

NOTES ON *PHILONOTIS* (BARTRAMIACEAE, MUSCI).

11. THE RANGE OF *PHILONOTIS SERIATA* WITH CONFIRMATION OF ITS OCCURRENCE IN GREENLAND

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Abstract. The range of *Philonotis seriata* Mitt. is often described as continuous circumpolar, with some records from North America, Siberia and Japan. In North America the species actually occurs only in Greenland and its occurrence on this island is confirmed. It has been reported from several countries of SW Asia, but specimens have until now been seen from the Caucasus, the Western Himalayas, and the Ural and Altai Mountains. The species is unknown from Japan.

Key words: Asia, bryogeography, distribution, Europe, Greenland, Japan, North America

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On the basis of the information in some handbooks and floras (Dierssen 2001), *Philonotis seriata* Mitt. has a wide range from North America through Europe and Siberia to Japan and it is considered ‘circumpolar’ even in some recent publications, e.g. Sim-Sim and Sérgio (2011). In the course of the revision of *Philonotis*, I begun to wonder about the scarcity of correctly identified specimens from Asia in H and H-BR. North American specimens so named were either misidentified or mistaken for another taxon, *P. americana* Dismier (see Persson 1954; Malcolm *et al.* 2009). That *P. seriata* is absent from continental North America has been known (see below). However, *P. seriata* has been cited to occur in Greenland (Dismier 1907). Its presence there is now confirmed.

Philonotis seriata Mitt.

J. Linn. Soc. Bot. Suppl. 1: 63. 1859. ≡ *P. fontana* (Hedw.) Brid. var. *seriata* (Mitt.) Kindb., Bih. Kongl. Svenska Vetensk.-Akad. Handl. 7(9): 255. 1883. ≡ *P. fontana* subsp. *seriata* (Mitt.) Dixon, Stud. Handb. Brit. Mosses: 294. 1896. – LECTOTYPE (designated by Ochi 1962): [Scotland]. In Britannia boreali in monte Ben-na-Bourd, *W. Gardiner* (NY, not seen).

For the typification, see Koponen (2009, 2010a).

RANGE IN EUROPE AND AFRICA. After its description, *Philonotis seriata* (Mitten 1859) remained unnoticed in Europe for several decades. The reasons probably are that: (i) it was published in a paper dealing with East Indian mosses (see Koponen 2009, 2010b), although the specimens cited were from Europe (*W. Gardiner*’s specimen from Scotland and *J. C. Schleicher*’s specimen from Switzerland), and (ii) the species is rare in Central Europe. Lindberg (1877) reported *P. seriata* from Finland and accepted it at the species level in his *Musci Scandinavici* (Lindberg 1879). The species occurs from Iceland through Fennoscandia to the Ural Mts (*Ignatov & Ignatova* 2003) and in central and south Europe in high mountains, where acid bedrocks and soils are present. Duell (1985) and Sabovljević *et al.* (2008) list European countries from which *P. seriata* has been reported. Sim-Sim and Sérgio (2011) recorded it from Madeira. From North Africa it is known from Morocco (*Ros et al.* 1999). However, the records from most southern stations need to be confirmed.

RANGE IN ASIA. Lindberg and Arnell (1890) repeated Mitten’s (1859) Latin description and

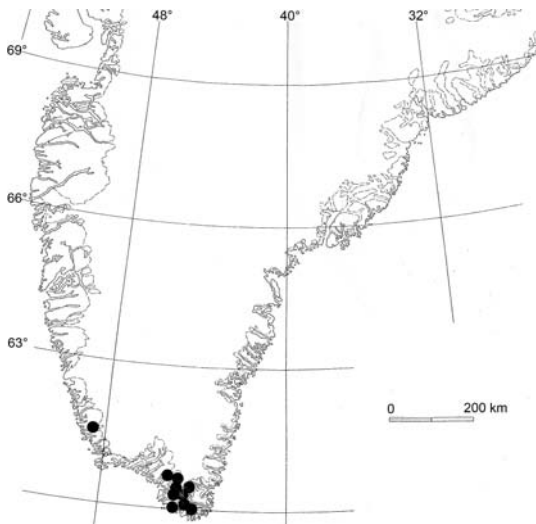


Fig. 1. The range of *Philonotis seriata* Mitt. in Greenland.

reported the species from Siberia at Yenisei River. However, their vouchers seen by me are either *P. caespitosa* Jur. or *P. fontana* (Hedw.) Brid. Mitten's (1859) publication misled Ochi (1962, 1963) to cite the type locality to be in India and to report *P. fontana* var. *seriata* widely distributed in Japan. However, the Japanese specimens actually represent a different species, *P. yezoana* Besch. & Cardot, and *P. seriata* was excluded from Japan and Korea (Koponen 2009).

