Journal of Species Research 9(4):377-412, 2020

An updated list of mosses of Korea

Wonhee Kim[1,*], Masanobu Higuchi[2] and Tomio Yamaguchi[3]

[1]*National Institute of Biological Resources, 42 Hwangyeong-ro, Seo-gu, Incheon 22689 Republic of Korea*
[2]*Department of Botany, National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba 305-0005 Japan*
[3]*Program of Basci Biology, Graduate School of Integrated Science for Life, Hiroshima University, 1-3-1 Kagamiyama, Higashi-hiroshima-shi 739-8526 Japan*

**Correspondent: whkimoss@gmail.com*

Cardot (1904) first reported 98 Korean mosses, which were collected from Busan, Gangwon Province, Mokpo, Seoul, Wonsan and Pyongyang by Father Faurie in 1901. Thirty-four of these species were new species to the world. However, eight of these species have been not listed to the moss checklist of Korea before this study. Thus, this study complies the literature including Korean mosses, and lists all the species there. As the result, the moss list of Korea is updated as including 775 taxa (728 species, 7 subspecies, 38 varieties, 2 forma) arranged into 56 families and 250 genera. This list include species that have been newly recorded since 1980. *Brachythecium* is the largest genus in Korea, and *Fissidens*, *Sphagnum*, *Dicranum* and *Entodon* are relatively large. Additionally, this study cites specimens collected from Jeju Island, Samcheok, Gangwon Province, and Socheong Island, and it is possible to confirm the distribution of 338 species in Korea.

Keywords: bryophytes, checklist, Korea, mosses, updated

© 2020 National Institute of Biological Resources
DOI:10.12651/JSR.2020.9.4.377

Introduction

The first study on Korean bryophytes was published by Cardot (1904) based on specimens collected by French Father Faurie. Cardot (1904) reported 98 species from Korea, and 34 of them were new species. Following that and before the Korean War, Japanese researchers were responsible for most bryophyte studies in Korea. From the late 1950s to the 1960s, a study on Korean bryophytes was published by Won Shic Hong. In the 1970s and 1980s, Du-Mun Choe released a study on a flora of bryophytes of Korea. In 1980, Korea's first illustrated book on bryophytes was published. For approximately 20 years until 2000s, research on bryophytes of Korea has remained dormant. Lee and Choi (2012) summarized the history of research on bryophytes of Korea. Table 1 shows various lists of Korean mosses published since 1980. Korea's first illustrated book on bryophytes was published by Choe (1980), and Choe and Choi (1980) reported 484 moss species in Korea. A list of Hepaticae of Korea was reported by Hong (1997). In 1991, the Sporic Plants of Joseon, Volume 9 written by Ho-Jun Hwang was published in North Korea. Except these studies, there were no studies concerning lists of bryophytes of the Korea until 2007. Based on the study of Choe and Choi (1980), Park and Choi (2007) reported a "New List of Bryophytes in Korea" by presenting an overview of bryophytes surveyed in Mt. Baekdu by Park (1997). In 2012, the National Institute of Biological Resources (NIBR) published a "National List of Species of Korea - Mosses & Liverworts". In case of Park and Choi (2007) and NIBR (2012), the lists of bryophytes compiled a lot of literature. However, some literature was not listed, and some species described in the literature were not recognized. And, although many species were newly added to the moss checklist of Korea, references or specimens were not included. Thus, this study has reviewed references for each species and updates the moss checklist of Korea by compiling papers published until September 2020. As the result, there are 775 taxa listed to the list of mosses of Korea, which can be classified into 56 families, 250 genera, 728 species, 7 subspecies, 38 varieties, and 2 forma. Additionally, this study cites specimens collected in Jeju Island, Samcheok, Gangwon Province, and Socheong Island collected from 2015 to 2018. About 1,593 specimens were collected, and identified as 338 species. The specimens newly secured through this study have been preserved at the herbarium of the National Institute of Biological Resources (KB). Some of the duplicate specimens are preserved at the

Table 1. List of Korean mosses published since 1980

Year	Author(s)	Literature	Genera	Species
1980	Choe and Choi	A List of Bryophytes of Korea	158	485
2007	Park and Choi	New List of Bryophytes in Korea	202	645
2012	NIBR	National List of Species of Korea: Moss, Liverwort	194	622
2019	NIBR	National Species List of Korea	200	629
2020	The present study	An updated List of Mosses of Korea	250	775

herbariums of the National Museum of Nature and Science (TNS) and the Hiroshima University (HIRO).

Enumeration of Species

1. All name of genera and species of mosses described or reported from Korea are based on literature available to the author up to the end of September 2020.
2. The valid and accepted epithets are printed in boldface. They are followed by author citation.
3. The synonym of the accepted scientific name is listed with a hyphen (–). It is placed under the boldfaced epithets.
4. The scientific names follow Frey *et al*. (2006), Goffinet *et al*. (2009), and Ignatov *et al*. (2012).The families, genera, and species are arranged alphabetically.

Sphagnaceae Dumort.

Sphagnum annulatum H.Lindb. ex Warnst.
– *Sphagnum jensenii* H.Lindb. (Hwang, 1991; Park, 1997)
Sphagnum aongstroemii C.Hartm. (Suzuki, 1958; Choe and Choi, 1980)
Sphagnum capillifolium (Ehrh.) Hedw.
– *Sphagnum acutifolium* Schrad. (Okamura, 1916; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Hwang, 1991)
– *Sphagum nemoreum* Scop. (Choe and Choi, 1980; Hwang, 1991)
Sphagnum cuspidatum Ehrh. ex Hoffm. (Hwang, 1991)
Sphagnum fimbriatum Wilson (Saito, 1938; Kashimura 194 Choe and Choi, 1980; Hwang, 1991)
Sphagnum fuscum (Schimp.) H.Klinggr. (Choe and Choi, 1980)
Sphagnum girgensohnii Russow (Okamura, 1916; Nakai, 1917; Sasaoka, 1933; Kashimura, 1939; Sakurai, 1941b; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
Sphagnum imbricatum Hornsch. ex Russow (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
Sphagnum inundatum Russow (Park, 1997)
Sphagnum junghuhnianum Dozy & Molk.
– *Sphagnum acutifolioides* (Nakai, 1917; Park, 1997)
Sphagnum magellanicum Brid. (Choe and Choi, 1980; Park, 1998)
Sphagnum microporum Warnst. ex Cardot (Cardot, 1904; 1907; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
Sphagnum oligoporum Warnst. & Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Hwang, 1991)
Sphagnum palustre L. (Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)
– *Sphagnum cymbifolium* (Ehrh.) Hedw. (Saito, 1938)
Sphagnum papillosum Lindb. (Park, 1997)
Sphagnum recurvum* var. *tenue H.Klinggr. (Choe and Choi, 1980)
– *Sphagnum parvifolium* (Sendth. ex Warnst.) Warnst. (Saito, 1938)
Sphagnum russowii Warnst.
– *Sphagnum robustum* (Warnst.) Röll. (Park and Hong, 1959; Hong, 1960; Choe and Choi, 1980)
Sphagnum squarrosum Crome (Okamura, 1916; Sasaoka, 1933; Kashimura, 1939; Horikawa, 1934a; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
Sphagnum subnitens* var. *nitidum (Warnst.) H.A.Crum (Higuchi and Kim, 2012)
Sphagnum subsecundum Nees (NIBRMS106712; NIB RMS105858) (Choe and Choi, 1980; Park, 1997; Hwang, 1991; He and Song, 2011)
Sphagnum tenellum (Brid.) Bory (Hwang, 1991)
Sphagnum teres (Schimp.) Ångstr. ex Hartm. (Hwang, 1991; Park, 1997)

Andreaeaceae Dumort.

Andreaea rupestris* var. *fauriei (Besch.) Takaki (Choe and Choi, 1980; Hwang, 1991; Park, 1997)
– *Andreaa faureiei* Besch. (Horikawa, 1936b; Kashimura, 1939)

Oedipodiaceae Schimp.

Oedipodium griffithianum (Dicks.) Schwaegr. (Yoon *et al*., 2011)

Tetraphidaceae Schimp.

Tetraphis pellucida Hedw. (Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Georgia pellucida* (Hedw.) Rabenh. (Horikawa, 1936c; Kashimura, 1939)

Tetrodontium brownianum (Dicks.) Schwägr. (Higuchi and Kim, 2017)

Polytrichaceae Schwägr.

Atrichum altecristatum (Renauld & Cardot) Smyth & L.C.R.Smyth
- *Atrichum undulatum* var. *alte-cristatum* Renauld & Cardot (Choe and Choi, 1980; Hwang, 1991)

Atrichum crispulum Schimp. ex Besch. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
- *Catharinea spinulosa* Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1940; Hong, 1963; Choe, 1980)
- *Atrichum spinulosum* (Cardot) Mizush. (Hong and Ando, 1963)

Atrichum crispum (James) Sull. (He and Song, 2007; 2011)

Atrichum rhystophyllum (Müll.Hal.) Paris (NIBRMS 106986; NIBRMS107030; NIBRMS106224) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b)
- *Catharinea chlorochaeta* Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1940; Choe, 1980)

Atrichum tenellum (Röhl.) Bruch & Schimp.
- *Mnium orthorrhynchum* Brid. (Sasaoka, 1933; Kashimura, 1939)

Atrichum undulatum (Hedw.) P.Beauv. (NIBRMS10 7336; NIBRMS106974) (Osada, 1958; Park and Hong, 1959; Hong, 1960a; 1960b; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Catharinea undulata* (Hedw.) F.Wedber & D.Mohr (Cardot, 1904; Sasaoka, 1933; Horikawa, 1936d; Kashimura, 1940; Chung and Uhm, 1961; Choe, 1980)

Atrichum undulatum* var. *gracilisetum Besch. (Choe and Choi, 1980; Hwang, 1991; Yim *et al*., 2013)
- *Catharinea haussknechtii* (Jur. & Milde) Broth. (Saito, 1938; Kashimura, 1940; Choe, 1980)
- *Atrichum haussknechtii* Jur. & Milde (Park, 1997)
- *Atrichum flavisetum* Mitt. (Yoon *et al*., 2011b)

Atrichum yakushimense (Horik.) Mizush. (NIBRMS 107395; NIBRMS107434)

Bartramiopsis lescurii (James) Kindb. (Song, 1987; Yoon *et al*., 2011b)

Oligotrichum aligerum Mitt. (Horikawa, 1935d; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Oligotrichum parallelum (Mitt.) Kindb. (Ellis *et al*., 2016)

Pogonatum contortum (Menzies ex Bird.) Lesq. (NIBR MS106705) (Okamura, 1915; Nakai, 1917; Sasaoka, 1933; Hong, 1938; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011)
- *Pogonatum asperrimum* Besch. (Horikawa, 1935a; 1936a; Kashimura, 1940)

Pogonatum dentatum (Menzies ex Brid.) Brid.
- *Pogonatum capillare* (Michx.) Brid. (Sakurai, 1935a; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Pogonatum inflexum (Lindb.) Sande Lac. (NIBRMS 107229; NIBRMS106992; NIBRMS107038; NIBRMS 106696) (Nakai, 1917; Horikawa, 1918; Sasaoka, 1933; Sakurai, 1935a; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Pogonatum japonicum Sull. & Lesq. (Choe, 1980; Park, 1997; Yoon *et al*., 2011b)
- *Pogonatum grandifolium* (Lindb.) A.Jaeger (Okamura, 1916; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997)

Pogonatum neesii (Müll.Hal.) Dozy (NIBRMS107166; NIBRMS107180; NIBRMS107230; NIBRMS106756; NIBRMS107116; NIBRMS105875) (Choe and Choi, 1980; Yim *et al*., 2013)
- *Pogonatum akitense* Besch. (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Choe, 1980; Hwang, 1991)
- *Pogonatum rhopalophorum* Besch. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940)
- *Pogonatum pygmaeum* Cardot (Hong and Ando, 1961)

Pogonatum nipponicum Nog. & Osada (Hwang, 1991)

Pogonatum sphaerothecium Besch.
- *Polytrichum sphaerothecium* (Besch.) Mull.Hall. (Sasaoka, 1933; Kashimura, 1940; Horikawa, 1951; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Pogonatum spinulosum Mitt. (Nakai, 1917; Horikawa, 1918; Kashimura, 1940; Osada, 1958; Chung and Hong, 1961; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Pogonatum urnigerum (Hedw.) P.Beauv. (NIBRMS 105855) (Cardot, 1904; Okamura, 1916; Reimers, 1930; Sasaoka, 1933; Sakurai, 1935a; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Noguchi, 1954; Osada, 1958; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Polytrichastrum alpinum (Hedw.) G.L.Sm. (Okamura, 1916; Hong and Ando, 1962; He and Song, 2011; Yoon

et al., 2011b)
- *Polytrichum alpinum* Hedw. (Nakai, 1917; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Chung and Uhm, 1961; Hong and Ando, 1963; Choe and Choi, 1980; Park, 1997)
- *Pogonatum alpinum* (Hedw.) Röhl. (Hwang, 1991)
- *Pogonatum alpinum* var. *brevifolium* (R.Br.) Brid. (Hwang, 1991)

Polytrichastrum formosum (Hedw.) G.L.Sm. (NIBR MS107435; NIBRMS107440; NIBRMS107441) (He and Song, 2007; 2011; Yoon *et al*., 2011b)
- *Polytrichum attenuatum* Menzies ex Brid. (Nakai, 1917; Saito, 1938; Kashimura, 1940; Hong, 1960a)
- *Polytrichum formosum* Hedw. (Saito, 1938; Osada, 1958; Hong, 1960b; Hong and Ando, 1961; 1963; Chung and Uhm, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Polytrichastrum longisetum (Sw. ex Brid.) G.L.Sm.
- *Polytrichum gracile* Menzies (Saito, 1938; Kashimura, 1940)
- *Polytrichum longisetum* Sw. ex Brid. (Saito, 1938; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Polytrichastrum pallidisetum (Funck) G.L.Sm.
- *Polytrichum decipiens* Limpr. (Hwang, 1991; Park, 1997)

Polytrichum commune Hedw. (NIBRMS105863; NIBR MS107436) (Okamura, 1916; Nakai, 1917; Kashimura, 1933; 1938; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Hong, 1960a; 1963; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Polytrichum jensenii* I.Hgen (Hwang, 1991)

Polytrichum juniperinum Hedw. (Saito, 1938; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Polytrichum juniperinum **subsp. *strictum*** (Menzies ex Brid.) Nyl. & Saelan (Sasaoka, 1933; Kashimura, 1940)
- *Polytrichum juniperinum* var. *gracilius* Wahlenb. (Kashimura, 1940; Osada, 1958; Choe and Choi, 1980)
- *Polytrichum strictum* Menzies ex Brid. (Osada, 1958; Park, 1997)

Polytrichum piliferum Hedw. (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Buxbaumiaceae Schwägr.

