



New national and regional bryophyte records, 72

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1. *Anomodon rugelii* (Müll.Hal.) Keissl.

Contributors. A. Opmanis, A. Mežaka and B. Papp

Latvia. (1) Ogre region, Mazozoli municipality. In Nāruža Creek, 56°55′48.108″N, 25°32′16.332″E, on flooded stones, 24 June 2021, *leg.* and *det.* A. Opmanis *s.n.*; (2) *Ibidem*, on a stone in the water: around 20 cm from the basal part of the stone in pile of stones of natural origin, 17 July 2022, *leg.* and *det.* A. Mežaka *s.n.*, *conf.* Beāta Papp (DAU 501006).

Anomodon rugelii is a panholarctic boreal montane disjunct species (Düll 1991), widely distributed in Eastern Asia but rare in Europe. Rather common in the eastern part of the United States of America and in Canada, it grows on shady rocks and tree bases (Ignatov and Ignatova 2003; Frey et al. 2006; Puglisi and Privitera 2018). The nearest known record to this one is in Estonia, where the species is categorised as Vulnerable (Hodgetts and Lockhart 2020). In Europe it is Red Listed as Near Threatened and it is Vulnerable in the territory of the European Union (28 countries) due to its very small population size (IUCN criteria: D1) (Hodgetts et al. 2019). The species was found and identified for the first time in Latvia in Nāruža Creek on one of a pile of stones by Ansis Opmanis on 24 June 2021, although this specimen remains in the collector’s personal herbarium. Anna Mežaka revisited the same locality on 17 July 2022 and found *A. rugelii* on three stones. The average patch size on a single stone was around 225 cm², the pile of stones

being surrounded by mixed deciduous and coniferous forest.

2. *Dicranella callosa* (Hampe) Mitt.

Contributors. M. Burghardt, J. V. Montoya and C. Villamarín

Ecuador. (1) Napo Province, Archidona County, Archidona Parrish, Área de Conservación Hídrica Antisana, Sector Humedal Pugllohuma, 4104 m a.s.l., 0° 30′09.22″S, 78°12′51.08″W (WGS 84), terricolous in the splash zone of a rivulet in marshy paramo, 08 August 2022, *leg.* M. Burghardt, J. V. Montoya and C. Villamarín 11253a, *det.* M. Burghardt (QCNE); (2) Pichincha, Metropolitan District Quito, Parrish Amagüaña, Volcán Pasochoa, way down from the Central Hidroeléctrica Pasochoa, ridge E of Quebrada Langulahu, vicinity of Hacienda San Francisco, 3098 m a.s.l., 0° 24′40.13″S, 78°28′31.85″W (WGS 84), secondary vegetation in steep roadcut, on wet soil, 05 December 2018, *leg.* and *det.* M. Burghardt 9895 (QCNE).

Dicranella callosa is a tropical Andean species known from Colombia and Bolivia (Churchill et al. 2000), and we report it here for the first time from Ecuador. In sterile plants, as is the case with the Napo collection cited above, the subulate leaves tapering from an oblong to ovate, loosely sheathing leaf base; distant foliation; entire leaf margins with only the extreme tip faintly denticulate; strong, percurrent

costa, and elongate leaf cells with some much shorter marginal cells creating a weak border, allow identification as *Dicranella callosa*. While the Pichincha plants grew in pure patches on well-irrigated soil, the Napo plants were found intermingled with *Fossombronina peruviana* Gottsche & Hampe, *Pohlia* Hedw. sp. and *Microleptodontium stellaticuspis* (E.B.Bartram) R.H.Zander in the splash zone of a rivulet.

3. *Mawenzhangia thamnobryoides* Enroth, Shevock & Ignatov

Contributors. M. Bhandari, R. Arya, J. Enroth, S. D. Tewari and P. Joshi

India. Western Himalaya, Uttarakhand, Kumaun region viz., Lohaghat, 1600–1700m a.s.l., 26th September 2019, *leg.* M. Bhandari *ML* 75 (H), and Nainital, oak-conifer mixed forest, 2400 m a.s.l., 14th June 2022, *leg.* R. Arya *ROC* 79 (Herb. Dept. Botany, Indira Priyadashini Govt. Girls Degree College of Commerce, Haldwani, Nainital Uttarakhand, India).

