
Additions to the moss flora of Myanmar

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Abstract: Müller, F. (2026): Additions to the moss flora of Myanmar. *Frahmia* 52:1-31.¹

This article reports on the processing of a moss collection that Georg Miehe and his colleagues collected between 2012 and 2014 in Myanmar (Mt. Victoria, Natma Taung National Park, Chin State; Hponyin Razi and Hponkan Razi northwest of Putao, Kachin State) as part of biodiversity transect studies along altitudinal gradients. Seventy-three species of mosses are newly reported from Myanmar. Photo plates of six species are provided. The new combination *Remyella scabriseta* (Schwägr.) Frank Müll. (Basionym: *Hypnum scabrisetum* Schwägr.) is proposed.

1. Introduction

The author has been processing a large collection of about 2350 bryophyte specimens collected by Georg Miehe, Jürgen Kluge, Phyo Kay Kine and colleagues between 2012 and 2014 in Myanmar (Mt Victoria, Natma Taung National Park, Chin State; Hponyin Razi and Hponkan Razi northwest of Putao, Kachin State) in the course of biodiversity transect studies along elevational gradients. Some of the results of the identification of the mosses of this collection have already been reported (Ellis et al. 2019a, 2019b; Bruggeman-Nannenga and Müller 2020; Müller and Wynns 2020; Müller and Koponen 2022; Müller et al. 2023).

This paper reports on further new records and findings of other notable species for the moss flora of Myanmar, which were identified whilst processing this material. In total, the list contains 73 new records for the moss flora of Myanmar. Most of these records are not surprising, as the corresponding species are known from neighbouring regions. The previous absence of records in Myanmar is largely due to gaps in knowledge resulting from insufficient research. Voucher specimens are in the herbarium of Technische Universität Dresden (DR).

The first checklist of the mosses from Myanmar (Tan & Iwatsuki 1993) contains only 319 species (by comparison, the better-studied countries Thailand and Vietnam have 563 and 595 species respectively). Tanaka et al. (2003) carried out extensive studies on the moss flora of Natma Taung (Mt. Victoria) National Park, which yielded numerous new records. The new checklist for Myanmar published therein already contains 396 species.

In recent years, numerous further studies on the moss flora of Myanmar have been published, particularly by Japanese bryologists, often in collaboration with botanists from Myanmar, e.g. Higuchi & Aung (2021, 2024), Akiyama (2019), Akiyama et al. (2024), Inoue & Aung (2023, 2024, 2025a, 2025b), Li et al. (2024), Koponen et al. (2022). These recent activities are steadily improving our understanding of the mosses of Myanmar.

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2. New records for Myanmar

Acroporium lamprophyllum Mitt.

- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-104-233.
- Kachin State, east of Awadam, 27.51006°N, 97.161069°E, 909 m, evergreen broadleaved forest, 02.11.2014, J. Kluge & P.K. Kine 14-061-001b-A.

This species is widely distributed across Southeast Asia, extending as far as Oceania and Australia (Jia et al. 2005, Tan et al. 2007, Thouvenot & Bardat 2010, Pollawatn 2008).

Acroporium secundum (Reinw. & Hornsch.) M.Fleisch.

- Kachin State, Hponyin Razi, 27.253458°N, 97.410512°E, 505 m, Fagaceae-Dipterocarps forest, 12.12.2013, G. Miehe et al. 13-115-273-E.
- Kachin State, Hponyin Razi, 27.553772°N, 97.111047°E, 1046 m, secondary forest, 01.12.2013, G. Miehe et al. 13-103-237-C & L.
- Kachin State, Hponyin Razi, 27.562787°N, 97.108472°E, 1051 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-106-312-C.
- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-104-233 & 13-104-234-A.
- Kachin State, Hponkan Razi, 27.46201°N, 97.32063°E, 626 m, evergreen broadleaved forest, 09.11.2014, J. Kluge & P.K. Kine 14-069-005-D.
- Kachin State, Hponkan Razi, 27.492971°N, 97.166634°E, 833 m, evergreen broadleaved forest, 31.10.2014, J. Kluge & P.K. Kine 14-059-010-I.

This species is widespread throughout tropical Southeast Asia, and has been recorded in China, Japan, Cambodia, Laos, Vietnam, the Malay Peninsula, Indonesia and the Philippines (Pollawatn 2008).

Aerobryum speciosum Dozy & Molk.

- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miehe et al. 13-084-168.
- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miehe et al. 13-085-102-D.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miehe et al. 13-087-095 & 13-087-096-C.
- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2087 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-088-177-N.

This species is widespread throughout Southeast Asia, including the Himalayas.

Atractylocarpus alpinus (Schimp. ex Milde) Lindb.

- Kachin State, Hponyin Razi, 27.39495°N, 96.57341°E, 4090 m, on boulders, 14.10.2013, G. Miehe et al. 13-045-018-D.

New for Indochina. The species is known from Europe and, in Asia, from China (Sichuan, Yunnan) and India (Sikkim) (Padberg & Frahm 1985). The Asian populations were previously classified as *A. sinensis* (Broth.) Herzog, but Padberg & Frahm (1985) have made them a synonym of *A. alpinus*.

Brachymerium longidens Renaud & Cardot

- Kachin State, Hponyin Razi, 27.619077°N, 96.981793°E, 2804 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-074-061.
- Kachin State, Hponkan Razi, 27.50592°N, 96.93523°E, 3588 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-026-043c-F.

This is a meta-Himalayan species that is found in China (Yunnan, Sichuan, Anhui and Guangdong), the Himalayan region of India (Darjeeling and Uttarakhand), Nepal and northern Thailand (Chiang Mai) (Zhang et al. 2007, Tan & Printarakul 2018, Prahdan 2008).

Breutelia yunnanensis Besch.

- Kachin State, Hponyin Razi, 27.627165°N, 96.977263°E, 3047 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-069-078-E.

New for Indochina. This species is found in the Himalayas and is known from India, Nepal, Bhutan and China (Virtanen 1997).

Bryum russulum Broth. & Geh.

- Chin State, Natma Taung (Mt. Victoria), 21.2194427°N, 94.0699586°E, 1400 m, epiphytic in evergreen oak forest with Taungya succession, 25.10.2012, P.K. Kine 12_46_11-D.
- Chin State, Natma Taung (Mt. Victoria), 21.2230210°N, 94.0497049°E, 1800 m, epiphytic in evergreen oak forest with Taungya succession, 23.11.2012, P.K. Kine 12_97_21-C.
- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-088-C.

Koponen & Norris (1984) reported the species from Indonesia, the Philippines, and Papua New Guinea, Frahm et al. (2009) from Thailand. The distinction from *B. billardieri* Schwägr. (= *Rosulabryum billardieri* (Schwägr.) J.R.Spence) is not always clear; in identifying the specimens from Myanmar, the diagnostic characteristics listed by Frahm et al. (2009) and Eddy (1996) were used.

Calymperes afzelii Sw.

- Kachin State, Hponkan Razi, 27.46265899°N, 97.31948999°E, 669 m, evergreen broadleaved forest, 07.11.2014, J. Kluge & P.K. Kine 14-067-092.

This pantropical species is widely distributed across Southeast Asia.

Calypothecium acostatum J.X.Luo

- Chin State, Natma Taung (Mt. Victoria), 21.2221747°N, 93.9758667°E, 2400 m, epiphytic in *Lithocarpus* forest, 05.10.2012, J. Kluge & P.K. Kine 12_07_28.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miehe et al. 13-087-095.

New for Indochina. The species was described from China (Xizang) by Luo (1984). It was later also reported from Bhutan and the Gaoligong-shan portion of the Hengduan Mountains in north-western Yunnan (Enroth & Shevock 2021).

Calypothecium auriculatum (Dixon) Nog.

- Kachin State, Hponyin Razi, 27.253067°N, 97.410132°E, 527 m, Fagaceae-Dipterocarps forest, 12.12.2013, G. Miehe et al. 13-116-338-C & G.
- Kachin State, Hponyin Razi, 27.253458°N, 97.410512°E, 505 m, Fagaceae-Dipterocarps forest, 12.12.2013, G. Miehe et al. 13-115-273-B.

This species is widely distributed across Southeast Asia. It has been reported from Nepal, Bangladesh, Thailand, Vietnam, India (Sikkim, Kerala), Thailand, China, and Taiwan (Ninh 1993, O’Shea 2003, Jia & He 2011, Wilbraham et al. 2025).

Campylopus schimperi Milde

- Chin State, Natma Taung (Mt. Victoria), 21.2069909°N, 94.0258824°E, 2000 m, epiphytic in evergreen oak forest, 20.10.2012, P.K. Kine 12_35_05-B.

New for Indochina. This species has a wide distribution across the Holarctic, and is found in North America (USA, Canada, Greenland), Europe, and Asia (Bhutan, Nepal, China, Japan, Asian Russia) (Gao et al. 1999, Frahm 2007).

Chionoloma angustatum (Mitt.) M.Menzel

- Chin State, Natma Taung (Mt. Victoria), 21.2220283°N, 94.0551230°E, 1600 m, epiphytic in evergreen oak forest with Taungya succession, 25.11.2012, P.K. Kine 12_99_32-D.

This species is known from Central and South America (Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Peru, Venezuela), Asia (China, India, Indonesia, Japan, Malaysia, Nepal, Papua New Guinea, the Philippines, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam, and Yemen), and Oceania (Hawaii) (Alonso et al. 2019).

Chionoloma bombayense (Müll.Hal.) P.Sollman

- Kachin State, above Ziadam, 27.584206°N, 97.104465°E, 1420 m, epiphytic in evergreen broadleaved forest, 24.10.2014, J. Kluge & P.K. Kine 14-050-014-A.

New for Indochina. Several names that had previously been applied to this taxon have been resurrected (Alonso et al. 2018) and as a result of this, the species’ range has been significantly reduced compared with earlier reports. Alonso et al. (2019) state that the species is found in only two Asian countries (Bhutan and India) and at a single site in Africa (the Democratic Republic of the Congo), but might be present in other regions from Central Africa, the Indian subcontinent, or the Himalayas.

Chionoloma cylindrotheca (Mitt.) M.Alonso, M.J.Cano & J.A.Jiménez

- Chin State, Natma Taung (Mt. Victoria), 21.2147139°N, 94.0241384°E, 2200 m, epiphytic in evergreen oak forest, 10.11.2012, P.K. Kine 12_73_49-E.