Buxbaumia aphylla Hedw. (Hwang, 1991)

Buxbaumia minakatae S.Okamura (NIBRMS105845) (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Diphysciaceae M.Fleisch.

Diphyscium fulvifolium Mitt. (NIBRMS106097; NIBR MS107197) (Horikawa, 1936a; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Diphyscium mucronifolium Mitt. (NIBRMS106796; NIBRMS106800)

Diphyscium perminutum Takai (Yim *et al*., 2013)

Theriotia lorifolia Cardot (other use: ***Diphyscium lorifolium*** (Cardot) Magombo) (NIBRMS107477) (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Horikawa, 1934a; Uno and Takahasi, 1940; Kashimura, 1940; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
- *Diphyscium lorifolium* (Cardot) Magombo (Yoon *et al*., 2011b)

Timmiaceae Schimp.

Timmia megapolitana Hedw. (Hwang, 1991)

Encalyptaceae Schimp.

Encalypta ciliata Hedw. (Horikawa, 1936a; 1939; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Encalypta sinica J.-C.Zhao & M.Li (Ellis *et al*., 2014)

Funariaceae Schwägr.

Funaria hygrometrica Hedw. (NIBRMS106091; NIBR MS106208) (Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b)
- *Funaria calvescens* Schwägr. (Sasaoka, 1933; Kashimura, 1939)

Physcomitrium eurystomum Sendth. (Sasaoka, 1933; Choe and Choi, 1980; Hwang, 1991)

Physcomitrium japonicum (Hedw.) Mitt. (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)
- *Physcomitrium macrophyllum* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939)

Physcomitrium sphaericum (C.Ludw.) Fürnr. (NIBR MS107125; NIBRMS106228) (Choe and Choi, 1980; Hwang, 1991)
- *Physcomitrium eurystomoides* Cardot (Cardot, 1904; Brotherus, 1909; Osada, 1958)

Bryoxiphiaceae Besch.

Bryoxiphium norvegicum (Brid.) Mitt. (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Bryoxiphium norvegicum **subsp. *japonicum*** (Berggr.) Á. Löve & D. Löve (NIBRMS107194; NIBRMS106732; NIBRMS106976; NIBRMS105888) (Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007;

2011; Yoon *et al*., 2011b)
– *Bryoxiphium savatieri* (Husn.) Mitt. (Sasaoka, 1933; Kashimura, 1939)

Grimmiaceae M.Fleisch.

Campylostelium brachycarpum (Nog.) Z.Iwats., Yuk. Tateishi & Tad.Suzuki (NIBRMS107483)
Campylostelium saxicola (F.Weber & D.Mohr) Bruch & Schimp. (NIBRMS107468)
Coscinodon humilis Milde (Yoon *et al*., 2011)
– *Grimmia brachyphylla* Cardot (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980)
Grimmia decipiens (Schultz.) Lindb. (Park, 1997)
Grimmia donniana Sm. (Choe and Choi, 1980; Hwang, 1991)
– *Grimmia alpestris* (F.Weber & D.Mohr) Schleich. (Saito, 1938; Kashimura, 1939; Uno and Takahasi, 1940; Hong and Ando, 1961)
Grimmia elongata Kaulf. (NIBRMS106968)
– *Grimmia unicolor* Hook. (Hwang, 1991; Park, 1997)
Grimmia longirostris Hook. (TNS 85302 as *Grimmia affinis*)
Grimmia ovalis (Hedw.) Lindb. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991)
Grimmia pilifera P.Beauv. (NIBRMS107379; NIBR MS107380; NIBRMS107140; NIBRMS107149) (Sasaoka, 1933 Kashimura, 1939; Uno and Takahasi, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
– *Grimmia pensilvanica* Schwägr. (Cardot, 1904)
– *Grimmia atroviridis* Cardot (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Hong and Ando, 1962; Choe and Choi, 1980)
– *Grimmia kirienensis* C.Gao (Park, 1997)
Grimmia trichophylla Grev. (He and Song, 2011)
Racomitrium aciculare (Hedw.) Brid. (other use: ***Codriophorus acicularis*** (Hedw.) P.Beauv. (NIBRMS107488) (Hwang, 1991)
Racomitrium anomodontoides Cardot (other use: ***Codriophorus anomodontoides*** (Cardot) Bedn.-Ochyra & Ochyra) (NIBRMS107377) (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Hong, 1960b; Hong and Ando, 1961; 1962; Park and Choi, 2007; Yoon *et al*., 2011b)
– *Racomitrium fasciculare* var. *atroviride* Cardot (Cardot, 1908; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
– *Racomitrium yakushimense* Sakurai (Park, 1997)
Racomitrium aquaticum (Brid. ex Schrad.) Brid. (Choe and Choi, 1980; He and Song, 2011)
Racomitrium barbuloides Cardot (other use: ***Niphotrichum barbuloides*** (Cardot) Bedn.-Ochyra & Ochyra) (NIBRMS107144; NIBRMS107375; NIBRMS107402; NIBRMS107403; NIBRMS107393) (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Sakurai, 1937b; Kashimura, 1939; He and Song, 2011)
Racomitrium canescens (Hedw.) Brid. (other use: ***Niphotrichum canescens*** (Hedw.) Bedn.-Ochyra & Ochyra) (Okamura, 1916; Nakai, 1917; Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
Racomitrium carinatum Cardot (other use: ***Codriophorus carinatus*** (Cardot) Bedn.-Ochyra & Ochyra) (NIBRMS107232) (Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Hong, 1960b; Chung and Uhm, 1961; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
Racomitrium ericoides (Brid.) Brid. (other use: ***Niphotrichum ericoides*** (Brid.) Bedn.-Ochyra & Ochyra)
– *Racomitrium canescens* var. *ericoides* (Brid.) Hampe (Okamura, 1915; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Uno and Takahasi, 1940; Hong and Ando, 1961; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991)
– *Racomitrium canescens* var. *epilosum* H.Müll. ex Milde (Choe and Choi, 1980; Hwang, 1991)
Racomitrium fasciculare (Hedw.) Brid. (other use: ***Dilutineuron fasciculare*** (Schard. ex Hedw.) Bedn.-Ochyra, Sawicki, Ochyra, Szczeciǹska & Plášek) (NIBRMS107392) (Okamura, 1916; Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
– *Racomitrium fasciculare* var. *orientale* Cardot (Cardot, 1908; Sasaoka, 1933)
Racomitrium fasciculare* var. *brachyphyllum Cardot (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Park and Choi, 2007; He and Song, 2011)
– *Racomitrium brevisetum* Lindb. (Sakurai, 1937a)
Racomitrium heterostichum (Hedw.) Brid. (Other use: ***Bucklandiella heterosticha*** (Hedw.) Bedn.-Ochyra & Ochyra) (Hong, 1960b; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)
Racomitrium japonicum Dozy & Molk. (other use: *Niphotrichum japonicum* (Dozy & Molk.) Bednarek-Ochyra & Ochyra) (NIBRMS107142; NIBRMS106177) (Yim *et al*., 2013)
Racomitrium laetum Besch. & Cradot (other use: ***Bucklandiella laeta*** (Besch. & Cardot) Bednarek-Ochyra & Ochyra) (Cardot, 1908; Sasaoka, 1933; Kashimura, 1939; He and Song, 2011; Yoon *et al*., 2011b)

– *Racomitrium diminutum* Cardot (Hong and Ando, 1962)
– *Racomitrium heterostichum* var. *diminutum* (Carot) Nog. (Choe and Choi, 1980; Hwang, 1991)
Racomitrium lanuginosum (Hedw.) Brid. (Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011)
– *Racomitrium hypnoides* Lindb. (Okamura, 1916; Sasaoka, 1933; Kashimura, 1939)
Racomitrium microcarpon (Hedw.) Brid. (Other use: ***Bucklandiella microcarpon*** (Hedw.) Bedn.-Ochyra & Ochyra) (Park, 1997)
Racomitrium molle Cardot (other use: *Codriophorus mollis* (Cardot) Bedn.-Ochyra & Ochyra) (Hwang, 1991)
Racomitrium nitidulum Cardot (Other use: ***Bucklandiella nitidula*** (Cardot) Bedn.-Ochyra & Ochyra) (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; He and Song, 2011)
– *Racomitrium heterostichum* var. *ramulosum* (Lindb.) Corb. (Choe and Choi, 1980; Hwang, 1991)
Racomitrium sudeticum (Funck) Bruch & Schimp. (Other use: ***Bucklandiella sudetica*** (Funck) Bedn.-Ochyra & Ochyra) (Hwang, 1991)
Racomitrium varium (Mitt.) A.Jaeger (other use: Codriophorus varius (Mitt.) Bedn.-Ochyra & Ochyra) (Cardot, 1904; Sasaoka, 1933; Sakurai, 1937a; Kashimura, 1939)
Schistidium agassizii Sull. & Lesq.
– *Grimmia alpicola* Hedw. (Hwang, 1991; Park, 1997)
Schistidium apocarpum (Hedw.) Bruch & Schimp. (NIBRMS107374-b) (He and Song, 2007; 2011)
– *Grimmia apocarpa* Hedw. (Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Osada, 1958; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)
Schistidium liliputanum (Müll.Hal.) Deguchi (NIBRMS107390; NIBRMS107394) (He and Song, 2007)
Schistidium rivulare (Brid.) Podp.
– *Grimmia alpicola* var. *rivularis* (Brid.) Wahlenb. (Hwang, 1991)
Schistidium strictum (Turner) Loeske ex Mårtensson (NIBRMS106726; NIBRMS107006) (Deguchi *et al*., 1998)
– *Grimmia apocarpa* var. *microtheca* Cardot (Cardot, 1908; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980)
– *Grimmia gracilis* Schleich. ex Schwägr. (Sasaoka, 1933; Kashimura, 1939)
– *Grimmia apocarpa* var. *gracilis* Röhl. (Hwang, 1991)
– *Schistidium gracile* (Röhl.) Limpr. (He and Song, 2011)

Ptychomitriaceae Schimp.

Ptychomitrium dentatum (Mitt.) A.Jaeger. (NIBRMS107343; NIBRMS107352; NIBRMS106724) (Choe and Choi, 1980 He and Song, 2011; Yoon *et al*., 2011b)
Ptychomitrium fauriei Besch. (Choe and Choi, 1980; Hwang, 1991)
Ptychomitrium linearifolium Reimers & Sakurai (NIBRMS107141; NIBRMS107242; NIBRMS107278; NIBRMS107286; NIBRMS106180) (Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
Ptychomitrium sinense (Mitt.) A.Jaeger. (NIBRMS107158; NIBRMS107287; NIBRMS107241; NIBRMS106110; NIBRMS106157; WKim1627b; NIBRMS107337) (Cardot, 1904; Kashimura, 1939; Osada, 1958; Hong, 1960a; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yim *et al*., 2013)
– *Ptychomitrium sinense* var. *microcarpum* (Müll.Hal.) Cardot (Uno and Takahasi, 1940)
Ptychomitrium wilsonii Sull. & Lesq. (Sasaoka, 1933; Kashimura, 1939; Hong, 1960a; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Seligeriaceae Schimp.

Blindia japonica Broth. (He and Song, 2011)
Brachydontium olympicum (E.Britton) T.T.Mclntosh & J.R.Spence (Park *et al*., 2019)
Seligeria austriaca Schauer (NIBRMS107372) (Tanaka *et al*., 2001)
Seligeria calcarea (Hedw.) Bruch & Schimp. (NIBRMS107370)
Seligeria diversifolia Lindb. (NIBRMS107371)
Seligeria donniana (Sm.) Müll.Hal. (NIBRMS107363)

Calymperaceae Kindb.

Syrrhopodon armatus Mitt. (Yoon *et al*., 2015a)
Syrrhopodon japonicus (Besch.) Broth. (Yoon *et al*., 2015a)

Dicranaceae Schimp.

