Microscopic phytopathogenic fungi rare and new for Poland

MAŁGORZATA RUSZKIEWICZ

Department of Algology and Mycology, University of Łódź
Banacha 12/16, PL-90-327 Łódź, Poland


The paper presents a list of 36 rare species of fungi with remarks about their morphology and distribution in Poland. Three of the species are new for Poland: Ramularia asplenii Jaap, R. concomitans Ell. et Holw. and Ascochyta actaea (Bres.) J. J. Davis. Altogether, 13 parasitic species occur on the plants which have not been known as their hosts in Poland, so far; 19 are rare on the listed hosts. The fungi were collected in the area of projected Jurassic National Park, Częstochowa Upland.

Key words: parasitic microfungi, Peronosporales, Erysiphales, Uredinales, Deuteromycotina, distribution, S Poland.

INTRODUCTION

Fungi parasites on vascular plants are classified into two ecological groups. First group of highly specialized parasites comprises obligatory parasites (Erysiphales, Uredinales) and facultative saprotophs (Ustilaginales, Peronosporales and a few more). The second group contains facultative parasites, among other Deuteromycotina (Muleňko and Majewski 1996). The first group is relatively well known in Poland, mainly as a result of investigations carried out in some large, protected areas (e.g. the Białowieża National Park). However, it is still possible and probable to find species new for Poland, or new hosts for fungi already known from this country. This is of special concern to Deuteromycotina, as they are not so often referred to in mycological works. There are still no data on these fungi in many regions of Poland. One of them is the projected Jurassic National Park, situated in the Częstochowa Upland, southern Poland (Fig. 1). The aim of the establishment of this national park is to protect natural beech forests and seminatural xerothermic grasslands, which are formed on limestone (Herezniak 1996).
In the years 1996—1999 the investigations on appearance of parasites of the mentioned groups were carried out in this area. In the field studies permanent observation plots were used. The plots were established in representative patches of xerothermic grasslands belonging to the Festuco-Brometia class and in beech forest associations: Dentario enneaphyllidis-Fagetum, Melico-Fagetum, Luzulo pilosae-Fagetum and Carici-Fagetum (Hereźniak 1993). Materials were collected from different anthropogenic localities (e.g. roadside, ruderal sites), too. The studies yielded rich herbarial material with some rare and interesting species of microscopic phytopathogenic fungi.

Fig. 1. Localities in the area of projected Jurassic National Park: the hills of: 1 — Góra Zamkowa, 2 — Góra Siatkowa, 3 — Góra Cegielnia, 4 — Góra Kielniki, 5 — Góra Bliskie Lipówki, 6 — Góra Brodło, 7 — the Sokole Górę reserve, 8 — the Parkowe reserve (according to Hereźniak (1996); modified)

RESULTS

The paper presents a list of 36 species with remarks about their morphology and distribution in Poland. Three species are new to Poland: Ramularia asplenii Jaap (on Asplenium trichomanes), R. concomitans Ell. et Holw. (on Bidens tripartita) and Ascochyta actaeae (Bres.) J. J. Davis (on Thalictrum minus). Thirteen species were collected on new (for them) host plants in Poland. Erysiphe galii Fuck. ex Blumer (on Cruciata glabra),
Podosphaera tridactyla (Wall.) de Bary (on Padus serotina) and Sphaerotheca fugax Penz. et Sacc. (on Geranium pusillum) are reported from host species, which were not mentioned in Braun's (1987) world monograph of Erysiphales. Short descriptions of morphology of these fungi were made on the basis of studied herbarial materials. Nineteen taxa are known to appear rarely on presented hosts. The information about earlier distribution of these fungi in Poland is given according to the literature data. Short information about frequency of the fungi is given, too.

The names of fungi were updated according to monographs written by: Brandenburger (1985), Kochman and Majewski (1970), Majewski (1979) and Sałata (1985). The names of plants were given after Mirek et al. (1995).

