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# An old collection of *Antrodia primaeva* (Basidiomycetes) from Russia

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Summary. – *Antrodia primaeva* Renvall & Niemelä, a newly described, wood-rotting polypore (Basidiomycetes) is reported as a new species to Russia. The species is shortly described and its distribution is mapped.

Zusammenfassung. – *Antrodia primaeva* Renvall & Niemelä (Basidiomycetes), ein holzabbauender Porenschwamm, der neulich beschrieben wurde, ist als eine neue Art für Russland gemeldet worden. Die Art wurde kürzlich beschrieben und ihre Verbreitung auf einer Karte dargestellt.

In 1861 Finnish mycologist P.A. Karsten made a long collecting journey to the *Kola Peninsula* of Russia (Karsten 1866). During that trip he collected a specimen of an ascomycete, *Peziza hymeniophila* P. Karsten. When revising Karsten's mycological collections, Dr. Seppo Huhtinen studied this small ascomycete and asked the author of this article to identify its substrate. The fungus was growing on the pore surface of an unnamed resupinate polypore. The polypore was sterile but typical characteristics of *Antrodia primaeva* Renvall & Niemelä could be detected. Thus the species is here reported as a new to Russia. *A. primaeva* was described and illustrated in detail by Renvall & Niemelä (1992), but a condensed description is provided here (see also Ryvarden & Gilbertson 1993).

## Material and methods

*Antrodia primaeva* is a polypore with effused-reflexed to resupinate and mostly cream-coloured basidiocarps. The species has been found almost exclusively in rather dry virgin pine forests on fallen trunks or on natural stumps of *Pinus sylvestris* L. The basidiocarps mostly emerge on decorticated wood, growing out of deep fissures. The finds derive almost exclusively from pines over one hundred years old, which had died and lost their bark but remained standing for decades before falling down. It evidently is a saprotroph, which causes a slowly proceeding brown rot and favours often partly charred trunks and stumps of pine.