Anisothecium recurvimarginatum (S.Okamura) Ihsiba
– *Dicranella recurvimarginata* S.Okamura (Sasaoka, 1933; Kashimura, 1939; Okamura, 1915; Choe and Choi, 1980)
Aongstroemiopsis julacea (Dozy & Molk.) M.Fleisch. (Ellis *et al*., 2014)
Arctoa fulvella (Dicks.) Bruch & Schimp. (NIBRMS107016) (Hwang, 1991)
Brothera leana (Sull.) Müll.Hal. (NIBRMS107175) (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Uno and Takahasi, 1940; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang,

1991; Park, 1997; Yoon *et al*., 2011b)

Campylopodium medium (Duby) Giese & J.-P.Frahm (NIBRMS107387; NIBRMS107388)

Campylopus atrovirens De Not. (Hong & Ando, 1959; 1961; Choe and Choi, 1980)

– *Campylopus japonicus* var. *fusco-viridis* Cardot (Sasaoka, 1933; Kashimura, 1939; Uno and Takahasi, 1940)

– *Campylopus fuscoviridis* (Cardot) Dixon & Thér. ex W.S.Hong & Ando (Hwang, 1991)

Campylopus flexuosus (Hedw.) Brid. (Sakurai, 1941b; Choe and Choi, 1980; Hwang, 1991)

Campylopus fragilis (Brid.) Bruch & Schimp. (Hwang, 1991; Park, 1997)

Campylopus gracilis (Mitt.) A.Jaeger.

– *Campylopus schwarzii* Schimp. (Choe and Choi, 1980; Hwang, 1991)

Campylopus schimperi Mild.

– *Campylopus handelii* Broth. (Park, 1997)

Campylopus sinensis (Müll.Hal.) J.-P.Frahm (NIBRMS 106753; NIBRMS107034; NIBRMS106345; NIBRMS 106346)

– *Campylopus japonicus* Broth. (Sasaoka, 1933; Kashimura, 1939; Hong, 1960b; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Campylopus umbellatus (Arn.) Paris (NIBRMS106944)

– *Campylopus coreensis* (Cardot) Broth. (Cardot, 1907; Sasaoka, 1933; Choe and Choi, 1980)

– *Pilopogon coreensis* (Cardot) Broth. (Brotherus, 1909)

– *Thysanomitrion coreense* (Cardot) Broth. (Kashimura, 1939)

Cynodontium gracilescens (F.Weber & D.Mohr) Schimp. (Hwang, 1991)

Cynodontium polycarpon (Hedw.) Schimp. (Hwang, 1991)

Cynodontium strumiferum (Hedw.) Lindb. (Hwang, 1991)

Dichodontium pellucidum (Hedw.) Schimp. (NIBRMS 107306) (Choe and Choi, 1980; He and Song, 2011)

– *Dichodontium verrucosum* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Dicranella cerviculata (Hedw.) Schimp. (Hwang, 1991)

Dicranella gonoi Cardot (NIBRMS107463)

Dicranella heteromalla (Hedw.) Schimp. (NIBRMS 106685; NIBRMS106984; NIBRMS107024; NIBRMS107036; NIBRMS106216) (Sasaoka, 1933; Kashimura, 1939; Hong, 1960b; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b)

Dicranella heteromalla* var. *curvipes Lindb. (Choe and Choi, 1980)

– *Dicranella quelpaertensis* Cardot (Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939)

Dicranella varia (Hedw.) Schimp. (NIBRMS106766) (He and Song, 2011)

– *Dicranella rufescens* (With.) Schimp. (Choe and Choi, 1980)

Dicranodontium denudatum (Bird.) E. Britton (NIBRMS106847; NIBRMS1070028) (Sasaoka, 1933; Hong and Ando, 1961; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; Hwang, 1991)

Dicranoloma cylindrothecium (Mitt.) Sakurai (Choe and Choi, 1980; Hwang, 1991)

– *Dicranum fragiliforme* Cardot (Cardot, 1907; Hong and Ando, 1961)

– *Dicranoloma fragiliforme* (Cardot) Broth. (Sasaoka, 1933; Kashimura, 1939)

– *Dicranum cylindrothecium* Mitt. (Saito, 1938; Hong and Ando, 1962)

– *Dicranum stratulum* Mitt. (He and Song, 2011)

Dicranoweisia crispula (Hedw.) Milde (Hwang, 1991)

Dicranum caesium Mitt. (Hwang, 1991)

Dicranum drummondii Müll.Hal. (Hwang, 1991)

Dicranum elongatum Schieich. ex Schwägr. (Hwang, 1991)

Dicranum flagellare Hedw. (Kashimura, 1939; Osada, 1958; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

– *Orthodicranum flagellare* (Hedw.) Loeske (Reimers, 1930; Hwang, 1991)

Dicranum fulvum Hook. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

– *Dicranum subleiodontum* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962)

Dicranum fuscescens Turner (Osada, 1958; Choe and Choi, 1980; Hwang, 1991)

Dicranum japonicum Mitt. (NIBRMS107228) (Nakai, 1917; Kashimura, 1939; Osada, 1958; Park and Hong, 1959; Hong, 1960a; Hong and Ando, 1962; Park, 1997; Hwang, 1991; He and Song, 2011)

Dicranum klauteri Reimers (Reimers, 1930; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Dicranum leiodontium Cardot (Eillis *et al*., 2017)

Dicranum majus Turner (NIBRMS105987) (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Song, 1987; Park, 1997; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2011; Yoon *et al*., 2011b)

Dicranum mayrii Broth. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Dicranum montanum Hedw. (Yoon *et al*., 2015c)

– *Orthodicranum montanum* (Hedw.) Loeske (Hwang, 1991; Park, 1997)

Dicranum nipponense Besch. (NIBRMS107233; NIBRMS107078) (Nakai, 1917; Sasaoka, 1933; Kashimura,

1939; Osada, 1958; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b)

Dicranum polysetum Sw. (Hwang, 1991)

Dicranum sasaokae Broth. ex Ihsiba (Sasaoka, 1933; Kashimura, 1939)

Comment: Sasaoka (1933) dicaribed a species, *Dicranoloma Sasaokae*. Hoewever; it is a nonexistent scientific name. Thus, it is possible to consider that the name seems to be a simply typo. *Dicranum sasaokae* was reported as a new species by Iisiba (1932).

Dicranum scoparium Hedw. (Okamura, 1916; Nakai, 1917; Reimers, 1930; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Uno and Takahasi, 1940; Osada, 1958; Hong, 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2011; Yoon *et al*., 2011b)

Dicranum spadiceum J.E.Zetterst. (Park, 1997; Hwang, 1991)

Dicranum spurium Hedw. (Hwang, 1991)

Dicranum scottianum Sapjegin

– *Orthodicranum strictum* Broth. (Park, 1997)

Dicranum viride (Sull. & Lesq.) Lindb. (Hong and Ando, 1962; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Dicranum viride* var. *hakkodense (Cardot) Takaki (NIB RMS107224; NIBRMS106960; NIBRMS105848) (Choe and Choi, 1980; He and Song, 2007)

– *Dicranum hakkodense* Cardot (Cardot, 1907; Kashimura, 1939)

– *Orthodicranum hakkodense* (Cardot) Broth. (Sasaoka, 1933)

Holomitrium densifolium (Wilson) Wijk & Margad. (Choe and Choi, 1980; He and Song, 2011)

– *Holomitrium japonicum* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Park and Hong, 1959; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1962; Hwang, 1991)

Oncophorus crispifolius (Mitt.) Lindb. (NIBRMS1067 25; NIBRMS106728; NIBRMS106734; NIBRMS10 6942; NIBRMS107012; NIBRMS107026; NIBRMS 107048; NIBRMS107120; NIBRMS106098; NIBR MS105889) (Sasaoka, 1933; Kashimura, 1939; Hong, 1960a; 1960b; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

– *Cynodontium crispifolium* (Mitt.) A.Jaeger (Cardot, 1904)

– *Dicranoweisia fauriei* Cardot (Cardot, 1904; Brotherus, 1909)

– *Cynodontium crispifolium* var. *brevipes* Cardot (Cardot, 1907)

– *Oncophorus fauriei* (Cardot) Ihsiba (Sasaoka, 1933; Kashimura, 1939)

– *Oncophorus crispifolius* var. *brevipes* (Cardot) Thér. (Sasaoka, 1933; Kashimura, 1939; Chung and Uhm, 1961; Choe and Choi, 1980; He and Song, 2011)

Oncophorus virens (Hedw.) Brid. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Oncophorus wahlenbergii Brid. (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Oreoweisia laxifolia (Hook. f.) Kindb. (Kim *et al*., 2019)

Paraleucobryum longifolium (Ehrh. ex Hedw.) Loeske (NIBRMS105996; NIBRMS105997) (Song, 1987; Hwang, 1991; Park, 1997)

Symblepharis vaginata (Hook.) Wijk. & Margad. (Gao *et al*., 1999)

Trematodon ambiguus (Hedw.) Hornsch. (Hwang, 1991)

Trematodon longicollis Michx. (NIBRMS105999) (Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Trematodon drepanellus* Besch. (Hong, 1960a)

– *Trematodon drepanellus* var. *flaccidisetus* (Cardot) Dixon (Hong and Ando, 1962)

Trematodon flaccidisetus Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939)

Comment: This species was originally reported by Cardot (1904), its type specimen was collected in Gangwond-do. Cao and Gao (1988) was condsidered that this species was a synonym of *T. longicollis*. Hwever, Suzuki (2015) recognized that this species was distinguished from *T. longicollis* by the length of its peristome teeth. This study agrees to the concept of Suzuki (2015).

Ditrichaceae Limper.

Ceratodon heterophyllus Kindb.

– *Ceratodon purpureus* var. *rotundifolius* Berggr. (Hwang, 1991; Park, 1997)

Ceratodon purpureus (Hedw.) Brid. (NIBRMS107243) (Okamura, 1916; Sasaoka, 1933; Osada, 1958; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Park, 1997; Deguchi *et al*., 1998; Yoon *et al*., 2011b)

– *Ceratodon perplexans* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Distichium capillaceum (Hedw.) Bruch & Schimp. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Ditrichum divaricatum Mitt. (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

– *Ditrichum divaricatum* var. *exaltatum* Cardot (Cardot, 1908; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980)

Ditrichum flexicaule (Schwägr.) Hampe (NIBRMS10

7460)

Ditrichum heteromallum (Hedw.) E.Britton (NIBRMS 107461; NIBRMS107462) (He and Song, 2007)

Ditrichum pallidum (Hedw.) Hampe. (Hong, 1960a; 1960b; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b; Yim *et al*., 2013)

Ditrichum pusillum (Hedw.) Hampe. (Gao *et al*., 1999)

Commnet: This species was first added to the list of bryphytes of Korea by Park and Choi (2007), but references including specimens or literature is not presented. Still, specimens collected from Mt. Baekdu were cited in Gao *et al*. (1999). Therefore, it is accepted that this species is distributed on the Korean Peninsula.

Ditrichum rhynchostegium Kindb. (NIBRMS107428)

Pleuridium subulatum (Hedw.) Rabenh. (Choe and Choi, 1980)

Saelania glaucescens (Hedw.) Broth. (Hwang, 1991)

Erpodiaceae Broth.

Aulacopilum japonicum Broth. ex Cardot (NIBRMS 106305; NIBRMS106176) (Carot, 1909; Brotherus, 1921; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Venturiella sinensis (Venturi) Müll.Hal. (NIBRMS107122; NIBRMS106152) (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Fissidentaceae Schimp.

Fissidens adianthoides Hedw. (Osada, 1958; Choe and Choi, 1980; He and Song, 2011)

Fissidens anomalus Mont. (Yoon *et al*., 2015c)

Fissidens borealis C. Gao (Hwang, 1991)

Fissidens bryoides Hedw. (NIBRMS107275; NIBRMS 107276; NIBRMS107309) (Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; Yoon *et al*., 2011b)

Fissidens bryoides* var. *lateralis (Broth.) Z.Iwats. & Tad. Suzuki (NIBRMS106982; NIBRMS106988; NIBR MS106352)

Fissidens bryoides* var. *ramosissimus Thér. (Deguchi *et al*., 1998)

Fissidens crenulatus Mitt. (NIBRMS107430)

Fissidens crispulus Brid. (NIBRMS107426)

Fissidens crispulus* var. *robinsonii (Broth.) Z.Iwats. & Z.H.Li (Yoon *et al*., 2015c)

Fissidens dubius P. Beauv. (NIBRMS107165; NIBRMS 107186; NIBRMS106745; NIBRMS106996; NIBR MS107112; NIBRMS106184; NIBRMS106191; NIBR MS105880) (He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Fissidens cristatus* Wilson ex Mitt. (Horikawa, 1935a; 1935b; Kashimura, 1939; Park and Hong, 1959; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1962; Choe and Choi, 1980; Song, 1987; Hwang, 1991)

Fissidens gardneri Mitt. (NIBRMS107176; NIBRMS 106817; NIBRMS106819; NIBRMS106840; NIBRMS 106861; NIBRMS106863; NIBRMS107095; NIBRMS 107127; NIBRMS106113; NIBRMS106178; NIBRMS 105884) (Yoon and Sun, 2010)

Fissidens geminiflorus Dozy & Molk. (NIBRMS107 445; NIBRMS107446)

Fissidens geppii M. Fleisch. (Choe and Choi, 1980; He and Song, 2011)

Fissidens grandifrons Brid. (NIBRMS107498)

– *Fissidens grandifrons* var. *planicaulis* (Besch.) Nog. (Choe and Choi, 1980)

Fissidens gymnogynus Besch. (NIBRMS107315; NIBR MS106101; NIBRMS107391) (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Hong, 1960a; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Fissidens hyalinus Wilson & Hook. (NIBRMS107425)

Fissidens involutus* var. *jejuensis Y.J. Yoon, B.C.Tan & B.Y. Sun (Yoon *et al*., 2015c)

Fissidens linearis* var. *obscuriretis (Broth. & Paris) I.G. Stone

– *Fissidens micro-serratus* Sakurai (Choe and Choi, 1980)

Fissidens nobilis Griff. (NIBRMS106769; NIBRMS 107082; NIBRMS106134; NIBRMS105899) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yim *et al*., 2013)

– *Fissidens japonicus* Dozy & Molk. (Okamura, 1915; Kashimura, 1939; Chung and Uhm, 1961; Hong and Ando, 1962)

Fissidens osmundoides Hedw. (Hwang, 1991)

Fissidens pallidinervis Mitt. (Yoon *et al*., 2015b)

Fissidens pellucidus* var. *asterodontius (Müll.Hal.) Pursell

– *Fissidens latifolioides* (Broth.) Sas. (Sasaoka, 1933)

– *Fissidens latifolius* Broth. (Kashimura, 1939)

Fissidens protonematicola Sakurai (Kwon *et al*., 2019)

Fissidens pseudolateralis Cardot (Cardot, 1908; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991)

Fissidens taxifolius Hedw. (NIBRMS106866; NIBR MS106870; NIBRMS107054) (Choe and Choi, 1980; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b)

Fissidens teysmannianus Dozy & Molk. (NIBRMS 106736; NIBRMS106791; NIBRMS106820; NIBR MS107088; NIBRMS107094; NIBRMS106130; NIB RMS106193) (He and Song, 2007; 2011; Yim *et al*., 2013)

– *Fissidens adelphinus* Besch. (Cardot, 1907; Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998)

– *Fissidens fauriei* Cardot (Cardot, 1907; Brotherus, 1909;

Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962)

Fissidens tosaensis Broth. (NIBRMS107471) (Choe, 1982)

Leucobryaceae Schimp.