The range of the species includes Europe (Austria, France, Ireland, Italy, Norway, Russia [Caucasus], Sweden, Switzerland, United Kingdom), North America (Canada, USA), Asia (Bhutan, China, Georgia, India, Japan, Malaysia, Nepal, Thailand), Africa (Central African Republic, Guinea, Kenya, Madagascar, Malawi, South Africa, Tanzania, Union of the Comoros, Zambia), and Oceania (Hawaii) (Alonso et al. 2019).

Chionoloma recurvifolium (Taylor) M.Alonso, M.J.Cano & J.A.Jiménez (Fig. 1)

- Kachin State, Hponkan Razi, 27.50559°N, 96.93515°E, 3603 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-027-012-C.

New for Indochina. This species is found in North America (Canada, USA), Europe (Ireland, United Kingdom), and Asia (China, Nepal, Turkey) (Alonso et al. 2019).

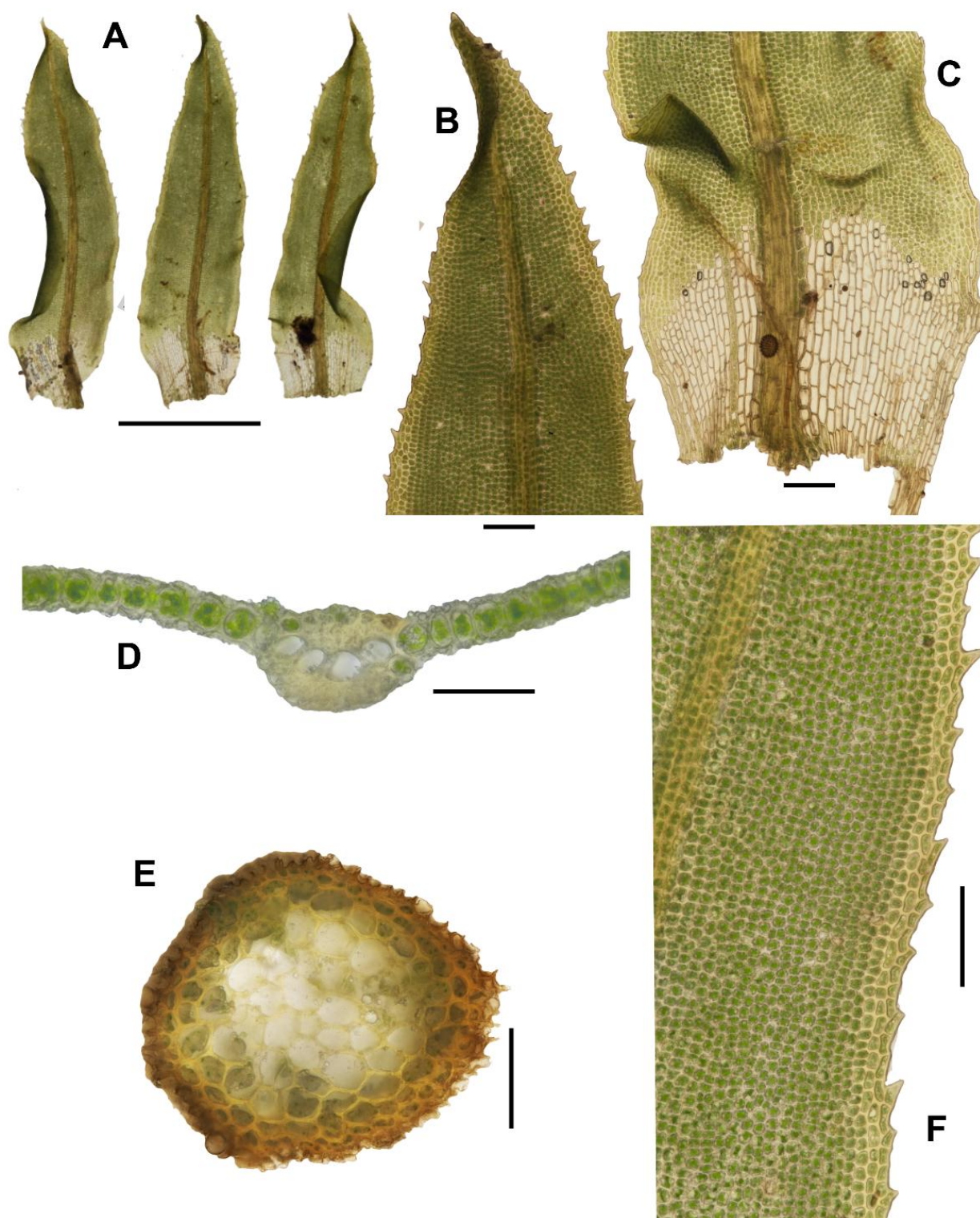


Fig. 1. *Chionoloma recurvifolium*. A – leaves, B – leaf apex, C – basal part of leaf, D – cross-section of leaf, E – stem cross-section, F – detail of upper part of leaf. Scales: A = 1000 μm ; B, C, E, F = 100 μm ; D = 50 μm . All photos from J. Kluge & P.K. Kine 14-027-012-C.

Daltonia aristifolia Renault & Cardot

- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-087-093-B p. p.

This species is found in China, Taiwan, India (Assam, Darjeeling), Indonesia, Philippines, Nepal, Vietnam, Taiwan, and Thailand (Chiang Mai) (Lin & Tan 2002, Juengprayoon 2017).

Daltonia waniana (B.C.Tan & P.J.Lin) B.C.Ho & L.Pokorny (*Distichophyllum wanianum* B.C.Tan & P.J.Lin)

- Kachin State, Hponyin Razi, 27.607947°N, 96.98215°E, 2162 m, on bark in *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-086-150-G.

A rare SE Asian species known from China (Guangdong, Hainan, and Yunnan), India (Darjeeling), Thailand, and Vietnam (Zhang et al. 2016, Lin & Tan 2002, Juengprayoon 2017).

Dendrocyathophorum decolyi (Broth. ex M.Fleisch.) Kruijer

- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2078 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-088-177-C.

New for Indochina. This species is found in India (Bengal Jalpaigura, Arunachal Pradesh), China (Sichuan), Japan, Taiwan, the Philippines, Indonesia, and Papua New Guinea (Kruijer 2002).

Dicranodontium asperulum (Mitt.) Broth.

- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia-Rhododendron* forest, 26.10.2013, G. Miehe et al. 13-073-061-B & 13-073-062-B.
- Kachin State, Hponyin Razi, 27.39428°N, 96.57465°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-048-016-D.
- Kachin State, Hponyin Razi, 27.626719°N, 96.977095°E, 3041 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-068-042-E.
- Kachin State, Hponyin Razi, 27.63313°N, 96.976775°E, 3136 m, upper montane *Abies-Rhododendron* forest, 23.10.2013, G. Miehe et al. 13-067-032-C.
- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-014-F.

New for Indochina. This circumboreal species is widely distributed across temperate and boreal regions of the Holarctic. It extends south to the Himalayan region, where it is found in India (Sikkim), Nepal and China (Sichuan, Yunnan and Tibet) (Frahm 1997, Gao et al. 1999).

Dicranodontium denudatum (Brid.) Britt.

- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-085-102-I.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-087-095.
- Kachin State, Hponyin Razi, 27.616529°N, 96.982735°E, 2607 m, *Lithocarpus-Magnolia-Rhododendron* forest, 30.10.2013, G. Miehe et al. 13-077-085-B.
- Kachin State, Hponyin Razi, 27.606185°N, 96.984639°E, 2029 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-089-144-C & 13-089-142-F.
- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia-Fagaceae*-Bamboo forest, 02.11.2013, G. Miehe et al. 13-080-149-E.
- Kachin State, Hponyin Razi, 27.614349°N, 96.982286°E, 2434 m, *Magnolia-Fagaceae*-Bamboo forest, 03.11.2013, G. Miehe et al. 13-082-077-B.

- Kachin State, Hponyin Razi, 27.612933°N, 96.981794°E, 2371 m, *Magnolia*-Fagaceae-Bamboo forest, 02.11.2013, G. Miehe et al. 13-081-094-A.
- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-014-C.
- Chin State, Natma Taung (Mt. Victoria), 21.2215343°N, 94.0571543°E, 1600 m, epiphytic in evergreen oak forest with Taungya succession, 23.11.2012, P.K. Kine 12_96_27-H.
- Chin State, Natma Taung (Mt. Victoria), 21.2230210°N, 94.0497049°E, 1800 m, epiphytic in evergreen oak forest with Taungya succession, 23.11.2012, P.K. Kine 12_97_21-D.
- Chin State, Natma Taung (Mt. Victoria), 21.2062546°N, 94.0363715°E, 1800 m, epiphytic in evergreen oak forest with Taungya succession, 12.11.2012, P.K. Kine 12_78_02-A.
- Chin State, Natma Taung (Mt. Victoria), 21.2069909°N, 94.0258824°E, 2000 m, epiphytic in evergreen oak forest, 20.10.2012, P.K. Kine 12_35_05-B.
- Chin State, Natma Taung (Mt. Victoria), 21.2150882°N, 94.022229°E, 2200 m, epiphytic in evergreen oak forest, 08.10.2012, J. Kluge & P.K. Kine 12_12_19-F.
- Chin State, Natma Taung (Mt. Victoria), 21.2147943°N, 94.0235098°E, 2200 m, epiphytic in evergreen oak forest, 08.11.2012, P.K. Kine 12_71_03-M.

New for Indochina. A Holarctic species occurring in the whole Eurasia south to India, Sri Lanka, and the Philippines, in North America, Central America, northern South America (Frahm 1997, Gao et al. 1999).

Dicranodontium porodictyon Cardot & Thér.

- Chin State, Natma Taung (Mt. Victoria), 21.2287435°N, 93.9095379°E, 3000 m, epiphytic in *Quercus semecarpifolia* forest, 04.10.2012, J. Kluge & P.K. Kine 12_05_08-F.

New for Indochina. Until now, the species was only known in India (Sikkim), China and Hawaii (Gao et al. 1999, Frahm 1997).

Dicranoloma assimile (Hampe) Broth. ex Renauld

- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-084-168.
- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-085-104-A & 13-085-105-E.
- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-085-104-A.
- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Miehe et al. 13-091-145.
- Kachin State, Hponyin Razi, 27.603756°N, 96.988924°E, 1833 m, *Quercus-Magnolia*-Araliaceae forest, 16.11.2013, G. Miehe et al. 13-093-203-H.
- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-104-233.
- Myanmar, no detailed collection site, 1714 m, G. Miehe et al. 13-095-123-B.
- Kachin State, above Ziadam, 27.584206°N, 97.104465°E, 1400-1420 m, evergreen broadleaved forest, 24.10.2014, J. Kluge & P.K. Kine 14-051-001d-B, 14-051-012-F & 14-050-014-O.
- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-001d-A & 14-031-088-N.
- Kachin State, Hponkan Razi, 27.548847°N, 97.02968°E, 1508 m, evergreen broadleaved forest, 17.10.2014, J. Kluge & P.K. Kine 14-041-019-A & C.
- Kachin State, Hponkan Razi, 27.547208°N, 97.0282219°E, 1661 m, evergreen broadleaved forest, 17.10.2014, J. Kluge & P.K. Kine 14-042-001b-B.
- Kachin State, Hponkan Razi, 27.548444°N, 97.029479°E, 1665 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-032-001c-D.

