

The village of Cák is on the western border of Hungary. In the small quarry mainly pebbly conglomerate rocks are present consisting of dolomite, limestone, marly limestone, schist, and gneiss. *Gymnostomum viridulum* was found at the foot of large vertical walls with a large number of axillary gemmae, and the individuals were embedded in a cyanobacterial crust. A second specimen of the same species was found in material collected inside the capital territory of Hungary, in a small nature reserve that holds many rare species of dolomitic rocky grasslands. Some historical collections have also been made at this locality and a revision of *Gyroweisia* specimens has led to the conclusion that the species has been present on the hill since the 1950s. The label of the earliest of these specimens reads as follows: Comit. Pest, in pedem montis Sashegy, Budapest. 25.06.1954, leg. et det. L. Vajda as *Gyroweisia tenuis* (Hedw.) Schimp., rev. B. Papp (25.12.2008) (BP, no. 27463).

A further historical *Gyroweisia* specimen from the herbarium of the Hungarian Natural History Museum, Budapest, was also revised as *Gymnostomum viridulum*. The collection data read as follows: Comit. Komárom, in rupibus calcareis supra pag. Dunaalmás [Komárom-Esztergom County, on limestone rocks at Dunaalmás village], 150 m a.s.l. 28.04.1942, leg., det. Á. Boros, as *Barbula convoluta* Hedw., rev. I. Galambos (13.12.1983) as *Gyroweisia tenuis* (Hedw.) Schimp., rev. B. Papp (25.12.2008) (BP, no. 105454).

It is clear that this species was mistaken for *Gyroweisia tenuis* by earlier Hungarian bryologists, and has been present in the country at least since the 1940–50s.

14. *Hygroamblystegium fluviatile* (Hedw.) Loeske

Contributors: Manuela Sim-Sim, Leena Luís and Michael Stech

Portugal: AZORES: Ilha das Flores (Flores Island), Poço do Bacalhau, on wet rocks close to the waterfall, 25SFD5070, ca 50 m a.s.l., 9 September 2008, leg. Manuela Sim-Sim (LISU), s.n.

Hygroamblystegium fluviatile is a sub-oceanic species, with a wide distribution (Dierssen, 2001). However, this is the first reference for the Azores bryoflora, although the species is already known in Macaronesia, from Madeira and the Canary Islands (Sjögren, 2001). It was collected on Flores Island, growing on very wet rocks close to the foot of a waterfall above a natural pool on the western side of the island. The adjacent vegetation is a remnant of the natural forest, and it was associated with other hygrophytic species such as *Conocephalum conicum* (L.) Dumort., *Homalia webbiana* (Mont.) Schimp and *Pellia epiphylla* (L.) Corda.

15. *Lophocolea variabilis* Schiffn.

Contributors: J. Váňa, R. Ochyra, M. Lebouvier, B. Cykowska and H. Bednarek-Ochyra

Île Amsterdam: south-western coast of the island between pointe d'Entrecasteaux and pointe del Cano, 29 m a.s.l., 37°51'45.986"S, 77°31'57.137"E, on ground in tufts of *Dicranoloma subconfine*, 6 December 2007, leg. M. Lebouvier A076/5 (KRAM).

Île Saint-Paul: Le Dos de Chèvre on the north-eastern side of the island above Crête de la Novara, ca 230 m a.s.l., 38°42'39.01"S, 77°31'35.512"E, on ground in tufts of *Campylopus incrassatus*, 21 November 2007, leg. M. Lebouvier S005/1 (KRAM).

Lophocolea variabilis, which under the broadly conceived genus *Chiloscyphus* bears the name *C. werthii* J.J.Engel & R.M.Schust., is a rare species which has hitherto been known only from a few records from Îles Kerguelen (Schiffner, 1906; Váňa & Gremmen, 2006). Now its range is extended to two small isolated islands in the South Indian Ocean, namely Île Saint-Paul which lies some 1400 km north of Îles Kerguelen and Île Amsterdam which is situated some 75 km to the north from the former. This discovery makes the phytogeographical status of this species a little uncertain and it may be considered as a south-cool-temperate species slightly penetrating into the Subantarctic. The discovery of this species increased to nine the number of hepatics known from Île Saint-Paul (Grolle, 2002).

16. *Lophozia lancistipa* (Grolle) R.M.Schust.

