

## Studies on Hong Kong Hepatics II. Notes on Some Newly Recorded Liverworts from Hong Kong

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**Abstract.** Based on field work and herbarium studies, 44 species belonging to 21 genera and 11 families of hepatics are newly reported for Hong Kong. A first checklist of liverworts and hornworts in Hong Kong is also included.

Although there has been some published literature on Hong Kong hepatics (Stephani 1886, Mitten 1891, Reimers 1931, Wang 1935, But & Gao 1991, and So & Zhu 1995), the hepatic flora of Hong Kong is still largely unknown. Based on our recent field work and herbarium studies, 44 liverworts are reported new to Hong Kong. All specimens cited below are deposited in the herbarium of the Hong Kong Baptist University. Nomenclature mainly follows Piippo (1990). For distributions of taxa, see Piippo (1990) unless otherwise stated. The names of the collectors are abbreviated as follows: So = M.L. So, Yip = K.L. Yip and Zhu = Rui-Liang Zhu.

*Acrolejeunea pusilla* (Steph.) Grolle & Gradst.

*Acrolejeunea pusilla* is here reported for the first

time for Hong Kong and Guangdong Province of China. Locally it is commonly found on tree-trunks and decaying logs, but it can also grow on rock surfaces. In Guangzhou, the provincial capital of Guangdong, it is one of the most common liverworts on tree-trunks. The Chinese distribution of *A. pusilla* now includes Fujian, Guangdong, Hainan, Taiwan and Zhejiang.

Representative specimens examined. Hong Kong, Tai Lam Wu, 130 m, on decaying logs, So & Zhu 94802L22; Guangzhou, South China Botanical Garden, on tree-trunk, So & Zhu 941211.

*Bazzania fauriana* (Steph.) Hatt.

Locally, this is a rare species which was found only

twice. It is easily confused with the locally common *Bazzania japonica* (Sande Lac.) Lindb. However, *B. fauriana* is separated by its larger size of plant, its sublinear leaves and the presence of large nodulose trigones.

Representative specimens examined. Tai Mo Shan, 800 m, So & Zhu 95428L10; Ng Tung Chai, 400 m, on dry rocks, So 95822LB.

*Bazzania japonica* (Sande Lac.) Lindb.

*Bazzania japonica* is newly recorded for Hong Kong. In Guangdong, *B. japonica* was previously known only from two localities, Dinghushan Nature Reserve (Lin et al. 1982) and Heishiding Nature Reserve (Li & Piippo 1994).

Representative specimen examined. Hong Kong, Tai Mo Shan, 700 m, on rock, So 94706LX.

*Bazzania sikkimensis* (Steph.) Herz.

This species appears to be quite rare in Hong Kong and was spotted only twice at the locality cited below. The diagnostic features of this species are the strongly verrucose cuticle of leaf-cell and the bilobed leaves.

Representative specimen examined. Tai Mo Shan, 800 m, on rocks, mixed with *Leucobryum scabrum*, So & Zhu 95428L9.

*Calypogeia arguta* Nees & Mont.

*Calypogeia arguta* is here newly reported for Hong Kong. Locally, it is rather common on moist soil, and shows a considerable variation in size and colour of plant. In China, the known range of *C. arguta* includes Anhui (Tsai, unpublished, 1987), Guangdong, Hainan (Lin et al. 1992), Jiangxi, Shanghai (Li & Gao 1986), Taiwan and Zhejiang (Zhu, unpublished).

Representative specimens examined. Hong Kong, Hong Kong Chinese University campus, on soil, So & Zhu 94803L4; Victoria Peak, 400 m, on soil, So & Zhu 94804L1.

*Cephalozia otaruensis* Steph var. *setiloba* (Steph.)

Amak.

*Cephalozia otaruensis* is here reported for the first time for Hong Kong and Guangdong. In China, *C. otaruensis* var. *setiloba* was previously known only from one locality, Jianfengliang, Hainan (Lin et al. 1992). However, it is rather common in Hong Kong, and is usually found on soil, associated with *Calypogeia tosana* (Steph.) Steph., *Notoscyphus lutescens* (Lehm. & Lindenb.) Mitt. and *Pallavicinia subciliata* (Aust.) Steph.

Representative specimens examined. Hong Kong, Tai Mo Shan, 700 m, on moist soil, So & Zhu 94727L5; 300 m, on soil, with *Pallavicinia subciliata*, So 941115L1.