Leucobryum bowringii Mitt. (NIBRMS107452) (He and Song, 2007)

Leucobryum glaucum (Hedw.) Ångstr. (Hong, 1960a; 1960b; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Leucobryum galeatum* fo. *longifolia Cardot (Cardot, 1904)

- *Leucobryum galeatum* var. *longifolium* Cardot (Kashimura, 1939; Choe and Choi, 1980)

Comment: This species was originally recorded by Cardot (1904). Cardot (1904) reported that this species distributed in Korea and Hong Kong. However, other researchers except Kashimura (1939) and Choe and Choi (1980) have been not recognized this species.

Leucobryum humillimum Cardot (Yamaguchi, 1993)

- *Leucobryum galeatum* Besch. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)

Leucobryum juniperoideum (Brid.) Müll.Hal. (NIBR MS107169; NIBRMS107042; NIBRMS106095; NIB RMS105916) (He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Leucobryum neilgherrense* Müll.Hal. (Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Park and Hong, 1959; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991)
- *Leucobryum neilgherrense* var. *galeatum* (Besch.) Dixon (Choe and Choi, 1980)
- *Leucobryum brevicaule* Besch. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)

Rhabdoweisiaceae Limpr.

Glyphomitrium humillimum (Mitt.) Cardot (NIBR MS107193; NIBRMS106149; NIBRMS106153; NIBR MS106160; NIBRMS106175; NIBRMS106181; NIBR MS105946) (Sasaoka, 1933; Horikawa, 1936a; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Yim *et al*., 2013)

- *Aulacomitrium humillimum* Mitt. (Cardot, 1904)

Rhabdoweisia crispata (Dicks.) Lindb. (NIBRMS106815; NIBRMS106707) (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Rhabdoweisia fugax (Hedw.) Bruch & Scimp. (Hong and Ando, 1961; Hong and Ando, 1962)

Pottiaceae Hampe

Anoectangium aestivum (Hedw.) Mitt. (Choe and Choi, 1980; Hwang, 1991)

- *Anoectangium torquescens* Mitt. (Sasaoka, 1933; Kashimura, 1939)

Anoectangium microphyllum Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Anoectangium stracheyanum Mitt. (Choe and Choi, 1980; Hwang, 1991)

- *Anoectangium coreense* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939)
- *Anoectangium rivale* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939)

Anoectangium thomsonii Mitt. (NIBRMS107271) (Choe and Choi, 1980; He and Song, 2011)

- *Anoectangium sublaetevirens* Cardot (Cardot, 1907; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980)
- *Anoectangium laetevirens* Besch. & Cardot (Cardot, 1907; Sasaoka, 1933)
- *Anoectangium crispulum* Wilson (Hong and Ando, 1962)

Ardeuma aurantiacum (Mitt.) R.H.Zander & Hedd. (NIBRMS107361)

Barbula convoluta Hedw. (He and Song, 2007; 2011)

Barbula coreensis (Card.) K. Saito. (Hwang, 1991)

- *Barbula paludosa* var. *coreensis* Cardot (Cardot, 1904; Sasaoka, 1933 Kashimura, 1939; Choe and Choi, 1980)

Barbula unguiculata Hedw. (NIBRMS107240) (Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; Yoon *et al*., 2011b)

Bryoerythrophyllum recurvirostrum (Hedw.) P.C.Chen (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

- *Didymodon rubellus* Bruch & Schimp. (Uno and Takahasi, 1940)
- *Didymodon recurvirostris* (Hedw.) Jenn. (Hong and Ando, 1961)

Chionoloma tenuirostre (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez (NIBRMS107317; NIBR MS106100; NIBRMS106199)

- *Trichostomum cylindricum* (Bruch ex Brid.) Müll.Hal. (Reimers, 1930; Kashimura, 1939)
- *Oxystegus cylindricus* (Bruch ex Brid.) Hilp. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)
- *Oxystegus cuspidatus* (Dozy & Molk.) P.C.Chen (Hwang, 1991)

Didymodon erosodenticulatus (Müll.Hal.) K.Saito (Choe and Choi, 1980; He and Song, 2011)

Didymodon rigidulus Hedw. (Yoon *et al*., 2011b)

Didymodon tophaceus (Brid.) Lisa

- *Weissia platyphylla* Broth. (Cardot, 1904; Kashimura, 1939)

Didymodon vinealis (Brid.) R.H.Zander

- *Barbula vinealis* Brid. (Hwang, 1991)

Eucladium verticillatum (With.) Bruch & Schimp. (NIBRMS107455)

Geheebia constricta (Mitt.) R.H.Zander & R.T.Caner

(NIBRMS107360)
Gymnostomum aeruginosum Sm. (Choe and Choi, 1980)
Hydrogonium orientale (F.Weber) Jan Kucera (NIBRMS 107397; NIBRMS107398; NIBRMS107429)
– *Barbula indica* (Hook.) Spreng. (He and Song, 2007)
Hymenostylium recurvirostrum (Hedw.) Dixon (NIBR MS107014)
– *Gymnostomum recurvirostrum* Hedw. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2015b)
Hyophila amblyphylla Cardot (Cardot, 1907; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Hwang, 1991)
Hyophila involuta (Hook.) A.Jaeger. (NIBRMS106150) (Osada, 1958; Saito, 1975; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)
– *Tayloria coreana* Sakurai (Uno and Takahasi, 1940; Hong and Ando, 1961)
Hyophila propagulifera Broth. (NIBRMS107272) (Choe and Choi, 1980; Yoon *et al*., 2011b)
Leptodontium flexifolium (Dicks.) Hampe (Choe and Choi, 1980; Hwang, 1991)
– *Leptodontium nakaii* S.Okamura (Okamura, 1915; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1961)
– *Bryoerythrophyllum yichunense* C.Gao (Park, 1997)
Chenia leptophylla (Müll.Hal.) R.H.Zander (NIBRMS 107478; NIBRMS107479)
Molendoa sendtneriana (Bruch & Schimp.) Limpr. (Choe and Choi, 1980)
Scopelophila cataractae (Mitt.) Broth. (Choe and Choi, 1980; Hwang, 1991)
– *Hyophila coreensis* Cardot (Cardot, 1907)
– *Weisiopsis coreensis* (Cardot) Broth. (Brotherus, 1921; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; He and Song, 2011)
Syntrichia sinensis (Müll.Hal.) Ochyra (NIBRMS1073 74-a)
Timmiella anomala (Bruch & Schimp.) Limpr. (Choe and Choi, 1980)
Tortella fragilis (Hook. & Wilson) Limpr. (Kim *et al*., 2019)
Tortella japonica (Besch.) Broth. (NIBRMS107365)
Tortella tortuosa (Schrad. ex Hedw.) Limpr. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007)
Tortula modica R.H.Zander
– *Pottia intermedia* (Turner) Fürnr. (Choe and Choi, 1980)
Tortula muralis Hedw. (Hwang, 1991; Yoon *et al*., 2015b)
Trichostomum crispulum Bruch (NIBRMS107494) (Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
Trichostomum deciduifolium (K. Saito) R.H.Zander (He and Song, 2011)
Trichostomum planifolium (Dixon) R.H.Zander (NIBR MS107438-b; NIBRMS107366)
– *Weissia planifolia* Dixon (Hwang, 1991; Yoon *et al*., 2011b)
Trichostomum platyphyllum (Broth. ex Ihsiba) P.C. Chen (Hwang, 1991)
Tuerckheimia svihlae (E.B.Bartram) R.H.Zander (NIBR MS107362)
Weisiopsis anomala (Broth. & Paris) Broth. & Paris (Brotherus, 1921; Sasaoka, 1933; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
– *Hyophila anomala* Broth. & Paris ex Cardot (Cardot, 1907; Brotherus, 1909)
– *Hyophila weisiaeformis* Cardot (Cardot, 1907)
– *Weisiopsis cardotii* Broth. (Brotherus, 1921; Sasaoka, 1933; Kashimura, 1939)
Weissia breviseta (Thér.) P.C.Chen (Hwang, 1991)
Weissia controversa Hedw. (NIBRMS106103) (Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
– *Weissia viridula* Hedw. ex Brid. (Sasaoka, 1933; Kashimura, 1939)
Weissia crispa (Hedw.) G.Gaerthn., B. May. & Scherb.
– *Astomum crispum* (Hedw.) Hampe (Choe and Choi, 1980)
Weissia edentula Mitt. (Hwang, 1991)
– *Weissia platyphylloides* Cardot (Sasaoka, 1933; Kashimura, 1939)
– *Weissia controversa* var. *tenuiseta* (Besch.) Nog. (Choe and Choi, 1980)
Weissia exserta (Broth.) P.C.Chen (NIBRMS107373)
Weissia longidens Cardot (NIBRMS106151; NIBRMS 106158)
Weissia newcomeri (E.B.Bartram) K.Saito (NIBRMS 107143; NIBRMS106105) (Deguchi *et al*., 1998)

Meesiaceae Schimp.

Meesia longiseta Hedw. (Hwang, 1991)
Meesia uliginosa Hedw. (Park, 1997)

Splachnaceae Grev. & Arn.

Splachnum luteum Hedw. (Park, 1997)
Tetraplodon angustatus (Hedw.) Bruch & Schimp. (Park, 1997)
Tetraplodon mnioides (Hedw.) Bruch & Schimp. (Hwang, 1991; Park, 1997)
Tetraplodon urceolatus (Hedw.) Bruch & Schimp. (Hwang, 1991)
Voitia nivalis Hornsch. (Hwang, 1991)

Hedwigiaceae Schimp.

Hedwigia albicans* var. *microcarpa (Cardot) Sasaoka (Sasaoka, 1933; Kashimura, 1940)

- *Hedwigia ciliata* var. *microcarpa* Cardot (Cardot, 1904; Choe and Choi, 1980)

Hedwigia ciliata (Hdew.) P.Beauv. (NIBRMS107148) (Osada, 1958; Park and Hong, 1959; Hong, 1960a; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Hedwigia albicans* Lindb. (Brotherus, 1909; Okamura, 1916; Sasaoka, 1933; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Hong, 1960a)

Hedwigia ciliata* var. *viridis Bruch & Schimp. (Cardot, 1904; Choe and Choi, 1980)

- *Hedwigia albicans* var. *viridis* (Bruch & Schimp.) Limpr. (Sasaoka, 1933; Kashimura, 1940)

Bartramiaceae M.Menzel

Bartramia ithyphylla Brid. (Sakurai, 1941b; Choe and Choi, 1980; Park, 1997)

Bartramia pomiformis Hedw. (Sato1274; NIBRMS 107195) (Osada, 1958; Hong, 1960a; 1960b; Hong and Ando, 1961; 1962; Park, 1997; He & Song; 2011; Yoon *et al*., 2011b)

- *Bartramia stenophylla* Cardot (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)
- *Bartramia crispata* Schimp. ex Besch. (Horikawa, 1935a; Kashimura, 1939; Park and Hong, 1959)
- *Bartramia pomiformis* var. *elongata* Turner (Choe and Choi, 1980; Park, 1997)

Breutelia arundinifolia (Duby.) M.Fleisch. (Hwang, 1991)

Philonotis calcarea (Bruch & Schimp.) Schimp. (Sakurai, 1941b; Choe and Choi, 1980; Hwang, 1991)

Philonotis coreensis Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Hong and Ando, 1962; Choe and Choi, 1980; He & Song; 2011)

Philonotis falcata (Hook.) Mitt. (NIBRMS106012) (Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; Yoon *et al*., 2011b)

- *Philonotis japonica* (Schimp.) Paris (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)
- *Philonotis laxiretis* Cardot (Saito, 1938; Kashimura, 1939; Sakurai, 1941a)
- *Philonotis falcata* var. *carinata* (Mitt.) Ochi (Choe and Choi, 1980)

Philonotis fontana (Hedw.) Brid. (NIBRMS105865) (Osada, 1958; Hong and Ando, 1961; 1962; Hwang, 1991; Park, 1997; He and Song, 2011)

Philonotis fontana* var. *chosenica Sakurai (Sakurai, 1941a)

Philonotis hastata (Duby) Wijk & Margad. (NIBR MS107444)

Philonotis lancifolia Mitt. (Hong, 1960b; Choe and Choi, 1980; Hwang, 1991)

Philonotis longiseta (Michx.) E.Britton

- *Philonotis radicalis* P. Beauv. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Philonotis marchica (Hedw.) Brid. (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Sakurai, 1941a; Hwang, 1991)

Philonotis tenuissima Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1939; Osada, 1958)

Comment: In Kabiersch (1937), *Ph. tosana; Ph. coreensis* and *Ph. tenuissima* were considered to be a synonymof *Ph. socia*. Given that he did not observe *Ph. socia* directly, he made such an assertion. Consequently, it is hard to see his taxonomic treatment is correct. Accordingly, a full-scale taxonomic revision on *Ph. coreensis* and *Ph. tenuissima*, which were published by Cardot (1909) based on specimens collected from Korea, has not been done yet. Therefore, it is belived reasonable to maintian these scientific names.

