



# Catalogue of the bryophytes of Sulawesi.

## Supplement 1: new species records

N.S. Ariyanti<sup>1</sup>, S.R. Gradstein<sup>2</sup>, S.G. Sporn<sup>2</sup>, R. Angelika<sup>3</sup>, B.C. Tan<sup>4</sup>

### Key words

bryophyte flora  
Indonesia  
Sulawesi

**Abstract** We report 177 bryophyte species (61 mosses, 115 liverworts, 1 hornwort) new to Sulawesi, raising the total number of bryophytes species recorded from the island to 653. The new combination *Chiloscyphus morobeanus* (Piippo) Gradst. comb. nov. is made.

**Published on** 30 October 2009

### INTRODUCTION

Gradstein et al. (2005) published a first catalogue of the bryophytes of Sulawesi and listed 476 species, including 340 mosses (*Bryophyta* s.str.), 134 liverworts (*Marchantiophyta*) and 2 hornworts (*Anthocerotophyta*). These numbers were significantly lower than those recorded from other major Malaysian islands and suggested that Sulawesi is less well collected than the other islands.

Since the appearance of the catalogue, considerable additional collecting was done in Central Sulawesi, in Lore Lindu National Park and surrounding areas in the framework of the 'STORMA' project of the universities of Palu (Sulawesi), Bogor (Java) and Göttingen (Germany) funded by the German Research Foundation (e.g., Tschamtkke et al. 2007; www.storma.de). Some new liverwort records based on these collections were published by Ariyanti & Gradstein (2007). In addition, new bryophyte reports for Sulawesi were published by Eggers (2006).

In this paper we present a synthesis of the species of bryophytes recorded as new to Sulawesi since the appearance of the catalogue. The list (Appendix) includes 177 species (61 mosses, 115 liverworts, 1 hornwort), raising the total number of bryophyte species recorded from Sulawesi to 653. Especially noteworthy is the large number of liverworts new to Sulawesi, which almost doubles the total number of liverwort species recorded (from 134 to 249). Vouchers of the new records are kept in BIOT, BO, CEB and/or GOET unless otherwise indicated.

The new figures indicate that Sulawesi has about half the number of bryophyte species recorded from the Philippines and Borneo, and about 1/3 that of New Guinea. Only five bryophyte species or less than 1 % of the total bryophyte flora are endemic to Sulawesi (Gradstein et al. 2005) but the island has a relatively high concentration of eastern Malaysian liverwort species, about seven times more than western ones. The high number of eastern Malaysian taxa is in support of the Wallace Line (Ariyanti & Gradstein 2007).

**Acknowledgements** We express our gratitude to Dr. Jochen Heinrichs for help with identification of *Plagiochila* species and the German Research Foundation (DFG) for financial support.

### REFERENCES

- Ariyanti NS, Gradstein SR. 2007. Wallace's line and the distribution of the liverworts of Sulawesi. *Cryptogamie, Bryologie* 28: 3–14.
- Eggers J. 2006. New bryophyte taxon records from tropical countries. *Tropical Bryology* 27: 107–111.
- Gradstein SR, Tan BC, King C, Zhu RL, Drubert C, Pitopang R. 2005. A catalogue of the bryophytes of Sulawesi, Indonesia. *Journal of the Hattori Botanical Laboratory* 98: 213–257.
- He-Nygrén X, Piippo S. 2003. Phylogenetic relationships of the generic complex *Chiloscyphus*–*Lophocolea*–*Heteroscyphus* (Geocalycaceae, Hepaticae): Insights from three chloroplast genes and morphology. *Annales Botanici Fennici* 40: 317–329.
- Hentschel J, Wilson R, Burghardt M, Zündorf H-J, Schneider H, Heinrichs J. 2006. Reinstatement of *Lophocoleaceae* (Jungermanniales) based on chloroplast gene *rbcL* data: exploring the importance of female involucres for the systematics of Jungermanniales. *Plant Systematics and Evolution* 258: 211–226.
- Piippo S. 1985. Bryophyte flora of the Huon Peninsula, Papua New Guinea. XII. Geocalycaceae. *Acta Botanica Fennica* 131: 129–167.
- Tschamtkke T, Leuschner C, Zeller M, Guhardja E, Bidin A (eds). 2007. Stability of tropical rainforest margins, linking ecological, economic and social constraints of land use and conservation. Springer, Berlin.