Contributor: J. Váňa

Heard Island: lower part of high scree slope below Round Hill, in mossy *Azorella* fieldmark vegetation, ca 20 m a.s.l., 13 December 2000, leg. N. J. M. Gremmen H-0332 (ADT, PRC).

Lophozia lancistipa was described (as *Andrewsianthus lancistipus* Grolle) from subantarctic Marion Island (Grolle, 1971). Subsequently it was discovered in Prince Edward Island (Gremmen, 1982; Grolle, 2002; Schuster, 2002), on Île de la Possession in Îles Crozet (Grolle, 2002) and on Île Australia in Îles Kerguelen (Váňa & Gremmen, 2006). The range is here expanded to Heard Island; the above mentioned specimen was formerly incorrectly determined as *Lophozia leucorhiza* (Váňa & Gremmen, 2005). With the discovery of this species in Heard Island the known liverwort flora of this island increased to 19 species (Váňa & Gremmen, 2005). The species is a typical example of a subantarctic species endemic to the Kerguelen Province.

17. *Orthothecium intricatum* (Hartm.) Schimp.

Contributors: B. Papp, Cs. Németh and M. Sabovljević

Albania: DISTRICT OF KORÇE (RETHI I KORÇËS): ca 1.6 km northwest of village 'Vithkuq', in the limestone gorge of 'Osum' river, 40.53772°N, 20.56922°E, ca 1250 m a.s.l., 27 May 2007, leg. Z. Barina, D. Pifkó, Cs. Németh 11856/4, det. B. Papp (BP, no. 175978).

This taxon is absent in the bryophyte checklist of Albania (Colacino & Sabovljević, 2006), although the occurrence of this calcicolous, boreal montane species is a predictable discovery as there are large, high limestone mountain ranges in the country. According to the checklist of the mosses of South-Eastern Europe (Sabovljević *et al.*, 2008) it is known from all Balkan countries except the European part of Turkey and Albania.

18. *Orthotrichum sordidum* Sull. & Lesq.

Contributors: V. Plášek

Tajikistan: Dushanbe city, central park, bark of *Platanus orientalis*, GPS coordinates (WGS 84): 38°34'51"N, 68°46'97"E, ca 900 m a.s.l., 12 June 2008, *leg. V. Plášek (OP)*, *s.n.*

The specimen cited above is the first record of this epiphytic moss from Tajikistan. In Middle Asia it has been reported only from Kazakhstan (Mamatkulov, Baitulin & Nesterova, 1998) and Russia, Armenia and Kyrgyzstan (Ignatov, Afonina & Ignatova, 2006). In Tajikistan it was recorded in the central park of the capital city Dushanbe, growing vertically on bark of *Platanus orientalis* at a height of 120 cm above ground, with a NE exposure. The size of the population was 10 cm². Associated species were *Orthotrichum affine* Schrad. ex Brid., *O. anomalum* Hedw. and *O. obtusifolium* Brid.

19. *Plagiobryum zieri* (Hedw.) Lindb.

Contributors: B. Papp, Cs. Németh and M. Sabovljević

Albania: DISTRICT OF KORÇE (RETHI I KORÇËS): Grammos Mountains (Mali i Grammozit), ca 3.8 km southwest of village Dardhë, northern slope of Mount 'Mali Kuk', 40.49722°N, 20.79204°E, on serpentine rock, ca 1555 m a.s.l., 21 May 2007, *leg. Z. Barina, D. Pifkó, Cs. Németh 11512*, *det. B. Papp (BP, no. 175979)*.

Plagiobryum zieri is not known from Albania according to the recent checklist of the country (Colacino & Sabovljević, 2006). The presence of this subarctic, subalpine species in the high mountains of the country is not a surprise. It is reported from almost all the Balkan countries except the European part of Turkey, Greece and Albania (Sabovljević *et al.*, 2008).

20. *Plagiomnium undulatum* var. *madeirense* T.J.Kop. & Sérgio

Contributors: Michael Stech, Manuela Sim-Sim, Soraia Martins and Cecília Sérgio

Portugal: AZORES: Ilha das Flores (Flores Island), Alto do Mosteiro, above Caldeira Funda, wet rock by the road, ca 500 m a.s.l., 11 September 2008, *leg. M. Stech 08-423 (L)*.

