

NOTES ON *PHILONOTIS* (BARTRAMIACEAE, MUSCI). 12. *PHILONOTIS LAXITEXTA* IS *P. FALCATA*, NEW TO IRAN

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Abstract. *Philonotis laxitexta* Froehl. is considered to be conspecific with *P. falcata* (Hook.) Mitt. This first record from Iran bridges its range in SE Asia with the localities in the Caucasus. *Philonotis laxitexta* is excluded from Lebanon and the voucher collection represents *Pohlia wahlenbergii* (F. Weber & D. Mohr) A. L. Andrews.

Key words: distribution, Iran, Lebanon, new synonymy, nomenclature, *Philonotis*, SW Asia, taxonomy

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An ongoing revision of the genus *Philonotis* Brid. has revealed that *Philonotis falcata* (Hook.) Mitt. has a wider range in Asia than was earlier known. The present synonymization of *P. laxitexta* Froehl. extends the range of *P. falcata* to SW Asia. This was to be expected since rather recently it has been recorded in addition to the Altai Mts and Kyrgyzstan also from European part of the Caucasus and the Arabian Peninsula.

Philonotis falcata (Hook.) Mitt. Fig. 1

J. Linn. Soc. Bot. Suppl. 1: 62. 1859. ≡ *Bartramia falcata* Hook., Trans. Linn. Soc. London 9: 317, 27 f. 4. 1808. ≡ *Philonotis fontana* (Hedw.) Brid. var. *falcata* (Hook.) Brid., Bryol. Univ. 2: 21. 1827. – LECTOTYPE (designated here): Nepal, coll. Dr. Buchanan (BM!), ex herb. Hooker, ex herb. Kew, 'Dr. Smith 1808, No. H/2359'; ISOLECTOTYPES in BM!, ex herb. Dawson Turner, ex herb. Hooker; FH!, ex herb. Mitten, ex herb. Hooker).

Philonotis laxitexta Froehl., Ann. Naturh. Mus. Wien 57: 40. 1950, **syn. nov.** – HOLOTYPE: Iran, Prov. Teheran. Mittlere Elburs im Tal von Pasgaleh am S-Hand des Focal, c. 1400 m, IV. 1948, K. H. & F. Rechinger, *Iter Iranicum II*, No. 6883 (W).

OTHER ILLUSTRATIONS: Ochi 1962: Pl. 4, figs A–D, drawn from the type of *P. falcata*; Ochi 1962: Pl. 5, figs A–F, drawn from the type of *P. carinata*; Koponen 1996: 115, Fig. 1; Kürschner & Ochyra 1999: 272, Fig. 2; Eddy 1996: 234, Fig. 489; 235, Fig. 490 as *P. turneriana*.

The diagnostic characters of *Philonotis falcata* are the strongly carinate leaves, which are often arranged in five rows on stem. The costa is often bending both in dorsal-ventral direction and sideways, which gives a very characteristic shape to the leaves. Most of the other *Philonotis* species have flat leaves, or the leaves are concave at most. The five-ranked leaves are best visible in plants with short and imbricate leaves and in the apices of innovations. If the leaves are distant, the rows are not as easily visible. The papillae or mamillae of the leaves are on the apical end of leaf cells, which character separates *P. falcata* from *P. fontana* and its relatives. The plants of the type of *Philonotis laxitexta* are pale and rather slender and obviously young plants. When dry the leaves are flexuose to different directions and no clear arrangement to rows is visible. When wetted the arrangement in rows is evident. The leaf cells of basal leaf are large and nearly smooth. The carinate, triangular leaves, strong costa and the mamillae of leaf cells on apical end of cells near leaf apex agree with *P. falcata*. The apical mamillae are mentioned in the original description.