Philonotis thwaitesii Mitt. (NIBRMS106711; NIBRMS 107028; NIBRMS105864 Sato1163) (Choe and Choi, 1980; He and Song, 2007; Yoon *et al*., 2011b)

- *Philonotis socia* Mitt. (Hong and Ando, 1961; Hwang, 1991)
- *Philonotis revouta* Bosch & Sande Lac. (Hwang, 1991)

Philonotis turneriana (Schwägr.) Mitt. (Choe and Choi, 1980; He and Song, 2011)

- *Philonotis setschuanica* (Müll.Hal.) Paris (Park, 1997)

Philonotis yezoana Besch. & Cradot (Cardot, 1909; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

- *Philonotis fontana* var. *tenuicaulis* (Cardot) Nog. (He and Song, 2007)

Plagiopus oederianus (Sw.) H.A.Crum & L.E.Anderson

- *Plagiopus oederi* (Brid.) Limpr. (Choe and Choi, 1980; Hwang, 1991)

Bryaceae Rchb.

Anomobryum filiforme (Griff.) A.Jaeger. (Choe and Choi, 1980; Park, 1997)

Anomobryum gemmigerum Broth. (Osada, 1958; Hwang, 1991)

Anomobryum lanatum (P.Beauv.) J.R.Spence & H.P. Ramsay

- *Bryum argenteum* var. *lanatum* (P.Beauv.) Hampe (Kashimura, 1939)

Brachymenium exile (Dozy & Molk.) Bosch & Sande Lac. (NIBRMS107470-b; NIBRMS107438) (Choe and Choi, 1980; Hwang, 1991)

Brachymenium nepalense Hook. (NIBRMS107252; NIBRMS105842) (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Brachymenium clavulum* Mitt. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)
– *Brachymenium nepalense* var. *clavulum* (Mitt.) Ochi (Choe and Choi, 1980; Choe and Choi, 1980; Hwang, 1991)

Bryum alpinum Huds. ex With. (Nakai, 1917; Sasaoka, 1933; Kashimura, 1939; Hwang, 1991; Park, 1997)

Bryum arcticum (R. Br.) Bruch & Schimp. (Hwang, 1991)

Bryum argenteum Hedw. (NIBRMS107470-a; NIBRMS 107124; NIBRMS106102; NIBRMS106155) (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Sakurai, 1941b; Osada, 1958; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Bryum caespiticium Hedw. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Bryum dichotomum Hedw. (He and Song, 2007)

Bryum handelii Broth. (Yoon *et al*., 2015b)

Bryum paradoxum Schwägr. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)
– *Bryum pseudoalpinum* Renauld & Cardot (Osada, 1958; Hong, 1960a; Hong and Ando, 1961; Hong and Ando, 1962)

Bryum uliginosum (Brid.) Bruch & Schimp. (Choe and Choi, 1980; Park, 1997)

Epipterygium tozeri (Grev.) Lindb. (NIBRMS107464; NIBRMS105902) (Hawang, 1991)

Leptobryum pyriforme (Hedw.) Wilson (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Orthodontium pellucens (Hook.) Bruch & Schimp. (He and Song, 2007)

Osculatia coronata (Schwägr.) Ochyra, Plášek & Bedn.-Ochyra (NIBRMS107396)

Plagiobryum zieri (Dicks. ex Hedw.) Lindb. (Hwang, 1991)

Pohlia camptotrachela (Ren. & Cardot) Broth. (Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Pohlia cruda (Hedw.) Lindb. (Hwang, 1991; Park, 1997)

Pohlia drummondii (Müll.Hal.) A.L.Andrews (Hwang, 1991)

Pohlia elongata Hedw. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Pohlia fauriei (Cardot) Ihsiba (Choe and Choi, 1980; He and Song, 2007)

Pohlia flexuosa Hook. (NIBRMS106678) (Choe and Choi, 1980)

Pohlia lescuriana (Sull.) Ochi
– *Pohlia pullchella* (Hedw.) Lindb. (Park, 1997)

Pohlia longicolla (Hedw.) Lindb. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)

Pohlia marchica Osterwald (Choe and Choi, 1980; Park, 1997)

Pohlia melanodon (Brid.) A.J.Shaw
– *Mniobryum carneum* (L. ex F.Weber & D.Mohr) Limpr. (Sakurai, 1937c)

Pohlia nutans (Hedw.) Lindb. (Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; Hwang, 1991; He and Song, 2007)
– *Webera nutans* Hedw (Sasaoka, 1933; Kashimura, 1939)
– *Pohlia sphagnicola* (Lindb. & Shimp) Broth. (Hwang, 1991)

Pohlia otaruensis (Cardot) Ochi (He and Song, 2007; Ellis *et al*., 2018b)

Pohlia proligera (Kindb. ex Breidl.) Lindb. ex Arnell (Hwang, 1991; Yoon *et al*., 2011b; Lai *et al*., 2007)
– *Pohlia camtotrachella* var. *vestitissima* (Sakurai) Ochi (Choe and Choi, 1980)

Pohlia pseudodefecta Ochi (He and Song, 2007)

Pohlia revolvens (Cardot) Nog.
– *Pohlia crudoides* var. *revolvens* (Cardot) Ochi (Hong and Ando, 1961; Choe and Choi, 1980; Park, 1997)

Pohlia seoulensis (Cardot) Broth., comb. nov. (Brotherus, 1909; Ochi, 1953)
– *Webera seoulensis* Cardot (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939)
Comment: Cardot (1904) first reportd this species as the genus Webera. Later, Brotherus (1909) treated this species to the genus *Pohlia* before Ochi (1935).

Pohlia wahlenbergii (F.Weber & D.Mohr) A.L.Andrews (Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)
– *Mniobryum albicans* (Wahlenb.) Limpr. (Horikawa, 1935a; Kashimura, 1939)

Ptychostomum cellulare (Hook.) D.Bell & Holyoak (NI BRMS107126)
– *Bryum celluare* Hook. (Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991)

Ptychostomum cyclophyllum (Schwägr.) J.R.Spence
– *Bryum cyclophyllum* (Schwägr.) Bruch. & Schimp. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Yoon *et al*., 2011b)
– *Bryum gonoi* Broth. ex Cardot (Sasaoka, 1933; Kashimura, 1939)
– *Bryum tortifolium* Brid. (Hong, 1960a; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Ptychostomum knowltonii (Barnes) J.R.Spence
– *Bryum knowltonii* Barnes (Park, 1997)

Ptychostomum pallescens (Schleich. ex Schwägr.) J.R. Spence
– *Bryum pallescens* var. *quelpaertense* Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1939)
– *Bryum pallescens* Schleich. ex Schwägr. (Hong and Ando, 1962; Choe and Choi, 1980; Park, 1997; Hwang, 1991; He and Song, 2011)
– *Bryum clathratum* J.J.Amann (Hwang, 1991)

Ptychostomum pseudotriquetrum (Hedw.) J.R.Spence

& H.P.Rasmsay ex Holyoak & N.Pedersen (NIBRMS 107368)
- *Bryum pseudotriquetrum* var. *angustatum* Cardot (Cardot, 1904)
- *Bryum ventricosum* Dicks. (Sasaoka, 1933; Kashimura, 1939; Hong, 1960a)
- *Bryum pseudotriquetrum* (Hedw.) G.Gaertn., B.Mey. & Scherb. (Osada, 1958; Hong, 1960b; Choe and Choi, 1980; Hwang, 1991)

Rhodobryum giganteum (Schwägr.) Paris. (Okamura, 1915; Sasaoka, 1933; Horikawa, 1934b; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Rhodobryum ontariense (Kindb.) Paris (NIBRMS107 489) (Song, 1987)

Rhodobryum roseum (Hedw.) Limpr. (Horikawa, 1936c; Sasaoka, 1933; Saito, 1938 Kashimura, 1939; Park and Hong, 1959; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011)
- *Bryum roseum* (Hedw.) Schreb. ex G.Gaerthn., B.Mey. & Scherb. (Hong and Ando, 1961; Hong and Ando, 1962)

Rosulabryum capillare (Hedw.) J.R.Spence (NIBRMS 107139; NIBRMS107299; NIBRMS106846) (He and Song, 2007; 2011; Yim *et al*., 2013)
- *Bryum capillare* Hedw. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Rosulabryum torquescens (Bruch & Schimp.) J.R.Spence
- *Bryum torquescens* Bruch & Schimp. (Uno and Takahasi, 1940; Hong and Ando, 1961)

Mniaceae Schwägr.

Cinclidium arcticum (Bruch & Schimp.) Schimp. (Hwang, 1991)

Cinclidium stygium Sw. (Hwang, 1991)

Mnium heterophyllum (Hook.) Schwägr. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011)
- *Mnium sapporense* Besch. (Horikawa, 1936e; Kashimura, 1939)

Mnium laevinerve Cardot (Reimers, 1930; Sasaoka, 1933; Kabiersch, 1937; Kashimura, 1939; Osada, 1958; Hong and Ando, 1961; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Mnium lycopodioides (Hook.) Schwägr. (NIBRMS107 290; NIBRMS107304; NIBRMS107312; NIBRMS106 789; NIBRMS106980; NIBRMS107108)

Comment: Park and Choi (2007) recognized *M. laevinerve* as a synonym of this species. On the other hands, Li *et al*. (2007) treated both as separate species. This study verifies a distribution of this species in Jeju Island.

Mnium marginatum (Dicks.) P.Beauv. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Mnium orientale R.E. Wyatt, Odrzyk. & T.J.Kop. (Yoon and Sun, 2010; NIBR, 2012)

Mnium orthorrhynchum Brid. (Cardot, 1904; Choe and Choi, 1980; Hwang, 1991)

Mnium spinosum (Voit.) Schwägr. (NIBRMS107357-a; NIBRMS107453; NIBRMS107454;) (Horikawa, 1936c; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Mnium stellare Hedw. (Osada, 1958; Park and Hong, 1959; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Mnium thomsonii Schimp. (NIBRMS107344) (Horikawa, 1936d; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
- *Mnium decurrens* Müll.Hal. & Kindb. (Park, 1997)

Orthomnion arbuscula (Müll.Hal.) T.J.Kop. & Y.Sun
- *Plagiomnium arbuscula* (Müll.Hal.) T.J.Kop. (Hwang, 1991)

Orthomnion acutum (Müll.Hal.) T.J.Kop. & Y.Sun (NIBRMS107172; NIBRMS107178; NIBRMS1071 84; NIBRMS107291; NIBRMS106826; NIBRMS1068 59; NIBRMS106881; NIBRMS107052; NIBRMS 107058; NIBRMS107106; NIBRMS106112; NIBRMS 106183; NIBRMS105886)
- *Mnium subintegrum* Cardot (Cardot, 1904; Brotherus, 1909; Ando, 1961; Sasaoka, 1933; Kashimura, 1939)
- *Mnium dubitatum* Cardot (Cardot, 1909; Sasaoka, 1933; Kashimura, 1939)
- *Mnium noguchii* Sakurai (Sakurai, 1935c; Kashimura, 1939; Hong and Ando, 1962)
- *Mnium trichomanes* Mitt. (Horikawa, 1935a; 1935b; 1936b; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Uno and Takahasi, 1940; Sakurai, 1941b)
- *Mnium cuspidatum* subsp. *trichomanes* Kabiersch (Kabiersch, 1936; Ando, 1961)
- *Plagiomnium acutum* (Lindb.) T.J.Kop. (Choe and Choi, 1980; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Plagiomnium trichomane* (Kabiersch) T.J.Kop. (Hwang, 1991; Park, 1997)

Orthomnion affine (Blandow ex Funck) T.J.Kop. & Y.Sun
- *Mnium affine* Blandow ex Funck (Uno and Takahasi, 1940; Osada, 1958; Hong and Ando, 1961)
- *Plagiomnium affine* (Blandow ex Funck) T.J.Kop. (Choe and Choi, 1980; Hwang, 1991)

Orthomnion confertidens (Lindb. & Arnell) T.J.Kop. & Y.Sun
- *Mnium ligulifolium* Cardot (Okamura, 1916; Sasaoka, 1933; Kashimura, 1939)
- *Mnium koraiense* Sakurai (Sakurai, 1941b)
- *Plagiomnium confertidens* (Lindb. & Arnell) T.J.Kop. (Choe and Choi, 1980; Song, 1987; Hwang, 1991; Yoon *et al*., 2011b)
- *Mnium arbusculum* Müll.Hal. (Park, 1997)