*Chandonanthus birmensis* Steph.

*Chandonanthus birmensis* is here reported as new to Hong Kong. Although widely distributed in Eastern Asia and Madagascar (Kitagawa 1965), it is extremely rare in Hong Kong.

Specimen examined. Hong Kong, Tai Mo Shan, 800 m, on moist rock, mixed with *Bazzania japonica* (Sande Lac.) Lindb., So 94520LX.

*Chiloscyphus minor* (Nees) Engel & Schust.

Representative specimens examined. Old Peak Read, on soil, 300 m, So & Zhu 9541623; Tai Po Kau, on rock surface, 200 m, So 95725.

*Cololejeunea hasskarliana* (Lehm. & Lindenb.) Schiffn.

Specimens examined. Tai Mo Shan, on rotten branches, 700 m, So & Zhu 95404L15, So 95822L15.

*Cololejeunea planissima* (Mitt.) Abayw.

Specimens examined. Victoria peak, on tree-trunk, 500 m, So & Zhu 94804L2; Tai Mo Shan, on decaying logs, 700 m, So & Zhu 95409L1.

*Cololejeunea raduliloba* Steph.

Locally, this is a rather common *Cololejeunea* species which is highly variable both in shape and

size of leaf lobules. Most local materials have small, mitten-shaped leaf lobules. But some specimen such as So 9412278L3, which agrees well with the type, has relatively large, ligulate leaf lobules with a small tooth on the proximal margin. Such variations of leaf lobules sometimes even occur on the same stem.

Specimens examined. Tai Mo Shan, on living leaves, 700 m, So 941228L3; Victoria Peak, on rocks, 300 m, So & Zhu 95416L8.

*Cololejeunea schwabei* Herz.

Although rare in the areas reported elsewhere, this species is quite common in Hong Kong. It is easily spotted on tree-bases, rocks and stones in exposed as well as sheltered sites along the roadsides of local Country Parks. *Cololejeunea schwabei* is somewhat similar to *C. raduliloba*, but the former differs in having a filiform stylus (usually 2-6 cells long) and in its ligulate, entire leaf lobules. Styli in local material are much larger than those in the type, sometimes up to 8 cells long and 4 cells wide. According to Herzog & Noguchi 1995 and Amakawa 1958, *C. schwabei* was recorded only from Japan and Taiwan. Hong Kong then is at its southernmost range.

Specimens examined. Victoria peak, on rocks 500 m, So & Zhu 95416L11; Kadoorie Farm & Botanic Garden, 300 m, on stones, So & Zhu 95330L3; Lai Chi Wo, on tree-trunks, 150 m, So & Zhu 95406L5.

*Cololejeunea stylosa* Steph.

Locally this is a rare *Cololejeunea* species which was found only once at the locality cited below.

Representative specimen examined. Sai Kung, on living leaves, 150 m, So & Zhu 94727L32.

*Drepanolejeunea angustifolia* (Mitt.) Grolle

Specimens examined. Tai Mo Shan, at the summit, on tree-trunks, 950 m, So & Zhu 9542567; Tai Mo Shan, on moist rocks, 800 m, So & Zhu 95413L5.

*Drepanolejeunea ternatensis* (Gott.) Steph.

*Drepanolejeunea ternatensis*, is new to Hong Kong and Guangdong. Locally, this species appears to be quite rare, and was found only once at the locality cited below. The known distribution of this species in China now includes Guangdong, Hainan and Taiwan.

Specimen examined. Hong Kong, Tai Mo Shan, 800 m, on rock, among *Mastigophora dicladus*, So 94706A.

*Fossombronia cristula* Aust.

Until recently there has been no record of *Fossombronia cristula* in the hepatic flora of China except Taiwan. The known distribution of *F. cristula* now includes North America, Taiwan, Java, Japan (Inoue 1973), India (Srivastava & Udar 1975), Hong Kong and Papua New Guinea (Piippo 1991).

Specimen examined. Hong Kong, Sai Kung, 50 m, on soil, So 95117L1.

*Frullania trichodes* Mitt.

*Frullania trichodes* has not been recorded previously from Hong Kong. In China it was previously known only from Hainan (Hattori & Lin 1985) and Taiwan (Chao & Lin 1992).