In addition to its range in Africa (Koponen 2003), *Philonotis falcata* is one of the most common species of *Philonotis* in southeast Asia ranging from Japan to the Western Himalayas in

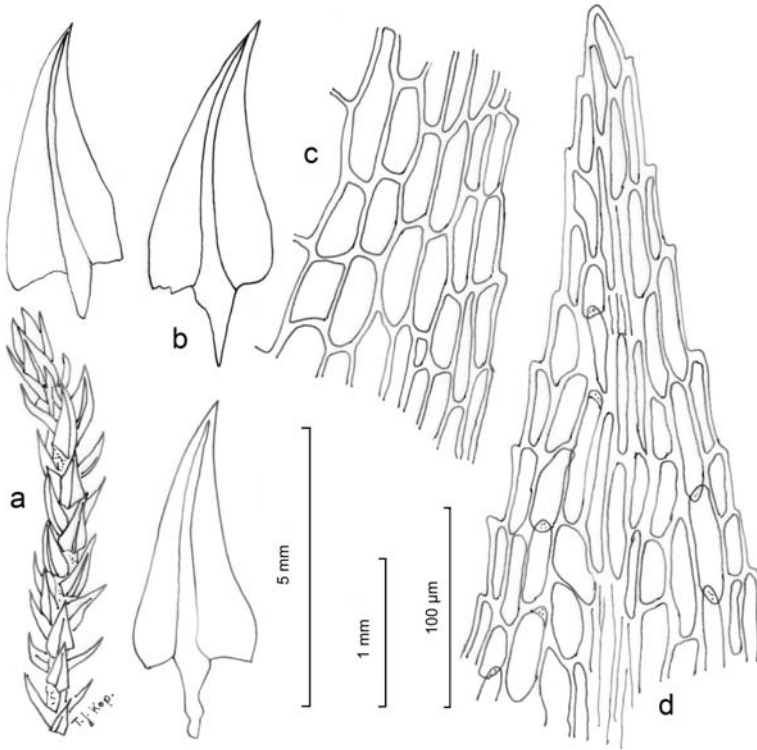


Fig. 1. *Philonotis falcata* (Hook.) Mitt. a – shoot, b – leaves, c – leaf margin and leaf cells at mid-leaf, d – leaf apex. All drawn from holotype of *P. laxitexta* Froehl. Scale bars: 5 mm for a, 1 mm for b, 100 µm for c & d.

the north and to the Philippines and Java in the south (Koponen 1996). However, during the last *ca* 15 years new findings have extended its Asiatic range. New records due to recent collecting expeditions are those by Kürschner and Ochyra (1999), who recorded *P. falcata* from Yemen, Ignatov *et al.* (2006) from the Altai Mts and Ignatov *et al.* (2010) from the Republic of Dagestan in the eastern Caucasus, which, at the same time, is the first record for Europe. However, the research of herbarium collections, in which *P. falcata* has been misidentified under various names, has broadened considerably the knowledge on its range. Koponen (1996) found two specimens from Kyrgyzstan in *Brotherus reliquiae*, and in the Brotherus herbarium (H-BR) many specimens collected in the Caucasus area and in the Altai Mts were re-identified as *P. falcata*. The details of these specimens will be reported in a separate publication (Koponen *et al.*, unpublished). The

present specimen from Iran fills the gap between the previously known main range in SE Asia and the recent discoveries in the Caucasus.

REPORT OF *PHILONOTIS LAXITEXTA* FROM LEBANON

Kürschner (2010) recorded *Philonotis laxitexta* from Lebanon. The voucher specimen (see below) is quite surely not a *Philonotis*. Both sterile stems and male plants with perigonia are present. The plants are slender, with reddish stems and distant decurrent leaves. Leaves are lanceolate, acute, and costa not reaching the apex. The leaf cells are elongate with sharp ends and there is no distinct leaf border, border cells are only narrower than laminal cells. Leaf margin near apex has some small teeth formed by protruding cell corners. These characters point to the direction of Bryaceae, and specifically to *Pohlia wahlenbergii* (F. Weber & D. Mohr)

A. L. Andrews. Also the habitat and substrate of Arzeni's specimen on moist calcareous soil fit to *P. wahlenbergii* (see Herrnstadt & Heyn 2004).

SPECIMEN STUDIED: LEBANON. HRAJEL. Waterfall on Highway, 1200 m, on moist wet banks, on soil covered limestone – dripping, Sept. 23, 1962, C. B. Arzeni (MICH).

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