The studied materials were deposited in the Herbarium Universitatis Lodzisensis (LOD).

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LIST OF FUNGI

PERONOSPORALES

Peronospora alta Fuckel — on leaves of Plantago intermedia Gilib. [= P. pauciflora Gilib.; P. major L. subsp. intermedia (DC.) Arcangeli]: Olsztyn near Częstochowa, lawn (VII 1998); Parkowe reserve, sect. 270h, an edge of coniferous forest (VII 1998); rare. The species noted on the host plant only once: in Secymin Nowy in the Puszcza Kampinoska (Majewski 1967). It is possible, that some authors did not distinguish between Plantago intermedia and P. major.

Peronospora arthuri Farlow — on leaves of Oenothera biennis L.: Olsztyn near Częstochowa, roadside (V-VII 1998), ruderal site (V 1998); Złoty Potok near Częstochowa, ruderal site (X 1998); common. The species reported from only six localities concentrated in SE Poland (Muńko and Matejk Osztyla 1997). It seems, that the species is spreading out in the country very quickly.

Peronospora camelinae Gäumann — on stems and leaves of Camelina microcarpa Andr.: the hill of Góra Zamkowa, xerothermic grassland (VI 1997 and V 1998); very rare. The species noted on this host in Śląsk (Schroeter 1889), Kujawy (Kochman and Majewski 1970) and in Rudnik near Lublin (Romaszewska-Sałata 1977).

Peronospora conglobulata Fuckel — on leaves of Geranium robertianum L.: Sokole Góry reserve, sect. 350b, beech forest, roadside (X 1997); very rare. The species known on this host only from the Omelno reserve near Radziń Podlaski (Danilkiewicz 1984).
Peronospora dentariae-macrophyllae Gäumann — on Dentaria enneaphylllos L. 
[=Cardamine enneaphyllos (L.) Cr.]: Parkowe reserve, sect. 273g, Dentario 
enneaphyllidis-Fagetum (IV 1999); very common. Systemic infection, with 
deformations of leaves and stems. Conidiophores 196.0–368.0 × 9.8–17.4 
μm. Sporangia broad-ellipsoid, 24.5–27.0 × 19.6–22.0 μm (Kołych-
mann and Majewski 1970: 20–27 × 15–22 μm). Oogonia were 
not observed. The species known as parasite of Dentaria glandulosa 
Waldst. et Kit. [=Cardamine glandulifera O. Schw.] (Kołychmann and 
Majewski 1970), but for the first time is reported in Poland on 
Dentaria enneaphyllos.

Peronospora knautiae Fuckel ex Schroeter — on the lower leaves of Scabiosa 
ochroleuca L.: the hill of Góra Bliskie Lipówki, xerothermic grassland 
(X 1997 and VII 1998); the hill of Góra Brodlo, xerothermic grassland 
(VI–VII 1998); common. The species reported from the vicinity of Legnica 
and Gliwice, however, determination of the host plant is uncertain 
(Kołychmann and Majewski 1970), from Izbica and Świdniki in 
the Lublin Upland (Romaszewska-Sałata 1977) and twice 
from the Tatra Mts. (Salata et al. 1984; Muñenko et al. 1995).

ERYSIPHALES

Erysiphe biocellata Ehrenberg — on Thymus pulegioides L.: the hill of 
Góra Bliskie Lipówki, xerothermic grassland (X 1997); very rare. 
Mycelium on leaves, amphigenous, thin, evanescent. Conidia in chains, 
ellipsoid to cylindrical, 32.0–36.8 × 14.7–17.1 μm (Salata 1985: 
26–37 × 16–22 μm). Mature cleistothecia absent. The species collected on 
T. pulegioides in Poland only once (in conidial stage) by Zalewski in the 
vicinity of Grudziądz (Wroblewski 1915).