This species is found in Southeast Asia (China, Thailand, Peninsular Malaysia, Sumatra, Java, Borneo, Philippines, Sulawesi, Maluku, New Guinea) and Oceania (d'Entrecasteux Islands, Solomon Islands) (Klazenga 1999).

Dicranoloma braunii (Müll.Hal.) Paris

- Kachin State, Hponyin Razi, 27.581472°N, 97.077011°E, 1197 m, *Quercus-Ficus* forest, 24.11.2013, G. Mieke et al. 13-099-272-C & D.
- Kachin State, Hponyin Razi, 27.553772°N, 97.111047°E, 1046 m, secondary forest, 01.12.2013, G. Mieke et al. 13-103-237-R.

This species is widely distributed across Southeast Asia, including Sri Lanka, India (Khasi Hills), China (Hainan), Taiwan, Thailand, Laos, Vietnam, Peninsular Malaysia, Sumatra, Java, Borneo, the Philippines, Sulawesi, Nusa Tenggara, Maluku, and New Guinea. It also extends to Oceania, including the Solomon Islands, Vanuatu, New Caledonia, Fiji, Samoa and the Society Islands (Klazenga 1999).

Dicranum crispifolium Müll.Hal.

- Kachin State, Hponkan Razi, 27.548847°N, 97.02968°E, 1508 m, evergreen broadleaved forest, 17.10.2014, J. Kluge & P.K. Kine 14-041-019-B.
- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-088-P.

New for Indochina. This Himalayan species is found in the Himalayan regions of China, Bhutan, Nepal, and India with next records in Sichuan, Yunnan, and Tibet (Gao et al. 1999, Huang et al. 2024).

Dicranum himalayanum Mitt.

- Kachin State, Hponkan Razi, 27.30359°N, 96.5621°E, 3450 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-018-001f-H.
- Kachin State, Hponkan Razi, 27.5097°N, 96.93649°E, 3502 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-015-037f-G & 14-015-037b.
- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001b-G & 14-028-001e-C.
- Kachin State, Hponkan Razi, 27.50592°N, 96.93523°E, 3588 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-026-043c, 14-026-043d-D & 14-026-043e-B.
- Kachin State, Hponkan Razi, 27.50611°N, 96.93499°E, 3601 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-025-017b-E, 14-025-017c-B & 14-025-017e-B.
- Kachin State, Hponkan Razi, 27.50559°N, 96.93515°E, 3603 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-027-001e-B.

New for Indochina. This Himalayan species is found in China, Bhutan, Nepal and India (Gao et al. 1999). In China, it is mainly found in the south-west, including in the provinces of Sichuan, Tibet and Yunnan (Huang et al. 2024).

Distichophyllum mittenii Bosch & Sande Lac.

- Kachin State, Hponyin Razi, 27.581009°N, 97.07631°E, 1177 m, *Quercus-Ficus* forest, 28.11.2013, G. Mieke et al. 13-101-267-D.
- Kachin State, Hponyin Razi, 27.580652°N, 97.076896°E, 1168 m, *Quercus-Ficus* forest, 24.11.2013, G. Mieke et al. 13-098-361-D.

It is widespread in Southeast Asia and also occurs in Australia (Queensland) and Oceania (New Guinea, New Caledonia and Vanuatu) (Juengprayoon 2017, Mohamed & Robinson 1991).

Ectropothecium ohosimense Cardot & Thér.

- Kachin State, Hponyin Razi, 27.606185°N, 96.984639°E, 2029 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Mieke et al. 13-089-143-E, conf. Si He.

This species is found in China, Japan, Vietnam, and Thailand (Zhang & He 2005, Sukkharak et al. 2014).

Ectropothecium stigmophyllum Broth. (*E. perscabrum* Tixier)

- Kachin State, Hponyin Razi, 27.581472°N, 97.077011°E, 1197 m, *Quercus-Ficus* forest, 24.11.2013, G. Mieke et al. 13-099-272-F, conf. Si He.

This Southeast Asian species is found in Thailand, Vietnam, Bangladesh, the Philippines and Singapore, as well as in Oceania (Samoa) (Tan & Iwatsuki 1993, O'Shea 2003, He & Ho 2024). It is better known by the name *Ectropothecium perscabrum* Tixier, but He & Ho (2024) synonymised this with *E. stigmophyllum*.

Exostratum blumei (Nees ex Hampe) L.T.Ellis

- Kachin State, northwest of Putao, 27.46157°N, 97.32145°E, 649 m, evergreen broadleaved forest, 09.11.2014, J. Kluge & P.K. Kine 14-070-001d.

It is widely distributed in Southeast Asia, as well as in New Caledonia and Australia (Lin & He 1999).

Fauriella tenerrima Broth. (Fig. 2)

- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-088-D.
- Kachin State, Hponkan Razi, 27.46201°N, 97.32063°E, 626 m, evergreen broadleaved forest, 09.11.2014, J. Kluge & P.K. Kine 14-069-005-B p.p.

New for Indochina. This is a rare species that has only been reported in China (Hunan, Anhui, Guizhou and Guangxi) and Japan (Gao & Fu 2002, Gao & Cao 1992).

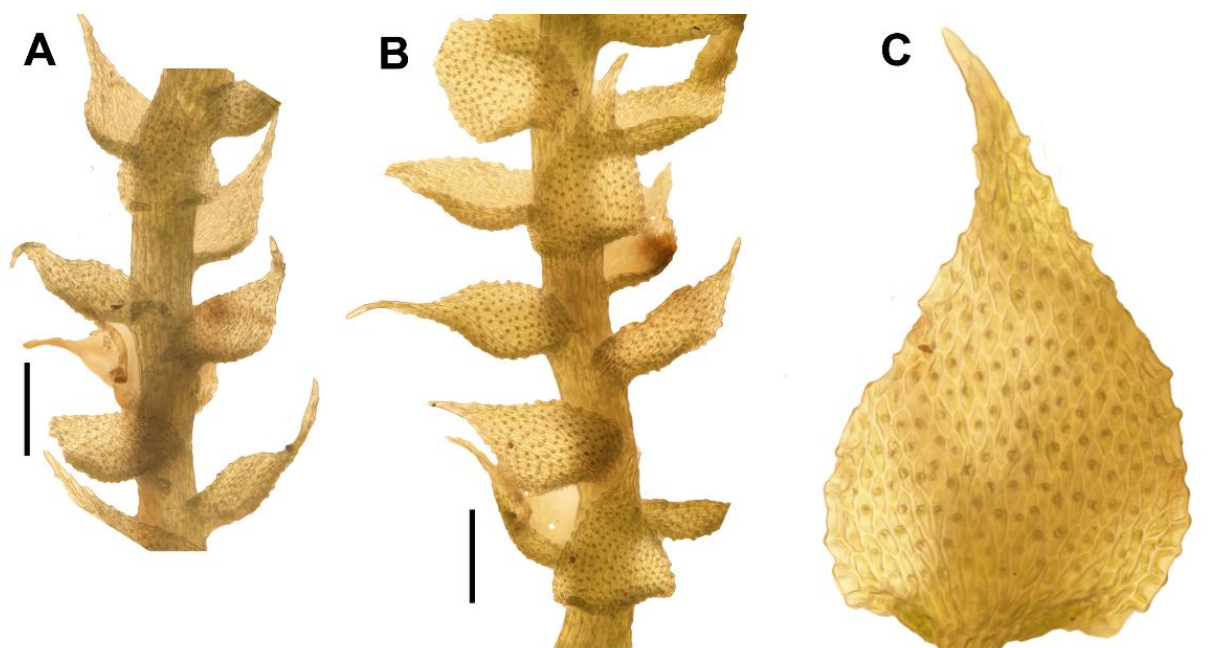


Fig. 2. *Fauriella tenerrima*. A, B – stems with leaves, C – leaf. Scales: A, B = 100 μ m; C = 50 μ m. All photos from J. Kluge & P.K. Kine 14-069-005-B.

Floribundaria pseudofloribunda M.Fleisch.

- Kachin State, Hponyin Razi, 27.553772°N, 97.111047°E, 1046 m, secondary forest, 01.12.2013, G. Mieke et al. 13-103-237-F & 13-103-237-Q.
- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Mieke et al. 13-104-233.
- Kachin State, Hponyin Razi, 27.51006°N, 97.161069°E, 909 m, evergreen broadleaved forest, 02.11.2014, G. Mieke et al. 14-061-001d.

It is widespread in tropical Southeast Asia.

Floribundaria walkeri (Renauld & Cardot) Broth.

- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Mieke et al. 13-091-145, 13-091-147.
- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Mieke et al. 13-104-234-C.
- Kachin State, Hponyin Razi, 27.602795°N, 96.988431°E, 1797 m, *Quercus-Magnolia-Araliaceae* forest, 16.11.2013, G. Mieke et al. 13-092-194.
- Chin State, Natma Taung (Mt. Victoria), 21.2034963°N, 94.0236152°E, 2000 m, evergreen oak forest, 10.11.2012, P.K. Kine 12_74_08.
- Chin State, Natma Taung (Mt. Victoria), 21.2208733°N, 93.9330290°E, 2800 m, *Quercus semecarpifolia* forest, 23.10.2012, P.K. Kine 12_41_09_D.

This species is widely distributed across Southeast Asia, including in China, India, Nepal, Laos, the Philippines, Indonesia, and Peninsular Malaysia. It also extends as far as Oceania, specifically Samoa, and Queensland in Australia (Wu & Pei 2011, Hedenäs 1994).

Hageniella assamica Dixon (Fig. 3)

- Chin State, Natma Taung (Mt. Victoria), 21.2088464°N, 94.0243868°E, 2000 m, epiphytic in evergreen oak forest, 12.11.2012, P.K. Kine 12_76_52_C.

The species was described from Japwo in the Naga Hills range in India near to the border to Myanmar. Outside of this location, the species is only known from one site in northern Thailand (Chiang Mai) (Pollawatn 2008).

Herzogiella renitens (Mitt.) Z.Iwats.