<sup>1</sup> Department of Biology, Faculty of Mathematics and Science, Bogor Agricultural University, Indonesia.

<sup>2</sup> Department of Systematic Botany, Institute of Plant Sciences, University of Göttingen, 37073 Göttingen, Germany; corresponding author e-mail: sgradst@uni-goettingen.de

<sup>3</sup> Herbarium Celebense, Tadulako University, Palu, Indonesia.

<sup>4</sup> The Herbarium, Singapore Botanic Gardens, 1 Cluny Road, Singapore 259569.

# Appendix List of bryophyte species newly recorded from Sulawesi since 2005.

## ANTHOCEROTOPHYTA (hornworts)

*Notothylas* sp. – Toro: 850–900 m, *Ariyanti* 227

## MARCHANTIOPHYTA (liverworts)

*Acrolejeunea arcuata* (Nees) Grolle & Gradst. – Mt Rorekatimbu: 1900 m, *Gradstein* 12053

*Acrolejeunea pycnoclada* (Taylor) Schiffn. – Toro: 800–1100 m, *Ariyanti* 96

*Acromastigum divaricatum* (Gottsche, Lindenb. & Nees) A. Evans – Bariri: 1400 m, *Gradstein* 12022

*Anastrophyllum bidens* (Reinw., Blume & Nees) Steph. – Mt Rorekatimbu: 2000 m, *Gradstein* 12067

*Aneura maxima* (Schiffn.) Steph. – Bariri: 1300 m, *Gradstein* 2003 – Mt Rorekatimbu: 1700–2300 m, *Gradstein* 12045, *Angelika* 15 – Toro: *Ariyanti* 181

*Anomacaulis flaccidus* (Steph.) Grolle – Kalimpaa: 1600 m, *Ariyanti* 442 – Mt Nokilalaki: 2200–2350 m, *Gradstein* 11025, *Ariyanti* 747

*Bazzania intermedia* (Lindenb. & Gottsche) Trevis. – Bariri: 1300–1400 m, *Gradstein* 12093

*Calypogeia arguta* Mont. & Nees – Toro: 1000 m, *Ariyanti* 231

*Chandonanthus hirtellus* (F. Weber) Mitt. – Bariri: 1400 m, *Gradstein* 12068 – Mt Nokilalaki: 2350 m, *Gradstein* 11025

*Chandonanthus piliferus* Steph. – Kalimpaa: 1600 m, *Ariyanti* 448 – Mt Nokilalaki: 2000–2350 m, *Gradstein* 11015, 1102, *Ariyanti* 738

*Cheilelejeunea ceylanica* (Gottsche) R.M. Schust. & Kachroo – Bariri: 1400 m, *Gradstein* 12027, 12095 – Toro: 900–1100 m, *Ariyanti* 101, *Sporn* s.n.

*Cheilelejeunea falsinervis* (Sande Lac.) R.M. Schust. & Kachroo – Toro: 1000–1100 m, *Ariyanti* 102

*Cheilelejeunea longiloba* (Steph. ex G. Hoffm.) J.J. Engel & B.C. Tan – Mt Rorekatimbu: 1900–2000 m, *Gradstein* 12054, 12057

*Cheilelejeunea meyeniana* (Gottsche, Lindenb. & Nees) R.M. Schust. & Kachroo – Toro: 800–1100 m, *Ariyanti* 107, *Sporn* s.n.

*Cheilelejeunea orientalis* (Gottsche) Mizut. – Kalimpaa: 1600 m, *Ariyanti* 445 – Toro: 800–1100 m, *Ariyanti* 105

*Cheilelejeunea vittata* (Steph. ex G. Hoffm.) R.M. Schust. & Kachroo – Toro: 800–1200 m, *Ariyanti* 107, *Sporn* s.n.

*Chiloscyphus costatus* (Nees) J.J. Engel & R.M. Schust. (= *Lophocolea costata* (Nees) Gottsche) – Mt Nokilalaki: 2350 m, *Ariyanti* 730

Recent molecular-phylogenetic studies have shown that the genus *Lophocolea* (Dumort.) Dumort. should be merged with *Chiloscyphus* Corda (He-Nygrén & Piippo 2003, Hentschel et al. 2006). The latter generic name is the oldest of the two.