Erysiphe buhrii U. Braun — on Silene nutans L.: the hill of Góra Bliskie Lipów-
ki, xerothermic grassland (VI–VII 1999); rare. Mycelium amphigenous, in 
irregular patches, persistent, thick on both sides of leaves. Conidia in 
chains, ellipsoid to ellipsoid-ovoid, 36.8–45.0 × 14.7–17.1 μm (Salata 
Cleistothecia absent. The species noted in Poland only on Melandrium 
album (Mill.) Garcke (Salata 1985). In Europe, Africa and North 
America the species occurs on numerous host species of various genera of 
Caryophyllaceae, amongst them on Silene (Braun 1987). E. buhrii on 
Silene nutans is reported from Poland for the first time.

Erysiphe cruciferarum Opiz ex L. Junell — on stems, leaves and fruits of 
Alyssum alyssoides (L.) L. [=A. calycinum L.]: Parkowe reserve, sect. 270a, 
on a sand shore of a pond (VI–VIII 1998); rare. The species known on this 
host from four localities in Poland: Poznań (Dominik 1936), 
Pogorzelec near Sejny (Majewski 1972), Pińczów and Józefów near 
Biłgoraj (Salata 1985).
— on stems, leaves and fruits of *Capsella bursa-pastoris* (L.) Medik.: Parkowe reserve, sect. 270a, on the sand shore of a pond (VI 1998); very rare. The species reported on this host from: Klęczany near Nowy Sącz (N a m y s ł o w s k i 1909), Dziekanów Polski near Warszawa, Białowieża (S a ł a t a 1985) and Olsztyn (D y n o w s k a et al. 1999).

— on *Erysimum odoratum* Ehrh. [= *E. pannonicum* Cr.]: the hill of Siatkowa Góra, xerothermic grassland (X 1998); very rare. Infection on leaves, stems and fruits. Mycelium amphigenous, effuse, coating large areas. Conidia formed singly, ellipsoid to cylindrical, 29.4–34.3 × 14.7–17.2 μm (S a ł a t a 1985: 28–42 × 12–18 μm). Cleistothecia absent. Previously collected on this host only once, in Olkusz (M a j e w s k i 1972).

— on *Sinapis arvensis* L.: the hill of Góra Zamkowa, ruderal site (IX 1998); very rare. Infection slightly visible, weak; mycelium in small patches on the upper surfaces of leaves. Conidia formed singly, ellipsoid to cylindrical, 29.4–36.8 × 13.0–14.7 μm (S a ł a t a 1985: 28–42 × 12–18 μm). Cleistothecia absent. On this host known only from Kamień Łukawski near Sandomierz (S a ł a t a 1985).

*Erysiphe galii* Fückel ex Blumer — on leaves of *Cruciata glabra* (L.) Ehrenb. [= *Galium vernum* Scop.]: Sokole Góry reserve, sect. 350c, the hill of Sokola Góra, beech forest (VII 1998); very rare. Mycelium effuse, thin, evenly coating the upper surfaces of leaves. Conidia in chains, cylindrical to ellipsoid, 32.0–34.3 × 12.5–14.7 μm (S a ł a t a 1985: 26–33 × 13–18 μm). Cleistothecia absent. In the world monograph of *Erysiphales* (B r a u n 1987) there is no information about occurrence of the fungus on *C. glabra*, but it is known to occur on *Cruciata laeipes* Opiz [= *Galium cruciata* (L.) Scop.]. *Cruciata glabra* is probably a new host for *E. galii*.

*Erysiphe graminis* de Candolle ex Mérat [= *Blumeria graminis* (de Candolle) Speer] — on *Bromus benekenii* (Lange) Trimen: Dąbrowa forestry district, sect. 278f, mixed forest (VII 1999); rare. Mycelium amphigenous, effuse, thick, evanescent, on both sides of leaves. Conidia in long chains, ellipsoid, 24.5–36.8 × 13.0–14.7 μm (S a ł a t a 1985: 18–35 × 10–16 μm). Cleistothecia absent. The species on this host collected only in the Pieniny Mts. (K u ś m i e r z 1977).

