Bryological Note

New national and regional bryophyte records, 27

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1. ***Brachymenium sikkimense*** Renauld & Cardot

Contributors: P. Bansal, V. Nath and N. Pande.

India: Western Himalaya, Uttarkashi District, between Sankhri and Taluka, growing on soil, *ca* 3333 m a.s.l., 17 June 1989, *leg.* V. Nath *s.n.* (LWG no. 204824); Har Ki Dun, on way to Osla, growing on soil, *ca* 3333 m a.s.l., 20 June 1989, *leg.* V. Nath *s.n.* (LWG no. 204861); Har Ki Dun, growing on soil, *ca* 3333 m a.s.l., 22 June 1989, *leg.* V. Nath *s.n.* (LWG no. 204919).

Brachymenium sikkimense, an acrocarpous moss, belongs to the family Bryaceae in the order Bryales and has been considered to be endemic to eastern Himalaya (Darjeeling). The genus is cosmopolitan in distribution and represented by about 170 species from all over the world (Gangulee, 1974). There are about 22 species in East Asia (Ochi, 1985) and about 25 species in India (Chopra, 1975). Lal (2005) in a checklist of Indian mosses reported only 14 species of the genus.

Ochi (1956) worked on the northwestern Himalayan mosses and reported *B. himalayanum* from Mussoorie whilst Chopra (1961) reported *B. weissia* and *B. nepalense* from Nainital. Later on Tewari and Pant (1994) reported *B. ochianum* from Kumaun Himalaya. The present investigation deals with the occurrence of *Brachymenium sikkimense* in the Uttarkashi District and its first report from western Himalayan territory. The species has a small, gregarious to densely tufted habit; a short red stem, ± 3 mm high with subfloral innovations. The leaves are compact along the stem, small, ovate to ovate–lanceolate, ± 0.7–0.8×0.3–0.4 mm, acuminate, with an entire margin that is recurved in the lower half of the leaf; the costa is excurrent. Apical leaf cells are rhomboid–hexagonal, ± 28–31×6–8 μm, basal leaf cells are rectangular, ± 33–35×9–10 μm, and a row of cells at the margin form a distinct border.

2. ***Bryum gemmilucens*** R.Wilczek & Demaret

Contributor: T. Hallingbäck.

Sweden: Dalsland, Skållerud parish, Ryr peninsula, on calcareous soil, 58°48′10.34″N, 12°28′13.26″E, 21 October 2008, *leg.* T. Hallingbäck *TH 46842*, *det.* David T. Holyoak (S).

This is the first record of *Bryum gemmilucens* for Sweden and also for Scandinavia.

3. ***Campylopus anderssonii*** (Müll.Hal.) A.Jaeger

Contributor: G.M. Suárez.

Peru: Cuzco, Municipio de Machu Picchu, 13°10′S, 72°32′W, 2720 m a.s.l., 11 January 2009, *leg.* G. Suárez *576* (LIL). **Bolivia:** Santa Cruz. Florida, Municipio Mairana, 23 km nordeste de Mairana,

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Bosque nublado secundario, con arbustos, poco helecho arbóreo, musgo sobre humus, 18°03′S, 63° 54′W, 2100–2300 m, 30 March 2002, *leg.* S. Churchill *et al. 21428* (LIL, MO).

The neotropical moss *C. anderssonii* is present in Mexico, Guatemala, Honduras, Costa Rica, Panamá (Allen, 1994), Venezuela, Colombia, Ecuador, Bolivia, and the Galapagos Islands (Frahm, 1991). This record for Peru completes the range of this species in the Neotropical countries of the Andean region.

In Peru, *C. anderssonii* occurs in the 'Ceja de selva', which is a forested environment, moist and warm, constantly covered by fog and rain. It grows on rocks in exposed banks, together with *Thuidium tomentosum* Besch., *Polytrichum juniperinum* Hedw., *Campylopus pilifer* Brid., and *Pogonatum campylocarpum* (Müll. Hal.) Mitt.

Although varying strongly according to its habitat, its long subulate leaves with subquadrate cells in the basal lamina, and serrate leaf tip are diagnostic characters for this species.

While *C. anderssonii* was listed as present in Peru (Delgadillo *et al.*, 1995), the above-mentioned is the first confirmed record for this country.

4. ***Cololejeunea distalopapillata*** (E.W.Jones) R.M. Schust.

Contributors: M. Infante and R. Medina.

