

NAOHIDEA SEBACEA (FUNGI, UREDINIOMYCETES) IN POLAND: REDISCOVERED AFTER A CENTURY ON A NEW HOST

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Abstract: The mycoparasitic auricularioid fungus, *Naohidea sebacea* (Berk. & Broome) Oberw., was found in Poland on the old stromata of *Botryosphaeria dothidea* (Moug.: Fr.) Ces. & De Not. This is the first Polish record of this peculiar fungus since G. Bresadola's description of *Platygløea miedzyrzecensis* Bres. in 1903. *Botryosphaeria dothidea* is a new host fungus for the mycoparasite.

Key words: *Naohidea sebacea*, Urediniomycetes, geographical distribution, mycoparasitism, *Botryosphaeria dothidea*, Ascomycetes

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As a result of intense comparative studies on the genus *Platygløea* Neuhoff s.l. some more natural genera have been proposed, *inter alia* *Colacogloea* Oberw. & Bandoni, *Naohidea* Oberw. and *Occultifur* Oberw. (Oberwinkler 1990; Oberwinkler *et al.* 1990). The genus *Naohidea*, so far monotypic, was established for the species known as *Dacryomyces sebaceus* Berk. & Broome. The most distinctive characters of the genus are the extremely long and slender basidia and the production of endospore-like cells in hyphae and basidia (Oberwinkler 1990).

Platygløea miedzyrzecensis Bres. was originally described by Bresadola (1903) on the basis of a 1903 collection by Bogumir Eichler (1907) from the neighbourhood of Międzyrzec Podlaski, NE Poland, and this name was used by mycologists until 1965. In that year McNabb (1965) showed it was conspecific with *Dacryomyces sebaceus* described from England in 1871. Currently *Naohidea sebacea* is the appropriate name for the species.

The type locality of *Platygløea miedzyrzecensis* was until recently the only known site in Poland for *Naohidea sebacea*. Hence it was very surprising to find, almost one hundred years later, a branch of *Frangula alnus* Mill. with numerous

specimens of *Naohidea sebacea* parasitizing old stromata of *Botryosphaeria dothidea* (Moug.: Fr.) Ces. & De Not. (*det.* A. Chlebicki).

Naohidea sebacea (Berk. & Broome) Oberw.

Rept. Tottori Mycol. Inst. **28**: 117. 1990.

Dacryomyces sebaceus Berk. & Broome, Ann. Mag. Nat. Hist. IV, 7: 430. 1871. – *Platygløea sebacea* (Berk. & Broome) McNabb, Trans. British Mycol. Soc. **48**: 188. 1965. – *Achroomyces sebaceus* (Berk. & Broome) Wojewoda, Flora Polska. Grzyby **8**: 243. 1977.

Platygløea miedzyrzecensis Bres., Ann. Mycol. **1**(1): 113. 1903.

Basidiomes pulvinate, gelatinous, hyaline or slightly whitish in moist condition, almost invisible when dry or only slightly visible as a thin membrane; hyphae thin-walled, clamped; basidia without probasidia, extremely long up to 230 µm, with four short sterigmata; basidiospores subglobose, sometimes self-replicating, 5–9 × 8–14 µm.

HOST FUNGUS: *Botryosphaeria dothidea* (Moug.: Fr.) Ces. & De Not.

Ascomata multiloculate, black; pseudothecia numerous; ascospores hyaline, one-celled, 23–27 × 7–10 µm.

SPECIMENS EXAMINED. POLAND. WESTERN CARPATHIANS. Pogórze Rożnowskie foothills: Polichy, humid alder forest, host fungus growing on fallen branch of *Frangula alnus*, 15 Jan. 1999, leg. M. Piątek [KRAM, K(M)].

Naohidea sebacea belongs to the class Urediniomycetes as broadly defined by Swann and Taylor (1995). In their concept of the class they included other simple-septate basidiomycetes, as well as 'classical' rusts grouped in Uredinales, for instance those forming the *Agaricostilbum* clade, *Naohidea-Sakaguchia* clade, and *Microbotryum* clade (Swann & Taylor 1995; Sampaio *et al.* 1999).

In the original descriptions of *Dacryomyces sebaceus* and *Platyglea miedzyrzecensis* no information on association with other fungi was mentioned. However, the species is a mycoparasitic fungus. Olive (1947) was the first to note that the type of *Platyglea miedzyrzecensis* was growing on a sphaeriaceous fungus. McNabb (1965) made a similar observation in the type of *Dacryomyces sebaceus*, where the fungus was parasitizing old conidiomata of *Botryodiplodia* (Sacc.) Sacc. Other specimens studied by this author were associated with perithecia of *Botryosphaeria quercuum* (Schwein.) Sacc. Bandoni (1973) observed *Naohidea sebacea* on pycnidia of a *Phialophorophoma*-like fungus. In the new Polish locality it was found on old stromata of *Botryosphaeria dothidea*, and it seems that this is a new host-fungus for *Naohidea sebacea*.

Phialophorophoma Linder is represented by one marine species belonging to the mitosporic fungi (Hawksworth *et al.* 1995), and surely does not correspond with Bandoni's (1973) '*Phialophorophoma*-like fungus'. It is therefore hard to say what the species reported by this author might be. *Botryodiplodia* is one of the few anamorphs of *Botryosphaeria* Ces. & De Not. (Hanlin 1997). Based on the above it seems that the host specialization of *Naohidea sebacea* is narrow, and that the species only parasitizes species of *Botryosphaeria*, either in the teleomorph or anamorph state.

Naohidea sebacea has been reported from temperate regions of the Holarctic although known collections are very scanty and its distribution is

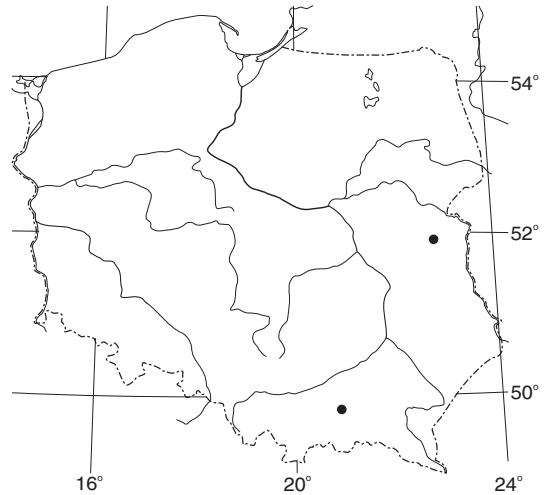


Fig. 1. Distribution map of *Naohidea sebacea* (Berk. & Broome) Oberw. in Poland.

strongly disjunctive. However, it is quite possible that the species is not rare but merely overlooked since its basidiomes are barely visible in dry conditions. In Eurasia it has been found in just a few localities, being present in Poland (Bresadola 1903, with the same collection noted by Eichler 1907 and Wojewoda 1977; plus the new collection in this paper – Fig. 1), and England (McNabb 1965). It is also known from France, where it has been reported as quite common but without precise localities (Bourdot & Galzin 1928). Pilát (1957) reported the species from two stations in the Czech Republic but in opinion of Wojewoda (submitted) both collections refer to *Dacryomyces ovisporus* Bref. Outside Europe, the species has been collected in one Japanese locality (Oberwinkler 1990) and in North America, where it is a rare species having only four stations, three in the United States: Georgia (Olive 1947), California (McNabb 1965), and North Carolina (Oberwinkler 1990); and one in Canada: British Columbia (Bandoni 1973).

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