*Chiloscyphus morobeanus* (Piippo) Gradst., comb. nov. (= *Lophocolea morobeanus* Piippo, Acta Bot. Fenn. 131: 160.1985) – Toro: 1000 m, *Ariyanti* 182

For the transfer of this and other species of *Lophocolea* to *Chiloscyphus* see under *C. costatus*. This species is very close to *Chiloscyphus kurzii* (Sande Lac.) J.J. Engel & R.M. Schust. but differs by the presence of trigones (lacking in *L. kurzii*). *Chiloscyphus morobeanus* is only known from the type from Papua New Guinea whereas *C. kurzii* is a western Malesian species, being recorded from Java, India and Sri Lanka. Moreover, *C. kurzii* is a lowland plant, from below 1000 m, whereas *C. morobeanus* occurs at 1500–1700 m (Piippo 1985).

*Chiloscyphus muricatus* (Lehm.) J.J. Engel & R.M. Schust. (= *Lophocolea muricata* (Lehm.) Nees) – Bariri: 1400 m, *Gradstein* 12025 – Toro: 1000–1200 m, *Ariyanti* 140

*Cololejeunea dozyana* (Sande Lac.) Schiffn. – Mt Rorekatimbu: 1950 m, Eggers (2006)

*Cololejeunea equialbi* Tixier – Mt Rorekatimbu: 1950 m, Eggers (2006)

*Cololejeunea gottschei* (Steph.) Mizut. – Kamarora: 700 m, Eggers (2006)

*Cololejeunea infectens* (Mitt.) Benedix – Mt Rorekatimbu: 1700–1900 m, Eggers (2006)

*Cololejeunea lanciloba* Steph. – Kamarora: 700 m, Eggers (2006) – Toro: 800–1100 m, *Sporn* s.n.

*Cololejeunea metzgeriopsis* (K.I. Goebel) Gradst., Wilson, Ilkiu-Borges & Heinrichs (= *Metzgeriopsis pusilla* K.I. Goebel) – Mt Rorekatimbu: 1950 m, Eggers (2006)

*Cololejeunea planissima* (Mitt.) Abeyw. – Toro: 1000 m, *Ariyanti* 108

*Cololejeunea schmidtii* Steph. – Mt Rorekatimbu: 1950 m, Eggers (2006)

*Cololejeunea spinosa* (Horik.) Pandé & R.N. Misra – Toro: 800–1200 m, *Ariyanti* 109

*Colura ari* (Steph.) Steph. – Kamarora: 700 m, Eggers (2006)

*Colura cf. meyeri* Jovet-Ast – Mt Rorekatimbu: 1700 m, Eggers (2006)

*Colura tenuicornis* (A. Evans) Steph. – Mt Rorekatimbu: 1700 m, Eggers (2006)

*Dendrolejeunea fruticosa* (Lindenb. & Gottsche) Lacout. – Toro: 1000–1100 m, *Ariyanti* 110

*Diplasiolejeunea cavifolia* (Steph.) Steph. – Toro: 800 m, *Sporn* s.n.

*Drepanolejeunea ternatensis* (Gottsche) Steph. – Mt Nokilalaki: 2000 m, *Gradstein* 11033 – Toro: 800–1200 m, *Ariyanti* 112, *Sporn* s.n.

*Dumortiera hirsuta* (Sw.) Nees – Bariri: 1300 m, *Gradstein* s.n. – Toro: 1000 m, *Ariyanti* 277

*Frullania eymae* S. Hatt. – Toro: 800–1200 m, *Ariyanti* 114, *Sporn* s.n.

*Frullania hampeana* Nees – Toro: 840–1200 m, *Ariyanti* 118

*Frullania intermedia* (Reinw., Blume & Nees) Gottsche, Lindenb. & Nees – Toro: 840–1000 m, *Ariyanti* 119

*Frullania neosheana* S. Hatt. – Mt Nokilalaki: 2250 m, *Ariyanti* 737 – Toro: 1000 m, *Ariyanti* 120

*Frullania reflexistipula* Sande Lac. – Toro: 800–1000 m, *Ariyanti* 122

*Herbertus pilifer* Schiffn. – Bariri: 1400 m, *Gradstein* s.n. – Mt Nokilalaki: 1900–2300 m, *Gradstein* 11010, 11011 – Mt Rorekatimbu: 1800–2000 m, *Gradstein* s.n.