- Kachin State, Hponkan Razi, 27.5097°E, 96.93649°E, 3502 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-015-037f, det. Si He.
- Kachin State, Hponkan Razi, 27.50611°N, 96.93499°E, 3601 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-025-017e-A & 14-025-017b, det. Si He.
- Kachin State, Hponyin Razi, 27.65845°N, 96.96988°E, 3860 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Mieke et al. 13-056-023-C.
- Kachin State, Hponkan Razi, 27.5097°N, 96.93649°E, 3502 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-015-037f & 14-028-001f-G.
- Kachin State, Hponkan Razi, 27.50559°N, 96.93515°E, 3603 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-027-001e-C.
- Kachin State, Hponyin Razi, 27.39428°N, 96.57465°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Mieke et al. 13-048-016-G.
- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001b-D.

New for Indochina. It is presumably a Himalayan species, but its distribution is not yet well understood. It is known to occur in China (Guizhou) and India (Sikkim) (Zhang & He 2005).



Fig. 3. *Hageniella assamica*. A – leaves, B – basal part of leaf, C – leaf cells in median part of leaf. Scales: A = 100 µm; B, C = 50 µm. All photos from P.K. Kine 12_76_52_C.

Hookeria acutifolia Hook. & Grev.

- Kachin State, Hponyin Razi, 27.607947°N, 96.98215°E, 2162 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-086-148;
- Kachin State, Hponyin Razi, 27.606185°N, 96.984639°E, 2029 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-089-142-I
- Kachin State, Hponyin Razi, 27.614349°N, 96.982286°E, 2434 m, *Magnolia-Fagaceae*-Bamboo forest, 03.11.2013, G. Miehe et al. 13-082-077-J
- Kachin State, Hponyin Razi, 27.612933°N, 96.981794°E, 2371 m, *Magnolia-Fagaceae*-Bamboo forest, 02.11.2013, G. Miehe et al. 13-081-094-K
- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia-Fagaceae*-Bamboo forest, 02.11.2013, G. Miehe et al. 13-080-147-F
- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2078 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-088-176-O
- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia-Rhododendron* forest, 26.10.2013, G. Miehe et al. 13-073-061-A
- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-084-166-E
- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-085-102-J
- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia*-Bamboo, 05.11.2013, G. Miehe et al. 13-091-144
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-087-093-F.

This species is widespread in Asia, Africa, eastern North America, northwestern North America to northern South America (Lin & Tan 2002).

Hylocomiastrum himalayana (Mitt.) Broth.

- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001a-C & 14-028-001f-C.

New for Indochina. This species is found in China, Taiwan, Japan, Korea, Nepal, Bhutan, India (Sikkim) (Koponen 1979, Jia et al. 2005b).

Hypnum subimponens subsp. *ulophyllum* (Paris) Ando

- Chin State, Natma Taung (Mt. Victoria), 21.2088464°N, 94.0243868°E, 2000 m, epiphytic in evergreen oak forest, 12.11.2012, P.K. Kine 12_76_52_M, det. Si He.

New for Indochina. This Asian taxon is found in China, Taiwan, Japan, Korea, eastern Russia and the Himalayan region (Bhutan and Nepal) (Zhang & He 2005, Afonina 2004, Gangulee 1980).

Isodrepanium arcuatum (Bosch & Sande Lac.) J.J.Wang & Y.Jia (*Taxiphyllum arcuatum* (Bosch & Sande Lac.) S.He var. *arcuatum*) (Fig. 4)

- Kachin State, Hponyin Razi, 27.562787°N, 97.108472°E, 1051 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-106-312-A.

The species is known from China, Japan, Indonesia, and Thailand (Zhang & He 2005, He 1997).

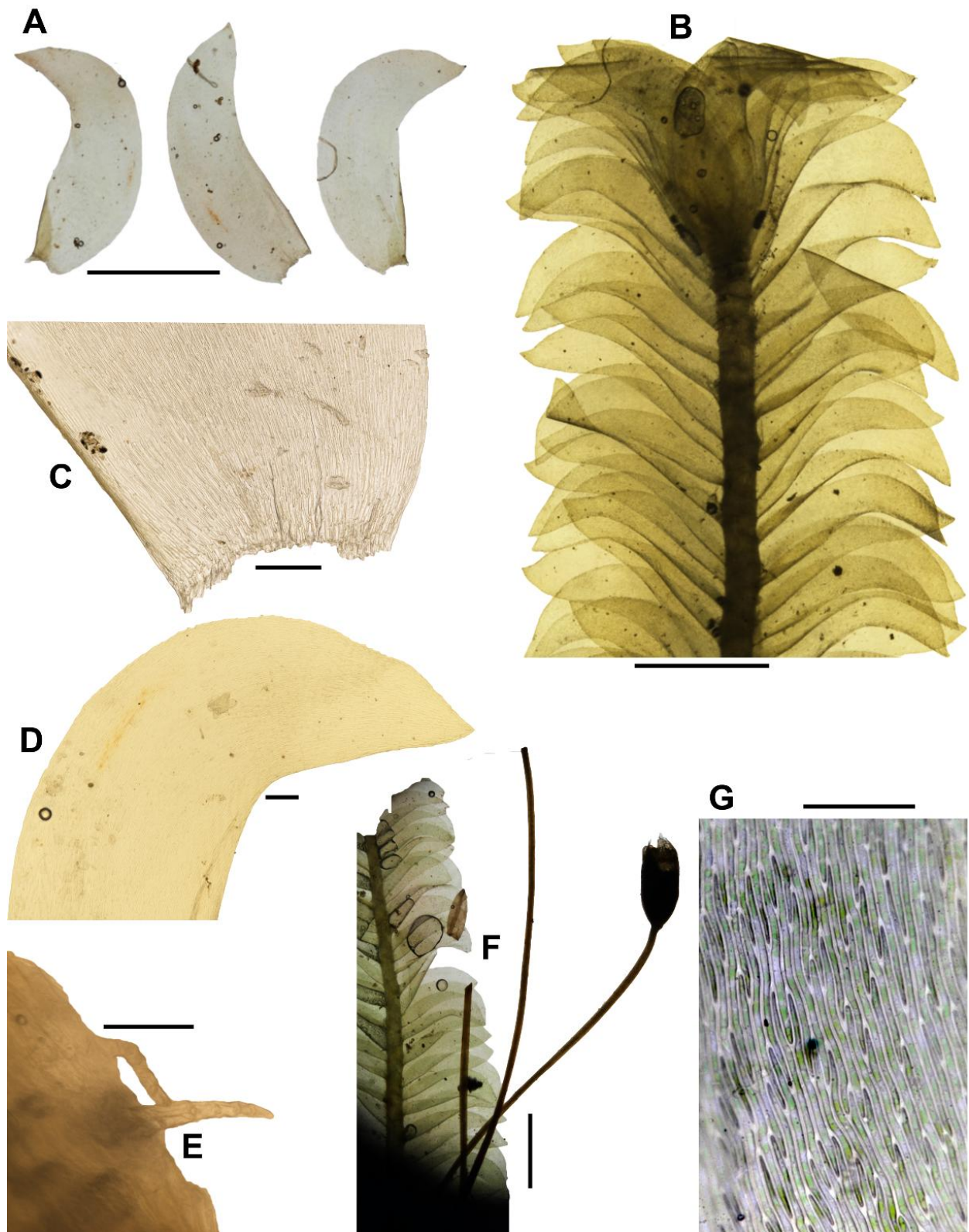


Fig. 4. *Isodrepanium arcuatum*. A – leaves, B – branch with leaves, C – basal part of leaf, D – leaf apex, E – pseudoparaphyllia, F – plant with sporophytes, G – leaf cells in medium part of leaf. Scales: A, B, F = 1 mm; C, D = 100 μ m; E, G = 50 μ m. All photos from G. Miehe et al. 13-106-312-A.

Leucobryum bowringii Mitt.

- Kachin State, Hponkan Razi, 27.46201°N, 97.32063°E, 626 m, evergreen broadleaved forest, 09.11.2014, J. Kluge & P.K. Kine 14-069-005-C.
- Kachin State, east of Awadam, 27.493467°N, 97.166814°E, 874 m, evergreen broadleaved forest, 30.10.2014, J. Kluge & P.K. Kine 14-057-001d.
- Kachin State, Hponkan Razi, 1447 m, evergreen broadleaved forest, 21.10.2014, J. Kluge & P.K. Kine 14-048-001a-C.
- Kachin State, above Ziadam, 27.584206°N, 97.104465°E, 1400 m, evergreen broadleaved forest, 24.10.2014, J. Kluge & P.K. Kine 14-051-001b-B.

The species is widely distributed in Southeast Asia, with occurrence records extending from Japan, Taiwan, China, the Himalayan region, India, Sri Lanka, Thailand, Cambodia, Vietnam, the Malay Peninsula, the Philippines, Borneo, Sulawesi, Sumatra, Java, Seram, and New Guinea. Additionally, it has been documented in Oceania, with specific references made to the Solomon Islands (Lin & He 1999, Yamaguchi 1993).

Leucobryum humillimum Card.

- Kachin State, Hponkan Razi, 27.46157°N, 97.32145°E, 649 m, evergreen broadleaved forest, 09.11.2014, J. Kluge & P.K. Kine 14-070-228-D.

New for Indochina. The species is known to occur in Japan, Korea, China, the Himalayan region, India and Sri Lanka (Yamaguchi 1993).

Macromitrium aurescens Hampe

- Kachin State, Hponyin Razi, 27.56217°N, 97.108831°E, 1047 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-105-276-H.

The species is known to occur in Australia, Thailand and Vietnam (Guo et al. 2024).

Macromitrium giraldii Müll.Hal.

- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-088.
- Kachin State, Hponyin Razi, 27.553564°N, 97.110258°E, 1059 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-104-233.

New for Indochina. The species is known from China, India, and Japan (Guo et al. 2024).

Mitthyridium flavum (Müll.Hal.) H.Rob.

- Kachin State, Hponyin Razi, 27.253458°N, 97.410512°E, 505 m, Fagaceae-Dipterocarps forest, 12.12.2013, G. Miehe et al. 13-115-273-D.

This species is distributed across the Paleotropics, and its presence is documented in tropical Africa, Southeast Asia and Australia (Reese & Lin 2001).

Neobarbella comes (Griff.) Nog.

- Kachin State, Hponyin Razi, 27.581472°N, 97.077011°E, 1197 m, *Quercus-Ficus* forest, 24.11.2013, G. Miehe et al. 13-099-274-E.
- Kachin State, Hponyin Razi, 27.553772°N, 97.111047°E, 1046 m, secondary forest, 01.12.2013, G. Miehe et al. 13-103-237-I.
- Kachin State, Hponyin Razi, 27.56217°N, 97.108831°E, 1047 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-105-279-H.