Mawenzhangia thamnobryoides is the sole representative of its genus. It was first described from the Shangri-la region of Yunnan Province, China (Enroth et al. 2018) and has not so far been reported from anywhere else. It belongs in the Lembophyllaceae and is closely related to the widely distributed *Nogopterium gracile* (Hedw.) Crosby & W.R.Buck, but morphologically differs by several characters, such as the possession of elliptic rather than ovate leaves, with a much longer, single costa, thinner-walled and less strongly prorate laminal cells, and a much smaller group of alar cells. The sporophytes remain unknown, but the species propagates asexually by means of flagelliform branchlets, present in the Chinese as well as in the Indian specimens reported here.

The Chinese plants were growing at 3170 m a.s.l. on the base of a *Picea* trunk, just above the high-water zone where they were apparently periodically submerged. The Indian specimens were collected at 1600–1700 and 2400 m a.s.l. from the bases of *Cedrus deodara* trunks, the bark of which is quite acidic (pH c. 5.6–6.3). Thus *Mawenzhangia thamnobryoides* appears to be restricted to conifer bark or at least to favour that substrate. The localities in Lohaghat and Nainital are ca. 220 km apart. In Uttarakhand, the species was associated with the liverworts *Frullania muscicola* Steph. and *Microlejeunea* sp., and the mosses *Fissidens* sp., *Anoetangium bicolor* Renaud & Cardot and *Anomodon minor* (Hedw.) Lindb.

4. *Philonotis seriata* Mitt.

Contributors. O. M. Afonina and A. S. Etylina

Russia. Arctic Far East, Chukotka Peninsula: (1) Mechiginskaya Bay, valley of Kukun' River, 13 km from Lorino Settlement, Lorino hot springs, 65°34'42"N,

171°29'32"W, 4 m a.s.l., moss community with *Pohlia wahlenbergii* (F.Weber & D.Mohr.) A.L.Andrews along shore of small lake near a stream with hot water, 23 July 2021, *leg.* O. M. Afonina # 3921(LE B0025603); Lorino hot springs, 65°34'49"N, 171°29'54"W, 82 m a.s.l., nival moss community near snow bed at base of slope near stream with warm water, forms cushions with admixture of *Straminergon stramineum* (Dicks. ex Brid.) Hedenäs, 23 July 2021, *leg.* O. M. Afonina # 3721 (LE B0025605); idem, willow thicket along stream with warm water, associates with *Rhytidiadelphus subpinatus* (Lindb.) T.J.Kop., *Straminergon stramineum*, *Dicranella* sp., *Pohlia* sp., 23 July 2021, *leg.* O. M. Afonina # 3621(LE B0025606); Lorino hot springs, 65°34'35"N, 171°29'22"W, 59 m a.s.l., moss community along stream, 16 July 2020, *leg.* A. S. Etylina s.n. (LE B0025604). (2) Providenia District, near Bering Sea, valley of Ul'khum River, Chaplin hot springs, 64°26'05"N, 172°31'20"W, 30 m a.s.l., willow thicket (*Salix pulchra* Cham.), associates with *Pseudobryum cinclidioides* (Huebener) T.J.Kop., *Straminergon stramineum*, 3 August 2021, *leg.* A. S. Etylina. # 274 (LE B0025607).

Philonotis seriata is a predominantly Western-Palearctic species. It is known in Europe, in the mountains of North Africa and the countries of the Middle East, the Caucasus and in Central Asia, where there are separate locations in Afghanistan, Kashmir and China. In Russia the species occurs in Murmansk Province, Karelia, The Komi Republic, the Urals, the Caucasus, Yamal-Nenets Autonomous District, the Altay, Khakassia and Buryatia (Koponen and Ignatova 2018). This find of *P. seriata* on the Chukchi Peninsula is the northernmost in Russia.

5. *Pterygoneurum subsessile* (Brid.) Jur.

