings so far (Mel'nik 2000, p. 122, Fig. 96; Sałata 2002, p. 67, Fig. 19A, Tab. III.1). **Host plant:** *Aegopodium podagraria* L.

Sampling site: Nizina Północnopodlaska lowland, Białowieża National Park, Forest Compartment 342, Permanent plot No 40 of Białowieża Geobotanical Station of Warsaw University, 18 June 1995, leg. et det. W. Mułenko (LBLM 8555).

Notes: The fungus so far known only from Szczecin in Poland (Madej 1974; Sałata 2002).

General distribution: *Ascochyta podagrariae* has so far been reported on two plant species of the family Apiaceae [*Aegopodium podagraria* L. and *Apium nodiflorum* (L.) Lag. (= *Helosciadium nodiflorum* Koch.)] and known from five other European countries: Czechoslovakia, France, Germany, Turkey and Russia (Leningrad region) (Mel'nik 2000; Sałata 2002).

REFERENCES

- Madej T. 1974. Materiały do mikoflory roślin woj. szczecińskiego. Rozprawy AR w Szczecinie 35: 3–235.
- Mel'nik V. 1973. Opredelitel' gribov roda *Ascochyta* Libert. Izd. Nauka, Leningrad.
- Mel'nik V. 2001. Key to the fungi of the genus *Ascochyta* Lib. Mitteilungen aus Biologischen Bundesanstalt für Land- und Forstwirtschaft. Heft 379. Berlin-Dahlen.
- Punithalingam E. 1979. Graminicolous *Ascochyta* species. Mycol. Pap. 142: 1–214.
- Punithalingam E. 1988. *Ascochyta* II. Species on Monocotyledones (excluding grasses) Cryptogams and Gymnosperms. Mycol. Pap. 159: 1–235.
- Sałata B. 2002. Polskie gatunki grzybów mitosporowych z rodzaju *Ascochyta*. Wyd. UMCS, Lublin, 121. pp.

Niektóre gatunki *Ascochyta* rzadkie i nowe dla Polski

Streszczenie

W ciągu ostatnich lat zebrano w Polsce 3 interesujące gatunki grzybów konidialnych z rodzaju *Ascochyta* (Coelomycetes). Dwa z nich – *A. urticae* (na *Urtica dioica* L.) i *A. phomoides* (na *Aegopodium podagraria* L.) – to gatunki nowe dla Polski. Trzeci gatunek – *A. podagrariae* (na *Aegopodium podagraria* L.) – znany był dotychczas tylko ze Szczecina (Madej 1974).