Arctoparmelia subcentrifuga new to Europe

ORVO VITIKAINEN and TAMARA DUDOREVA


*Arctoparmelia subcentrifuga* is reported from sea-shore rocks at two localities by the White Sea in the Murmansk region, Russia. This is the first record of the species from Europe.

Orvo Vitikainen, Finnish Museum of Natural History, Botanical Museum (Mycology), P.O. Box 47, FIN-00014 University of Helsinki, Finland. E-mail: Orvo.Vitikainen@helsinki.fi

Tamara Dudoreva, Polar-Alpine Botanical Garden-Institute of Kola Science Centre RAS, Kirovsk-6, 184256, Murmansk region, Russia. E-mail: anis@aprec.ru

When carrying out lichenological field work by the White Sea in the southern part of the Murmansk region in 1998 the junior author found an *Arctoparmelia*, which at first was taken as *A. separata* (Th. Fr.) Hale because of its dark purplish lower cortex. The upper surface of the specimens, however, proved to be strongly rugose-pustulate or sorediose, which is a diagnostic characteristic of *A. subcentrifuga* (Oxner) Hale, a species not recorded for Europe before.

The locality is situated 0.7–1 km east of Niva river mouth near Kandalaksha in the province of Lapponia imandrensis (67°07’30”N, 32°27’E). It consists of open steep sea-shore rocks of tonalitic granitogneisses with dykes of metabasites (Anonymous 1994). The lichen grew exposed to the south on bare rock or sometimes on other lichens, always on almost vertical surfaces at 2 to 20 m altitude. The rocks were open or carried scattered *Pinus*, *Betula*, *Picea*, *Populus*, *Sorbus*, *Juniperus* and fragments of grass-, moss- and dwarf-shrub vegetation on ledges and in cracks.

Associated lichens listed at the locality include, among others, *Arctoparmelia centrifuga*, *A. incurva*, *Bryoria chalybeiformis*, *B. nitidula*, *Dermatocarpon minutum*, *Diploschistes scruposus*, *Hypogymnia physodes*, *Lepraria neglecta*, *Melanelia disjuncta*, *M. fuliginosa*, *M. hepatizon*, *M. infumata*, *M. olivacea*, *M. panniformis*, *M. sorediata*, *M. stygia*, *Ophioparma ventosa*, *Parmelia fraudans*, *P. omphalodes*, *P. saxatilis*, *P. sulcata*, *Pseudephebe pubescens*, *Phaeophyscia sciastra*, *Physcia caesia*, *Physconia muscigena*, *Sphaerophorus fragilis*, *Umbilicaria polyrrhiza*, *U. vellea*, *Xanthoparmelia conspersa*, *Xanthoria candelaria*, and *X. sorediata*.

In 2000 the junior author also found the species on Oleny Island in Kandalaksha Bay (province of Karelia keretina; 67°04’50”N, 32°24’E), south of the first locality. Here it grew both on open sea-shore rocks and on a huge boulder on the shore. Oleny Island belongs to Kandalaksha State Nature Reserve. The specimens collected are deposited in H, KPABG, LE, NDA and in the herbarium of Kandalaksha State Nature Reserve.
**Discussion**

On the basis of the minutely papillose hyphae of the “velvety” lower cortex, the presence of alectononic acid in the medulla, and the mainly arctic-boreal distribution, Hale (1986) segregated five species from *Xanthoparmelia* (Vain.) Hale into the new genus *Arctoparmelia* Hale. These are *A. centrifuga* (L.) Hale, recognized by its white lower cortex, *A. incurva* (Pers.) Hale, having laminal soralia, *A. separata* (Th. Fr.) Hale, recognized by its dark purplish lower cortex, *A. subcentrifuga* (Oxner) Hale (syn. *Parmelia groenlandica* Lyne, an invalid name) and *A. aleuritica* (Nyl.) Hale. However, the last-mentioned species is commonly regarded as an usnic acid-deficient mutant of *A. centrifuga* (see Clayden 1992, Santesson 1993). *Arctoparmelia centrifuga* and *A. incurva* are well-known circumpolar species; *A. separata* is incompletely circumpolar and not recorded from Europe.

*Arctoparmelia subcentrifuga* was known to Hale (1986) from Greenland, Baffin Island, the north shore of Lake Superior in Canada, the Rocky Mountains, Alaska, SW Siberia and Nepal. Later it has been reported from British Columbia (Goward & Ahti 1992), Montana and Colorado (McCune & Goward 1995), and North Sikkim, India (Divakar et al. 2001). The Russian localities reduce its distribution gap and make it less interrupted circumpolar.

**Acknowledgements**

Thanks are due to Dr Paula DePriest for information on materials of *Arctoparmelia subcentrifuga* preserved at the herbarium US.

**References**