*Heteroscyphus argutus* (Reinw., Blume & Nees) Schiffn. – Bariri: 1400 m, *Gradstein* s.n. – Mt Nokilalaki: 1000 m, *Gradstein* s.n. – Toro: 800–1200 m, *Ariyanti* 123

*Heteroscyphus aselliformis* (Reinw., Blume & Nees) Schiffn. – Kalimpaa: 1600 m, *Ariyanti* 441 – Mt Nokilalaki: 1650–2350 m, *Gradstein* 11003, 11026, *Ariyanti* 718, 740

*Heteroscyphus succulentus* (Gottsche) Schiffn. – Mt Rorekatimbu: 1700–2000 m, *Gradstein* 12038 – Toro: 1000 m, *Ariyanti* 125

*Heteroscyphus wettsteinii* (Schiffn.) Schiffn. – Mt Nokilalaki 1600 m, *Ariyanti* 702

*Heteroscyphus zollingeri* (Gottsche) Schiffn. – Bariri: 1400 m, *Gradstein* 12019 – Mt Nokilalaki: 1600 m, *Ariyanti* 701 – Toro: 1000–1200 m, *Ariyanti* 126

*Jungermannia hasskarliana* (Nees) Mitt. – Mt Rorekatimbu: 2300 m, *Angelika* 73

*Jungermannia tetragona* Lindenb. – Toro: 1000 m, *Ariyanti* 229

*Lejeunea discreta* Lindenb. – Bariri: 1400 m, *Gradstein* 12032 – Toro: 800–1030 m, *Ariyanti* 128

*Lejeunea eifrigii* Mizut. – Toro: 1000 m, *Ariyanti* 129

*Lejeunea exilis* (Reinw., Blume & Nees) Grolle – Toro: 800–1000 m, *Ariyanti* 123, *Sporn* s.n.

*Lejeunea flava* (Sw.) Nees – Mt Nokilalaki: 2000–2100 m, *Ariyanti* 733 – Mt Rorekatimbu: 1600–1950 m, Eggers (2006), *Gradstein* 12037 – Toro: 800–1100 m, *Ariyanti* 131, *Sporn* s.n.

*Lejeunea lumbricoides* (Nees) Nees – Mt Nokilalaki: 1900–2350 m, *Gradstein* 11028, 11053, *Ariyanti* 729, 756

*Lejeunea obscura* Mitt. – Bariri: 1400 m, *Gradstein* 12101 – Toro: 800–1200 m, *Ariyanti* 132

*Lejeunea punctiformis* Taylor – Toro: 1000–1100 m, *Ariyanti* 133

*Lejeunea sordida* (Nees) Nees – Bariri: 1400 m, *Gradstein* s.n. – Toro: 800–1200 m, *Ariyanti* 134, *Sporn* s.n.

*Lepidozjeunea bidentula* (Steph.) R.M. Schust. – Bariri: 1400 m, *Gradstein* 12036 – Kalimpaa: 1600 m, *Ariyanti* 456 – Toro: 1000–1200 m, *Ariyanti* 135, *Sporn* s.n.

*Lepidozia borneensis* Steph. – Mt Nokilalaki: 2350 m, *Gradstein* 11004

*Lepidozia cladorrhiza* (Reinw., Blume & Nees) Nees – Mt Nokilalaki: 2200 m, *Gradstein* 11039, *Ariyanti* 725, 749

*Lepidozia fernandi-muelleri* Steph. – Mt Nokilalaki: 2000–2350 m, *Ariyanti* 758

*Lepidozia grandifolia* Steph. – Mt Nokilalaki: 1600 m, *Ariyanti* 449

*Lepidozia hampeana* Lindenb. – Mt Nokilalaki: 1600 m, *Ariyanti* 455

*Lepidozia lacerifolia* Steph. – Mt Nokilalaki: 2100–2350 m, *Ariyanti* 732, 744

*Lepidozia trichodes* (Reinw., Blume & Nees) Nees – Mt Nokilalaki: 2000–2300 m, *Gradstein* 11005, 11019, *Ariyanti* 731 – Mt Rorekatimbu: 2450 m, *Angelika* 50

