

Noteworthy Additions to the Bryophyte Flora of Georgia

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Noteworthy additions to the bryophyte flora of Georgia

Harald KÜRSCHNER, Ketevan BATSATSASHVILI & Gerald PAROLLY

Abstract: KÜRSCHNER, H., BATSATSASHVILI, K. & PAROLLY, G. 2013. Noteworthy additions to the bryophyte flora of Georgia. – *Herzogia* 26: 213–216.

Five new records, *Jubula hutchinsiae* subsp. *caucasica* (Marchantiophyta), *Anomodon tristis*, *Didymodon validus*, *Orthotrichum tenellum* and *Rhynchostegiella litorea* (Bryophyta) are first recorded for the bryophyte flora of Georgia. In addition, the presence of *Pogonatum neesii* (Bryophyta), which is absent from recent country-wide checklists of Georgia, is reconfirmed.

Zusammenfassung: KÜRSCHNER, H., BATSATSASHVILI, K. & PAROLLY, G. 2013. Beachtenswerte Ergänzungen zur Bryophytenflora Georgiens. – *Herzogia* 26: 213–216.

Für die Bryophytenflora Georgiens werden fünf Neufunde, *Jubula hutchinsiae* subsp. *caucasica* (Marchantiophyta), *Anomodon tristis*, *Didymodon validus*, *Orthotrichum tenellum* und *Rhynchostegiella litorea* (Bryophyta) mitgeteilt. Zusätzlich wird das Vorkommen von *Pogonatum neesii*, das in der neuesten Checkliste für Georgien fehlt, bestätigt.

Key words: Bryophyte diversity, Caucasus, liverworts, mosses, new records.

Introduction

The first comprehensive overview on the bryophyte flora of the Caucasus, including Georgia, was given by BROTHERUS (1892). A century later, this floristic basis was updated by the checklists of IGNATOV & AFONINA (1992) and KONSTANTINOVA et al. (1992), providing the state-of-the-art knowledge about bryophytes in the countries of the former USSR. Later, IGNATOV et al. (2007) gave an additional list, also covering records from the Caucasus. A first, although taxonomically and nomenclaturally slightly outdated Georgian bryophyte checklist was presented by CHIKOVANI & SVANIDZE (2004), totalling three hornworts, 171 liverworts and 638 mosses. In addition, they refer to a high number of varieties and formas, which do not deserve taxonomic recognition any longer in view of most authors.

Most recently, the bryoflora and -vegetation of the Caucasus is again in the focus of floristic and vegetation studies (cf. TIGISHVILI 2006, DOROSHINA 2011, ZÜNDORF 2011, KÜRSCHNER et al. 2012). With *Hygrohypnum eugyrium* (Schimp.) Broth. and *Hyocomium armoricum* (Brid.) Wijk & Margad., ZÜNDORF (2011) added two species to the flora, which were collected in the western part (Adjara, Mtirala National Park) of the country.

Here we add the six further records. The voucher specimens are kept at B, with duplicates at TBI and in the herbarium of H. Kürschner (Berlin).

Results – new records

MARCHANTIOPHYTA

Jubulaceae

Jubula hutchinsiae (Hook.) Dumort. subsp. *caucasica* Konstantinova & Vilnet

AUTONOMOUS REPUBLIC OF ADJARA: Mtirala National Park 20km east of Batumi, Chakvistavi, near National Park Headquarter, trail to Tsablarni waterfall, 41°40'07.5"N/41°53'22.8"E, c. 350 m, on wet rock in Colchic lowland forest, 23 September 2011 H. Kürschner & G. Parolly (11-219, 11-220); Jochostskali, 10km south-east of Batumi, near Jocho, 41°35'03.6"N/41°42'52.6"E, 150 m, on wet rock in Colchic lowland forest, 8 September 2009 H. Kürschner & G. Parolly (09-558, 09-567).

Although the taxon was recorded by BROTHERUS (1892) from Imereti (Georgia, Caucasus) as *Frullania hutchinsiae* (Hook.) Nees var. *integrifolia* (Nees) Lindb., it is absent in the checklist of CHIKOVANI & SVANIDZE (2004). Later, GUERKE (1978) treated most records from the Caucasus as *Jubula hutchinsiae* subsp. *javanica* (Steph.) Verd., a taxon of subtropical Southeast Asian origin. Recently, KONSTANTINOVA & VILNET (2011) have shown by DNA analysis that the samples recorded from the western Caucasus (Russia, Republic of Adygea) belong to a taxon of its own, and described the new subspecies *caucasica*, which might be conspecific with the record already mentioned by BROTHERUS (1892). Our new records from Adjara perfectly match the morphological characters given by KONSTANTINOVA & VILNET (2011) and therefore are allocated to the subsp. *caucasica*.