— on *Poa compressa* L.: the hill of Góra Zamkowa, on boulders (leg. T. Majewski) (VI 1997); very rare. Mycelium dense, in oblong patches, on both surfaces of leaves, persistent. Conidia in long chains, ellipsoid to cylindrical, 29.4–31.9 × 9.8–12.2 μm (S a ł a t a 1985: 18–35 × 10–16 μm). Cleistothecia absent. The species occurs commonly on other representatives of the genus *Poa* (S a ł a t a 1985, B r a u n 1987), but has not been reported on *P. compressa* before.
Erysiphe knautiae Duby — on Scabiosa ochroleuca L.: the hill of Góra Brodło, xerothermic grassland (VII—X 1998); the hill of Góra Cegielska, xerothermic grassland (IX 1998); the hill of Góra Kielniki, a slope of a quarry (X 1998); the hill of Góra Bliskie Lipówki, xerothermic grassland (VII—X 1998); the hill of Góra Zamkowa, xerothermic grassland (VIII 1998); common. Infection covering the superior surface of leaves and lower fragments of stems. Mycelium amphiogenous, effuse, thin, persistent. Conidia formed singly, ellipsoid, 32.0—36.8 × 17.1—19.3 μm (Sałat a 1985: 28—37 × 14—19 μm). Cleistothecia absent. The species has not been collected on this host in Poland before. Known from rare findings on other species of the genus Scabiosa: S. columbaria L. and S. lucida Vill. (Sałat a 1985; Muleńko et al. 1995).

Erysiphe sordida L. Junell — on leaves of Plantago intermedia Gilib. [= P. pauciflora Gilib.; P. major L. subsp. intermedia (DC.) Arcangeli]: Olsztyn near Częstochowa, lawn (VII 1998); Parkowe reserve, sect. 270a, an edge of coniferous forest (VII 1998); rare. The species collected on the host only in Przesławice and Secymin Nowy in the Puszczakampinoska (Maże 1967). It is possible, that some authors did not distinguish between Plantago intermedia and P. major.

Erysiphe verbasci (Jaczewski) Blumer — on Verbascum lychnitis L.: the hill of Góra Bliskie Lipówki, xerothermic grassland (VII 1998); the hill of Ostra Górka, ruderal site (IX 1998); common. Infection covering the superior surface of leaves and lower fragments of stems. Mycelium amphiogenous, effuse, thick, persistent. Conidiophores abundant. Conidia in chains, cylindrical-ellipsoid, 34.3—39.2 × 17.2—20.6 μm (Sałat a 1985: 30—42 × 18—26 μm). Cleistothecia absent. The species noted on this host in Europe (Braun 1987). From Poland reported on it for the first time.

Microsphaera baeumleri P. Magnus — on stems and leaves of Vicia villosa Roth: the hill of Góra Bliskie Lipówki, near an arable field (VIII—X 1998); rare. Mycelium amphiogenous, effuse on leaves and stems, thin, persistent. Conidia cylindrical, 34.3—38.7 × 12.5—13.7 μm (Sałat a 1985: 27—46 × 10—21 μm). Mature cleistothecia absent. The species known for occurrence on this host in Europe (Sałat a 1985), from Poland reported on it for the first time.

Microsphaera vanbruntiana Gerard [= Microsphaera vanbruntiana Gerard var. sambuci-racemosae U. Braun] — on Sambucus nigra L.: Olsztyn near Częstochowa, roadside (X 1997 and IX 1998); Parkowe reserve, sect. 276a, beech forest (VIII 1998); very rare. Mycelium amphiogenous, effuse, thin, covering both sides of leaves. Conidia 32.0—24.3 × 12.5—13.4 μm. Cleistothecia abundant, scattered to gregarious on both surfaces of leaves, 135—142 μm in diam. Asci broad-ellipsoid to ovoid, 44.1—66.2 × 27.0—44.1 μm, 3—6-spored. Ascospores ellipsoid, 27.0—29.4 × 12.5—13.4 μm. This characteristic corresponds to those given by Sałat a (1985) and Braun (1987). The species collected in Poland for the first time in Lublin in 1980.
Microscopic phytopathogenic fungi (Romaszewska-Sałata and MULENKO 1982) on Sambucus racemosa L., but on S. nigra has been noted only once, in conidial stage (as Oidium sp.) in Brodnica near Toruń (Dynowska et al. 1999). Braun (1987) verified its single specimen deriving from Germany and accepted it as very rare.