Orthomnium cuspidatum (Hedw.) T.J.Kop. & Y.Sun
- *Mnium cuspidatum* Hedw. (Sakurai, 1935b; Sasaoka, 1933; Saito, 1938; Kashimura, 1939; Osada, 1958; Park and Hong, 1959; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; Hong and Ando, 1962; Park, 1997)
- *Mnium cuspidatum* subsp. *eucuspidatum* Kab. (Kaiersch, 1936)
- *Plagiomnium cuspidatum* (Hedw.) T.J.Kop. (Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b)

Orthomnion drummondii (Bruch. & Schimp.) T.J.Kop. & Y.Sun
- *Plagiomnium drummondii* (Bruch & Schimp.) T.J.Kop. (Hwang, 1991; Park, 1997)

Orthomnion elatum (Bruch & Schimp.) T.J.Kop. & Y.Sun
- *Mnium affine* var. *elatum* Bruch & Schimp. (Horikawa, 1936d; Kashimura, 1939))

Orthomnion ellipticum (Brid.) T.J.Kop. & Y.Sun
- *Mnium rugicum* Laurer (Park, 1997)

Orthomnion integrum (Bosch & Sande Lac.) T.J.Kop. & Y.Sun
- *Plagiomnium integrum* (Bosch & Sande Lac.) T.J.Kop. (He and Song, 2011)

Orthomnion japonicum (Lindb.) T.J.Kop. & Y.Sun (NIBR MS107433)
- *Mnium japonicum* Lindb. (Hong and Ando, 1962)
- *Plagiomnium japonicum* (Lindb.) T.J.Kop. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Orthomnion maximoviczii (Lindb.) T.J.Kop. & Y.Sun (NIBRMS107198; NIBRMS107260; NIBRMS106749; NIBRMS107050; NIBRMS105885)
- *Mnium maximoviczii* Lindb. (Okamura, 1915; Sasaoka, 1933; Kashimura, 1939; Osada, 1958; Hong and Ando, 1961; 1962)
- *Plagiomnium maximoviczii* (Lindb.) T.J.Kop. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Orthomnion medium (Bruch & Schimp.) T.J.Kop. & Y.Sun
- *Plagiomnium medium* (Bruch & Schimp.) T.J.Kop. (Hwang, 1991)
- *Mnium medium* Bruch & Schimp. (Park, 1997)

Orthomnion rostratum (Schrad.) T.J.Kop. & Y.Sun
- *Mnium rostratum* Schrad. (Reimers, 1930; Kabiersch, 1936; Kashimura, 1939)
- *Mnium longirostrum* Brid. (Osada, 1958; Hong and Ando, 1961; 1962; Hwang, 1991; Park, 1997; He and Song, 2011)
- *Plagiomnium rostratum* (Schrad.) T.J.Kop. (Choe and Choi, 1980; He and Song, 2011)

Orthomnion tezukae (Sakurai) T.J.Kop. & Y.Sun
- *Plagiomnium tezukae* (Sakurai) T.J.Kop. (Hwang, 1991)

Orthomnion undulatum (Hedw.) T.J.Kop. & Y.Sun
- *Mnium undulatum* Hedw. (Osada, 1958)
- *Plagiomnium undulatum* (Hedw.) T.J.Kop. (Hwang, 1991)

Orthomnion vesicatum (Besch.) T.J.Kop. & Y.Sun (NIBR MS107266)
- *Mnium vesicatum* Besch. (Horikawa, 1935a; Kashimura, 1939; Hong and Ando, 1962; Park, 1997)
- *Plagiomnium vesicatum* (Besch.) T.J.Kop. (Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Pseudobryum cinclidioides (Huebener) T.J.Kop (Hwang, 1991)

Pseudobryum speciosum (Mitt.) T.J.Kop. (Hwang, 1991)

Rhizomnium glabrescens (Kindb.) T.J.Kop
- *Mnium glabrescens* Kindb. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Uno and Takahasi, 1940)

Rhizomnium hattorii T.J.Kop. (NIBRMS107496; NIBRMS107497) (He and Song, 2007; 2011)

Rhizomnium magnifolium (Horik.) T.J.Kop. (Park, 1997; Lai *et al*., 2007)
- *Rhizomnium perssonii* T.J.Kop. (Hwang, 1991)

Rhizomnium nudum (R.S. Williams) T.J.Kop. (NIBRMS107205) (Choe and Choi, 1980)

Rhizomnium parvulum (Mitt.) T.J.Kop.
- *Rhizomnium minutulum* (Besch.) T.J.Kop. (Hwang, 1991)

Rhizomnium pseudopunctatum (Bruch & Schimp.) T.J.Kop. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)
- *Mnium subglobosum* Bruch & Schimp. (Okamura, 1916; Sasaoka, 1933; Horikawa, 1934a; Kashimura, 1939)
- *Mnium pseudopunctatum* Bruch & Schimp. (Kabiersch, 1936)

Rhizomnium punctatum (Hedw.) T.J.Kop. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
- *Mnium punctatum* Hedw. (Sasaoka, 1933; Horikawa, 1935a; Kashimura, 1939; Hong, 1960a; Hong and Ando, 1961; 1962; Park, 1997)
- *Mnium punctatum* var. *eupunctatum* Kab. (Kabiersch, 1936)

Rhizomnium striatulum (Mitt.) T.J.Kop. (NIBRMS 106990; NIBRMS107040) (Choe and Choi, 1980; He and Song, 2011; Yoon *et al*., 2011b)
- *Mnium striatulum* Mitt. (Kabiersch, 1936; Hong, 1960a; Hong and Ando, 1961; 1962)

Rhizomnium tuomikoskii T.J.Kop. (NIBRMS107199; NIBRMS105948) (Hwang, 1991; He and Song, 2011)

Trachycystis flagellaris (Sull. & Lesq.) Lindb. (NIBRMS 106855; NIBRMS106972; NIBRMS106267; NIBRMS106144) (Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*.,

2011b)
- *Mnium flagellare* Sull. & Lesq. (Horikawa, 1936c; Kashimura, 1939; Uno and Takahasi, 1940; Hong and Ando, 1961)

Trachycystis microphylla (Dozy & Molk.) Lindb. (NIBR MS106762; NIBRMS107074; NIBRMS106201; NIBRMS105930) (Kabiersch, 1936; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Rhizogonium microphyllum* (Dozy & Molk.) A.Jaeger (Cardot, 1904)
- *Mnium microphyllum* Dozy & Molk. (Horikawa, 1935a; Sasaoka, 1933; Kashimura, 1939; Hong, 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1962)

Trachycystis ussuriensis (Maack & Regel) T.J.Kop. (NIBRMS106006; NIBRMS106007; NIBRMS106008) (Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Mnium arcuatum* Broth. (Nakai, 1917; Horikawa, 1934a; Kashimura, 1939)
- *Mnium immarginatum* Broth. (Osada, 1958; Hong and Ando, 1961; Hong and Ando, 1962; Park, 1997)
- *Trachycystis immarginata* (Broth.) Laz. (Choe and Choi, 1980; Hwang, 1991)

Rhizogoniaceae Broth.

Pyrrhobryum dozyanum (Sande Lac.) Manuel (NIBR MS107084; NIBRMS105947) (He and Song, 2011)
- *Rhizogonium dozyanum* Sande Lac. (Choe and Choi, 1980)

Orthotrichaceae Dixon

Amphidium clastophyllum Cardot (Cardot, 1908; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1939; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Drummondia sinensis Müll.Hal. (Hwang, 1991; Park, 1997; Ellis *et al*., 2018a)

Macrocoma tenuis* subsp. *sullivantii (Müll.Hal.) Vitt.
- *Macromitrium consanguineum* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)
- *Macromitrium hymenostomum* (Mont.) Grout. (Ando, 1961; Choe and Choi, 1980; Hwang, 1991)
- *Macromitrium sullivantii* Müll.Hal. (Hwang, 1991)

Macromitrium clastophyllum Cardot (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Hong, 1960b; Choe and Choi, 1980; Hwang, 1991)

Macromitrium comatum Mitt. (Uno and Takahasi, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Macromitrium ferriei Cardot & Thér. (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Macromitrium gymnostomum Sull. & Lesq. (NIBR MS106958) (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Hong, 1960b; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Macromitrium japonicum Dozy & Molk. (NIBRMS 107201; NIBRMS106188) (Hong, 1960b; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
- *Macromitrium bathyodontum* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong and Ando, 1961)
- *Macromitrium incurvum* (Lindb.) Mitt. (Sasaoka, 1933; Kashimura, 1940)
- *Macromitrium insularum* Sull. & Lesq. (Sasaoka, 1933; Kashimura, 1940)

Macromitrium japonicum* var. *makinoi (Broth.) Nog.
- *Macromitrium makinoi* (Broth.) Paris (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Park and Hong, 1959; Hong, 1960a)

Macromitrium prolongatum Mitt. (Cardot, 1909; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
- *Macromitrium prolongatum* var. *brevipes* Cardot (Sasaoka, 1933; Kashimura, 1940)
- *Macromitrium brachycladulum* Broth. & Paris (Uno and Takahasi, 1940)

Macromitrium sinense E.B. Bartram (Park, 1997)

Orthotrichum affine Brid. (Hwang, 1991)

Orthotrichum anomalum Hedw. (Deguchi *et al*., 1998)

Orthotrichum consobrinum Cardot (NIBRMS107154; NIBRMS107159; NIBRMS107218; NIBRMS107219) (Choe and Choi, 1980; Yoon *et al*., 2011b)

Orthotrichum erubescens Müll.Hal. (NIBRMS107237; NIBRMS107249)

Orthotrichum ibukiense Toyama (Kim *et al*., 2019)

Orthotrichum sordidum Sull. & Lesq. (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Orthotrichum speciosum Nees (Hwang, 1991; Park, 1997)

Orthotrichum striatum Hedw. (Hwang, 1991)

Ulota crispa (Hedw.) Brid. (NIBRMS106856; NIBRMS 105847) (Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Ulota eurystoma Nog. (Hwang, 1991; Park, 1997)

Ulota japonica (Sull. & Lesq.) Mitt. (Choe and Choi, 1980; Hwang, 1991)

Ulota perbreviseta Dixon & Sakurai (Choe and Choi, 1980; Hwang, 1991)

Ulota reptans Mitt. (Hwang, 1991)

Aulacomniaceae Schimp.

Aulacomnium androgynum (Hedw.) Schwägr. (Cardot, 1904; Hwang, 1991)

Aulacomnium heterostichum (Hedw.) Bruch & Schimp.

(Cardot, 1904; Sasaoka, 1933; Kashimura, 1939; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Aulacomnium palustre (Hedw.) Schwägr. (Saito, 1938; Kashimura, 1939; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Aulacomnium palustre* subsp. *imbricatum (Bruch & Schimp.) Kindb. (Sakurai, 1941b; Hwang, 1991; Park, 1997)

Aulacomnium turgidum (Wahlenb.) Schwägr. (Okamura, 1916; Sasaoka, 1933; Saito, 1938; Horikawa, 1939; Kashimura, 1939; Sakurai, 1941b; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Racopilaceae Kindb.

Racopilum cuspidigerum (Schwägr.) Ångstr.

– *Racopilum aristatum* Mitt. (Choe and Choi, 1980)

Hypopterygiaceae Mitt.

Hypopterygium flavolimbatum Müll.Hal. (He and Song, 2011)

– *Hypopterygium japonicum* Mitt. (Okamura, 1915; Nakai, 1917; Horikawa, 1934b; Sasaoka, 1933; Kashimura, 1940; Chung and Uhm, 1961; Choe and Choi, 1980; Hwang, 1991)

– *Hypopterygium fauriei* Besch. (Park, 1997)

Hookeriaceae M.Fleisch.

Distichophyllum maibarae Besch. (other use: ***Leskeodon maibarae*** (Besch.) B.-C. Ho & Pokorny) (NIBRMS107491; NIBRMS107492; NIBRMS107493) (Yoon *et al*., 2015c)

Hookeria acutifolia Hook. & Grev. (NIBRMS107161; NIBRMS106281) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; Yoon *et al*., 2011b)

– *Hookeria nipponensis* (Besch.) Broth. (Horikawa, 1936b; 1936c; Kashimura, 1940)

Amblystegiaceae Kindb.

Acrocladium cuspidatum* var. *coreanum Cardot (Cardot, 1913)

Amblystegium humile (P.Beauv.) Crundw.

