

*FABRONIA ROSTRATA* — A NEW SPECIES FOR THE MOSS FLORA OF RUSSIA

*FABRONIA ROSTRATA* — НОВЫЙ ВИД ДЛЯ ФЛОРЫ РОССИИ

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Abstract

*Fabronia rostrata* Broth. previously known only from China is found in two localities in Asian Russia: in Zabaikalsky Territory and Amurskaya Province. The distance between nearest locality in China and new ones exceeds 2100 km. Morphological description based on specimens from Russia, illustrations and distribution map are given.

Резюме

*Fabronia rostrata* Broth., ранее считавшаяся эндемиком Китая, впервые найдена в двух местонахождениях в Азиатской части России: в Забайкальском крае и Амурской области. Ближайшее местонахождение в Китае находится на расстоянии свыше 2100 км от вновь выявленных. Приведено морфологическое описание по образцам с территории России, а также иллюстрация.

KEYWORDS: mosses, *Fabronia*, new records, Russia

The genus *Fabronia* Raddi was hitherto represented in Russia by two species: widespread *F. ciliaris* (Brid.) Brid. and *F. pusilla* Raddi, restricted to the south-west part of the country (Ignatov, Afonina, Ignatova *et al.*, 2006). The species diversity of the genus increases southward in Asia, and reaches ten species in China, three of which were recently published and four considered as endemics of the country (Gao & Fu, 2002).

A recent floristic investigation in southern part of Asian Russia, especially in Transbaikal region and southern Russian Far East, brought a number of new moss records. Among them, there are some species previously considered as endemics of China, *e.g.*, *Ditrichopsis clausa* Broth. (Afonina & Ignatova, 2013), *Leptopterigynandum incurvatum* Broth., *L. subintegrum* (Mitt.) Broth. and *L. tenellum* Broth. (Ignatov *et al.*, 2012), *etc.* *Fabronia enervis* Broth. described from Sichuan was variously treated until Ignatov *et al.* (2007) proved its identity with widespread South Siberian moss, *Cephalocladium zerovii* Lazar., with final nomenclatural resolution as *Struckia enervis* (Broth.) Ignatov, T.J. Kop & D.H. Long.

In the present paper a new addition to the moss flora of Russia is discussed, and it represents one more species thought to be endemic of China. This is a moss from the genus *Fabronia* simultaneously collected by Dudov in Amurskaya Province and by Afonina in south-east of Zabaikalsky Territory. The differences of these specimens

from *F. ciliaris*, the only species of this genus known in Asian Russia, are numerous. They include operculum with a long oblique beak, totally reduced peristome, and elongate leaves with only weakly serrulate margins. These characters fit well a Chinese endemic species, *F. rostrata* Broth., described by V.F. Brotherus in 1929 from north-eastern Yunnan from collections of H. Handel-Mazzetti (see also Cao & Koponen, 2004).

***Fabronia rostrata*** Broth., Symb. Sin. 4: 92. 1929.

Type: China: Yunnan, Mekong, 28°11'N, *Handel-Mazzetti 8018* (holotype H). Fig. 1.

Plants small, in flat, loose or moderately compact mats, light green or grayish, glossy. Stems 1-2 cm, prostrate, irregularly branched, without hyalodermis and central strand, evenly foliate, with rhizoids at branch bases. Leaves appressed and imbricate when dry, erectopatent to spreading when wet, 0.6–1.0(–1.2)×0.18–0.2 mm, ovate-lanceolate, gradually narrowed into a long and narrow acumen, slightly concave; margins plane, finely serrulate; costa slender, reaching 0.4–0.6 of leaf length; laminal cells rhomboidal, thin-walled, smooth, 30–60×6–10 μm, alar cells differentiated, quadrate, in 3–4 rows at margin. Autoicous. Seta 2–3 mm. Capsule ovoid, 0.6–0.9 mm long. Operculum almost flat, with rather long oblique beak. Peristome totally reduced. Spores 10–15 μm.

