MYCOTAXON

Volume 102, pp. 379–382 *October–December 2007*

Athelicium hallenbergii sp. nov. (*Basidiomycetes*) from Belarus

Eugene O. Yurchenko & Heikki Kotiranta*

eugene_yu@tut.by
V.F. Kuprevich Institute of Experimental Botany
Akademichanya Str. 27, BY-220072 Minsk, Belarus

**heikki.kotiranta@ymparisto.fi*
Research Department, Finnish Environment Institute
P.O. Box 140, FI-00251 Helsinki, Finland

Abstract — *Athelicium hallenbergii* (*Basidiomycota*) is described as new. It was collected in 2000 and 2006 from the same locality in an oak forest in the city of Minsk, Belarus. The new taxon is the second species to be assigned to the formerly monotypic genus.

Key words — athelioid fungi, *Populus tremula*, taxonomy

Introduction

The genus *Athelicium* K.H. Larss. & Hjortstam was proposed as a monotypic genus with one species, *A. stridii* K.H. Larss. & Hjortstam (Hjortstam 1998). It is rather common in Sweden and Norway, occurring on hard, decorticated, wind-desiccated branches, stumps, and structural coniferous and angiosperm wood, including boards (Larsson & Hjortstam 1986, Domański 1988, Ryvarden et al. 2003).

In autumn 2000 a very small specimen of an athelioid fungus was collected in Drazdy forest at the north western periphery of the city of Minsk. It was found on bark at the base of a living willow. A description of this material was published as *Athelicium* sp. (Yurchenko & Kotiranta 2006).

The collection site was revisited in 2006 and the same species was collected several times, again at bases of living deciduous trees, ca 2–8 cm above the ground. The habitat is *Quercus robur* forest of the *Corylus avellana – Oxalis acetosella* type, with abundant *Populus tremula*, and some *Picea abies*, *Prunus avium* and *Pinus sylvestris*. At the tree bases there were as well patches of small basidiomata of two other corticioid species (*Athelia fibulata* and *Uthatobasidium fusisporum*),

and often together with *Athelicium*. It is remarkable that macroscopically they are very similar to *Athelicium* and can easily be mixed with it in herbarium samples.

Species description

Athelicium hallenbergii Yurchenko & Kotir. **sp. nov.** **Fig. 1**

MycoBank MB510996

Carposomata resupinata, pelliculares, laxe adhaerentes, parva (0.5–18 mm longa), tenuissima (circa 50 µm crassa), alba. Margo indefinitus. Hymenophorum laeve, sub lente hymenium parvo poroideum. Subiculum arachnoideum. Systema hypharum monomiticum. Hyphae subiculi laxe intertextae, distinctae, modice ramosae, tenuiter tunicatae vel laeviter incrassate tunicatae, laevatae et incrustatae, hyalinae, (1.3–)2.5–4.5(–5.7) µm diam., septis fibulatis vel afibulatis. Hyphae subbasidiales partim incrustatae. Cystidia nulla. Basidia utriformia, in parte basali stipitata vel substipitata, basi fibulata, (18–)20–25 × 6.2–7.7(–8.5) µm, cum sterigmatibus 1–3 magnis, rectis, 4.2–9.4 µm longis, basi 1.8–2.2 µm crassis. Sporae ellipsoideae vel latere adaxiali leviter concavae, nonnumquam ad apicem attenuatae, cum apiculo magno, (9.2–)10–12 × (5.3–)6–7.5(–8.3) µm, laeves, laeviter incrassate tunicatae, hyalinae, IKI negativae, acyanophilae.

*Ad corticem basi caudicum vivorum et truncorum arborum frondosarum (*Populus tremula, Quercus robur, Salix caprea*).*

A. stridii *differt basidiis, quae circa duplo minora, et sesqui sporis minoribus.*

holotype — Belarus, Minsk, Drazdy forest, in mixed forest with *Populus tremula* and *Quercus robur*, at base of living *Populus tremula*, 19.XI.2006 E.O. Yurchenko (MSK-F 6801). Isotypus: Herb. Kotiranta.

etymology — The species is named in honour of Professor Nils Hallenberg, an eminent Swedish specialist on corticioid fungi of Europe and southwest Asia.