Representative specimens examined. Hong Kong, Tai Mo Shan, 800 m, on rock exposed to bright light, So 94919; Lantau Peak, 800 m, on rock, So 94130L.

*Herbertus aduncus* (Dicks.) Gray

This is the only *Herbertus* species found in Hong Kong and was spotted only once at the locality cited. According to Inoue (1977), *H. aduncus* was known from Taiwan, Japan, North America and Europe, Hong Kong then is at the southern end of its range.

Specimen examined. Tai Mo Shan, 880 m, on decaying tree-barks, together with *Cheilojeunea osumiensis* (Hatt.) Mizut. and *Holomitrium densifolium*, (Wils.) Wijk & Marg., So & Zhu 95425L.

*Jackiella javanica* Schiffn.

*Jackiella javanica* is here newly reported for Hong Kong and Guangdong. It usually grows

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s on open soil, and seems to be uncommon in Hong Kong. In China, *J. javanica* was previously reported from Fujian, Hainan and Taiwan.

Specimens examined. Hong Kong, Tai Mo Shan, 700 m, on soil, So 941220L1; Tai Mo Shan, 800 m, on soil, So 95207L1.

*Jubula hutchinsiae* (Hook.) Dum. subsp. *javanica* (Steph.) Verd.

*Jubula hutchinsiae* is new to Hong Kong and Guangdong. In Hong Kong, this taxon commonly occurs on moist rock as a large mat in deep shade.

Representative specimen examined. - Hong Kong, Tai Mo Shan, 800 m, on moist rock, So 94706L2.

*Jungermannia infusca* (Mitt.) Steph.

*Jungermannia infusca* is here newly reported for Hong Kong. Previous reports in China were from Guangdong, Guangxi and Taiwan.

Specimen examined. Hong Kong, Tai Mo Shan, 700 m, on soil, So & Zhu 94727L7.

*Jungermannia tetragona* Lindenb.

*Jungermannia tetragona* is rather uncommon in Hong Kong, previously reported in China only from Taiwan (Vána & Inoue 1983).

Representative specimens examined. Hong Kong, Tai Po, 300 m, on soil, So 94905L2; Shalotung, 300 m, on soil, So 941115.

*Jungermannia truncata* Nees.

*Jungermannia truncata* is the most common member of the genus *Jungermannia* in Hong Kong. Local plants of *J. truncata* may be quite variable under different ecological conditions, a feature also observed by Vána and Inoue (1983) from other materials. Although *J. truncata* is widely distributed

in SE Asia, it has not been recorded previously in Hong Kong and Guangdong.

Representative specimens examined. Hong Kong, Tai Mo Shan, 700 m, on soil, So 94824L1; Jubilee Reservoir, 100 m, on soil, So 94818L1.

*Kurzia gonyotricha* (Sande Lac.) Grolle

*Kurzia gonyotricha* is new to Hong Kong. Locally it is quite common on moist soil and rock, usually associated with *Calyptogeia arguta*, *Heteroscyphus argutus*, *Pallavicinia subciliata*, and *Notoscyphus lutescens*.

Representative specimen examined. Hong Kong, Tai Mo Shan, 700 m, on soil, So & Zhu 94727.

*Lepidozia vitrea* Steph.

*Lepidozia vitrea* is here reported new to Hong Kong. In China, it was previously reported from Guangdong (Li & Piippo 1994), Jiangxi (Shao 1989, unpub.), Taiwan and Zhejiang (Liu 1985).

Specimen examined. Hong Kong, Tai Mo Shan, 800 m, on moist rock, So & Yip 94824L3.

*Leucolejeunea xanthocarpa* (Lehm. & Lindenb.) Evans.

Specimen examined. Tai Mo Shan, on tree-trunks, 880 m, So & Zhu 95425L7.

*Lopholejeunea eulopha* (Tayl.) Schiffn.

Although widely distributed in Asia, Africa and Australia (Thiers & Gradstein 1989), the present species seems to be quite rare in Hong Kong and was seen only once.

Specimen examined. Tai Po, on moist rock surface, 400 m, So 94531L1.

*Lopholejeunea nicobarica* Steph.

Locally, this species was found only at one locality cited below. Local plants probably represent an aquatic form: the underleaves are small and remote, slightly wider than long, the leaf lobules having a

rather large, short-ligulate distal tooth and a small, sometimes reduced proximal tooth at apex.