Plagiomnium undulatum var. *madeirense* was previously known only from Madeira Island (Koponen & Sérgio, 2001). The present collection from Flores Island is the first report of this variety for the Azores. According to the present distribution, *P. undulatum* var. *madeirense* must thus be considered as a Macaronesian endemic taxon. The status of var. *madeirense* needs further study, as it could not be separated from var. *undulatum* by nuclear ribosomal ITS sequences (Stech & Sim-Sim, 2006). At the respective locality on Flores Island, large plants with long-decurrent leaves and wide laminal cells, referred to var. *madeirense*, grew together with smaller plants resembling var. *undulatum*, as well as with extensive mats of large plants of *Calliergonella cuspidata* (Hedw.) Loeske.

21. *Pohlia lescuriana* (Sull.) Ochi

Contributor: B. Papp

Hungary: BORSOD-ABAÚJ-ZEMPLEN COUNTY: Serényfalva-Kelemér forest reserve at Kelemér village, 48°20'27.8"N, 20°26'13.9"E, in a planted Piceetum in the buffer zone, ca

330 m a.s.l., 6 July 2006, *leg. P. Ódor, E. Szurdoki, det. B. Papp, conf. P. Erzberger (BP, no. 176042)*; GYÖR-MOSON-SOPRON COUNTY: Ásványráró branch-system of the Danube at Szigetköz region near Ásványráró village, 47°51'07.9"N, 17°31'14.6"E, ca 115 m a.s.l., 24 September 2008, *leg. et det. B. Papp, conf. P. Erzberger (BP, no. 176043)*.

The species was identified in 2008 during elaboration of material collected from the Serényfalva-Kelemér forest reserve during systematic sampling in the framework of the bryophyte community monitoring project, part of the Hungarian National Biodiversity Monitoring System (Papp, Ódor & Szurdoki, 2005). The specimen from Ásványráró was also found during a monitoring project, in the branch-system of the Danube. This species is absent from the checklist of Hungary (Erzberger & Papp, 2004). It is assumed that it was overlooked or mistaken for a *Bryum* species with rhizoidal gemmae, and it is expected that thorough sampling in the future will reveal additional localities.

22. *Polytrichum piliferum* Hedw.

Contributors: R. Ochyra and M. Lebouvier

Îles Kerguelen: GRANDE TERRE: Presqu'île Bouquet de la Grye: Port Couvreur, 1 km north-west of the hut, cliffs on the right side of the stream, 49°16'54.7"S, 69°41'24.4"E, ca 50 m a.s.l., on spots of soil on dry and exposed slope covered with *Festuca contracta*, *Agrostis magellanica*, *Acaena magellanica* and scattered *Azorella selago*, 19 November 2006, *leg. R. Ochyra 428106 (KRAM)*.

Polytrichum piliferum is a bipolar species, widespread throughout the Holarctic and scattered in the cool-temperate and cold regions in the Southern Hemisphere, with some transitional stations in tropical and southern Africa and on the Hawaiian Islands. Ochyra, Lewis Smith & Bednarek-Ochyra (2008) indicate the occurrence of this species on Îles Kerguelen but no reference to the source of this record is given. The species was collected by the authors at several stations on Grande Terre and on islands in Golfe du Morbihan during the 2006/2007 mission, sometimes growing in great abundance. Here, an exemplary record is cited to substantiate the dot on the map of its global distribution in *The illustrated moss flora of Antarctica*.

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

Contributor: Özlem Tonguç Yayıntaş

Turkey: NIĞDE-ÇAMARDI: Emli Valley, near the village of Çamardı T 844 (37°50'N, 34°58'E), ca 670 m a.s.l., on open, dry soil, 2 November 2000, *leg. Özlem Tonguç Yayıntaş (Çanakkale Onsekiz Mart University Herbarium, MO), s.n.*

Pterygoneurum subsessile has a wide distribution in North and South America, North Africa, Europe and Asia. It is known from areas close to Turkey, such as Israel and Syria (Heyn & Herznstadt, 2004), Georgia and Azerbaijan (Ignatov, Afonina & Ignatova, 2006) and the Mediterranean area. According to the recent Turkish checklists (Uyar & Çetin, 2004; Kürschner & Erdağ, 2005) *P. subsessile* has not previously been recognized in the country.