*Lepidozia wallichiana* Gottsche – Kalimpaa: 1600 m, *Ariyanti* 450 – Mt Nokilalaki: 2000 m, *Gradstein* 11009, *Ariyanti* 703, 716 – Mt Rorekatimbu: 2470 m, *Angelika* 47 – Toro: 1000 m, *Ariyanti* 136

*Leptolejeunea balansae* Steph. – Kamarora: 700 m, Eggers (2006)

*Leptolejeunea elliptica* (Lehm. & Lindenb.) Schiffn. – Mt Rorekatimbu: 1900 m, Eggers (2006)

*Leptolejeunea epiphylla* (Mitt.) Steph. – Kamarora: 700 m, Eggers (2006) – Toro: 800–1100 m, *Ariyanti* 137, *Sporn* s.n.

*Leptolejeunea maculata* (Mitt.) Schiffn. – Kamarora: 700 m, Eggers (2006) – Mt Rorekatimbu: 1900 m, Eggers (2006) – Toro: 800–1100 m, *Ariyanti* 138

*Leptolejeunea vitrea* (Nees) Schiffn. – Mt Rorekatimbu: 1900 m, Eggers (2006)

*Lopholejeunea borneensis* (Steph.) Verd. – Toro: 1000–1200 m, *Ariyanti* 141

*Lopholejeunea eulopha* (Taylor) Schiffn. – Toro: 800–1200 m, *Ariyanti* 142, *Sporn* s.n.

*Mastigolejeunea virens* (Ångstr.) Steph. – Toro: 800–1100 m, *Ariyanti* 148, *Sporn* s.n.

*Metalejeunea cucullata* (Reinw., Blume & Nees) Grolle – Bariri: 1400 m, *Gradstein* s.n. – Toro: 800–1100 m, *Ariyanti* 149, *Sporn* s.n.

*Notoscyphus lutescens* (Lehm. & Lindenb.) Mitt. – Mt Rorekatimbu: 1700–2000 m, *Gradstein* 12066

*Pallavicinia lyellii* (Hook.) Carruth. – Bariri: 1300–1400 m, *Gradstein* 11092 – Toro: 800–1100 m, *Ariyanti* 235

*Plagiochila dendroides* (Nees) Lindenb. – Bariri: 1400 m, *Gradstein* s.n. – Kalimpaa: 1600 m, *Ariyanti* 451

*Plagiochila hampeana* Gottsche – Mt Nokilalaki: 1600 m, *Gradstein* 11035 (det. J. Heinrichs)

*Plagiochila longispica* Mitt. – Toro: 800–1000 m, *Ariyanti* 157

*Plagiochila mastigophoroides* Inoue – Kalimpaa: 1600 m, *Ariyanti* 444

*Plagiochila obtusa* Lindenb. – Toro: 800–1100 m, *Ariyanti* 158 (det. J. Heinrichs)