Specimen examined. Ng Tung Chai Fall, on splash zone, 400 m, So & Zhu 95411LL.

*Mastigophora diclados* (Brid.) Nees

*Mastigophora diclados* is here reported for the first time for Hong Kong and Guangdong. Although this is a common tropical Asiatic species (Inoue 1978), it appears to be extremely rare in Hong Kong. The present record is based on only a single collection cited below. The Chinese range of *M. diclados* now includes Guangdong, Hainan and Taiwan. Compared with the Hainan material, local material is smaller, and occurs at a relative lower altitude.

Specimen examined. Hong Kong, Tai Mo Shan, 800 m, on rock, So 94706A.

*Nardia assamica* (Mitt.) Amak.

*Nardia assamica* is here newly reported for Hong Kong. Although common in Eastern China and Japan, *N. assamica* is rather rare locally. The present record is based on a single collection cited below.

Specimen examined. Hong Kong, Tai Po, 500 m, on moist soil, So 94818L2.

*Notoscyphus lutescens* (Lehm. & Lindenb.) Mitt.

*Notoscyphus lutescens* is here reported for the first time for Hong Kong. It is extremely common on soils along roadsides of Country Parks in Hong Kong, as well as at higher altitudes. In China, *N. lutescens* is known from Guangdong, Hainan, Taiwan and Zhejiang (Zhu 1990.)

Representative specimens examined. Hong Kong, Tai Mo Shan, 980 m, on dry soil, So 941101; Tai Po, 300 m, on wet soil, together with *Kurzia gonyotricha*, So 94131L4.

*Porella campylophylla* (Lehm. & Lindenb.) Trev.

*Porella campylophylla* is here newly reported for

Hong Kong. Although common in tropical and subtropical regions, it is rather uncommon locally. The present record is based on a single collection cited below.

Specimen examined. Hong Kong, Tai Mo Shan, 800 m, on submerged rock, So 94520L3.

*Porella perrottetiana* (Mont.) Trev.

Specimen examined. Hong Kong, Ng Tung Chai, on dry rocks, 400 m, So 95411P.

*Radula apiculata* Sande Lac.

Specimen examined. Tai Mo Shan, on rocks, 800 m, So & Zhu 95404L13.

*Radula cavifolia* Hampe

This species is quite common on tree-trunks in Eastern China, but surprisingly, it is extremely rare in Hong Kong and was collected only once.

Specimen examined. Tai Mo Shan northern slope, on tree-trunks, 800 m, So & Zhu 95501L8

*Radula japonica* Gott. & Steph.

Specimen examined. Tai Mo Shan, on rocks, 800 m, So & Zhu 95413L3.

*Radula javanica* Gott.

*Radula javanica* is new to Hong Kong, commonly occurring on moist rock and tree bark. In China, its range now includes Guangdong, Hainan, Jiangxi (Shao 1989, unp.), Taiwan, Xizang (Li et al. 1982) and Zhejiang (Liu 1985).

Representative specimen examined. Hong Kong, Tai Mo Shan, 700 m, on rock, So 94720L3.

*Radula oyamensis* Steph.

*Radula oyamensis* is here reported as new to Hong Kong and Guangdong. In China, *R. oyamensis* was previously known only from Fujian, Taiwan and Zhejiang (Zhu 1989, unpub.)

Representative specimen examined. Hong Kong, Tai Mo Shan, 700 m, on tree bark, So & Zhu 94729L8.

*Radula tokiensis* Steph.

As remarked by Yamada & Inoue (1988), this species is often confused with *Radula japonica*. It can be distinguished from the latter by the pericous plants. According to Yamada (1979), *R. tokiensis* was known only from Korea, Japan and Taiwan. Its range is now extended further south.

Specimen examined. Tai Mo Shan, northern slope, 800 m, So 95712.

*Reboulia hemisphaerica* (L.) Qaddi

Specimen examined. Lai Chi Wo, on soils along roadsides, 100 m, So 95406L.

*Riccardia kodame* Mizut. & Hatt.

According to Furuki (1991), this species was endemic to Japan. This is the first record outside Japan.

Specimen examined. Tai Mo Shan summit, on dry rock surface, 950 m, So 941101T.

*Riccia fluitans* L.

*Riccia fluitans* is here newly reported for Hong Kong and Guangdong. Locally, it is normally found on vegetable fields.