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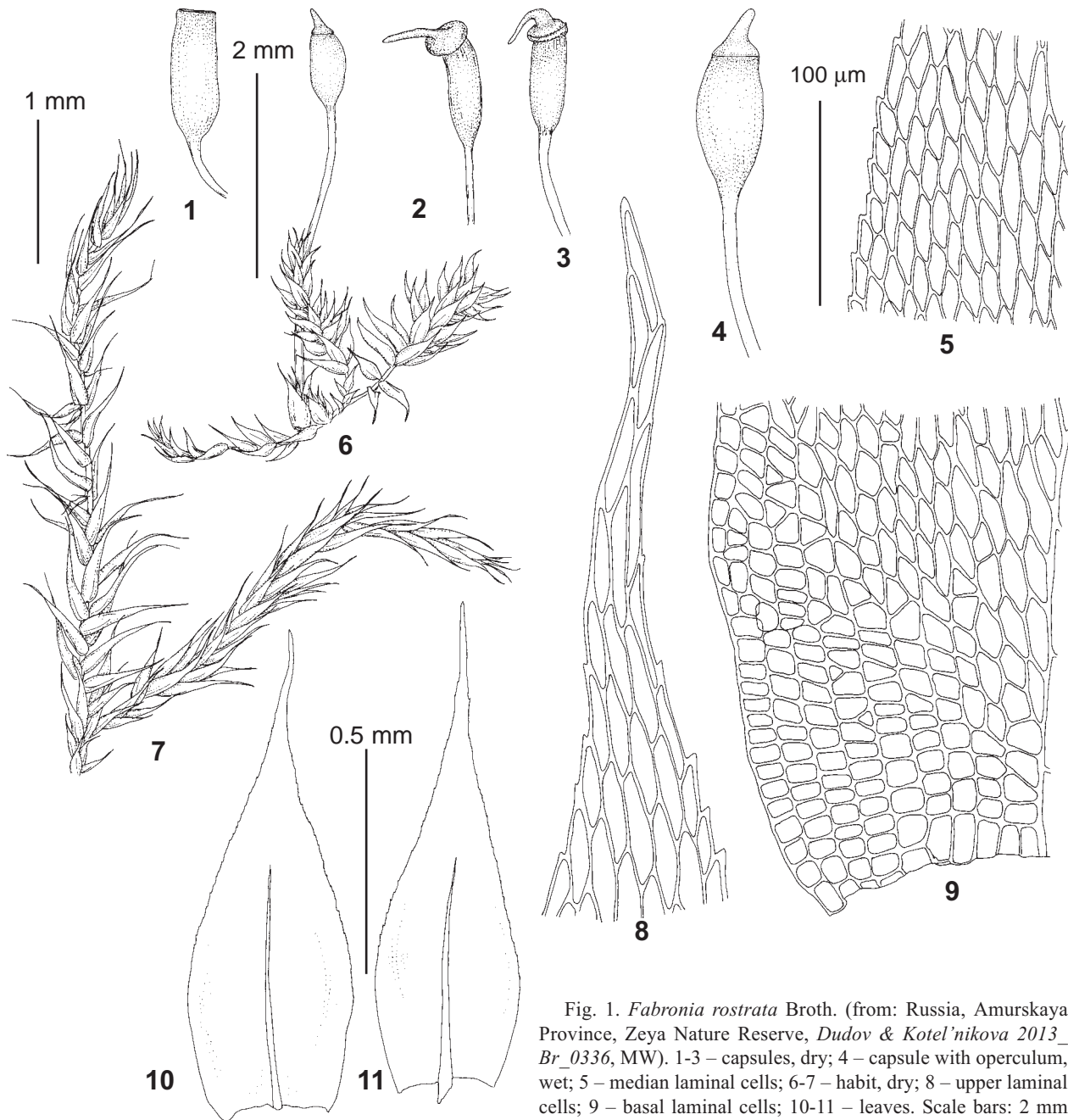


Fig. 1. *Fabronia rostrata* Broth. (from: Russia, Amurskaya Province, Zeya Nature Reserve, *Dudov & Kotel'nikova 2013\_Br\_0336*, MW). 1-3 – capsules, dry; 4 – capsule with operculum, wet; 5 – median laminal cells; 6-7 – habit, dry; 8 – upper laminal cells; 9 – basal laminal cells; 10-11 – leaves. Scale bars: 2 mm for 1-3, 6; 1 mm for 4, 7; 0.5 mm for 10-11; 100  $\mu$ m for 5, 8-9.

**Differentiation.** In the description of this species V.F. Brotherus (1929) noted such characteristic features of the species as finely serrulate leaf margins and operculum with rather long oblique beak. These characters, as well as the absence of peristome, allow its separation from both *F. ciliata* and *F. pusilla* which possess much stronger serrate leaf margins (especially the latter species), mammillate operculum and well-developed, albeit fragile single peristome of 16 teeth, strongly reflexed in dry state and appressed to the urn of opened capsules. Even if partly broken, teeth remains are apparent enough to indicate peristome presence in these species.

Though Gao & Fu (2002) describe sexual condition of *F. rostrata* as dioicous, Brotherus (1929) in the original description of the species indicates that it is monoicous. Plants with both anteridia and archegonia were observed in collections from Russia.

**Distribution and ecology.** *Fabronia rostrata* was originally collected in NW Yunnan, at 2325 m a.s.l., on granite rocks in a dry oxbow of Mekong River (Brotherus, 1929). Gao & Fu (2002) report the species from another locality in Yunnan and from Henan, describing its habitats as “rocks and tree trunks in forests”. In Zabaikalsky Territory the species grew at low elevation, up to 650 m a.s.l., on rock outcrops; in Amurskaya Province



Fig. 2. Distribution of *Fabronia rostrata* Broth. 1 – locality in Zabaikalsky Territory; 2 – locality in Amurskaya Province; 3 – localities in China (from Gao & Fu, 2002).

it was collected at 400–650 m a.s.l., on rock in the forest and on *Tilia amurensis* trunk.

*Specimens examined*: RUSSIA: **Zabaikalsky Territory**, Nerchinsko-Zavodskiy District, near Nerchinsky Zavod settlement (51°19'0.7"N, 119°35'53.0"E, alt. 658 m.), rocky outcrops on northfacing slope, 25.VII.2012, *Afonina 3912* (LE); **Amurskaya Province**: Zeisky District, Zeya Nature Reserve, Tukhuringra range: (1) Gilyiskiy bay of Zeya reservoir, right shore, at 0.3 km to W from cordon "Medvezhiy" (53.99169°N, 127.43139°E, alt. 628 m.), SE 10° slope, aspen with larch undergrowth forest, on stone. 2.VIII.2013, *Dudov & Kotel'nikova# 2013\_Br\_0021*; (2) Izvestkoviy bay of Zeya reservoir, right shore near Izvestkoviy stream estuary (53.89032°N, 127.3961°E, alt. 421 m.), forested calcareous rocky outcrops on S slope, on *Tilia amurensis* bark, 4.VIII.2013. *Dudov & Kotel'nikova 2013\_Br\_0336* (MW).

#### ACKNOWLEDGEMENTS

The work was partially supported by RFBR grant № 13-05-00968, 13-04-01427 and PSF № 14-50-00029.

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