South Africa: Western Cape, North of Knysna, Diepwalle forest. 33°57′47″S, 23°09′10″E, 440 m a.s.l. Epiphyllous on shrub leaves inside the forest, 25 August 2009, *leg.* R. Medina *1085* (Bryophyte Herbarium at Universidad Autónoma de Madrid).

This is the southernmost record for this mostly epiphyllous, rarely corticolous species. It is widespread in central and eastern Africa, and present in Madagascar and the Comoro Islands (Wigginton, 2009). Occurring on leaves at Diepwalle, *Cololejeunea distalopapillata* is codominant with *C. cardiocarpa* (Mont.) A.Evans, and also grows along with *C. minutissima* (Sm.) Schiffn., *Drepanolejeunea* sp., and *Metzgeria* sp. Forests of the Knysna region are considered to be the remains of an almost vanished southern African belt of subtropical humid forest exposed to the south–east trade winds (Breckle, 2003). The well-developed canopy, dominated by *Afrocarpus falcatus* (Thunb.) C.N.Page, *Ocotea bullata* (Burch.) E.Meyer in Drege, *Olea capensis* L. and *Podocarpus latifolius* (Thunb.) R.Br. *ex* Mirb., provides shady and moist conditions suitable for the development of epiphyllous liverworts. The previous records of *C. distalopapillata* from Afromontane forests at higher altitudes on the eastern side of the continent occurred in similar conditions. The collection, *R. Medina 1085*, was sterile, but bearing gemmae.

5. ***Hylocomiopsis cylindricarpa*** Thér.

Contributors: J. van Rooy and R. Ochyra.

South Africa: Eastern Cape: Hogsback, 4500 ft., *leg.* J. Leighton *PRE CH10688A*, *det*. R. Ochyra (PRE).

This distinctive species (De Sloover, 1976) is endemic to tropical Afromontane forests and has previously been reported from Bioko, Burundi, Cameroon, Ethiopia, Kenya, Rwanda, Tanzania, Uganda, and Democratic Republic of Congo (O'Shea, 2006). Although the Eastern Cape record is a remarkable range extension and by far the southernmost occurrence of *Hylocomiopsis cylindricarpa*, the Afromontane forest at Hogsback provides a natural habitat for the species.

6. ***Meteorium subpolytrichum*** (Besch.) Broth.

Contributors: A. K. Asthana and V. Sahu.

India: Western Himalaya, Almora, Jageshwar (Uttarakhand), 29.65°N, 79.58°E, on rock, *ca* 1824 m a.s.l., 9 September 2010, *leg*., A. K. Asthana *s.n.*, *conf.* A. K. Asthana and Vinay Sahu (LWG, no. 251521).

Meteorium subpolytrichum belongs to the moss family Meteoriaceae in the order Isobryales. This is the first report of its occurrence in the Western Himalaya. Gangulee (1976) reported *Meteorium helminthocladum* (Müll.Hal.) M.Fleisch. [=*M. subpolytrichum*] and *Meteorium buchananii* (Brid.) Broth. from India, the latter from eastern and western Himalayas, and southern India. Chopra (1975) and Lal (2005) cited these species and added *Meteorium miquelianum* (Müll.Hal.) M.Fleisch. and *Meteorium brevirameum* (Müll.Hal.) Broth. to the Indian moss flora, these latter two from southern India only. Plants of *Meteorium subpolytrichum* are golden green, branched, with closely imbricate, erecto-patent, oblong, concave, plicate leaves that abruptly narrow into a long subula, and have a broadly auriculate base. The costa extends for two-thirds of the leaf length and the leaf margins are denticulate in their upper half. Cells in the leaves have incrassate walls and are unipapillose. Sporophytes have not been found.

7. ***Orthotrichum moravicum*** Plášek & Sawicki

Contributors: V. Plášek and J. Sawicki.

Slovakia: Poloniny Mts (Poloniny National Park), 3.5 km NNE of Runina village toward Slovak–Polish borderline, 150 m SW of the top of Ďurkovec Mt, on bark of *Fagus sylvatica* L., 49°05.915′N, 22°25.304′E (WGS-84), 1080 m a.s.l., 15 June 2004, *leg.* V. Plášek *184531* (OP).

Orthotrichum moravicum was described as a new species from the Czech Republic 2 years ago (Plášek *et al.*, 2009). The species is distinguished from the closely related *O. pallens* Bruch *ex* Brid. mainly by the presence of marginal appendages on

the segments of its endostome. In addition, *O. pallens* has endostome segments alternately longer and shorter, whereas in *O. moravicum* all segments are fairly long (almost as long as the exostome teeth).