Contributor. D. Ya. Tubanova

Russia, Republic of Buryatia, National Park "Tunkinskiy", Tunkinsky District, Tunkinsky Ridge, approximately 9 km NW of Mondy Village, Sagan Shuluuta River, carbonate cliff's eastern exposure, 51°42.801'N, 100°52.688'E, 1537 m a.s.l., on rocks, 16 July 2022, *leg.* D. Ya. Tubanova # T222907 (UUH).

This is the first report of *Pterygoneurum subsessile* for Buryatia. It is a species of harsh environments, growing in steppe and on rocky slopes. The nearest other locations for the species are a few places in the steppe area of the Irkutsk Region and Zabaikalsky Territory (Bardunov 1969; Afonina et al. 2017). The population recorded here was with sporophytes.

6. *Riccia atropurpurea* Sim

Contributors. D. A. Callaghan, C. Ah-Peng and C. Reeb
La Réunion. Bélouve, Saint-Benoît, 21°05'34.1"S, 55°32'59.6"E, 1525 m a.s.l., on unshaded, damp soil in

shallow depression at edge of gravel carpark beside montane tropical cloud forest, with *Anomobryum julaceum* (Schrad. ex P.Gaertn., B.Mey. & Scherb.) Schimp., 21 April 2022, leg. D. A. Callaghan *s.n.*, det. C. Reeb (PC).

Riccia atropurpurea occurs widely across sub-Saharan Africa (Perold 1995; Wigginton 2018) and is common in parts of Madagascar (Reeb et al. 2018), but until now had not been reported from the Mascarene Islands. The plants were without sporophytes, but the gametophytes were typical of the species, being medium-sized, glaucous green and with ventral scales that are purple-black with a conspicuous hyaline margin.

7. *Schistidium elegantulum* H.H.Blom subsp. *elegantulum*

Contributors. P. Širka and J. Kučera

Slovakia. Nízke Tatry Mts, Liptovské Sliache (distr. Ružomberok), SW slope of the Čeremošná valley, spruce (*Picea abies* (L.) H.Karst.) forest, on limestone rock, 49°01'47"N, 19°23'33"E, 850 m a.s.l., 9 August 2021, leg. P. Širka *s.n.*, det. J. Kučera (CBFS).

Schistidium elegantulum is a fairly common species, although it was not recognised as separate from *S. apocarpum* (Hedw.) Bruch & Schimp. until Blom (1996) revised the *S. apocarpum* complex in Norway and Sweden. Even in his preliminary account, it was suggested that the species occurred in most European countries except for those in the most pronouncedly Mediterranean part of the continent, where the taxon is largely replaced by *S. elegantulum* subsp. *wilsonii* H.H.Blom. Although records of *S. elegantulum* have constantly accumulated over the last two decades, resulting in nine countries being added to the list of European country records (Hodgetts and Lockhart 2020), Slovakia has remained devoid of confirmed occurrences (Mišíková et al. 2020), probably due to the absence of a dedicated search for species of this taxonomically difficult genus. We expect that the species is not rare throughout the country due to the abundance of suitable substrates and the pattern of occurrence in neighbouring countries.

8. *Sphagnum palustre* L.

Contributors. R. Gabriel and C. F. S. Picanço

Portugal. Azores, Graciosa Island, Caldeira, growing on a boggy grassland, surrounded by a *Cryptomeria japonica* (Thunb. ex L.f.) D.Don plantation, and near *Juncus effusus* L., *Osmunda regalis* L. and *Paspalum distichum* L. other bryophyte species growing in the area include *Hypnum jutlandicum* Holmen & E.Warncke, 39°01'38.88"N, 27°58'23.74"W, ca. 161 m a.s.l. 11 August 2021, leg. Carlos F. S. Picanço *s.n.*, det.: R. Gabriel CFSP_20210811/01 (AZU).