Dismier (1912) and Kabiersch (1937) cited specimens from the NW Himalayas and Kashmir. Koponen (2009) confirmed them as *P. seriata*. The species occurs at high elevations in Tibet (Koponen 2010a) and Yunnan (*X.-J. Li 80-217, H!*) in China, but the specimens cited from southern provinces of China (Zang & He 2007) probably are based on misidentifications (Koponen 2010a).

Ignatov *et al.* (2006) reported *Philonotis seriata* from the Altai Mts., and I have seen specimens from there (H, H-BR), and also specimens from the Caucasus (H-BR). The details of these specimens will be given in a separate publication (Koponen *et al.*, unpublished). *Philonotis seriata* has been recorded from several SW Asian countries, including Turkey (Uyar & Çetin 2004), Iran (Akhani & Kürschner 2004), Iraq, Afghanistan (Frey & Kürschner 1991), and Israel (Nyholm

1998), but I have not yet seen specimens from these areas. Kürschner and Frey (2011) repeated the same information. However, Herrnstadt and Heyn (2004) excluded *P. seriata* from Israel.

RANGE IN NORTH AMERICA. Dismier (1910, 1911) thought that *Philonotis seriata* is rare in North America, and Persson (1954) and Zales (1973) excluded it from continental North America. I have not seen the voucher specimen from Greenland mentioned by Dismier (1907) who initially doubted this record (Dismier 1910), but later re-confirmed it (Dismier 1912). I can confirm the occurrence of *P. seriata* in Greenland after examination of the material so named from C. It should be added that some specimens under that name are *P. fontana*, and one specimen is *Pohlia wahlenbergii* (F. Weber & D. Mohr) A. L. Andrews.

SPECIMENS FROM GREENLAND STUDIED: Julianehåb distr.: Kangitsoq, Tupaussat, 60°20'N, 44°16'W, 1970, *N. Jacobsen 9294, 9308*; Angnikitsoq – Angnikitsup nuâ, 60°01'N, 44°02'W, 1970, *N. Jacobsen 4099*; Pamiagdruk – Anordliuitsoq, 60°04'N, 44°16'W, 1970, *N. Jacobsen 9317*. – Maukarneq, 60°01'N, 44°48'W, 1964, *C. Hansen & P. M. Petersen*. – Angnikitsoq, Itivdlikasik, 60°06'N, 44°12'W, 1966, *P. Gravesen & C. Hansen 66-988*. – Kangerdlug, 60°13'N, 44°19'W, 1966, *P. Gravesen & C. Hansen 66-755*. – Qingua Valley, 60°16'N, 44°31'W, 1964, *P. M. Petersen & T. Smitinand 64-067*. – Kangerssuneq qingordleq, Ánivia, 60°19'N, 44°07'W, 1966, *P. Gravesen & C. Hansen 66-424*. – Tasermiut, head of the fiord, 60°32'N, 44°32'W, 2.VII.1964, *C. Hansen, P.M. Petersen & T. Smitinand* (with *P. fontana*); Head of Tasermiut Fjord, 1964, *T. Smitinand 23.370* (listed also in C. V. Starr Virtual herbarium, NY). – Valley northeast of Sioralik, lower part, 60°44'N, 45°02'W, 1963, *C. Hansen & K. Jakobsen 63-895*. – Arsuk Fjord: Kungnât, 61°14'N, 48°30'W, 1963, *K. Holmen 63-613*.

All specimens are in the Botanical Museum and Herbarium of the University of Copenhagen (C) unless stated otherwise.

CONCLUSION. *Philonotis seriata* is a mainly European species having disjunct occurrences in Greenland, North Africa, the Caucasus, the western Himalaya and the Altai Mts. Records from SW Asia and southernmost Europe should be confirmed.

ACKNOWLEDGEMENTS. I wish to thank Professors Sinikka Piippo and Ryszard Ochyra for comments on the manuscript and Dr. Gert Mogensen for information of collecting localities and forwarding the outline map of Greenland. Botanical Museum and Herbarium of the University of Copenhagen is acknowledged for sending the specimens on loan to me.

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Received 29 January 2012