Polish Botanical Journal 46(1): 95–97, 2001

DITIOLA PEZIZIFORMIS (FUNGI, BASIDIOMYCETES), FIRST RECORD IN THE POLISH CARPATHIANS

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Abstract: *Ditiola peziziformis* (Lév.) Reid is reported for the first time from the Polish Carpathians. In other parts of Poland it has been recorded from five localities. The morphology of basidiocarps and the ecology of this species from the new site are given. *Fagus sylvatica* L. is a new Polish host for *Ditiola peziziformis*, reported here. Previously it has been found in Poland on *Abies alba* Mill., *Betula* L. and *Quercus* L. Evidently the fungus survives in natural forests only and seems to be seriously threatened.

Key words: Basidiomycetes, Dacryomycetales, *Ditiola peziziformis*, natural forests, Poland, endangered fungi

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The Polish Carpathians cover an area with relatively well-preserved nature in comparison with other parts of Poland. Natural or near-natural forests with a great variety of decayed wood are still found there. Such forests are often important habitats for many interesting wood-decaying fungi, *Ditiola peziziformis* (Lév.) Reid being an example. The species was recently found in Pogórze Rożnowskie (Rożnów Foothills) and the collection is reported here as new to the Polish Carpathians. *D. peziziformis* has not been reported from the Slovak Carpathians nor from Slovakia as a whole (Lizoň & Bacigálová 1998).

Ditiola peziziformis (Lév.) Reid

Trans. British Mycol. Soc. **62**(3): 474. 1974.

Exidia peziziformis Lév., Ann. Sci. Nat. Bot. III, **9**: 127. 1848. – *Femsjonia peziziformis* (Lév.) P. Karst., Bidr. Känned. Finlands Nat. Folk **25** (Mycol. Fennica **3**): 352. 1876.

Femsjonia luteoalba Fr., Summa Veg. Scand. II: 341. 1849. – *Ditiola luteoalba* (Fr.) Quél., Ench. Fung.: 227. 1886. For other synonymy see Reid (1974) and Eriksson *et al.* (1977).

Basidiocarps annual, firm-gelatinous, 2–12 mm in diameter, single, rarely gregarious, circular, pulvinate or discoid, usually sessile, sometimes with short stipe, yellow when fresh, then darkening to orange when dry, white on underside. Hyphae hyaline, with clamp connections, 1.7–2.5 µm wide. Cystidia absent. Basidia fork-shaped, with 2 sterigmata, (15.0–)31.2–62.4 × 3.1–4.2(–5.2) µm (together with sterigmata). Basidiospores elliptical, some slightly allantoid, hyaline with granular contents, 20.8–27.0(–29.1) × 6.2–8.3(–10.4) µm. L = 24.19, W = 8.08, Q = 2.99 (n = 30/1), with 3–7 septa in mature basidiospores, sometimes forming secondary spores*.

SPECIMEN EXAMINED. POLAND. WESTERN CARPATHIANS. Pogórze Rożnowskie (Rożnów Foothills): Siemiechów village, on S slopes of Wielkie Góry Mts., *ca* 17.5 km SW of Tarnów city center, *ca* 320 m a.s.l., 49º52'00"N, 20º53'30"E, grid square Fe–86, 4.08.1999, *leg. M. Piątek* (KRAM F–39529).

Ditiola peziziformis macroscopically resembles some Ascomycota, and microscopic examination is necessary for correct identification. *Ditiola haasii* Oberw. and *D. radicata* (Alb. & Schwein.: Fr.) Fr. are similar but have smaller basidiocarps and basidiospores, and only 1–3-septate basidiospores, while *D. peziziformis* has three to multiple

* Abbreviations (after Niemelä 1998): L – mean basidiospore length (arithmetical mean of all basidiospores), W – mean basidiospore width (arithmetical mean of all basidiospores), Q – quotient of the mean basidiospore length and the mean basidiospore width (L/W ratio), n = x/y – x measurements of basidiospores from y specimens.

septa (Reid 1974; Eriksson *et al*. 1977; Breitenbach & Kränzlin 1986; Oberwinkler 1989). At present the genus *Ditiola* is placed in the order Dacryomycetales and family Dacryomycetaceae (e.g., Hawksworth *et al.* 1995; Knudsen 1995).

In the Polish Carpathians *D. peziziformis* was collected in August. Abundant basidiocarps emerged from a fallen branch of *Fagus sylvatica* L., only slightly decayed and *ca* 5 cm in diameter. The host tree was carefully examined in the field because of the possibility of confusing *Fagus sylvatica* with *Abies alba* Mill.; *Abies alba* as the host was ruled out. The basidiocarps grew on the upper side of a branch, like some Ascomycota. It is a rare phenomenon among wood-decaying Basidiomycota, which rather appear on the underside of branches, trunks, etc.