- Kachin State, Hponyin Razi, 27.562787°N, 97.108472°E, 1051 m, *Engelhardia-Castanopsis* forest, 04.12.2013, G. Miehe et al. 13-106-312-O.
- Kachin State, Hponkan Razi, evergreen broadleaved forest, 27.561667°N, 97.108695°E, 1048 m, evergreen broadleaved forest, J. Kluge & P.K. Kine 14-054-028-A.

New for Indochina. A Southeast Asian element, known from China, Japan, India, Sri Lanka, Indonesia, and the Philippines (Wu & Pei 2011).

Oncophorus sinensis Müll.Hal. (= *Symblepharis elongata* (I.Hagen) Fedosov, M.Stech & Ignatov, = *Oncophorus elongatus* (I.Hagen) Hedenäs)

- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-001c.
- Kachin State, Hponkan Razi, 27.5097°N, 96.93649°E, 3502 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-015-037f-J & B.
- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001f.
- Kachin State, Hponkan Razi, 27.50559°N, 96.93515°E, 3603 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-027-001b-B.

New for Indochina. Long & Hedenäs (2020) have shown, following a study of numerous specimens previously identified as *Oncophorus wahlenbergii* Brid. from East Asia, that these specimens differ from that species in important characteristics and are identical to *O. elongatus*, which was described from Scandinavia. The earlier name *O. sinensis*, which is based on material from China, exists for *O. elongatus*, and these authors accept it as the correct name. Fedosov et al. (2021) place *O. elongatus* in the genus *Symblepharis* Mont., primarily due to its flat leaf margins, sheathing leaf base and undifferentiated marginal cells in the sheathing portion. A combination of *O. sinensis* in *Symblepharis* has not yet taken place. It is not possible to recombine the species whilst retaining the specific epithet 'sinensis', as there is already another species within the genus *Symblepharis* bearing this specific epithet, namely *Symblepharis sinensis* Müll.Hal., which differs markedly from *Oncophorus sinensis* in its symmetrical capsules.

Papillidiopsis luxurians (Dozy & Molk.) W.R.Buck & B.C.Tan

- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia*-Fagaceae-Bamboo forest, 02.11.2013, G. Miehe et al. 13-080-147-A, conf. Si He.

The species is known to occur in Thailand, Borneo, India, Java, the Philippines and Sumatra (Pollawatn 2008).

Paraleucobryum enerve (Thed.) Loeske

- Kachin State, Hponyin Razi, 27.39456°N, 96.57443°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-047-015-E;
- Kachin State, Hponyin Razi, 27.65872°N, 96.97018°E, 3840 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Miehe et al. 13-054-014-H.

New for Indochina. The species is widely distributed in the northern Holarctic, extending southwards in Asia to the Himalayan region. The next records are in Yunnan and Tibet in China and in Bhutan (Gao et al. 1999).

Pleurozium schreberi (Willd. ex Brid.) Mitt.

- Kachin State, Hponkan Razi, 27.30359°N, 96.5621°E, 3450 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-018-001b-B.
- Kachin State, Hponkan Razi, 27.50559°N, 96.93515°E, 3603 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-027-012.

New for Indochina. A Pan-Holarctic species extending southwards to the Himalayas and northern South America.

Pogonatum fastigiatum Mitt.

- Kachin State, Hponyin Razi, 27.631019°N, 96.976735°E, 3136 m, upper montane *Abies-Rhododendron* forest, 22.10.2013, G. Miede et al. 13-065-038-A.
- Kachin State, Hponyin Razi, 27.626335°N, 96.977805°E, 3016 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miede et al. 13-070-045-A
- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia-Rhododendron* forest, 26.10.2013, G. Miede et al. 13-073-060-A & 13-073-061.
- Kachin State, Hponyin Razi, 27.61956°N, 96.982098°E, 2807 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miede et al. 13-075-057-M

A species with a meta-Himalayan distribution known from China, Bhutan, India (Sikkim), Nepal, and Thailand (Hyvönen 1989).

Pogonatum sinense (Broth.) Hyvönen & P.C.Wu (*Microdendron sinense* Broth.)

- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-001f-G & B.
- Kachin State, Hponkan Razi, 27.5097°N, 96.93649°E, 3502 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-015-037f-E.
- Kachin State, Hponkan Razi, 27.30356°N, 96.56104°E, 3460 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-016-001c-C.

New for Indochina. A Himalayan species hitherto known from China (Yunnan, Xizang, Sichuan), and Bhutan (Hyvönen & Wu 1993, Wu & Wang 2005).

Pohlia longicolla (Hedw.) Lindb.

- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-001f-F & H.

New for Indochina. The species is widely distributed in cool areas of the northern and temperate Holarctic extending southwards to Mexico and the Himalayan region (Shaw 2014), and also occurring in mountainous areas of East Africa (O'Shea 2006).

Pohlia nutans (Hedw.) Lindb.

- Kachin State, Hponyin Razi, 27.39428°N, 96.57465°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miede et al. 13-048-016-C.

New for Indochina. A (sub-)cosmopolitan species.

Pseudobarbella attenuata (Thwaites & Mitt.) Nog.

- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miede et al. 13-085-104-G.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miede et al. 13-087-095.
- Kachin State, Hponyin Razi, 27.607947°N, 96.98215°E, 2162 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miede et al. 13-086-150-A.
- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Miede et al. 13-091-147, 13-091-146-E & 13-091-145.
- Kachin State, Hponyin Razi, 27.606185°N, 96.984639°E, 2029 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miede et al. 13-089-143-C.
- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2078 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miede et al. 13-088-177 & 13-088-177-K.

- Kachin State, Hponyin Razi, 27.602795°N, 96.988431°E, 1797 m, *Quercus-Magnolia-Araliaceae* forest, 16.11.2013, G. Miehe et al. 13-092-194.
- Kachin State, above Ziadam, 27.584206°N, 97.104465°E, 1420 m, evergreen broadleaved forest, 24.10.2014, J. Kluge & P.K. Kine 14-050-014-H.

The species is widespread in tropical Southeast Asia.

Pseudochorisodontium conanenum (C.Gao) C.Gao, Vitt, X.Fu & T.Cao

- Kachin State, Hponyin Razi, 27.3953°N, 96.57426°E, 4015 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-046-012-E.
- Kachin State, Hponyin Razi, 27.39428°N, 96.57465°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-048-016-B.
- Kachin State, Hponyin Razi, 27.39495°N, 96.57341°E, 4090 m, on boulders, 14.10.2013, G. Miehe et al. 13-045-018.
- Kachin State, Hponyin Razi, 27.65836°N, 96.96956°E, 3850 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Miehe et al. 13-055-014-K.

New for Indochina. The species was described from Tibet in China (Gao & Chang 1979), later it was also found in Yunnan and it was considered as an endemic of China (Gao et al. 1999). With the discoveries in Myanmar, this species can now be recorded outside China for the first time.

Pseudopleuropus indicus (Dixon) T.Y.Chiang (Figs 5–6)

- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001d-B.

New for Indochina. Within the genus *Pseudopleuropus* Takaki, Chiang (1998) distinguishes three species, *P. indicus*, *P. himalayanus* (Ochyra) T.Y.Chiang and *P. morrisonensis* Takaki. Ochyra (1991) combines *P. indicus* and *P. himalayanus*, whilst Chiang (1998) separates them again. Chiang (1998) distinguishes the two species on the basis of the presence or absence of gemmae and the shape of the stem leaves (*P. indicus*: gemmae present, apex of stem-leaf caudate; *P. himalayanus*: gemmae absent, apex of stem-leaf acuminate). The separation does not appear to be conclusively justified. Ochyra (1991) examined and described the type specimen of *Hylocomium indicum* in great detail and found no gemmae; nor is there any mention of them in Dixon's (1938) protologue. In Chiang (1997), the stem leaves of specimen Long 18998 are illustrated; they possess a long, pointed tip, which, according to Chiang (1998), is said to be typical of *P. indicus*. In Chiang (1998), however, this specimen is assigned to *P. himalayanus*. The shape of the stem leaves appears to be a variable characteristic that does not seem particularly suitable for distinguishing between the two species.

Until these characteristics are confirmed by more extensive collections, it seems best for the time being to merge both species. The material collected in Myanmar has caudate stem leaves and therefore corresponds more closely to *P. indicus* anyway, and this is also the oldest available name.

Pseudopleuropus morrisonensis, described from Taiwan (Takaki 1955) and known only from there to date, differs from the other species of the genus in its phyllocladoidy with dwarf males and the presence of a central strand in the stem (Chiang 1998). It is the only species of the genus in which sporophytes have been found to date. These are described and illustrated in Takaki (1955).

The material collected in Myanmar and assigned to *P. indicus* also contains sporophytes. These can be described as follows: Seta 1.0–1.4 cm long, dark red-brown, smooth; capsules cylindrical, erect, dark-brown, 2.0–2.8 mm long, operculum rostellate-rostrate; exothecium cells irregular, usually slightly longer than wide, 21–47 µm long, 17–27 µm wide, thick-walled; annulus absent; exostome brownish, comprising of 16 teeth, 370–420 µm long, 80–85 µm wide at base, free, transversely striated, with a zigzag-shaped midline in the centre, each field densely and finely papillose, with the marginal areas slightly lighter in colour and forming a fringe; endostome with a high basal membrane of 80–100 µm, cilia lacking, segments of the length of the teeth of the exostome or slightly shorter, 25–35 µm wide at base, in upper part 7–10 µm wide, very brittle and often already fallen off, lighter in colour than the exostome, densely covered with fine papillae; spores 19–23 µm, olive green, almost smooth to very finely papillose.