– *Amblystegium pseudoradicale* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991)

Amblystegium serpens (Hedw.) Schimp. (NIBRMS 107342) (Saito, 1938; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

– *Amblystegium juratzkanum* Schimp. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991)

Amblystegium subulatum Cardot (Cardot, 1913)

Campyliadelphus chrysophyllus (Brid.) Kanda (NIBRMS107281; NIBRMS107340) (Yoon *et al*., 2011b)

– *Campylium chrysophyllum* Brid. (Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong, 1960a; Chung and Uhm, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Campyliadelphus polygamus (Shmip.) Kanda (He and Song, 2011)

Campylium chrysophyllum* var. *tenellum (Schimp.) G. Roth (Saito, 1938; Kashimura, 1940; Choe and Choi, 1980)

Campylium hispidulum* var. *coreense (Card.) Broth. (Brotherus, 1909; Kashimura, 1940; Choe and Choi, 1980)

– *Hypnum hispidulum* var. *coreense* Cardot (Cardot, 1904; Sasaoka, 1933)

Campylium rufochryseum (Schimp. ex Besch.) Broth. (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)

– *Hypnum rufochryseum* Schimp. ex Besch. (Cardot, 1904)

Campylium stellatum (Hedw.) Lange & C.E.O.Jensen (Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

– *Hypnum setellatum* Hedw. (Cardot, 1904)

Campylophyllopsis hispidula (Brid.) Ochyra (NIBRMS 107302)

– *Campylium hispidulum* (Brid.) Mitt. (Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Cratoneuron filicinum (Hedw.) Spruce (NIBRMS107259; NIBRMS107265; NIBRMS107295) (Osada, 1958; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Drepanocladus aduncus (Hedw.) Warnst. (Hwang, 1991)

Drepanocladus sendtneri (Schimp. ex H.Müll.) Warnst. (Hwang, 1991)

Hygroamblystegium varium* var. *humile (P.Beauv.) Vanderpoorten & Hedenäs

– *Leptodictyum humile* (P. Beauv.) Ochyra (He and Song, 2007)

Hygrohypnum coreanum Cardot (Cardot, 1913)

Hygrohypnum eugyrium (Schimp.) Loeske (other use: ***Pseudohygrohypnum eugyrium*** (Schimp.) Kanda) (NIBRMS107303) (Hwang, 1991)

Hygrohypnum luridum (Hedw.) Jenn.

– *Hygrohypnum palustre* Loeske (Choe and Choi, 1980; Uno and Takahasi, 1940)

Hygrohypnum molle (Hedw.) Loeske

– *Hygrohypnum dilatatum* (wilson) Loeske (Choe and Choi, 1980; Hwang, 1991)

Hygrohypnum ochraceum (Wilson.) Loeske. (Sakurai, 1941b; Osada, 1958; Choe and Choi, 1980; Hwang, 1991)

Hygrohypnum purpurascens Broth. (NIBRMS106348)

Leptodictyum riparium (Hedw.) Warnst. (Hwang, 1991)

Palustriella commutata (Hedw.) Ochyra
- *Cratoneuron commutatum* (Hedw.) G.Roth (Hwang, 1991)

Palustriella falcata (Brid.) Hedenäs
- *Cratoneuron commutatum* var. *sulcatum* (Schimp.) Moenk. (Choe and Choi, 1980; Hwang, 1991)
- *Cratoneuron glaucum* var. *sulcatum* (Schimp.) Broth. (Sakurai, 1941b)

Platydictya subtilis (Hedw.) H.A.Crum (NIBRMS107472)

Pseudocampylium radicale (P. Beauv.) Vanderp. & Hedenäs
- *Campylium radicale* (P. Beauv.) Grout (He and Song, 2011)

Sanionia uncinata (Hedw.) Loeske. (NIBRMS107353)
- *Drepanocladus uncinatus* (Hedw.) Warnst. (Okamura, 1916; Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)
- *Drepanocladus uncinatus* fo. *longicuspis* Z.Smirn. (Hwang, 1991)

Sasaokaea aomoriensis (Paris) Kanda (Yoon *et al*., 2015b)

Anomodontaceae Kindb.

Anomodon abbreviatus Mitt. (NIBRMS107206; NIBRMS107212; NIBRMS105839) (Uno and Takahasi, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Anomodon dentatus C.Gao. (Park, 1997)

Anomodon giraldii Müll.Hal. (Other use: ***Pseudanomodon giraldii*** (Müll.Hal.) Ignatov & Fedosov (NIBRMS107209; NIBRMS107253; NIBRMS106831; NIBRMS107136; NIBRMS105964) (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Anomodon longifolius (Schleich. ex Brid.) Hartm. (other use: ***Anomodontella longifolia*** (Schleich. ex Brid.) Ignatov & Fedosov) (Park, 1997; He and Song, 2007; 2011)

Anomodon minor (Hedw.) Lindb. (NIBRMS106827; NIBRMS106829; NIBRMS106876; NIBRMS106954; NIBRMS107080; NIBRMS107347; NIBRMS107285; NIBRMS107255; NIBRMS106347) (Cardot, 1904; Brotherus, 1909; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998)
- *Anomodon ramulosus* Mitt. (Osada, 1958)
- *Anomodon integerrimus* Mitt. (Honag & Ando, 1961; Choe and Choi, 1980; Park, 1997)

Anomodon rugelii (Müll.Hal.) Keissl. (other use: ***Anomodontopsis rugelii*** (Müll.Hal.) Ignatov & Fedosov) (NIBRMS107321) (Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b)
- *Anomodon apiculatus* Bruch & Schimp. ex Sull. (Reimers, 1930; Kashimura, 1940; Park and Hong, 1959)
- *Anomodon uematsui* Broth. (Hong and Ando, 1963)

Anomodon solovjovii Laz. (Hwang, 1991; Yoon *et al*., 2011b)

Anomodon thraustus Müll.Hal. (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Anomodon viticulosus (Hedw.) Hook. & Taylor (NIBRMS107456; NIBRMS107457) (Choe and Choi, 1980; Hwang, 1991)
- *Anomodon decurrens* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)

Haplohymenium longinerve (Broth.) Broth. (Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; Yoon *et al*., 2011b)
- *Anomodon longinervis* Broth. (Cardot, 1904)
- *Haplohymenium biforme* Broth. (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)
- *Haplohymenium longinerve* fo. *piliferum* (Broth. & M. Yasuda) Nog. (Uno and Takahasi, 1940; Hong and Ando, 1961; 1963)

Haplohymenium pseudo-triste (Müll.Hal.) Broth. (Other use: ***Anomodon pseudotriste*** (Müll.Hal.) Broth.) (NIBRMS107443; NIBRMS106306) (Choe and Choi, 1980; Hwang, 1991)

Haplohymenium sieboldii (Dozy & Molk.) Dozy & Molk. (Other use: ***Anomodon sieboldii*** (Dozy & Molk.) Granzow (NIBRMS107151; NIBRMS107236; NIBRMS106198; NIBRMS105879) (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Haplohymenium triste (Ces.) Kindb. (NIBRMS106868) (Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Cardot, 1904; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Herpetineuron toccoae (Sull. & Lesq.) Cardot (NIBRMS107153; NIBRMS106813; NIBRMS106823; NIBRMS106108; NIBRMS106125; NIBRMS106126; NIBRMS106156; NIBRMS106162; NIBRMS106187; NIBRMS106337; NIBRMS105878) (Uno and Takahasi, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; Hong and Ando, 1961; 1963; Choe and Choi,

1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Herpetineuron attenuatum* S.Okamura (Park and Hong, 1959)

Schwetschkeopsis fabronia (Schwägr.) Broth. (NIBRMS107147; NIBRMS107298; NIBRMS106793; NIBRMS106794; NIBRMS107066; NIBRMS106120; NIBRMS106121; NIBRMS106132; NIBRMS106164 NIBRMS105838) (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Schwetschkea denticulata* (Sull.) Cardot (Cardot, 1904; Sasaoka, 1933; Saito, 1938)
- *Schwetschkea japonica* Besch. (Brotherus, 1909; Kashimura, 1940; Sasaoka, 1933)
- *Schwetschkeopsis japonica* (Besch.) Broth. (Park and Hong, 1959)
- *Schwetschkeopsis denticulata* (Sull.) Broth. (Hong, 1960a; Hong and Ando, 1961; 1963)
- *Schwetschkeopsis denticulata* subsp. *japonica* (Besch.) Z.Iwats. (Chung and Uhm, 1961)

Schwetschkeopsis robustula (Broth.) Ando (Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Brachytheciaceae Schimp.

Brachythecium albicans (Hedw.) Schimp. (Hwang, 1991; Park, 1997)

Brachythecium brotheri Paris (NIBRMS107221) (other use: ***Sciuro-hypnum brotheri*** (Paris) Ignatov and Huttunen) (Hong and Ando, 1963; Choe and Choi, 1980; Park, 1997; Deguchi *et al*., 1998; He and Song, 2011; Yoon *et al*., 2011b)

Brachythecium buchananii (Hook.) A.Jaeger (NIBRMS106750; NIBRMS107068; NIBRMS107104; NIBRMS105955) (Sasaoka, 1933; Uno and Takahasi, 1940; Osada, 1958; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Brachythecium buchananii* var. *japonicum* Cardot (Cardot, 1911; Kashimura, 1940)

Brachythecium buchananii* var. *gracillimum Dixon (TNS 055351)

Brachythecium buchananii* var. *sawadae (Cardot) Takaki (Hong and Ando, 1962; Choe and Choi, 1980; He and Song, 2011)
- *Brachythecium sawadae* Cardot (Cardot, 1911; Sasaoka, 1933; Hwang, 1991)

Brachythecium camptothecioides Takaki (NIBRMS 107339)

Brachythecium cirrosum (Schwägr.) Schimp. (other use: ***Cirriphyllum cirrosum*** (Schwägr.) Grout) (Park, 1997; as *Cirriphyllum cirrosum*)

Brachythecium coreanum Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Brachythecium garovaglioides Müll.Hal.
- *Brachythecium wichurae* (Broth.) Paris (Choe and Choi, 1980)

Brachythecium glareosum (Bruch & Spruce) Schimp. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Brachythecium helminthocladum Broth. & Paris (NIBRMS107351; NIBRMS107292; NIBRMS105963) (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)
- *Brachythecium laxitextum* Broth. (Cardot, 1911; Sasaoka, 1933)

Brachythecium kuroishicum Besch. (Hwang, 1991)

Brachythecium moriense Besch. (NIBRMS107273) (Choe and Choi, 1980; Yoon *et al*., 2011b)

Brachythecium nitidulum (Broth.) Nog. (NIBRMS 107349)

Brachythecium novae-angliae (Sull. & Lesq.) A.Jaeger (NIBRMS107173; NIBRMS107313; NIBRMS106111)
- *Bryhnia novae-angliae* (Sull. & Lesq.) Grout (Osada, 1958; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b)
- *Bryhnai noesica* (Bsch.) Broth. (Park and Hong, 1959; Hong, 1960a; Choe and Choi, 1980; Park, 1997)

Brachythecium novae-angliae* subsp. *hultenii (E.B. Bartram) Huttunen
- *Bryhnia hultenii* E.B.Bartram (Osada, 1958; Hwang, 1991; He and Song, 2011)

Brachythecium piligerum Cardot (Deguchi *et al*., 1998)

Brachythecium plumosum (Hedw.) Schimp. (other use: ***Sciuro-hypnum plumosum*** (Hedw.) Iganatov & Huttunen) (NIBRMS107192; NIBRMS107217; NIBRMS106142; NIBRMS106310; NIBRMS106185; NIBRMS105837; NIBRMS107422; NIBRMS107423; NIBRMS107424) (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Brachythecium flagellare* (Hedw.) Jenn. (Osada, 1958; Hong, 1960a; Hong and Ando, 1961; 1963)

Brachythecium plumosum* var. *mimmayae Cardot (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)

Brachythecium plumosum* var. *stenocarpum Cardot (Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1962; Choe and Choi, 1980)

Brachythecium populeum (Hedw.) Schimp. (NIBRMS 106170) (Cardot, 1904; Okamura, 1915; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et*

al., 2013)
- *Brachythecium quelpaertense* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)
- *Brachythecium populeum* var. *quelpaertense* (Cardot) Takaki (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991)
- *Brachythecium populeum* var. *yamamotoi* (Sakurai) Takaki (Park, 1997)

Brachythecium procumbens (Mitt.) A.Jaeger (Kashimura, 1940; Sasaoka, 1933; Choe and Choi, 1980; Hwang, 1991)

Brachythecium pulchellum Broth. & Paris (He and Song, 2011)
- *Brachythecium rhynchostegielloides* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991)

Brachythecium reflexum (Starke) Schimp. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Brachythecium rivulare Schimp. (NIBRMS107251; NIBRMS107256; NIBRMS107318) (Sasaoka, 1933; Uno and Takahasi, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Brachythecium rutabulum (Hedw.) Schimp. (Park, 1997; Yoon *et al*., 2011b)

Brachythecium sakuraii Broth. (He and Song, 2011)

Brachythecium salebrosum (Hoffm. ex F.Weber & D.Mohr) Schimp. (Hong and Ando, 1963; Choe and Choi, 1980; He and Song, 2011; Yim *et al*., 2013)

Brachythecium trichomitrium (Dixon & Thér.) Huttunen, Ignatov, Min Li & Y.F.Wang
- *Bryhnia trichomitria* Dixon. & Thér. (Choe and Choi, 1980)

Brachythecium uncinifolium Broth. & Paris (other use: ***Siuro-hypnum uncinifolium*** (Broth. & Paris) Ochyra & Žarnowiec) (Choe and Choi, 1980)

Brachythecium uyematsui Broth. ex Cardot
- *Brachythecium uematsui* Broth. (He and Song, 2011)

Brachythecium velutinum (Hedw.) Schimp. (Deguchi *et al*., 1998)

Bryhnia alpicola Sakurai (Sakurai, 1941b; Hwang, 1991)

Bryhnia brachycladula Cardot (Choe and Choi, 1980)

Bryhnia hultenii* var. *cymbifolia Nog. (NIBRMS107325) (Choe and Choi, 1980; Hwang, 1991)

Bryhnia tenerrima Broth. & Yasuda (other use: ***Koponeniella tenerrima*** (Broth. & Yasuda) Huttunen & Ignatov) (Hong & Ando; 1963; Choe and Choi, 1980; He and Song, 2011)
- *Bryhnia rigidula* Dixon & Thér. (Choe and Choi, 1980)

Bryhnia tokubuchii (Broth.) Paris (He and Song, 2007; 2011)
- *Eurhynchium deltophyllum* Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940)
- *Bryhnia deltophylla* (Cardot) Takaki (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991)