Podosphaera tridactyla (Wallroth) de Bary — on Padus serotina (Ehrh.) Borkh.: Parkowe reserve, sect. 270h, deciduous forest (X 1997); sect. 270a, thickets near a pond (X 1998); rare. Mycelium amphigenous, thin, in subglobose patches on the superior surface of leaves, evanescent. Conidia in chains, cylindrical to ellipsoid, 24.5—27.0 x 13—14.7 μm. Cleistothecia single, scattered, 83.0—85.0 μm in diam. Asci broad-ellipsoid, 73.5—80.9 x 66.2—71.1 μm. Ascospores ellipsoid, 19.6—11.1 x 13—14.7 μm. This characteristic corresponds to those given by Salata (1985) and Braun (1987). A conidial stage of powdery mildew on P. serotina has been observed by the author in the area of central Poland and Częstochowa Upland many times. Mature sexual stage is known only from one locality (the Parkowe reserve, sect. 270a). Braun (1987) mentioned the occurrence of P. tridactyla on many species of the genus Prunus sensu lato, but there is no information about parasitism on P. serotina. This species is probably a new host of P. tridactyla.

Sphaerotheca erigerontis-canadensis (Lévêillé) L. Junell [= S. fusca (Fries) Blumer emend. U. Braun] — on leaves of Leontodon hispidus L.: the hill of Góra Bliskie Lipówki, xerothermic grassland (X 1997); very rare. The species reported on this host only twice: from the Ojców National Park (Kućmierz 1973) and Skowronno Dolne near Pińczów (Romaszewska-Sałata 1981).

Sphaerotheca ferruginea (Schlechtendal ex Fries) L. Junell — on Sanguisorba minor Scop.: the hill of Góra Bliskie Lipówki, xerothermic grassland (VI and X 1997; IX—X 1998); the hill of Góra Brodło, xerothermic grassland (VIII—X 1998); the hill of Góra Kielniki, a slope of a quarry (X 1998); Olsztyn near Częstochowa, ruderal site (IX—X 1998); common. Infection amphigenous, in irregular patches on leaves to confluent, persistent. Conidia in chains, oval to oblong ellipsoid, 27.0—34.3 x 12.5—14.7 μm (Salata 1985: 24—34 x 12—18 μm). Cleistothecia absent. Salata (1985) described four, situated in southern Poland, localities of this fungus on S. minor, with a note that the data should be confirmed.

Sphaerotheca fugax Penzig et Saccardo — on Geranium pusillum Burm. f. ex L.: Olsztyn, near a fence (X 1997 and VII 1998); very rare. Mycelium amphigenous, effuse, in regular patches on the superior surface of older leaves, persistent. Conidia in chains, ellipsoid, 27.0—32.0 x 17.1—19.5 μm (Salata 1985: 26—38 x 14—20 μm). Cleistothecia absent. There are no data on occurrence of the species on this host in the Polish mycological literature, as well as in Braun's (1987) monograph. Host species probably new for S. fugax.
Sphaerotheca fuliginea (Schlechtendal ex Fries) Pollacci — on leaves of Veronica spicata L.: the hill of Góra Bliskie Lipówki, xerothermic grassland (IX—X 1998); very rare. The species observed only twice on V. spicata: in Wrocław—Bierdzany (Schroeter 1908) and in Kazimierówka near Brwinów (Salaša 1985).