This is the first record of the genus *Sphagnum* L. for Graciosa Island (Azores, Portugal) (Gabriel et al. 2010). Graciosa is the second smallest Azorean island (61 km²) and the flattest, with the highest point reaching 405 m a.s.l. The absence of marked topography is related to the island's relative dryness – its annual precipitation averages less than 900 mm per year (Forjaz 2004) – and relatively small number of habitats and species. Bryologically, Graciosa Island may be the least studied of all Azorean Islands. In the past it was visited by William Trelease (Trelease 1987), then by a number of collectors including Rui Telles Palhinha and Luiz G. Sobrinho (e.g. Sérgio 1974), but until the one-month investigation made by Erik Sjögren in 1978 (Sjögren 1990) the total number of known bryophyte species was less than 20, while the figure was 131 in 2010 (Gabriel et al. 2006, 2010). The present discovery of a patch of roughly 60 m² (9 m × 7 m) of *Sphagnum palustre* on Graciosa Island adds a new habitat to the island, and since all species of *Sphagnum* have been protected by regional law since 2012 (DLR n.º 15/2012/A of 2nd of April), the bog on the bottom of the Caldera will be an additional asset to Graciosa. In the future it will be interesting to study the evolution of the area and the volume of the patch, and whether other species associated with bog-mosses occur there.

9. *Syrhobodon exostratoides* L.T.Ellis

Contributor. L. T. Ellis

Philippines. (1) Mindanao Island Davao Oriental, San Isidro, Barangay La Union, Sitio Tumulite, Mt. Hamiguitan Range Wildlife Sanctuary, trail going to Susong Dalaga, 06°42.6'6"N, 125°11'24.1"E, 1293 m a.s.l., 12 August 2019, leg. A. P. Yorong 214 (with N. E. Lagunday and D. N. Tandang) det. L. T. Ellis (BRIT, BUKH, CAS, CMUH, MO, PNH); (2) ibidem, Mt. Hamiguitan Range Wildlife Sanctuary, slope trail at the middle portion of Susong Dalaga, 06°42'16.4"N, 125°11'23.8"E, 1295 m a.s.l., 12 August 2019, leg. A. P. Yorong 241 (with N. E. Lagunday and D. N. Tandang) det. L. T. Ellis (BRIT, CAS, CMUH, MO, PNH).

Hitherto, *Syrhobodon exostratoides* was known from only five specimens (including the type) collected on Gunung Api in Gunung Mulu National Park, Sarawak. These occurred at 1000–1500 m a.s.l. on limestone rock, humus or as an epiphyte (Ellis 2016). The present collections of *S. exostratoides*, the first from outside of the type locality, and therefore representing a species new to the Philippines, occurred in tropical mixed hardwood mossy forest at 1293–1295 m a.s.l., on the bases and trunks of hardwood trees.

Syrhobodon exostratoides is superficially similar in appearance to *S. confertus* Sande Lac., but unlike the latter has an *Exostratum*-like arrangement of hyaline

and chlorophyllose cells in the leaf lamina, and the laminal chlorophyllose cells are mostly exerted as simple or multifid spines rather than as the pluripapillose projections characteristic of *S. confertus* (Ellis 2016).

10. *Thamnomalia glabella* (Hedw.) S.Olsson, Enroth & D.Quandt

Contributors. W. R. Álvaro Alba and A. M Aponte Rojas
Colombia. Caquetá, Municipio de Morelia. Vereda Sinaí. Parcela permanente DIE. 01°24'3,0"N, 75°43'49,1"W, 283 m a.s.l., 5 October 2015, *leg.* N. L. Marín Canchala and D. Cárdenas 2510 (COAH-5812).

Homalia glabella (Hedw.) Schimp. was transferred to the new genus *Thamnomalia* by Olsson et al. (2011), together with *Thamnobryum tumidicaule* (K.A.Wagner) F.D.Bowers, since in phylogenetic analyses the two species formed an obviously divergent branch. *Thamnomalia glabella* (Neckeraceae) is characterised by large-sized plants, filamentous pseudoparaphyllia, short, double costae, mucronate, strongly serrate leaf apices, and by linear-rhomboidal median leaf cells (He 1997). Its distribution includes Brazil, Venezuela, and several Central American countries (He 1997; Olsson et al. 2011). Recently it was also reported for Paraguay (Cañiza et al. 2016) and Argentina (Valdés et al. 2021), so its presence in Colombia was considered highly probable by Churchill et al. (2020). When searching for Colombian specimens of *Homalia glabella*, both in GBIF and in the Universidad Nacional-Biovirtual, they reported the specimens of this species in the collection of the Herbario Nacional Colombiano (COL), one from the department of Tolima and another from Quindío; however, when reviewing these specimens, it was determined that they really correspond to *Neckeropsis disticha* (Hedw.) Kindb. and *Chrysoblastella chilensis* (Mont.) Reimers, respectively. In Colombia, this pleurocarpous moss is recorded for the first time for the Amazon region, occurring in forest on tree bark.