## Appendix (cont.)

- Plagiochila parvifolia* Lindenb. – Toro: 800–1000 m, *Ariyanti* 159 (det. J. Heinrichs)
- Plagiochilium braunianum* (Nees) S.Hatt. – Mt Nokilalaki: 2350 m, *Gradstein* 11020, *Ariyanti* 743
- Porella geheebii* (Steph.) S.Hatt. – Kalimpaa: 1600 m, *Ariyanti* 457
- Porella javanica* (Gottsche ex Steph.) Inoue – Toro: 1000–1200 m, *Ariyanti* 155
- Porella oblongifolia* S.Hatt. – Kalimpaa: 1600 m, *Ariyanti* 458 – Toro: 1100 m, *Ariyanti* 159
- Porella perrottetiana* (Mont.) Trevis. – Bariri: 1400 m, *Gradstein* 12033 – Toro: 1000 m, *Ariyanti* 166
- Psiloclada clandestina* Mitt. – Bariri: 1400 m, *Gradstein* 12020 – Mt Nokilalaki: 2000 m, *Gradstein* 11008
- Pycnolejeunea contigua* (Nees) Grolle – Toro: 1030 m, *Ariyanti* 168
- Radula acutiloba* Steph. – Toro: 1000 m, *Ariyanti* 169
- Radula anceps* Sande Lac. – Toro: 1100 m, *Ariyanti* 191
- Radula falcata* Steph. – Toro: 1000 m, *Sporn s.n.*
- Radula gedena* Gottsche ex Steph. – Toro: 800–1000 m, *Ariyanti* 170
- Radula javanica* Gottsche – Toro: 1000–1200 m, *Ariyanti* 171, *Sporn s.n.*
- Radula madagascariensis* Steph. – Toro: 1000–1030 m, *Ariyanti* 172
- Radula multiflora* Gottsche ex Schiffn. – Toro: 800–1200 m, *Ariyanti* 173
- Radula pinnulata* Mitt. – Toro: 830 m, *Ariyanti* 174
- Radula retroflexa* Taylor – Toro: 800–1100 m, *Ariyanti* 175
- Radula van-zantenii* Yamada – Toro: 830 m, *Ariyanti* 176, *Sporn s.n.*
- Riccardia* sp. 1 – Mt Rorekatimbu: 2470 m, *Angelika* 46
- Riccardia* sp. 2 – Mt Rorekatimbu: 2530 m, *Angelika* 38
- Riccardia* sp. 3 – Mt Rorekatimbu: 1700–1900 m, *Gradstein* 12039, 12040
- Riccardia* sp. 4 – Bariri: 1400 m, *Gradstein* 12043
- Riccardia* sp. 5 – Bariri: 1400 m, *Gradstein* 12044
- Schistochila doriae* (De Not.) Trevis. – Mt Nokilalaki: 1300–2350 m, *Gradstein* 11002, 11007
- Stenolejeunea apiculata* (Sande Lac.) R.M. Schust. – Toro: 800–1200 m, *Ariyanti* 178, *Sporn s.n.*
- Szygyella ovalifolia* Inoue – Mt Nokilalaki: 2200–2350 m, *Gradstein* 11012, 11025, *Ariyanti* 735, 751
- Szygyella subintegerrima* (Reinw., Blume & Nees) Spruce – Bariri: 1300 m, *Gradstein* 11098 – Mt Nokilalaki: 1800 m, *Gradstein* 1143 – Mt Rorekatimbu: 1700–1800 m, Eggers (2006), *Gradstein* 12049, 12050
- Telaranea major* J.J.Engel & G.L.Sm. – Bariri: 1400 m, *Gradstein* 12094 – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 719, *Gradstein* 11009
- Telaranea neesii* (Lindenb.) Fulford – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 710
- Trichocolea tomentella* (Ehrr.) Dumort. – Bariri: 1400 m, *Gradstein s.n.* – Mt Nokilalaki: 1200–2350 m, *Gradstein* 11001, 11037, 11047, *Ariyanti* 750 – Kalimpaa: 1600 m, *Ariyanti* 437 – Toro: 1000 m, *Ariyanti* 192
- Tuyamaella jackii* (Steph.) Tixier – Toro: 1000 m, *Sporn s.n.*
- Tylimanthus saccatus* (Hook.) Mitt. – Mt Nokilalaki: 2000 m, *Gradstein* 11044, *Ariyanti* 724, 746 – Mt Rorekatimbu: 1800 m, *Gradstein* 12048
- Wettsteinia inversa* (Sande Lac.) Schiffn. – Mt Nokilalaki: 2000–2300 m, *Gradstein* 11013, 11014, 11034