Sphaerotheca helianthemi L. Junell — on Helianthemum nummularium (L.) Miller subsp. obscurum (Celak.) Holub [= H. ovatum (Viv.) Dunal]: the hill of Góra Bliskie Lipówki, xerothermic grassland (X 1997 and X 1998); rare. Mycelium slight, effuse, evenly coating leaves and stems, evanescent. Conidia in chains, ellipsoid, 29.4 × 14.7—17.2. Cleistothecia scattered, mostly on stems, 73.5—78.4 μm in diam. Ascii broad-ellipsoid to subglobose, 51.5—63.7 × 36.8—56.4 μm. Ascospores 13.0—17.2 × 9.8—14.7 μm. This characteristic corresponds to that given by Salaša (1985). The species recorded on this host only once in Poland: in the Tatra Mts. (Muleńko et al. 1995). It was collected two times on H. nummularium (L.) Miller: in Wola Justowska near Kraków (leg. Raciborski) (Wrobieszki 1925) and in the Tatra Mts. (Salaša 1985). Braun (1987) recorded S. helianthemi only on H. nummularium subsp. nummularium and subsp. grandiflorum.

UREDINALES

Puccinia asperulae-cynanchicae Wurth — on stems and leaves of Asperula cynanchica L.: the hill of Góra Bliskie Lipówki, xerothermic grassland (IX—X 1997; VII—X 1998); the hill of Góra Brodlo, xerothermic grassland (IX 1998); very common. The species known from only three localities: the Ojców National Park (Kucmierz 1973), Prusy near Kraków (Wrobieszki 1922) and the Góry Pieprzowe Mts. near Sandomierz (Součková-Tomkova 1958).

Puccinia dentariae (Albertini et Schweinitz) Hooker — on Dentaria enneaphyllos L. [= Cardamine enneaphyllos (L.) Cr.]: Parkowe reserve, sect. 273g, Dentario enneaphyllidis-Fagetum (V 1998; IV 1999); common; (Fig. 2). Plants infected very strongly, with deformations of leaves and stems. Young telia covered by epidermis, then pulveraceous, brown, 32.0—36.8 × (12.5—)14.7—17.5 μm (Majewska 1979: 33—45 × 15—18 μm). Mesosporides abundant. The species has not been noted on this host in Poland so far (Majewska 1979).

— on stems and leaves of Dentaria bulbifera L. [= Cardamine bulbifera (L.) Crantz]: Dąbrowa forestry district, sect. 275c, Melico-Fagetum (V 1999); common. The species reported from Poland only twice: from Kalwaria Zebrzydowska (Raciborski 1887), from Połonina Caryńska in the Bieszczady Zachodnie Mts. (Domanski et al. 1970) and from Iwonicz Zdrój (Wolczańska 1994).
Fig. 2. *Puccinia dentariae* (Alb. et Schw.) Fuck. on *Dentaria enneaphyllos*

Fig. 3. *Ramularia concomitans* Ell. et Holw. on *Bidens tripartita*
Fig. 4. *Thecidonia ligustrina* (Boerema) Sutton on *Ligustrum vulgare*

Fig. 5. *Ascochyta actaeae* (Bres.) J. J. Davis on *Thalictrum minus*
Puccinia violae de Candolle — on leaves of Viola rupestris F. W. Schmidt [=Viola arenaria DC.]: the hill of Góra Brodło, xerothermic grassland (VI—VII and IX—X 1998); common. The species observed on this host plant only for several times: in the vicinity of Zielona Góra, in Kup near Opole, in Złoty Potok near Częstochowa and in Stawinoga near Serock (M a j e w s k i 1979).

MONILIALES

Gyroffyella oxalidis Vanev — on leaves of Oxalis acetosella L.: Parkowe reserve, sect. 273g, Dentario enneaphyllidis-Fagetum (VII 1998); very rare. The species known so far only from three European countries: Bulgaria (V a n e v 1976), Poland (South Roztocze, the Białowieża National Park (M u l e n k o 1993), and the Tatra Mts. (M u l e n k o et al. 1995) and from Great Britain (M u l e n k o and W o o d w a r d 1996).