BRYOPHYTA

Anomodontaceae

Anomodon tristis (Ces.) Sull. & Lesq. [*Haplohymenium triste* (Ces.) Kindb.]

SAMEGRELO-ZEMO SVANETI: Kolkheti National Park near Poti, Shavi Ghele, Pichora river, 42°10'06.3"N/41°47'01.9"E, sea-level, on decaying wood in *Pterocarya fraxinifolia* relict riverine forests, 25 September 2011 H. Kürschner & G. Parolly (11-246).

At a first glance very similar to other *Anomodon* spp., however, characterized by fragile leaves, the tips often broken off.

Brachytheciaceae

Rhynchostegiella litorea (De Not.) Limpr. [*R. tenella* (Dicks.) Limpr. var. *litorea* (De Not.) P.W.Richards & E.C.Wallace]

KAKHETI: South of Sagaredjo, near David Gareji monastery, 41°27'11.4"N/45°22'13.8"E, 670 m, on decaying wood in *Stipa* steppe with *Paliurus spina-christi* scrub, 29 Sept. 2011 H. Kürschner & G. Parolly (11-291).

The species is not recorded by CHIKOVANI & SVANIDZE (2004). As it is closely related to *R. tenella* – some authors treated it only as a variety – it cannot be excluded that it is hidden under this taxon. Distinguishing characters are the short costa, not reaching the acumen of leaf, the weakly papillose seta (smooth in *R. tenella*) and the site ecology (usually corticolous versus mainly saxicolous in *R. tenella*).

Orthotrichaceae

Orthotrichum tenellum Bruch ex Brid.

KAKHETI: East of Tbilisi, near Bogdanovka, 41°38'59.3"N/45°52'45.7"E, 550 m, on bark of *Juglans regia*, 28 Sept. 2011 (11-261a); KAKHETI: Signaghi – Sagaredjo, near Jalanbani, 41°37'33.2"N/45°48'20.8"E, 780 m, on bark of *Carpinus orientalis*, 29 Sept. 2011 H. Kürschner & G. Parolly (11-276a).

Similar to a small *O. affine* Schrad. ex Brid., however, the calyptra is only weakly hairy and the capsule stomata are immersed. When dry, the leaf apices are characteristically incurved.

Polytrichaceae

Pogonatum neesii (Müll.Hal.) Dozy

Recorded from Georgia by AKATOVA & IGNATOV (2000), based on a collection from 1916 at the coastal zone of the Black Sea [ABRAMOVA & ABRAMOV (1955) sub *P. inflexum* (Lindb.) Sande Lac.]. Not included in the checklist of CHIKOVANI & SVANIDZE (2004).

Additional records: AUTONOMOUS REPUBLIC OF ADJARA: Mtirala National Park c. 20 km east of Batumi, near Khala-Chakvistavi, 41°40'48.3"N/41°52'16.8"E, c. 350 m, on open sandy-loamy slope near a trail in Colchic lowland forest, 6 September 2009 H. Kürschner & G. Parolly (09-502); Jochostskali, 10 km south-east of Batumi near Jocho, 41°35'04.8"N/41°43'02.6"E, 220 m, on open loamy slope in Colchic lowland forest, 24 September 2011 H. Kürschner & G. Parolly (11-236).

A central Asian species similar to *P. aloides* (Hedw.) P.Beauv. Distinguishing character are the apical cells of the leaf lamellae, which are elliptic, broadened and typically grooved in *P. neesii*, respectively rounded or rounded-oval in *P. aloides*. The closest locality to the Georgian sites is in the Russian Caucasus [Sochi District, Krasnodar Territory, Sochi river valley near Agva Creek mouth, 120 m, on south-east-facing clayish soil bank along road, leg. T. V. Akatova, 19 August 1996 (MW, MHA), cf. Akatova & Ignatova 2000]. Given also from Turkey (ÇETIN 1988), but without locality.

Pottiaceae

Didymodon validus Limpr. [*D. rigidulus* Hedw. var. *validus* (Limpr.) Düll; *D. rigidulus* Hedw. subsp. *validus* (Limpr.) Loeske]

KAKHETI: South of Sagaredjo, near David Garedji monastery, 41°27'11.4"N/45°22'13.8"E, 670 m, on rock in *Stipa* steppe with *Paliurus spina-christi* scrub, 29 Sept. 2011 H. Kürschner & G. Parolly (11-296).

Easily recognized by the multicellular, spherical or elliptical gemmae, borne on branched rhizoids in the axils of leaves. Closely related to *D. rigidulus* and often treated only as a subspecies or variety (DÜLL 1992, KUČERA 2000). The lamina cells, however, are smooth and the leaf margins unistratose, providing sufficient characters to maintain it at the species level (cf. JIMÉNEZ 2006).

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