Basidiomata resupinate, in small patches (0.5–18 mm long), very thin (ca 50 µm), white, loosely attached, consisting of discontinuous (minutely porulose) hymenium developing on a very loose, arachnoid subiculum. Margin not differentiated. Hyphal system monomitic, hyphae distinct, hyaline, without oily contents, with clamped and occasional simple septa. Subicular hyphae (1.3–)2.5–4.5(–5.7) µm wide, thin-walled, moderately branched (the widest ones slightly thick-walled and sparingly branched), smooth or encrusted, with incrustations preserved in IKI and almost completely dissolved in KOH. Subhymenial hyphae thin-walled, richly branched, partly encrusted, 3 µm in diam. Cystidia none. Basidioles (or immature monosterigmate basidia?) with subacute tips, scattered. Basidia basally clamped, utriform, more or less stalked, (18–)20–25 × 6.2–7.7(–8.5) µm, with 1–3 stout, mostly straight sterigmata, 4.2–9.4 µm long and 1.8–2.2 µm wide at base. Spores ellipsoid or broadly ellipsoid, sometimes slightly adaxially concave, amygdaloid and tapering to the apex, slightly thick-walled, (9.2–)10–12 × (5.3–)6–7.5(–8.3) µm, Q = (1.1–)1.5–2(–2.1), inamyloid, nondextrinoid, acyanophilous, with a prominent apiculus.

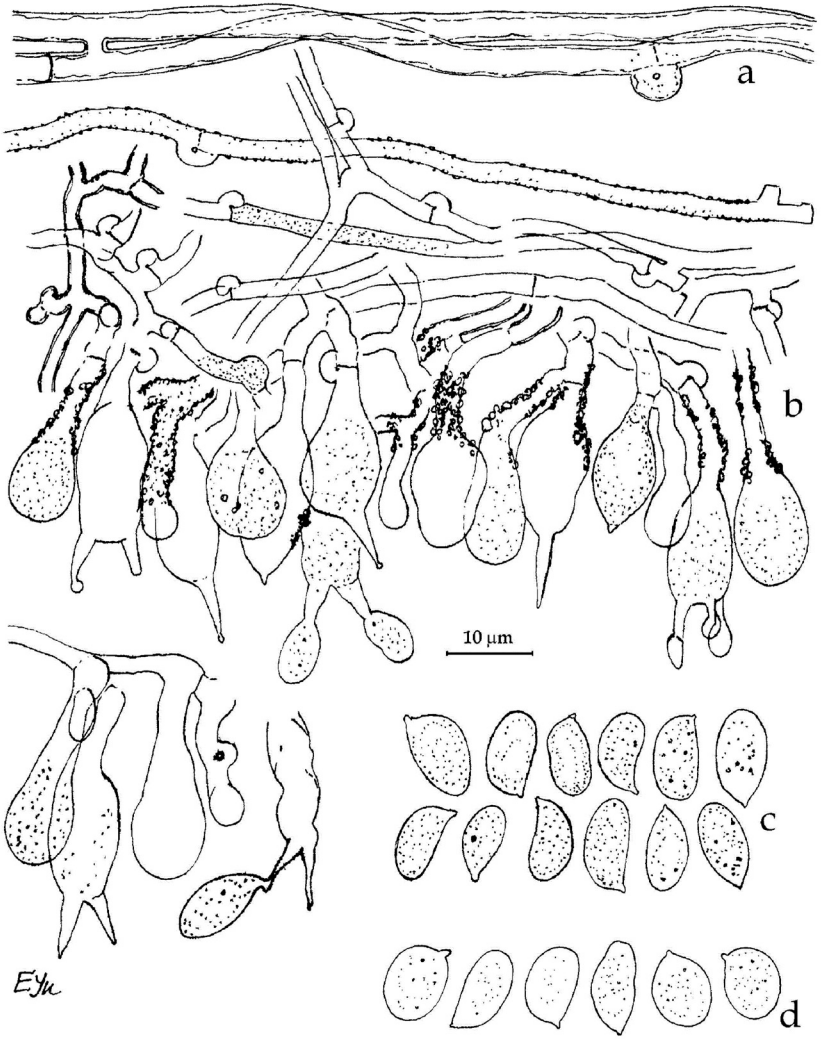

Fig. 1. *Athelicium hallenbergii* MSK 6801: a – slightly thick-walled sparingly branched subicular hyphae, b – section through basidioma, c – spores; MSK 5745: d – spores.