Mycovellosiella murina (Ellis et Kellerman) Deighton [=Cercospora violae-sylvatica Oud.] — on leaves of Viola rupestris F. W. Schmidt [Viola arenaria DC.]: the hill of Góra Brodło, xerothermic grassland (VIII—IX 1998 and VII 1999); very rare. Leaf spots usually not large, 2–5 (–8) mm in diam., irregular, grey-brown with no margin. Coating visible on the lower side of the spots. Conidiophores 85.8–95.0×4.2–5.0 μm. Conidia 2–4 (–8)-cellular, cylindrical, 31.9–61.3×3.9–4.5 μm. This characteric corresponds to that given by B r a n d e n b u r g e r (1985). The species noted in Poland only on Viola sylvatica Fries in Pulawy (J a n k o w s k a-B a r b a k a 1931) and on Viola epipsila Led. in the Białowieża National Park (M u l e n k o 1996b). Viola rupestris is a new host species of this fungus in Poland.

Ramularia ajugae (Niessl) Saccardo [=Fusidium ajugae Niessl in Fuck.; Cyclodrospora ajugae (Niessl) Schrote.; Ramularia tozziæ Lindau; R. ajugae (Niessl) Sacc. var. ajuga-pyramidalis Sacc.] — on lower leaves of Ajuga genevensis L.: the hill of Góra Brodło, xerothermic grassland (VIII 1998); common. The species reported from four localities: Łazy near Zielona Góra and Wierzbie near Niemodlin (S c h r e o t e r 1908), Mielnik in the Bug Valley (R o m a s z e w s k a-S a ł a t a and M u l e n k o 1983) and Augustowo near Bielsk Podlaski (W o ł c z a ń s k a 1998a).

Ramularia asplenii Jaap — on Asplenium trichomanes L.: Parkowe reserve, sect. 274b, beech forest, on boulders (VII 1998 and VII 1999); very rare. Plants infected very slightly, affected fragments of leaves are dried out and browned. Poorly visible coating of conidiophores (22.1–27.0×3.2–3.7 μm) on the inferior side of leaves. Conidia 1–2-celular, cylindrical to fusiform, formed in chains, 8.6–13.5×2.4–2.7 μm (V i m b a 1970: 6–15×2–3 μm; B r a n d e n b u r g e r 1985: 6–16×2–4 μm). The species new to Poland. In Latvia collected on Asplenium ruta-muraria L. (V i m b a 1970).

Ramularia concomitans Ellis et Holway [= R. concomitans Ell. et Schw.] — on leaves of Bidens tripartita L.: Parkowe reserve, sect. 270a, an edge of a pond (VII 1998); common; (Fig. 3). Leaf spots pale brown, irregular to angular, up to 4—6 mm in diam., with darker margin. Coating visible on the lower side of leaves. Conidiophores 1-cellular, 17.2—19.6 x 2.4—3.2 μm. Conidia in chains, ellipsoid to cylindrical, slightly curved, 1—2-cellular, 17.1—19.5 (—22.0) x 3.7—44.4 (—4.9) μm (Vimba 1970: 13.5—22.5 x 3.6—4.5 μm). The species new to Poland, known from Latvia on Bidens cernua L. (Vimba 1970).

Ramularia hieracii (Bäumler) Jaap [= Ramularia filaris Fres. var. hieracii Bäumler; R. conspicua Syd.; R. corconica Bub. et Kab.; R. subalpina Bub.; R. hamburgensis Lind.; R. helvetica Jaap et Lind.; Cylindrospora taraxaci (Karst.) Schroet.] — on leaves of Hieracium pilosella L.: the hill of Góra Biskie Lipówki, xerothermic grassland (VIII and IX 1998); very rare. Leaf spots brownish-green, sometimes with purple margin, usually subcircular, 4—6 mm in diam., mycelium cover white, zonate, on the upper side of leaves. Conidiophores 1—2-cellular, 31.9—44.1 x 2.4—2.7 μm. Conidia 1—2-cellular, formed in chains, 12.5—15.9 x 2.4—3.2 μm. This characteristic corresponds to those given by Brandenburger (1985) and Wolczanska (1998a), but the length of conidia is in accordance with the lower range of their measurements. The species observed in Poland on several species of the genus Hieracium (Wolczanska 1998a), but until now unknown on H. pilosella.