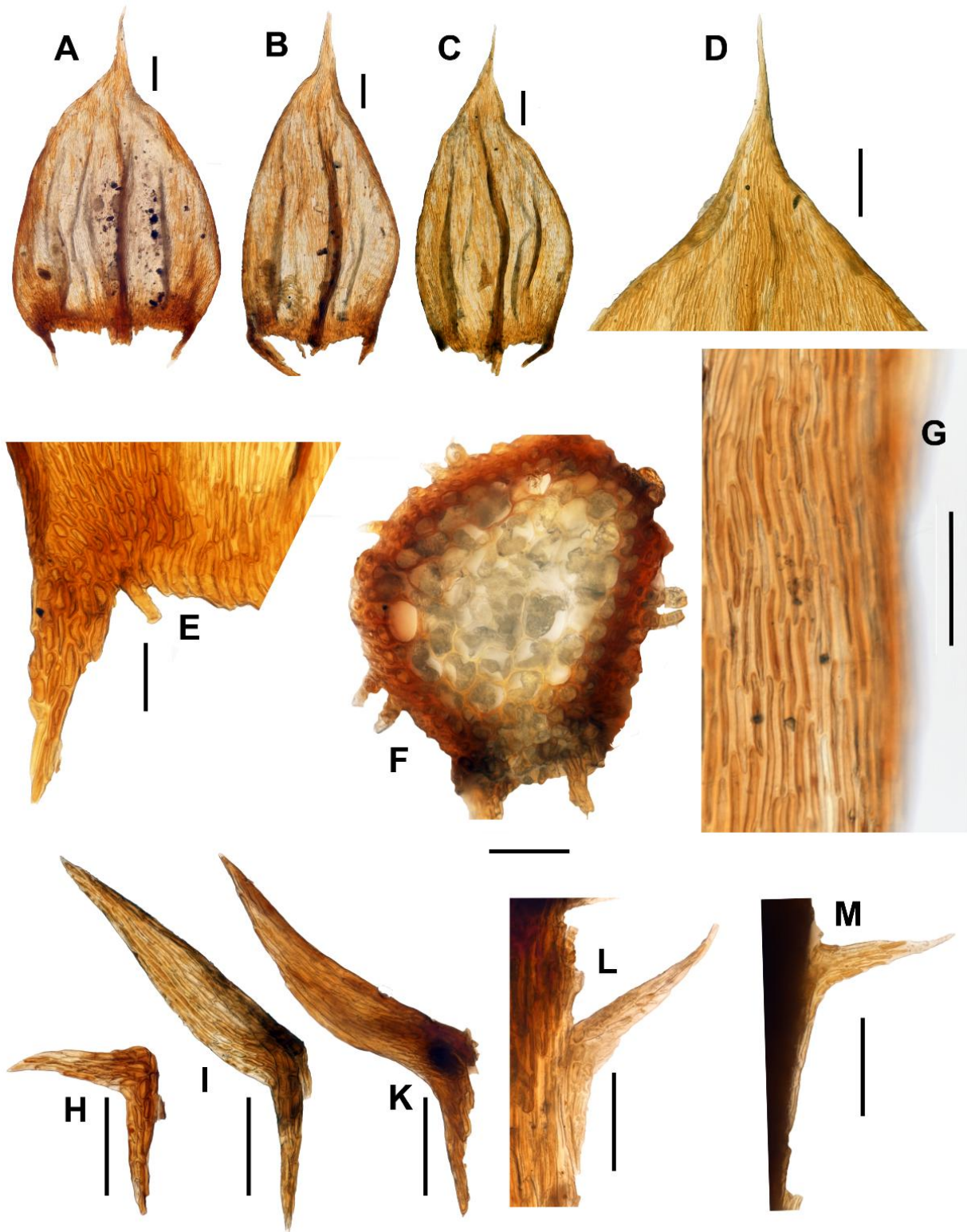


Fig. 5. *Pseudopleuropus indicus*. A – stem leaf, B, C – branch leaves, D – apex of a stem leaf, E – alar region, F – stem cross-section, G – leaf cells in upper part of leaf, H, I, K – paraphyllia, L–M – paraphyllia on stem. Scales: A–D, H–M = 100 μ m; E–G = 50 μ m. All photos from J. Kluge & P.K. Kine 14-028-001d-B.

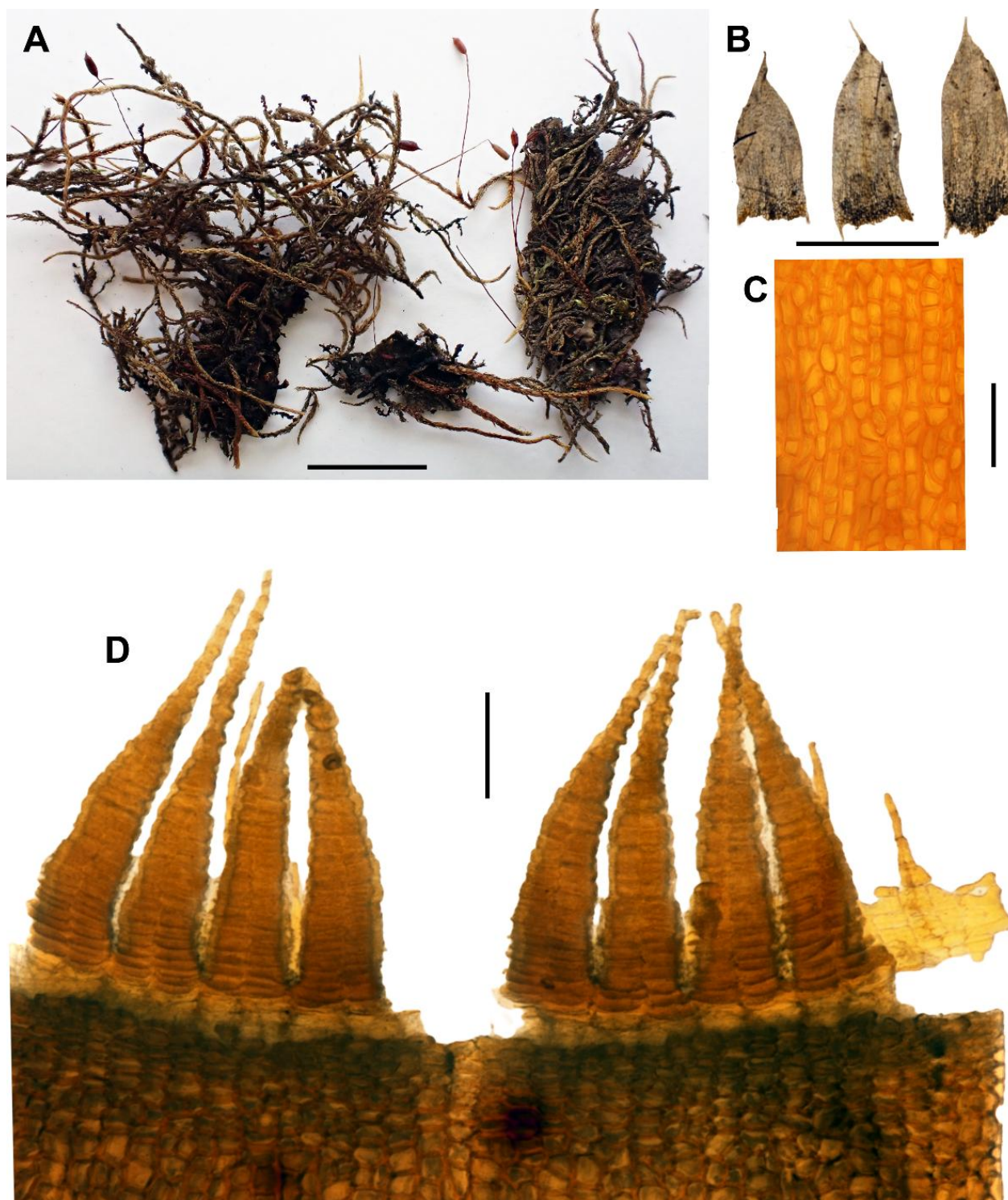


Fig. 6. *Pseudopleuropus indicus*. A – plant, B – perichaetial leaves, C – exothecial cells, D – peristome. Scales: A = 1 cm; B = 1 mm; C, D = 100 μ m. All photos from J. Kluge & P.K. Kine 14-028-001d-B.

The sporophytes of the Myanmar specimen of *P. indicus* differ from those of *P. morrisonensis* only in a few quantitative characteristics, e.g. the seta is longer (1.0–1.4 mm; in *P. morrisonensis* only 0.8–1.0 mm long), and the theca is longer (2.0–2.8 mm; in *P. morrisonensis* only 1.5–2.0 mm long).

Pseudospiridentopsis horrida (Mitt. ex Cardot) M.Fleisch.

- Kachin State, Hponyin Razi, 27.580652°N, 97.076896°E, 1168 m, *Quercus-Ficus* forest, 24.11.2013, G. Miehe et al. 13-098-362-M.

The species is known from Southeast Asia (China, Taiwan, Bhutan, Nepal, India, Japan, the Philippines, Vietnam) and Australia (Queensland) (Wu 2011, Lai 1992, van Zanten 1959).

Pseudotrachypus convolvens (Mitt.) W.R.Buck (*Barbella convolvens* (Mitt.) Broth.)

- Kachin State, Hponkan Razi, 27.585061°N, 97.104085°E, 1448 m, evergreen broadleaved forest, 21.10.2014, J. Kluge & P.K. Kine 14-047-023-A.

A SE Asian species hitherto known from China, India, Sri Lanka, Laos, Thailand, and Indonesia (Wu & Pei 2011, Noguchi 1976, Tan & Iwatsuki 1993).

Pseudotrismegistia amblyostega (Mitt.) H.Akiyama (*Heterophyllum amblyostegum* (Mitt.) M.Fleisch.)

- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia*-Bamboo forest, 05.11.2013, G. Miehe et al. 13-084-169-D, det. H. Akiyama.
- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia*-Fagaceae-Bamboo forest, 02.11.2013, G. Miehe et al. 13-080-149-B.
- Kachin State, Hponyin Razi, 27.614349°N, 96.982286°E, 2434 m, *Magnolia*-Fagaceae-Bamboo forest, 03.11.2013, G. Miehe et al. 13-082-078.
- Kachin State, Hponyin Razi, 27.619077°N, 96.981793°E, 2804 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-074-061.
- Kachin State, Hponyin Razi, 27.61956°N, 96.982098°E, 2807 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-075-057-A.
- Kachin State, Hponyin Razi, 27.625663°N, 96.977896°E, 3010 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miehe et al. 13-071-043-C & L.
- Kachin State, Hponyin Razi, 27.626719°N, 96.977095°E, 3041 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-068-043.
- Kachin State, Hponyin Razi, 27.627165°N, 96.977263°E, 3047 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-069-078-A & D.
- Kachin State, Hponyin Razi, 27.631657°N, 96.976814°E, 3133 m, upper montane *Abies-Rhododendron* forest, 23.10.2013, G. Miehe et al. 13-066-032-B & C.
- Kachin State, Hponyin Razi, 27.63313°N, 96.976775°E, 3136 m, upper montane *Abies-Rhododendron* forest, 23.10.2013, G. Miehe et al. 13-067-032-H.
- Kachin State, Hponkan Razi, evergreen broadleaved forest, s. d., J. Kluge & P.K. Kine 14-034-006-B, det. H. Akiyama.