Until now, *O. moravicum* was considered endemic to the Moravskoslezské Beskydy Mountains in the Czech Republic (Plášek & Sawicki, 2009). However, in the course of revision of Slovak herbarium material, the species was found, associated with *Metzgeria furcata* (L.) Corda and *Pseudoleskeella nervosa* (Brid.) Nyholm.

8. ***Orthotrichum rogeri*** Brid.

Contributor: A. Stebel.

Poland: Silesian Upland, Katowice–Muchowiec, 50°13′53.9″N, 19°01′27.7″E, *ca* 286 m a.s.l., bark of *Salix alba* L. 'Tristis' in park, 15 September 2009, *leg.* A. Stebel *s.n.* (SOSN).

Orthotrichum rogeri is one of the rarest mosses in Europe, extinct or threatened in many countries (Schumacker & Martiny, 1995). In Poland, it had been known from only one station located in the Łomniczka valley in the Karkonosze range at about 1250 m (Limpricht, 1883, 1895). Other records from Poland appeared to be determined incorrectly. In 2004, because of a lack of new stations, the species was formally acknowledged to be extinct (Stebel, 2004; Żarnowiec *et al.*, 2004). The new station of *O. rogeri* was found on 15 September 2009 in Katowice–Muchowiec (Silesian Upland, southern Poland), in the R. Stachoń Katowice Forest Park. It grows on bark of *Salix alba* L. 'Tristis'. The turf, composed of several dozen gametophyte shoots with two ripe sporophytes, covered about 0.5 cm^2. *O. rogeri* occurred on the western side of the trunk about 1.5 m above ground level, together with such species as *Ceratodon purpureus* (Hedw.) Brid., *Hypnum cupressiforme* Hedw., *Orthotrichum pumilum* Sw. *ex* anon., *O. speciosum* Nees, *O. stramineum* Brid., and *Rosulabryum moravicum* (Podp.) Ochyra & Stebel. Katowice is a big, industrial city, the capital of the Upper Silesian Industrial District, so this station is especially interesting. It is not known whether the appearance of *O. rogeri* in Katowice was only incidental or marks a beginning for the spread of the moss. The fact of its discovery in Germany, where it was also for many years regarded as extinct (Meinunger & Schröder, 2007a), and in the Czech Republic (Biedermann *et al.*, 2009), supports the second theory.

9. ***Philonotis globosa*** (Müll.Hal.) D.G.Griffin & W.R.Buck

Contributor: J. van Rooy.

Namibia: Okozongominja, Auf Steinen (?) im Quellsumpf, 2 February 1911, *leg.* M.K. Dinter *1759*, *det*. S.M. Perold, 1989 (PRE).

Okosongomingo is a well-known cattle ranch and guest farm at the foot of the Waterberg Plateau in northern Namibia. Above the homestead on the northern slopes of the Klein Waterberg, just below the plateau, is a perennial spring that feeds a swampy area with sandstone rocks where mosses still grow today (Harry Sneider-Waterberg, pers. commun.). *Philonotis globosa* is endemic to Africa and has been reported from Lesotho, South Africa, Zimbabwe, Zambia, Tanzania, and Uganda (O'Shea, 2006).

10. ***Rhynchostegiella trichophylla*** Dirkse & Bouman

Contributors: M. Sim-Sim & L. Luis.

Portugal, Madeira Archipelago: Ilha da Madeira, Ribeira Brava, Rocha alta, nas margens da ribeira, 28SCB0820, *ca* 140 m a.s.l., 16 April 2004, *leg.* L. Luís *s.n.* (LISU).

Rhynchostegiella trichophylla is newly recorded for the Madeira Archipelago and the island of Madeira. It was described from the Canary Islands by Dirkse & Bouman (1995), where it is locally abundant in the laurel forests of several islands. This moss was recently found growing on a protected rocky slope, in Ribeira Brava, one of the main hydrographic basins of Madeira, which is dominated by *Scrophulario hirtae–Salicetum canariensis* vegetation (Capelo *et al.*, 2004). It developed in sheltered and more or less humid conditions, in a microenvironment dominated by *Timmiella barbuloides* (Brid.) Mönk., *Platyhypnidium riparioides* (Hedw.) Dixon, *Didymodon insulanus* (De Not.) M.O.Hill, and *Conocephalum conicum* (L.) Dumort., where other less abundant species were also found, such as *Bryum donianum* Grev., *Dicranella howei* Renauld & Cardot, *Didymodon luridus* Hornsch., *Epipterygium tozeri* (Grev.) Lindb., *Eucladium verticillatum* (With.) Bruch & Schimp., *Fissidens asplenioides* Hedw., *Fissidens coacervatus* Brugg.-Nann., *Fissidens sublineaefolius* Brugg.-Nann., *Kindbergia praelonga* (Hedw.) Ochyra, *Leiocolea turbinata* (Raddi) H.Buch, *Oxyrrhynchium pumilum* (Wilson) Loeske, *Oxyrrhynchium hians* (Hedw.) Loeske, *Philonotis marchica* (Hedw.) Brid., and *Trichostomum crispulum* Bruch.