Remarks — The basidia are like those of *Athelicium stridii* in being stalked and in having 2–3 (rarely 4?) stout sterigmata. In contrast to *A. stridii,* the basidia of the new species are approximately only half as long as in *A. stridii* (30–50 µm in *A. stridii*), the hyphae are narrower (3.5–5 µm in *A. stridii*), and the spores clearly smaller (15–18 × 7–10 µm in *A. stridii*; Hjortstam & Larsson, 1986).

The species in genus *Athelopsis* Oberw. ex Parmasto are somewhat similar to *A. hallenbergii*. However, basidial lengths do not reach 20 µm while old basidial remnants are visible (almost like in *Repetobasidium* J. Erikss.). Moreover, the subhymenium comprises very richly branched hyphae that form a "mess" and is quite different to that seen in *Athelicium*. Also the basidia normally bear four sterigmata and the spores are glued together in a very characteristic way as shown by Kotiranta & Saarenoksa (2005).

A small variation in size and shape of the spores was observed in *A. hallenbergii*. In holotype (Fig. 1c) the spores are (9.2–)10–12 × (5.3–)6–7(–7.5), L=11.3 µm, W=6.3 µm, Q*= 1.8 (n = 30). In MSK 5745 (Fig. 1d) the spores are more broadly ellipsoid, sometimes basally wider (like in some *Botryobasidium* species), (9.2–)10–12 × 6–7.5(–8.3), L=10.2 µm, W=6.5 µm, Q* = 1.6 (n = 30).

ADDITIONAL SPECIMENS STUDIED–Belarus. Minsk, Drazdy forest, on bark at base of living *Salix caprea* and partly on living epiphytic mosses, 11.XII.2000 E.O. Yurchenko (MSK 5745, GB, H.K.); on bark at base of *Populus tremula* stump, 19.XI.2006 E.O. Yurchenko (MSK 6834, H.K.); on bark at base of living *Quercus robur*, 19.XI.2006 E.O. Yurchenko (MSK 6835, H.K.).

Acknowledgements

The authors are grateful to Prof. Teuvo Ahti (University of Helsinki, Finland) for critical consideration of the article and especially for reviewing the Latin diagnosis, and to Prof. Leif Ryvarden (University of Oslo, Norway) for reviewing the manuscript.

Literature cited

Domański S. 1988. Mała flora grzybów. T. I. Basidiomycetes (Podstawczaki). *Aphyllophorales* (Bezblaszkowce). Część 5. *Corticiaceae*: *Acanthobasidium – Irpicodon*. Państwowe wydawnictwo naukowe: Warszawa. 427 s.

Hjortstam K. 1998. A checklist to genera and species of corticioid fungi (*Basidiomycotina*, *Aphyllophorales*). Windahlia 23: 1–54.

Hjortstam K, Larsson K-H. 1986. Studies in *Corticiaceae* (*Basidiomycetes*) XVI. Some new taxa from Northern Europe. Windahlia 15: 49–58.

Kotiranta H, Saarenoksa R. 2005. The genus *Athelopsis* (*Aphyllophorales, Corticiaceae*) in Finland. Ann. Bot. Fennici 42: 335–342.

Ryvarden L, Stokland J, Larsson K-H. 2003. A critical checklist of corticioid and poroid fungi of Norway. Synopsis Fungorum 17: 1–109.

Yurchenko EO, Kotiranta H. 2006. Rare corticioid fungi (*Basidiomycetes*, *Aphyllophorales*) from central Belarus. Mycena 6: 67–88.