11. *Weissia jamaicensis* (Mitt.) Grout

Contributors. A. C. Cottet and M. I. Messuti
Argentina. Santa Cruz province, Parque Nacional Monte León, 50°20'64.61"S, 68°53'31.1"W, 20 m a.s.l., on soil, 3 December 2019, *leg.* A. C. Cottet *s.n.* (BCRU).

Specimens of *Weissia jamaicensis* were collected within the Patagonian phytogeographic region, which includes plateaux and low mountains with sandy-stony soils, poor in organic matter. The climate is cold and dry and the rainfall ranges between 100 and 300 mm per year (Arana et al. 2021). Species of *Weissia* Hedw. typically develop on soil in disturbed environments in montane or submontane regions of

the world (Gradstein et al. 2001). In Argentina, in the northern, central and southern regions of the country, six species have been recorded: *Weissia argentinica* Müll.Hal., *W. canaliculata* Hampe, *W. controversa* Hedw., *W. lorentzii* (Müll.Hal.) R.H.Zander, *W. patagonica* Cardot & Broth. and *W. semi-involuta* Müll.Hal. (Matteri 2003).

Weissia jamaicensis is distinguished from other species of *Weissia* by having long, linear-lanceolate leaves with a broad base composed of hyaline cells, which sometimes extend up the leaf margins to form a v-shaped interface with the chlorophyllose lamina (Allen 2002). The species was previously reported from North, Central and South America, including Mexico, the West Indies, and Bolivia (Cano et al. 2008). This new record for Argentina occurred in a similar habitat to ones in which the species has previously been recorded in the Southern Hemisphere.

12. *Zygodon ehrenbergii* Müll.Hal.

Contributors. F. Lara, A. L. Mateo Jiménez and I. Draper

Dominican Republic. (1) Santiago, Cordillera Central, Armando Bermúdez National Park, path to Pico Duarte, around the camp La Compartición, 19°02'15"N, 070°58'10"W, 2480 m a.s.l., epiphytic on *Garrya fadyenii* Hook. in a *Pinus occidentalis* Sw. forest glade, 19 October 2021, *leg.* F. Lara 2110/32, with A. L. Mateo Jiménez and I. Draper (UAM) (2) Ibidem, on a regrown *Garrya fadyenii* Hook. stump in pine forest glade, 19 October 2021, *leg.* I. Draper 211010, with A. L. Mateo Jiménez and F. Lara (UASD).

Zygodon ehrenbergii is a widespread species in Mexico (Vitt 1994) that also occurs in several Central American countries (Allen 2002), having its southern known limit in Colombia (Churchill and Linares 1995). It is mainly an epiphyte of tropical mountains, between 1800 and 3600 m a.s.l. (Vitt 1994; Allen 2002). To date, *Z. ehrenbergii* has not been reported from Hispaniola (Buck and Steere 1983; Sastre-De Jesús et al. 2010), the island with the highest altitude in the Caribbean, nor from any other territory in the West Indies.

Zygodon ehrenbergii is a relatively robust moss that can be distinguished by its striking propagules and characteristic leaves. Brood bodies are abundantly produced, clavate to fusiform, rounded at the ends, with both transverse and vertical septa, green with reddish-brown walls. The leaves are linear-lanceolate, irregularly twisted when dry, somewhat undulate at the margins, with a bright whitish conspicuous costa in dorsal view. The specimens from Pico Duarte invariably have leaves with entire margins, although both in Mexico and Central America some leaves in each

population characteristically show a few teeth near the apex (Vitt 1994; Allen 2002).

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