The branch with basidiocarps was situated in a deep, shady and moist ravine on the southern slopes of a mountain, in a natural forest with *Abies alba*, *Carpinus betulus* L. and *Fagus sylvatica*, lacking *Dentaria glandulosa* Waldst. & Kit., so the site probably belongs to the *Tilio-Carpinetum* association. At the same time other rare or noteworthy Polish fungi were recorded in this forest: *Amylostereum chailletii* (Pers.: Fr.) Boid. on a fallen branch of *Abies alba*; *Basidioradulum radula* (Fr.: Fr.) Nobles on fallen branches of unidentified deciduous trees and on *Cerasus avium* (L.) Moench; *Datronia mollis* (Sommerf.: Fr.) Donk on a fallen branch of *Fagus sylvatica* and a dead trunk of *Carpinus betulus*; and *Skeletocutis carneogrisea* David on dead basidiocarps of *Trichaptum abietinum* (Dicks.: Fr.) Ryv. growing on a fallen branch of *Abies alba*.

Ditiola peziziformis is an extremely rare fungus in Poland. The first find within the borders of present-day Poland was made by P. Vogel in August 1907 or 1908 in Dąbroszyn, *ca* 5 km northeast of Kostrzyn, next to the western border of the country. The basidiocarps of *D. peziziformis* from this site were published by Sydow in *Mycotheca Germanica* (No. 753, as Kesselberg bei Tamsel). The material, among others, is preserved in herbarium KRAM and was examined by the author of this paper. Reid (1974) incorrectly located this site in Brandenburg, Germany.

The second find of *D. peziziformis* was made by Sałata (1972) during his studies on fungi occurring in beech and fir forests in the Central Roztocze Upland in eastern Poland. He found it in the Bukowa Góra Reserve, now within Roztocze National Park. Flisińska (1982, 1988) reported further localities in eastern Poland: one site from the Brzeziczno Reserve (Flisińska 1982), and further the Durne Bagno and Jezioro Moszne Reserves (Flisińska 1988), the last two sites now being within Polesie National Park. A distribution map of the species in Poland (Fig. 1) is shown using the system employed in *Atlas of the geographical distribution of fungi in Poland* (Wojewoda 2000).

In the above-listed papers *D. peziziformis* has been reported to grow on dead branches of *Abies alba* (1 collection), *Betula* L. (3 collections) and *Quercus* (1 collection). *Fagus sylvatica* is a new Polish host reported here. In Northern Europe the most common host for *D. peziziformis* is *Betula* (Eriksson *et al*. 1977). In Great Britain it occurs particularly on *Quercus* (Reid 1974).

Ditiola peziziformis is now known from six sites in Poland, five in lowland or upland areas and one in the mountains. The fungus was always growing on fallen branches in natural forests. Four

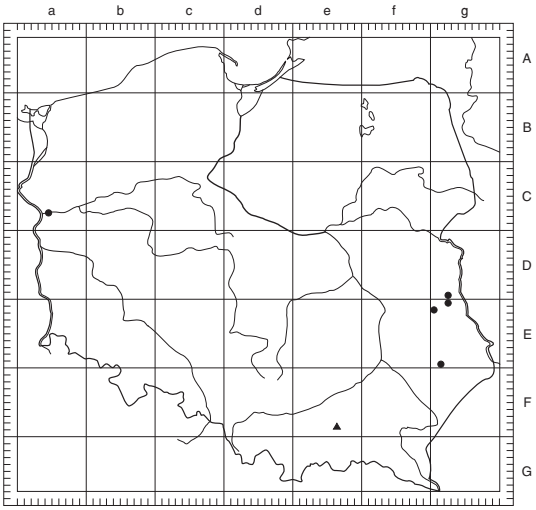

Fig. 1. Distribution of *Ditiola peziziformis* (Lév.) Reid in Poland. ● – previously known localities, ▲ – new locality.

times it has been reported from reserves, only twice having been found outside protected areas. Evidently the fungus survives in old, natural or near-natural forests only, and should be treated as a relict of such forests, like *Phleogena faginea* (Fr.: Fr.) Link (Wojewoda & Komorowska 1997). *Ditiola peziziformis* is seriously threatened in Poland, and is classified as endangered (Wojewoda & Ławrynowicz 1992).

ACKNOWLEDGEMENTS. I am indebted to Prof. Władysław Wojewoda for reading the manuscript and giving me supplementary literature, to Dr. Jan J. Wójcicki for his valuable technical suggestions for improving the text, and to the anonymous reviewer for helpful comments on the paper. The author is a scholarship holder of the Foundation for Polish Science.

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Received 17 April 2000