Specimens examined. Hong Kong, Zoological & Botanical Gardens, on moist soil, So 95101; Fanling, on moist soil, So & Zhu 95404.

*Spruceanthus semirepandus* (Nees) Verd.

Locally, this species is relatively common at high elevations (above 650 m). Local plants agree well with *S. semirepandus* (Nees) Verd. f. *integerrimus* Hatt.

Specimen examined. Tai Mo Shan, on moist rocks, 800 m, So & Zhu 95413L6.

*Trocholejeunea sandvicensis* (Gott.) Mizut.

Though *Trocholejeunea sandvicensis* is common in the subtropical and tropical regions, it is reported for the first time for Hong Kong.

Representative specimen examined. Hong Kong, Tai Lam Wu, 130 m, on rock, So & Zhu 94802L18.

A first checklist of liverworts and hornworts is given below:

#### ANTHOCEROTACEAE

*Anthoceros punctatus* L.

*Folioceros fuciformis* (Mont.) Bharadw.

*Megaceros flagellaris* (Mitt.) Steph.

*Phaeoceros laevis* (L.) Prosk.

#### HAPLOMITRIACEAE

*Haplomitrium mnioides* (Lindb.) Schust.

#### LEPICOLEACEAE

*Mastigophora diclados* (Brid.) Nees

#### HERBERTACEAE

*Herbertus aduncus* (Dicks.) Gray

#### LEPIDOZIACEAE

*Bazzania fauriana* (Steph.) Hatt.

*Bazzania japonica* (Sande Lac.) Lindb.

*Bazzania sikkimensis* (Steph.) Herz.

*Bazzania tricrenata* (Wahl

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enb.) Lindb.

*Bazzania tridens* (Reinw. et al.) Trev.

*Kurzia gonyotricha* (Sande Lac.) Grolle

*Lepidozia fauriana* Steph.

*Lepidozia vitrea* Steph.

#### CALYPOGEIACEAE

*Calypogeia arguta* Nees & Mont.

*Calypogeia tosana* (Steph.) Steph.

#### CEPHALOZIACEAE

*Cephalozia hamatiloba* Steph.

#### CEPHALOZIACEAE

*Cephaloziella microphylla* (Steph.) Douin.

#### JACKIELLACEAE

*Jackiella javanica* Schiffn.

#### JUNGERMANNIACEAE

*Jungermannia infusca* (Mitt.) Steph.

*Jungermannia truncata* Nees

*Jungermannia tetragona* Lindenb.

*Nardia assamica* (Mitt.) Amak.

*Notoscyphus lutescens* (Lehm. & Lindenb.) Mitt.

#### LOPHOZIACEAE

*Chandonanthus birmensis* Steph.

#### SCAPANIACEAE

*Scapania stephanii* K. Mll.

#### GEOCALYCEAE

*Chiloscyphus minor* (Nees) Engel & Schust.

*Chiloscyphus polyanthus* (L.) Corda

*Heteroscyphus argutus* (Reinw. et al.) Schiffn.

*Heteroscyphus coalitus* (Hook.) Schiffn.

*Heteroscyphus planus* (Mitt.) Schiffn.

#### PLAGIOCHILACEAE

*Plagiochila blepharophora* (Nees) Lindenb.

*Plagiochila chinensis* Steph.

*Plagiochila fordiana* Steph.

*Plagiochila fructicosa* Mitt.

*Plagiochila ovalifolia* Mitt.

*Plagiochila sciopilila* Nees

*Plagiochila semidecurrens* (Lehm. & Lindenb.)  
Lindenb.

*Plagiochila tijibodensis* Schiffn.

*Plagiochila yokogurensis* Steph.

#### RADULACEAE

*Radula apiculata* Sande Lac.

*Radula cavifolia* Hampe

*Radula japonica* Gott. & Steph.

*Radula javanica* Gott.

*Radula oyamensis* Steph.

*Radula tokiensis* Steph.

#### PORELLACEAE

*Porella campylophylla* (Lehm. & Lindenb.) Trev.

*Porella perrottetiana* (Mont.) Trev.

#### JUBULACEAE

*Jubula hutchinsiae* (Hook.) Dum. subsp. *javanica*  
(Steph.) Verd.

#### FRULLANIACEAE

*Frullania moniliata* (Reinw. et al.) Mont.

*Frullania muscicola* Steph.