The species is considered frequent in the Canary Islands, where it has been found on six islands (Gonzaléz-Mancebo *et al.*, 2008). However, this Macaronesian endemic seems to be very rare in the Madeira Region, being restricted to one locality on Madeira Island.

11. ***Riccia albolimbata*** S.W.Arnell

Contributors: J. van Rooy & N. Phephu.

Botswana: Central Province, Mopipi Area, pans on road from Rakops to Mopipi, about 10 km from Mopipi, 21°08′S, 24°42′E, pan grassveld, on soil, 7 March 1996, *leg.* P. M. Burgoyne *5367a*, *det.* S.M.

Perold, 1996 (PRE); Mahalapaye area, 20 km north of Dibete on eastern side of road in and around a pan, 23°36′S, 26°32′E, 1067 m alt., vlei grassveld, on loam soil, 8 March 1996, *leg.* P.M. Burgoyne *5401*, *det.* S.M. Perold, 1996 (PRE).

This white-scaled species is known from the African countries of Kenya, Namibia, South Africa, and Tanzania (Wigginton, 2009). In southern Africa, *Riccia albolimbata* is widespread in the summer rainfall semi-arid grassland and woodland of South Africa and Namibia, but this is the first report from Botswana (Perold, 1999, 2003, 2006). This stress-tolerant species reportedly also occurs in Texas (Schuster, 1992) and Yemen (Kürschner, 2003, 2008) under the same ecological conditions as in Africa.

12. ***Schistidium dupretii*** (Thér.) W.A.Weber

Contributors: P. Erzberger & B. Papp.

Serbia: Vojvodina. Vršačke Planine Mts, *ca* 1 km south of Malo Središte, near the monastery, 45°08′ 35.8″N, 21°23′55.4″E, on concrete of small bridge, *ca* 200 m a.s.l., 7 April 2010, *leg*. P. Erzberger (B. Erzberger 13798).

This specimen was growing together with *Schistidium elegantulum* H.H.Blom, *Orthotrichum anomalum* Hedw., and *Grimmia pulvinata* (Hedw.) Sm. The habitat is typical for *S. dupretii*, which is often found on man-made constructions (Blom, 1996; Meinunger & Schröder, 2007b; Erzberger & Schröder, 2008). According to the check-list of mosses of South-East Europe (Sabovljević *et al.*, 2008), *Schistidium dupretii* is new to Serbia; there are only entries for Greece, Macedonia (F.Y.R.), and Romania for this species. However, we have also found it in Montenegro (Erzberger *et al.*, 2008; Papp & Erzberger, 2010).

13. ***Scorpidium revolvens*** (Sw. *ex*. anon.) Rubers

Contributors: P. Lazarević & M. Sabovljević.

Serbia: Šar planina Mt, down from Gornje Šije (S. Serbia) in the fens and flushes on silicates (1750 m, 42°10′32″N, 21°01′18″E) *leg./det.* P. Lazarević/M. Sabovljević (24 July 2009). BEOU no. 5998 and 5999.

Scorpidium revolvens was recorded while surveying the peat habitats around Serbia. A few records made in the locality of Gornje Šije in the Šar-Planina Mt are the first report of this species for Serbia. According to Sabovljević *et al.* (2008), it was unknown from Serbia, but recorded from the other Balkan countries: Bulgaria, Macedonia (FYR), Montenegro, Romania, and Slovenia.

The Serbian collection occurred within a community of *Narthecion scardici* Lakušić 1968 emend. 1970.

The plants are of typical appearance, being medium to robust in reddish green to purplish black patches, rarely green. The species has a circumpolar boreal Arctic and montane range, so its records in Serbia are not unexpected, bearing in mind both its presence in neighbouring areas and the poor bryological surveillance of the Balkan area.

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