A species with a meta-Himalayan distribution known from India (Darjeeling, Aranachal, Naga Hills, Sikkim), and northern Thailand (Chiang Mai) (Pollawatn 2008, Gangulee 1980, Akiyama 2017).

Pseudotrismegistia undulata (Broth. & Yasuda) H.Akiyama & H.Tsubota

- Chin State, Natma Taung (Mt. Victoria), 21.2208659°N, 93.9394698°E, 2600 m, epiphytic in *Lithocarpus* forest, 21.10.2012, P.K. Kine 12_37_05_A.

An East Asian species that is known from China (Yunnan, Guangxi, Hainan), Taiwan, Cambodia, Laos, northern Thailand, and Vietnam (Tan & Jia 1999, Akiyama & Tsubota 2001, Pollawatn 2008).

Remyella scabriseta (Schwägr.) Frank Müll. **comb. nov.** (Fig. 7)

Basionym: *Hypnum scabrisetum* Schwägr., Sp. Musc. Frond., Suppl. 3: 281b. 1830. (\equiv *Rhynchostegiella scabriseta* (Schwägr.) Broth., \equiv *Eurhynchium scabrisetum* (Schwägr.) Paris). Protologue: In Nipal lectum sub Leskeae remotifoliae nomine dedit Pr. Hooker. Syntype (probabiliter): Nepal, Wallich (MNHN-PC-FUSION16566).

- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2078 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-088-177-O.
- Myanmar, without record details, 1714 m, 19.12.2013, G. Miehe et al. 13-095-122-C.

The species is better known in South-East Asia as *Rhynchostegiella scabriseta*; records exist from India, Nepal, Thailand and Vietnam (Rajilesh et al. 2023, Touw 1968, He & Khang 2012). The genus *Rhynchostegiella* is now defined more narrowly (Patiño et al. 2017, Ignatov & Huttunen 2002, Ignatov et al. 2005). Ignatov & Huttunen (2002) and Ignatov & al. (2005) discussed the species of *Rhynchostegiella* in East Asia and treated the group of species with delicate plants, usually growing on twigs, that have spiculose leaves when dry in the genus *Remyella* Müll.Hal.

The aforementioned species belongs to the same group, but the combination under *Remyella* had not been available until now, and is therefore proposed here. *Remyella scabriseta* is closely related to *R. ramicola* (Broth. ex Renault & Cardot) Ignatov & Huttunen (*Rhynchostegiella ramicola* (Broth. ex Renault & Cardot) Broth.). In the key provided by Gangulee (1978), the two species are arranged in close proximity, with the only differences being the form of the alar cells (*R. scabriseta*: rectangular; *R. ramicola*: quadrate) and the arrangement of the leaves at branches (*R. scabriseta*: flattened complanate; *R. ramicola*: terete).

Sanionia uncinata (Hedw.) Loeske

- Kachin State, Hponyin Razi, 27.39456°N, 96.57443°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-047-015-D;
- Kachin State, Hponyin Razi, 27.39428°N, 96.57465°E, 4020 m, alpine dwarf shrubland, 15.10.2013, G. Miehe et al. 13-048-016;
- Kachin State, Hponyin Razi, 27.65845°N, 96.96988°E, 3860 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Miehe et al. 13-056-023-A;
- Kachin State, Hponyin Razi, 27.39495°N, 96.57341°E, 4090 m, on boulders, 14.10.2013, G. Miehe et al. 13-045-018-G;
- Kachin State, Hponyin Razi, 27.65872°N, 96.97018°E, 3840 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Miehe et al. 13-054-014-B.
- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001f-G.

New for Indochina. A nearly sub-cosmopolitan species.

Sinskea flammea (Mitt.) W.R.Buck

- Kachin State, Hponyin Razi, 27.619077°N, 96.981793°E, 2804 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-074-060-A.
- Kachin State, Hponyin Razi, 27.626335°N, 96.977805°E, 3016 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miehe et al. 13-070-045-D.

The species is known from China, Bhutan, Nepal, India, Thailand, Japan, and the Philippines.

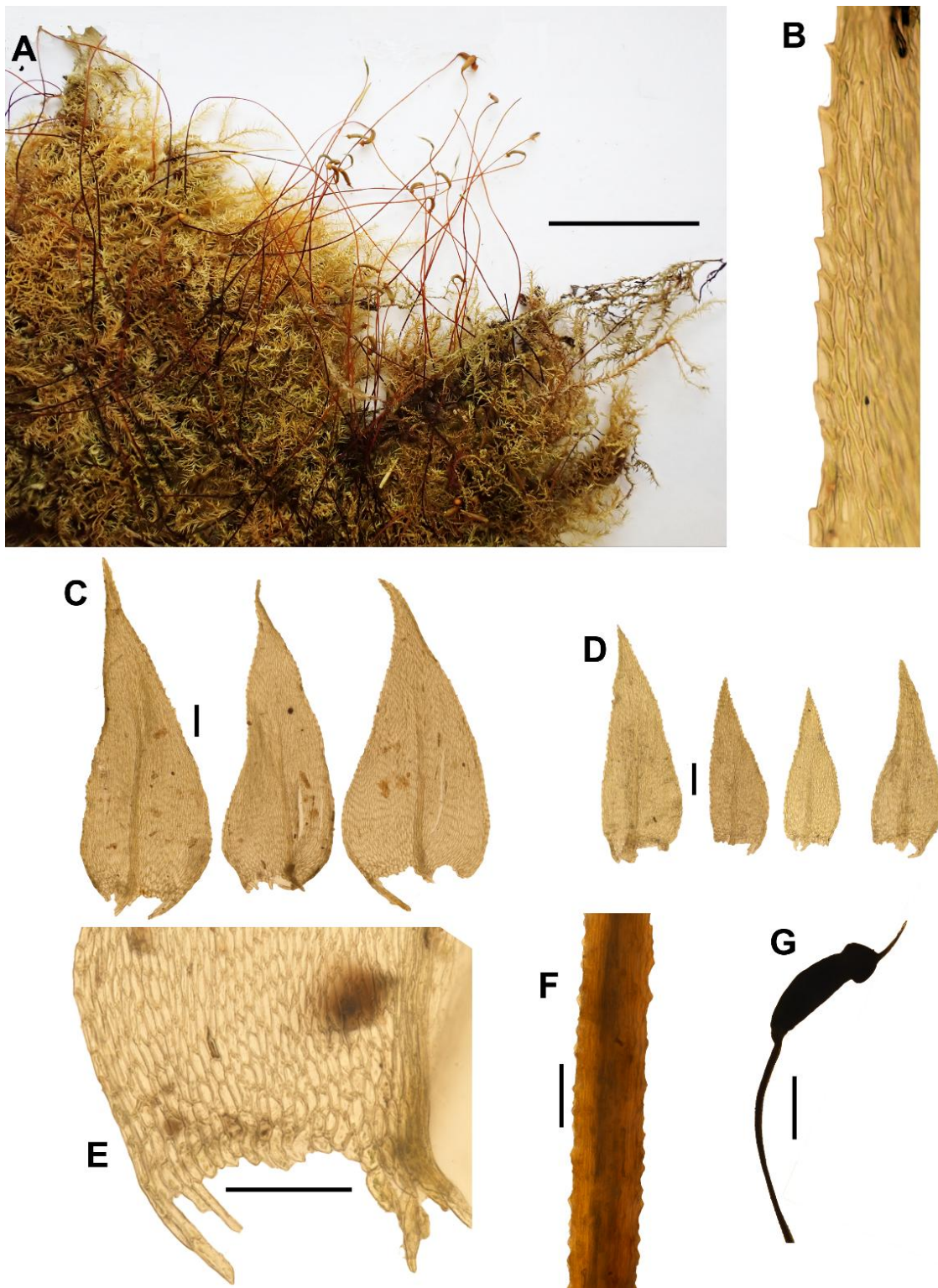


Abb. 7. *Remyella scabriseta*. A – plants, B – detail of upper leaf margin, C – stem leaves, D – branch leaves, E – basal part of stem leaf, F – detail of the seta, G – sporophyte. Scales: A = 1 cm; B = 50 μ m; C–F = 100 μ m; G = 1 mm. All photos from G. Miehe et al. 13-088-177-O.

Sphagnum cf. *divinum* Flatberg & K.Hassel

- Kachin State, Hponyin Razi, 27.631568°N, 96.976403°E, 3138 m, upper montane *Abies-Rhododendron* forest, 22.10.2013, G. Miehe et al. 13-064-041.

New for Indochina. The material belongs to the *Sphagnum magellanicum* complex, within which, however, several species have recently been distinguished (Hassel et al. 2018, Shaw et al. 2023), of which *S. divinum* and *S. medium* Limpr. are known from Eurasia. The specimen is provisionally assigned to *S. divinum*, although it should be noted that material from tropical Southeast Asia has not yet been included in molecular studies. The nearest known occurrences of *S. magellanicum* s.l. are in Yunnan (Li & He 1999) and in India (Khasia) (Eddy 1977).

Sphagnum girgensohnii Russow

- Kachin State, Hponkan Razi, 27.30359°N, 96.5621°E, 3450 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-018-001d-E.
- Kachin State, Hponkan Razi, 27.50611°N, 96.93499°E, 3601 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-025-017b-A & 14-025-017a-F.
- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-001f.
- Kachin State, Hponyin Razi, 27.65836°N, 96.96956°E, 3850 m, lower upland alpine Bamboo thicket, 17.10.2013, G. Miehe et al. 13-055-014-I p.p.

New for Indochina. A pan-Holarctic species with next records in Yunnan and Tibet (Li & He 1999).

Symphiodon weymouthioides Card. & Thér.

- Kachin State, Hponyin Razi, 27.612933°N, 96.981794°E, 2371 m, *Magnolia*-Fagaceae-Bamboo forest, 02.11.2013, G. Miehe et al. 13-081-095-G.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-087-095.
- Kachin State, Hponyin Razi, 27.607947°N, 96.98215°E, 2162 m, *Quercus-Magnolia*-Bamboo forest, 06.11.2013, G. Miehe et al. 13-086-150-M.

New for Indochina. A rare species, hitherto known from China (Guizhou), and India (He & Snider (2000)).

Symphysodontella tortifolia Dixon

- Kachin State, Hponkan Razi, 27.548702°N, 97.032742°E, 1565 m, evergreen broadleaved forest, 14.10.2014, J. Kluge & P.K. Kine 14-031-088-H.