- Zoopsis liukuensis* Horik. – Bariri: 1300–1400 m, *Gradstein* 12000 – Mt Nokilalaki: 1600 m, *Ariyanti* 704
- BRYOPHYTA (mosses)**
- Acroporium macrotrigidum* Dixon – Mt Nokilalaki: 2000–2350 m, *Ariyanti* 514, 541, 553, *Sporn s.n.*
- Arthrocomus schimperi* Dozy & Molk. – Toro: 800–1100 m, *Ariyanti* 9, 263 – Mt Nokilalaki: 1600 m, *Ariyanti s.n.*
- Barbella trichophora* (Mont.) M.Fleisch. (= *Barbella enervis* (Thwaites & Mitt.) M.Fleisch.) – Toro: 800–1100 m, *Ariyanti* 10, 316 – Kalimpaa: 1600 m, *Ariyanti* 371
- Bryohumbertia walkeri* (Mitt.) Frahm – Mt Nokilalaki: 2300 m, *Ariyanti* 538
- Bryum apiculatum* Schwägr. – Toro: 800–1100 m, *Ariyanti* 212, 213 – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 286
- Caduciella mariei* (Besch.) Enroth (= *Pinnatella microptera* M.Fleisch.) – Toro: 800–1100 m, *Ariyanti* 81
- Callicostella papillata* (Mont.) Mitt. – Toro: 800–1100 m, *Ariyanti* 321
- Calymperes caugiense* Besch. – Toro: 800–1100 m, *Ariyanti* 13
- Calyptothecium subcrispulum* Broth. – Toro: 800–1100 m, *Sporn s.n.*
- Chaetomitrium acanthocarpum* Bosch & Sande Lac. – Kalimpaa: 1600 m, *Ariyanti* 375, 392
- Chaetomitrium lanceolatum* Bosch & Sande Lac. – Toro: 800–1100 m, *Ariyanti* 19, *Sporn s.n.*
- Chaetomitrium leptopoma* (Schwägr.) Bosch & Sande Lac. – Toro: 800–1100 m, *Ariyanti* 20, *Sporn s.n.*
- Chaetomitrium mayarti* H.Akiyama & M. Suleiman – Toro: 800–1100 m, *Ariyanti* 21 – Kalimpaa: 1600 m, *Ariyanti* 376
- Chaetomitrium papillifolium* Bosch & Sande Lac. – Toro: 800–1100 m, *Ariyanti* 23, *Sporn s.n.*
- Chaetomitrium setosum* Broth. ex Dixon – Toro: 800–1100 m, *Ariyanti* 24, *Sporn s.n.*
- Clastobryum epiphyllum* (Renauld & Cardot) B.C.Tan & Touw (= *Clastobryum papillosum* Williams) – Toro: 800–1100 m, *Ariyanti* 25, *Sporn s.n.* – Kalimpaa: 1600 m, *Ariyanti* 397
- Cryptogonium phyllogonioides* (Sull.) Isov. – Toro: 800–1100 m, *Ariyanti* 26 – Wera water fall: 150 m, *Ariyanti* 429
- Cyclodictyon blumeanaum* (Müll.Hal.) Kuntze – Kalimpaa: 1600 m, *Ariyanti* 377, 396
- Dicranella setifera* (Mitt.) A.Jaeger – Toro: 800–1100 m, *Ariyanti* 214, 215 – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 290
- Distichophyllum osterwaldii* M.Fleisch. – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 535
- Distichophyllum spathulatum* (Dozy & Molk.) Dozy & Molk. – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 539 – Bariri: 1300 m, *Gradstein* 12001
- Distichophyllum tortile* Dozy & Molk. ex Bosch & Sande Lac. – Mt Nokilalaki: 1650 m, *Ariyanti* 539
- Ectropothecium dealbatum* (Hornsch. & Reinw.) A.Jaeger – Toro: 800–1100 m, *Ariyanti* 29, 341, 344
- Ephemeropsis tijbodensis* K.I.Goebel – Mt Rorekatimbu: 1950 m, Eggers (2006)
- Eurhynchium asperisetum* E.B.Bartram – Kalimpaa: 1600 m, *Ariyanti* 378, 393 – Mt Nokilalaki: 1650 m, *Ariyanti* 536
- Fissidens crassinervis* Sande Lac. – Toro: 800–1100 m, *Ariyanti* 35, 210, 255
- Fissidens gedehensis* M.Fleisch. – Toro 850–900 m, *Ariyanti* 207
- Fissidens papillosus* Sande Lac. – Toro: 800–1100 m, *Ariyanti* 37