*Frullania trichodes* Mitt.

#### LEJEUNEACEAE

*Acrolejeunea pusilla* (Steph.) Grolle & Gradst.

*Archilejeunea planiuscula* (Mitt.) Steph.

*Cheilejeunea imbricata* (Nees) Hatt.

*Cheilejeunea intertexta* (Lindenb.) Steph.

*Cheilejeunea osumiensis* (Hatt.) Mizut.

*Cheilejeunea ryukyensis* Mizut.

*Cheilejeunea trifaria* (Reinw. et al.) Mizut.

*Cololejeunea amoena* Bened.

*Cololejeunea floccosa* (Lehm. & Lindenb.) Schiffn.

*Cololejeunea goebelii* (Gott. & Schiffn.) Schiffn.

*Cololejeunea hasskarliana* (Lehm. & Lindenb.)

Schiffn.

*Cololejeunea hispidissima* (Steph.) Pand et al.

*Cololejeunea lanciloba* Steph.

*Cololejeunea latilobula* (Herz.) Tix.

*Cololejeunea ocellata* (Horik.) Bened.

*Cololejeunea planissima* (Mitt.) Abeyw.

*Cololejeunea pseudocristallina* Chen & Wu

*Cololejeunea raduliloba* Steph.

*Cololejeunea reinecheana* Steph.

*Cololejeunea schmidtii* Steph.

*Cololejeunea schwabei* Herz.

*Cololejeunea spinosa* (Horik.) Pand & Misra

*Cololejeunea stylosa* (Steph.) Mizut.

*Drepanolejeunea erecta* (Steph.) Mizut.

*Drepanolejeunea angustifolia* (Mitt.) Grolle

*Drepanolejeunea formosana* Horik.

*Drepanolejeunea ternatensis* (Gott.) Steph.

*Lejeunea catanduana* (Steph.) Miller et al.

*Lejeunea curviloba* Steph.

*Lejeunea flava* (Sw.) Nees

*Lejeunea japonica* Mitt.

*Lejeunea parva* (Hatt.) Mizut.

*Lejeunea ulicina* (Tayl.) Gott. et al.

*Leptolejeunea elliptica* (Lehm. & Lindenb.) Schiffn.

*Leucolejeunea xanthocarpa* (Lehm. & Lindenb.)

Evans

*Lopholejeunea applanata* (Reinw. et al.) Schiffn.

*Lopholejeunea nicobarica* Steph.

*Lopholejeunea subfusca* (Nees) Steph.

*Mastigolejeunea auriculata* (Wils.) Schiffn.

Rhaphidolejeunea spicata (Steph.) Grolle  
 Spruceanthus semirepandus (Nees) Verd.  
 Thysananthus flavescens (Hatt.) Gradst.  
 Trocholejeunea sandvicensis (Gott.) Mizut.  
 Tuyamaella molischii (Schiffn.) Hatt.

#### FOSSOMBRONACEAE

Fossombronia cristula Aust.

#### MAKINOACEAE

Makinoa crispata (Steph.) Miyake

#### PALLAVICINIACEAE

Pallavicinia lyellii (Hook.) Carruth.  
 Pallavicinia subciliata (Aust.) Steph.

#### ANEURACEAE

Aneura pinguis (L.) Dum.  
 Riccardia graeffei (Steph.) Hews.  
 Riccardia jackii Schiffn.  
 Riccardia kodame Mizut. & Hatt.  
 Riccardia latifrons (Lindb.) Lindb.  
 Riccardia multifida (L.) S. Gray  
 Riccardia palmata (Hedw.) Carruth.

#### METZGERIACEAE

Metzgeria conjugata Lindb.  
 Metzgeria furcata (L.) Dum.

#### WIESNERELLACEAE

Dumortiera hirsuta (Sw.) Nees sensu amplo

#### CONOCEPHALACEAE

Conocephalum conicum (L.) Dum.  
 Conocephalum japonicum (Thunb.) Grolle

#### AYTONIACEAE

Reboulia hemisphaerica (L.) Raddi

#### MARCHANTIACEAE

Marchantia emarginata Reinw. et al. subsp. tosona  
 (Steph.) Bischl.  
 Marchantia paleacea Bertol.  
 Marchantia polymorpha L.

#### RICCIACEAE

Riccia fluitans L.  
 Riccia glauca L.

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