The species is known from China (Sichuan, Yunnan), India (Assam), and Vietnam (Jia & He 2011, Magill 1980, Ninh 1993).

Taxiphyllum cf. *cuspidifolium* (Cardot) Z.Iwats.

- Chin State, Natma Taung (Mt. Victoria), 21.2152994°N, 94.0585739°E, 1400 m, epiphytic in evergreen oak forest with Taungya succession, 21.11.2012, P.K. Kine 12_94_02-C, conf. Si He.

New for Indochina. A species with a disjunct distribution between SE Asia (China, Japan, Korea) and North America (SW of USA) (Ireland 2014, Zhang & He 2005, Kim et al. 2020).

Thamniopsis utacamundiana (Mont.) W.R.Buck

- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Miehe et al. 13-091-144.

- Kachin State, Hponyin Razi, 27.60696°N, 96.983625°E, 2078 m, *Lithocarpus-Magnolia* forest, 10.11.2013, G. Miehe et al. 13-088-178-C & 13-088-176-I & 13-088-178-D.
- Kachin State, Hponyin Razi, 27.607947°N, 96.98215°E, 2162 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miehe et al. 13-086-150-J & 13-086-148-B.
- Kachin State, Hponyin Razi, 27.603756°N, 96.988924°E, 1833 m, *Quercus-Magnolia-Araliaceae* forest, 16.11.2013, G. Miehe et al. 13-093-202-F.

Widespread in tropical SE Asia and the Pacific (Lin & Tan 2002).

Trachypodopsis auriculata (Mitt.) M.Fleisch.

- Kachin State, Hponyin Razi, 27.619077°N, 96.981793°E, 2804 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-074-061-C & F, 13-074-060-H.
- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia-Fagaceae-Bamboo* forest, 02.11.2013, G. Miehe et al. 13-080-149-F.
- Kachin State, Hponyin Razi, 27.613143°N, 96.981837°E, 2400 m, *Magnolia-Fagaceae-Bamboo* forest, 02.11.2013, G. Miehe et al. 13-080-149-D.
- Kachin State, Hponyin Razi, 27.614361°N, 96.982052°E, 2433 m, *Magnolia-Fagaceae-Bamboo* forest, 03.11.2013, G. Miehe et al. 13-083-075-G.
- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miehe et al. 13-084-167-E.
- Kachin State, Hponyin Razi, 27.609158°N, 96.981291°E, 2233 m, *Quercus-Magnolia-Bamboo* forest, 06.11.2013, G. Miehe et al. 13-087-094, 13-087-095 & 13-087-096-B.
- Kachin State, Hponyin Razi, 27.607001°N, 96.98436°E, 2039 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Miehe et al. 13-091-145.
- Kachin State, Hponkan Razi, evergreen broadleaved forest, 2014, J. Kluge & P.K. Kine 14-034-006.

New for Indochina. The species was hitherto known from China, Taiwan, Bhutan, Nepal, India, Sri Lanka, and Hawaii (van Zanten 1959, Wu 2011).

Wijkia penicillata (Mitt.) H.A.Crum

- Kachin State, Hponyin Razi, 27.614349°N, 96.982286°E, 2434 m, *Magnolia-Fagaceae-Bamboo* forest, 03.11.2013, G. Miehe et al. 13-082-078-E.
- Kachin State, Hponyin Razi, 27.619077°N, 96.981793°E, 2804 m, *Lithocarpus-Magnolia--Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-074-060-B & L.
- Kachin State, Hponyin Razi, 27.61956°N, 96.982098°E, 2807 m, *Lithocarpus-Magnolia--Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-075-057-S & T & 13-075-059-F & H.
- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia--Rhododendron* forest, 26.10.2013, G. Miehe et al. 13-073-060-H & 13-073-062-F.
- Kachin State, Hponyin Razi, 27.625663°N, 96.977896°E, 3010 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miehe et al. 13-071-043-D.
- Kachin State, Hponyin Razi, 27.626335°N, 96.977805°E, 3016 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miehe et al. 13-070-045, 13-070-045-C & I.
- Kachin State, Hponyin Razi, 27.627165°N, 96.977263°E, 3047 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-069-078.
- Kachin State, Hponyin Razi, 27.631657°N, 96.976814°E, 3133 m, upper montane *Abies-Rhododendron* forest, 23.10.2013, G. Miehe et al. 13-066-032-H.
- Kachin State, Hponyin Razi, 27.631019°N, 96.976735°E, 3136 m, upper montane *Abies-Rhododendron* forest, 22.10.2013, G. Miehe et al. 13-065-038-B.
- Kachin State, Hponyin Razi, 27.63313°N, 96.976775°E, 3136 m, upper montane *Abies-Rhododendron* forest, 23.10.2013, G. Miehe et al. 13-067-032-G.
- Kachin State, Hponyin Razi, 27.631568°N, 96.976403°E, 3138 m, upper montane *Abies-Rhododendron* forest, 22.10.2013, G. Miehe et al. 13-064-041-A.

- Kachin State, Hponkan Razi, 27.30372°N, 96.56106°E, 3400 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-017-001e-A, 14-017-001f, 14-017-001f-G, 14-017-001b-A.
- Kachin State, Hponkan Razi, 27.30356°N, 96.56104°E, 3460 m, evergreen broadleaved forest, 09.10.2014, J. Kluge & P.K. Kine 14-016-001e.
- Kachin State, Hponkan Razi, 27.50848°N, 96.93556°E, 3575 m, evergreen broadleaved forest, 11.10.2014, J. Kluge & P.K. Kine 14-028-001e-D.
- Chin State, Natma Taung (Mt. Victoria), 21.2283293°N, 93.9099873°E, 3000 m, epiphytic in *Quercus semecarpifolia* forest, 02.10.1912, J. Kluge & P.K. Kine 12_03_10-F.
- Chin State, Natma Taung (Mt. Victoria), 21.2287435°N, 93.9095379°E, 3000 m, epiphytic in *Quercus semecarpifolia* forest, 04.10.1912, J. Kluge & P.K. Kine 12_05_07-B.

A meta-Himalayan species hitherto known from Nepal, India (Sikkim, Darjeeling), Bhutan, and northern Thailand (Chiang Mai) (Pollawatn 2008). The Myanmar collections are all from higher altitudes, between 2434–3575 m.

Wijkia tanytricha (Mont.) H.A.Crum

- Kachin State, Hponyin Razi, 27.605368°N, 96.984547°E, 1988 m, *Lithocarpus-Magnolia* forest, 12.11.2013, G. Miede et al. 13-090-161.
- Kachin State, Hponyin Razi, 27.608888°N, 96.980801°E, 2209 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miede et al. 13-085-105-B & C.
- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miede et al. 13-084-168.
- Kachin State, Hponyin Razi, 27.616268°N, 96.982898°E, 2600 m, *Lithocarpus-Magnolia-Rhododendron* forest, 30.10.2013, G. Miede et al. 13-078-073-I & K.

Widely distributed in SE Asia (China, Bhutan, India, Vietnam, Malaysia, Vietnam, Thailand, the Philippines, Indonesia), extending to Oceania (New Guinea, New Hebrides) (Jia et al. 2005, Tan & Jia 1999, Pollawatn 2008).

Zygodon brevisetus Wilson ex Mitt.

- Kachin State, Hponyin Razi, 27.625663°N, 96.977896°E, 3010 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miede et al. 13-071-043-A.

New for Indochina. This Himalayan species was previously only known to occur in Nepal, India (Sikkim and Assam), Bhutan and China (Yunnan) (Wilbraham & Long 2005).

Zygodon intermedius Bruch & Schimp.

- Chin State, Natma Taung (Mt. Victoria), 21.2147139°N, 94.0241384°E, 2200 m, epiphytic in evergreen oak forest, 10.11.2012, P.K. Kine 12_73_49-F.

This species is widespread across South America, Africa, and Asia (Lewinsky 1990). In the Himalayan region, it is found in India (West Bengal and Sikkim), Bhutan, and Yunnan (Wilbraham & Long 2005).

3. Other remarkable records

Macrothamnium leptohymenioides Nog.

- Kachin State, Hponyin Razi, 27.626335°N, 96.977805°E, 3016 m, upper montane *Abies-Rhododendron* forest, 25.10.2013, G. Miede et al. 13-070-045
- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia-Rhododendron* forest, 26.10.2013, G. Miede et al. 13-073-062-M.
- Kachin State, Hponyin Razi, 27.620157°N, 96.981314°E, 2839 m, *Lithocarpus-Magnolia-Rhododendron* forest, 26.10.2013, G. Miede et al. 13-073-060-C.

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- Kachin State, Hponyin Razi, 27.61956°N, 96.982098°E, 2807 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-075-055.

Not cited in the newest Myanmar checklist (Tanaka et al. 2003), but mentioned for Myanmar by Chiang (1995). The species is otherwise known from Nepal, India (Sikkim), and Thailand (Higuchi & Long 2002, Printarakul et al. 2013).

Orontobryum hookeri (Mitt.) M.Fleisch.

- Kachin State, Hponyin Razi, 27.61956°N, 96.982098°E, 2807 m, *Lithocarpus-Magnolia-Rhododendron* forest, 27.10.2013, G. Miehe et al. 13-075-057-X.
- Kachin State, Hponyin Razi, 27.626719°N, 96.977095°E, 3041 m, upper montane *Abies-Rhododendron* forest, 24.10.2013, G. Miehe et al. 13-068-043-G.

Not included in the newest Myanmar checklist (Tanaka et al. 2003), but cited for Myanmar by Chiang (1995) based on specimen Kingdon Ward 21160h in BM. The range of the species comprise Nepal, India (Sikkim) and Bhutan (Higuchi & Long 2002).

Tayloria squarrosa (Hook.) T.J.Kop.

- Kachin State, Hponyin Razi, 27.609767°N, 96.981298°E, 2262 m, *Quercus-Magnolia-Bamboo* forest, 05.11.2013, G. Miehe et al. 13-084-168-H.

This species is not new to Myanmar, but is absent from the checklists (Tan & Iwatsuki 1993, Tanaka et al. 2003). It is recorded from Myanmar by Koponen & Koponen (1974). The species occurs in China (Yunnan), India (Sikkim) and Nepal (Gao & He 2003).

The present specimen lacks calyptrae. It is assigned to the species on the basis of the size of the plants, the strongly serrated leaf margins, the squarrosely spreading leaves and the very small spores (10–12 µm). The similar species of the region, *T. indica* Mitt. and *T. subglabra* (Griff.) Mitt., have significantly larger spores.

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5. New Taxa and Combinations

- *Remyella scabriseta* (Schwägr.) Frank Müll. *comb. nov.*

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