- Floribundaria pseudofloribunda* M.Fleisch. – Toro: 800–1100 m, *Ariyanti* 40
- Floribundaria thuidioides* M.Fleisch. – Toro: 800–1100 m, *Ariyanti* 41
- Garckea comosa* (Dozy & Molk.) Wijk & Margad. – Toro: 800–1100 m, *Ariyanti* 219, 202
- Garovaglia luzonensis* Williams – Toro: 800–1100 m, *Sporn s.n.*
- Hyophila involuta* (Hook.) A.Jaeger – Wera waterfalls: 250 m, *Ariyanti* 427
- Hypnodendron vitiense* Mitt. – Kalimpaa: 1600 m, *Ariyanti* 404 – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 573
- Hypopterygium aristatum* Bosch & Sande Lac. – Toro: 800–1100 m, *Ariyanti* 49
- Isocladiella sulcularis* (Dixon) B.C.Tan & Mohamed – Toro: 800–1100 m, *Ariyanti* 51, *Sporn s.n.*
- Jaegerina luzonensis* Broth. – Toro: 800–1100 m, *Ariyanti* 52
- Leucophanes massartii* Renauld & Cardot – Toro: 800–1100 m, *Ariyanti* 57
- Leucophanes octoblepharoides* Brid. – Toro: 800–1100 m, *Ariyanti* 58, *Sporn s.n.* – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 296
- Macrohymenium strictum* Bosch & Sande Lac. – Mt Nokilalaki: 1650–2100 m, *Ariyanti* 561, 545
- Macromitrium norrisianum* Vitt – Kalimpaa: 1600 m, *Ariyanti* 345
- Macromitrium semipellucidum* Dozy & Molk. – Toro: 800–1100 m, *Ariyanti* 61
- Microdus miquelianus* (Mont.) Besch. – Toro: 800–1100 m, *Ariyanti* 216
- Octoblepharum albidum* Hedw. – Toro: 800–1100 m, *Ariyanti* 72, 263 – Kalimpaa: 1600 m, *Ariyanti* 363, 367
- Orthomnion dilatatum* (Mitt.) P.C.Chen – Toro: 800–1100 m, *Ariyanti* 73, 361, *Sporn s.n.*
- Palamocladium nilgheriense* (Mont.) Müll.Hal. (= *Pleuropus luzonensis* Broth.) – Toro: 800–1100 m, *Sporn s.n.*
- Papillaria flexicaulis* (Williams) A.Jaeger – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 392
- Philonotis mollis* (Dozy & Molk.) Mitt. – Toro: 850–900 m, *Ariyanti* 211 – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 285
- Plagiomnium succulentum* (Mitt.) T.J.Kop. – Toro: 800–1100 m, *Ariyanti* 342
- Pogonatum piliferum* (Dozy & Molk.) Touw – Toro: 800–1100 m, *Ariyanti s.n.*
- Pseudotaxiphyllum pohliaecarpum* (Sull. & Lesq.) Z.Iwats. – Mt Nokilalaki: 1600 m, *Ariyanti* 527
- Racopilum schmidii* (Müll.Hal.) Mitt. – Toro: 800–1100 m, *Ariyanti* 84 – Trail to Lindu lake from Sedaunta: 900–1150 m, *Ariyanti* 288
- Rhizogonium graffeanum* (Müll.Hal.) A.Jaeger – Mt Nokilalaki: 1650–2350 m, *Ariyanti* 629
- Symphysodontella cylindracea* (Mont.) M.Fleisch. – Bariri: 1400 m, *Gradstein* 12016 – Toro: 800–1100 m, *Ariyanti* 86
- Syrrophodon parasiticus* (Brid.) Besch. – Toro: 800–1000 m, *Sporn s.n.*
- Syrrophodon trachyphyllus* Mont. – Toro: 850–900 m, *Ariyanti* 266
- Taxithelium nepalense* (Schwägr.) Broth. – Toro: 800–1100 m, *Ariyanti* 90
- Thuidium assimile* (Mitt.) A.Jaeger – Toro: 800–1100 m, *Ariyanti* 91 – Kalimpaa: 1600 m, *Ariyanti* 351
- Trematodon longicollis* Michx. – Toro: 800–1100 m, *Ariyanti* 203 – Kalimpaa: 1600 m, *Ariyanti* 400
- Trismegistia calderensis* (Sull.) Broth. – Kalimpaa: 1600 m, *Ariyanti* 359, 405
- Weissia controversa* Hedw. – Toro: 850–900 m, *Ariyanti* 217, 218