Thedgonia ligustrina (Boerema) Sutton — on leaves of Ligustrum vulgare L.: Olsztyn near Częstochowa, in a hedge (X 1997); Janów near Częstochowa, in a hedge (X 1998); common; (Fig. 4). The species reported from two localities in Poland: Janów Lubelski and Mielen in the Lublin Upland (Wolczanska 1998b).

SPHAEROPSISIDAE

Ascochyta actaeae (Bresadola) J. J. Davis [= Stagonosporopsis actaeae (Allesch.) Died.] — on leaves of Thalictrum minus L.: the hill of Góra Broduło, xerothermic grassland (VII—VIII 1998); very rare; (Fig. 5). Lesions yellowish-brown to greyish, irregular, with no margin, 4—8 mm in diam.
Pycnidia visible on the upper sides of leaves, brown, dispersed, immersed or partially erumpent, subglobose, 112.0–160.0 μm diam., ostiolate. Ostiole nearly circular, surrounded by dark brown cells. Conidia hyaline, cylindrical, mostly erect, apex and base rounded, medianly 1-sepate, 14.7–19.5 (–22.0) × 4.7–5.2 μm (Melnik 1977: 12–28 × 5–7 μm), guttulatae. The species new to Poland, known from several countries of Europe and from North America. It is a parasite of Actaea spicata L., Delphinium elatum L. and Hydrastis sp. (Melnik 1977). There is no information about its occurrence on species belonging to the genus Thalictrum (Brandenburger 1985). Thalictrum minus is probably a new host species of this fungus.

Septoria geranii Roberge et Desmazières [=Septoria geranii-pratensis P. Henn.] — on leaves of Geranium palustre L.: Złoty Potok near Częstochowa, ruderal site (X 1998); rare. Leaf spots distinct, brown to black, often with red margin, subcircular, sometimes confluent, up to 8 mm in diam. Pycnidia visible on the lower sides of leaves, brown, gregarious, partially erumpent, subglobose, 113.0–172.0 μm diam., ostiolate. Ostiole nearly circular, surrounded by dark brown cells. Conidia hyaline, filamentous 5–6-sepate, 27.0–53.9 × 2.2–2.4 μm.

— on leaves of Geranium robertianum L.: the hill of Góra Bliskie Lipówki, xerothermic grassland, on boulders (VI and IX 1998); very rare. Leaf spots indistinct, diffuse, brownish-green, small 1–2 mm in diam. Pycnidia on the upper side of leaves, brown, scattered, immersed, globose, 147.0–196.0 μm in diam., ostiolate. Conidia hyaline, filamentous, 4–5-septate, 32.0–57.6 × 1.6 μm. These characteristics correspond to those given by Brandenburger (1985) and Romaszewska-Sałata et al. (1997). The species known in Poland on Geranium pratense L. from Rymanów near Krosno (Romaszewska-Sałata et al. 1997) and from Białowieża National Park on G. robertianum L. (Muleňko 1996a). Geranium palustre is a new host species of Septoria geranii in Poland.

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REFERENCES


Mikroskopowe grzyby fitopatogeniczne rzadkie i nowe dla Polski

S t r e s z c z e n i e

W pracy przedstawiono 36 gatunków grzybów fitopatogenicznych rzadkich i nowych dla Polski, należących do Peronosporales, Erysiphales, Uredinales i Deuteromycotina. Grzyby te zebrano w latach 1996–1999 na terenie projektowanego Jurajskiego Parku Narodowego,