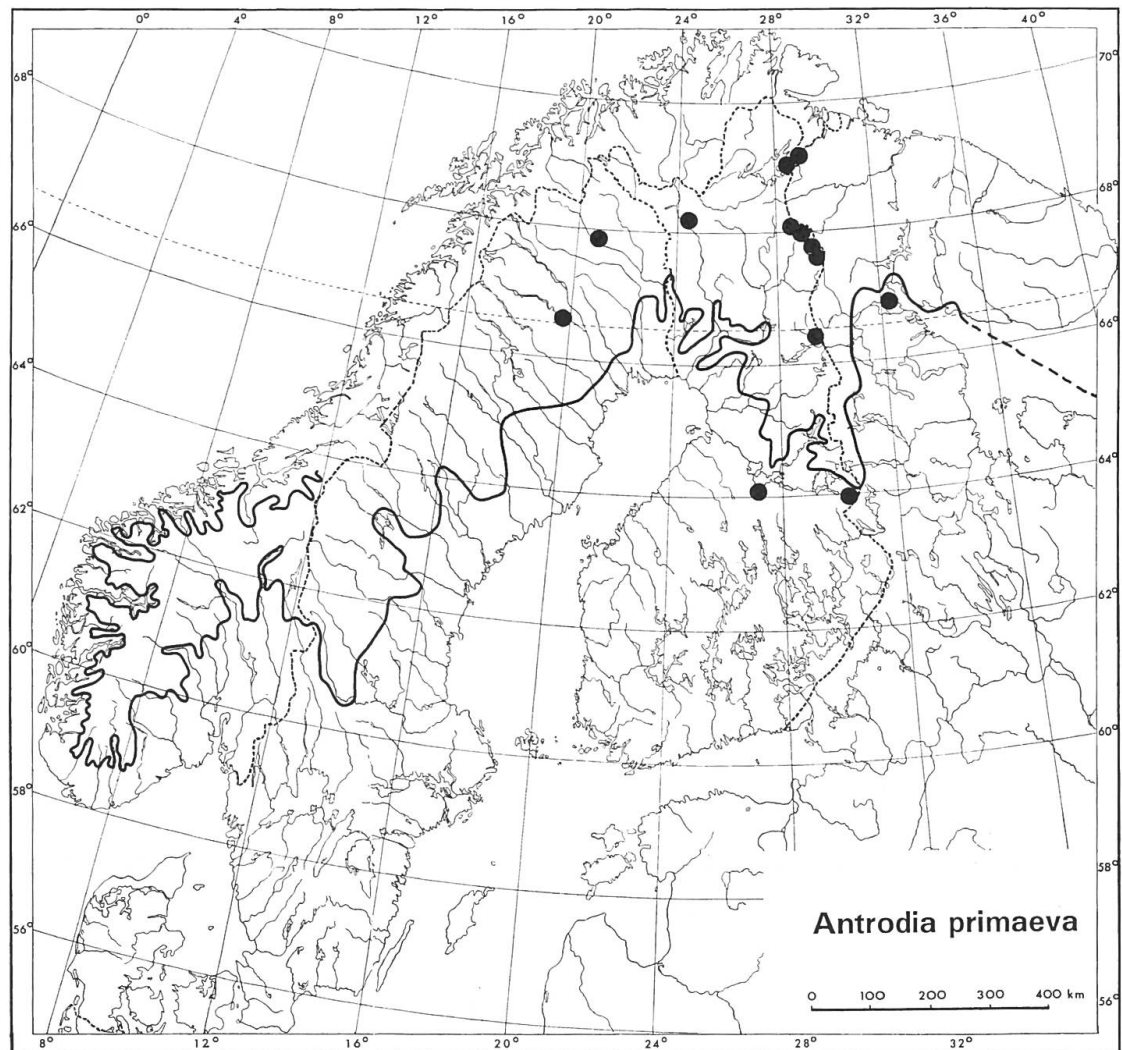


Fig. 1. The known localities of *Antrodia primaeva* Renvall & Niemelä in northwestern Europe. The black line indicates the southern border of the Northern Boreal zone (according to Ahti et al. 1968).

## Results and discussion

*Antrodia primaeva* is macroscopically reminiscent to *Dichomitus squalens* (P. Karsten) Reid in its white to bay and effused-reflexed basidiocarps. Basidiospores of both species are fairly similar in shape and size (*A. primaeva* 6–11 x 2.3–3.8 µm, *D. squalens* 8–11 x 2.9–3.3 µm) and in the microscope they can be identified almost exclusively by the hyphal characters. *D. squalens* always has arboriform and cyanophilous skeleto-binding hyphae, which predominate in both the trama and the context (see, e.g., Ryvarden & Gilbertson 1993), while in *Antrodia primaeva* the trama is composed of straight, thick-walled, acyanophilous skeletal hyphae and clamped, thin-walled generative hyphae. The tramal characters of the latter are closer to those of *Antrodia serialis* (Fr.) Donk. However, *A. serialis* has tough and almost homogeneous, dimitic context, in which skeletal hyphae predominate, while the context of *A. primaeva* is chiefly composed of generative hyphae, but some binding hyphae are always present and a few skeletals. In *A. serialis* the trama is made up almost exclusively of the skeletal hyphae, which makes the generative hyphae difficult to find. Moreover, the skeletals are somewhat thinner, more interwoven and often provided with single crystals which can be found in hymenium or in tube mouths.

*Antrodia carbonica* (Overh.) Ryv. & Gilb., which externally may remind *A. primaeva*, has strikingly amyloid hyphae and tougher basidiocarps. According to Ryvarden and Gilbertson (1993) it has not been found in Europe. *Diplomitoporus flavescens* (Bres.) Dom. (type in S, studied) has a yellowish pore surface, larger pores and slightly bent shorter basidiospores, and it causes a white rot (for the description see Ryvarden & Gilbertson 1993). Despite these characteristics it may be confused with *A. primaeva* when used old identification keys.

The earlier finds of *Antrodia primaeva* derive from the northern parts of Finland, Norway and Sweden (Renvall & Niemelä 1992) and it seems to be a fairly regular inhabitant of old pine forests in those areas. According to the present knowledge *A. primaeva* has a boreo-continental distributional pattern (see Renvall et al. 1991) and the new record (Fig. 1) supports this conception. I therefore expect the species to be found elsewhere in the Northern Boreal zone of Russia, and perhaps also at high altitudes in the upper montane coniferous (Oroboreal) zone of Central and South Europe. However, because of the strong yearly variation in fruit body emergence, its presence may be difficult to verify.

Specimen examined: Russia. Murmansk Region: Zelenoborskiy, 6.VIII.1861, P.A. Karsten 3383 (H, filed under *Peziza hymeniophila* P. Karsten).

## ACKNOWLEDGEMENTS

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