Cirriphyllum crassinervium (Taylor ex Wilson) Loeske & M.Fleisch. (Hwang, 1991)

Cirriphyllum piliferum (Hedw.) Grout. (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Eurhynchium angustirete (Broth.) T.J.Kop. (Yoon *et al*., 2011b)
- *Eurhynchium striatum* (Hedw.) Schimp. (Choe and Choi, 1980; Hwang, 1991)

Eurhynchium brachyphyllum (Cardot) B.E.Carter
- *Scleropodium brachyphyllum* Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Eurhynchium eustegium (Besch.) Dixon (other use: ***Eurhynchiadelphus eustegia*** (Besch.) Ignatov & Huttunen) (NIBRMS107385) (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007)

Eurhynchium latifolium Cardot (other use: ***Oxyrrhynchium latifolium*** (Cardot) Podp.) (Cardot, 1904; Cardot, 1912; Sasaoka, 1933; Kashimura, 1940; Hwang, 1991)

Eurhynchium laxirete Broth. (other use: ***Oxyrrhynchium laxirete*** (Broth.) Broth. (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007)

Eurhynchium pulchellum (Hedw.) Jenn. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Homalothecium laevisetum Sande Lac. (NIBRMS106 037; NIBRMS107157; NIBRMS107267) (Sasaoka, 1933; Kashimura, 1940; Chung and Uhm, 1961; Hong and Ando, 1963; Hwang, 1991; He and Song, 2011)
- *Homalothecium laevisetum* var. *latifolium* Cardot (Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)
- *Homalothecium tokiadense* (Mitt.) Besch. (Cardot, 1904; Reimers, 1930; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940)

Homalothecium lutescens (Hedw.) H.Rob.
- *Brachythecium lutescens* (Hedw.) De Not. (Park, 1997)

Isothecium hakkodense Besch. (Yoon and Sun, 2010)

Isothecium subdiversiforme Broth. (NIBRMS 105935; NIBRMS106799; NIBRMS105925) (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Yoon *et al*., 2011b)

Kindbergia arbuscula (Broth.) Ochyra (NIBRMS107 414)
- *Eurhynchium arbuscula* Broth. (Yoon *et al*., 2015b)

Kindbergia praelonga (Hedw.) Ochyra
- *Eurhynchium praelongum* (Hedw.) Schimp. (Cardot, 1904; Choe and Choi, 1980; Hwang, 1991)
- *Oxyrrhynchium praelongum* (Hedw.) Warnst. (Sasaoka, 1933; Kashimura, 1940)

Myuroclada maximowiczii (G.G.Borshch.) Steere & W.B.Schofield (NIBRMS107274; NIBRMS107244; NIBRMS107293) (Chung and Uhm, 1961; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007; Yoon *et al*., 2011b)
- *Myuroclada concinna* Besch. (Brotherus, 1909; Okamura, 1916; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong, 1960a; 1960b)
- *Myuroclada concinna* var. *gracilis* Cardot (Cardot, 1911; Kashimura, 1940; Sasaoka, 1933)
- *Myuroclada maximowiczii* var. *gracilis* (Cardot) Nog. ex W.S.Hong & Ando (Hong, 1959; Choe and Choi, 1980; Hwang, 1991)

Oxyrrhynchium corrense (Cardot) B.E.Carter

Scleropodium coreense Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991)

Oxyrrhynchium hians (Hedw.) Loeske (NIBRMS105904; NIBRMS107404; NIBRMS107420; NIBRMS107294; NIBRMS105882) (Yoon *et al*., 2011b)
- *Eurhynchium hians* (Hedw.) Sande Lac. (Choe and Choi, 1980)

Oxyrrhnchium savatieri (Shimp. ex. Besch.) Broth. (NIBRMS106298; NIBRMS106163; NIBRMS105922; NIBRMS107382; NIBRMS107383; NIBRMS107386; NIBRMS107399; NIBRMS107400; NIBRMS107401) (He and Song, 2007; Yim *et al*., 2013)
- *Eurhynchium fauriei* Cardot (Hong and Ando, 1963; Choe and Choi, 1980)
- *Eurhynchium savatieri* Schimp. ex Besch. (Deguchi *et al*., 1998; He and Song, 2011)

Palamocladium leskeoides (Hedw.) E.Britton. (He and Song, 2011)
- *Brachythecium brevirameum* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)
- *Camptothecium auriculatum* (A.Jaerger) Broth. (Sasaoka, 1933; Kashimura, 1940; Hwang, 1991)
- *Pleuropus sciureus* (Mitt.) Toyama (Hong and Ando, 1963)
- *Brachythecium auriculatum* A.Jaeger (Choe and Choi, 1980)
- *Palamocladium macrostegium* (Sull. & Lesq.) Z.Iwats. & Takaki (Choe and Choi, 1980; Hwang, 1991)

Platyhypnidium riparioides* var. *coreanum (Cardot) Wijk & Margad.
- *Rhynchostegium rusciforme* var. *coreanum* Cardot (Cardot, 1912)
- *Platyhypnidium rusciforme* var. *coreanum* (Cardot) Ihsiba (Sasaoka, 1933; Kashimura, 1940)
- *Eurhynchium riparioides* var. *coreanum* (Cardot) W.S. Hong & Ando (Hong & Ando, 1959; Choe and Choi, 1980)

Rhynchostegium contractum Cardot (NIBRMS106257; NIBRMS106128; NIBRMS106266) (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)

Rhynchostegium fauriei Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Rhynchostegium inclinatum (Mitt.) A.Jaeger (He and Song, 2007; 2011)

Rhynchostegium ovalifolium S. Okamura (NIBRMS 107357-b)

Rhynchostegium pallidifolium (Mitt.) A.Jaeger (NIBRMS106755; NIBRMS106851; NIBRMS106857; NIBRMS106962; NIBRMS107110; NIBRMS105932) (Park and Hong, 1959; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Rhynchostegium pallidius (Hampe) A.Jaeger (Hong, 1960a)

Steerecleus serrulatus (Hedw.) H. Rob.
- *Brachythecium serrulatum* (Hedw.) H.Rob. (Choe and Choi, 1980; Hwang, 1991)

Torrentaria riparioides (Hedw.) Ochyra (NIBRMS105942; NIBRMS107247; NIBRMS107262; NIBRMS107264; NIBRMS106814)
- *Rhynchostegium tenuinerve* Cardot (Cardot, 1912; Hong and Ando, 1963)
- *Platyhypnidium rusciforme* M.Fleisch. (Sasaoka, 1933; Hong, 1960a)
- *Platyhypnidium tenuinerve* (Cardot) Broth. (Sasaoka, 1933; Kashimura, 1940)
- *Eurhynchium riparioides* (Hedw.) P.W.Richards (Hong, 1960a; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991)
- *Eurhynchium tenuinerve* (Cardot) Z.Iwats. (Choe and Choi, 1980)
- *Platyhypnum riparioides* (Hedw.) Dixon (Deguchi *et al*., 1998)
- *Rhynchostegium riparioides* (Hedw.) Cardot (He and Song, 2007; 2011; Yoon *et al*., 2011b)

Calliergonaceae Vanderpoorten, Hedenäs, C.J.Cox & A.J.Shaw

Calliergon cordifolium (Hedw.) Kindb. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Scorpidium revolvens (Sw.) Rubers
- *Drepanocladus revolvens* (Sw.) Warnst. (Hwang, 1991; Park, 1997)

Scorpidium cossonii (Schimp.) Hadenäs
- *Drepanocladus revolvens* var. *cossonii* (Schimp.) Podp. (Hwang, 1991)

Warnstorfia fluitans (Hedw.) Loeske.

– *Drepanocladus fluitans* (Hedw.) Warnst. (Saito, 1938; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991)

Climaciaceae Kindb.

Climacium americanum Brid. (Hoirkawa, 1935d; Kashimura, 1940; Osada, 1958; Chung and Uhm, 1961; Choe and Choi, 1980; Park, 1997)

Climacium dendroides (Hedw.) F.Weber & D. Mohr (Uno and Takahasi, 1940; Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yim *et al*., 2013)

Climacium japonicum Lindb. (NIBRMS107328; NIBR MS107329; NIBRMS106841; NIBRMS106145; NIBR MS106195) (Cardot, 1904; Okamura, 1915; 1916; Nakai, 1917; Sasaoka, 1933; Horikawa, 1936c; Saito, 1938; Kashimura, 1940; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Pleuroziopsis ruthenica (Weinm.) Kindb. ex E.Britton (Okamura, 1916; Nakai, 1917; Reimers, 1930; Sasaoka, 1933; Kashimura, 1940; Sakurai, 1941b; Osada, 1958; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Cryphaeaceae Schimp.

Pilotrichopsis dentata (Mitt.) Besch. (Ellis *et al*., 2014)

Entodontaceae Kindb.

Entodon aeruginosus Müll.Hal. (Park, 1997)

Entodon brevisetus (Hook. & Wilson) Lindb. (Hong and Ando, 1963; He and Song, 2011)

Entodon calycinus Cardot (NIBRMS107152; NIBRMS 106738; NIBRMS106834; NIBRMS106835; NIBR MS106836; NIBRMS106874; NIBRMS107060; NIBR MS105877) (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

– *Platygyrium perichaetiale* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)
Comment: Mizushima (1960) regarded this species as a synonym of *E. brevisetus*, whereas Buck (1980) recognized these two as each indendent species. This study accepts Buck's concept.

Entodon challengeri (Paris.) Cardot (NIBRMS107248; NIBRMS106751; NIBRMS107102; NIBRMS106190) (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Park and Hong, 1959; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b; Yim *et al*., 2013)

Entodon compressus (Hedw.) Müll.Hal. (Cardot, 1904; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong and Ando, 1961)

– *Entodon nanocarpus* Müll.Hal. (Hwang, 1991)

Entodon cladorrhizans (Hedw.) Müll.Hal. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Entodon conchophyllus Cardot (Hwang, 1991; Park, 1997)

Entodon concinnus (De Not.) Paris (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

– *Achrolepis concinna* (Wilson) Cardot (Cardot, 1904)

– *Entodon fauriei* Broth. & Paris (Hong and Ando, 1961)

Entodon diffusinervis Cardot (Cardot, 1913)

Entodon diversinervis Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Entodon flavescens (Hook.) A.Jaeger (NIBRMS107210; NIBRMS106743; NIBRMS106950; NIBRMS107072) (He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Entodon ramulosus* Mitt. (Cardot, 1904; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong, 1960a)

– *Entodon griffithii* (Mitt.) A.Jaeger (Chung and Uhm, 1961)

– *Entodon rubicundus* (Mitt.) A.Jaeger (Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hu Renliang, 1983; Hwang, 1991; Park, 1997)

Entodon giraldii Müll.Hal. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Entodon luridus (Griff.) A.Jaeger. (NIBRMS107305) (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

– *Entodon robustus* Broth. (Osada, 1958; Hwang, 1991)

Entodon macropodus (Hedw.) Müll.Hal. (Hwang, 1991; Park, 1997)

– *Entodon angustifolius* (Mitt.) A.Jaeger (Park, 1997)

Entodon morrisonensis Nog. (NIBRMS107355)

Entodon myurus (Hook.) Hampe. (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)

Entodon rostrifolius* var. *coreense Cardot (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)

Entodon scabridens Lindb. (NIBRMS106124; NIBR MS106194; NIBRMS105849) (Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Entodon schensianus Müll.Hal. (Choe and Choi, 1980; Hwang, 1991)

– *Entodon rostrifolius* Müll.Hal. (Osada, 1958)

Entodon schensianus* var. *denticupis Dixon (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)

Entodon sullivantii (Müll.Hal.) Lindb. (NIBRMS107 150; NIBRMS107181; NIBRMS107246; NIBRMS10 7284; NIBRMS107323; NIBRMS106718; NIBRMS 106830; NIBRMS106872; NIBRMS106109; NIBR MS106159; NIBRMS106165; NIBRMS106311; NIB RMS105909) (Choe and Choi, 1980; Hwang, 1991; He

and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Entodon chloroticus* Besch. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940)
- *Entodon curvatirameus* Cardot (Cardot, 1911)
- *Entodon herbaceus* Besch. (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940)
- *Entodon rostrifolius* Müll.Hal. (Cardot, 1911; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)
- *Entodon attenuatus* Mitt. (Osada, 1958; Park, 1997)

Entodon viridulus Cardot (NIBRMS107338) (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Fabroniaceae Schimp.

Anacamptodon fortunei Mitt. (Choe and Choi, 1980; Hwang, 1991)

Anacamptodon latidens (Besch.) Broth. (Hwang, 1991; Park, 1997)

Fabronia ciliaris (Brid.) Brid. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Fabronia matsumurae Besch. (NIBRMS107300; NIBR MS106357) (Deguchi *et al*., 1998)

Schwetschkea matsumurae Besch. (Deguchi *et al*., 1998)

Fontinalaceae Hedw.

Fontinalis antipyretica Hedw. (Choe and Choi, 1980; Hwang, 1991)

Fontinalis antipyretica* var. *gracilis (Lindb.) Schimp.
- *Fontinalis perfida* Lindb. (Kashimura, 1940; Cardot, 1909; Sasaoka, 1933)

Fontinalis hypnoides Hartm. (Hwang, 1991)

Fontinalis squamosa Hedw. (Hwang, 1991)

Hylocomiaceae M.Fleisch.

Hylocomiastrum himalayanum (Mitt.) Broth. (Sasaoka, 1933; Horikawa, 1935a; Kashimura, 1940; He and Song, 2011)
- *Hylocomium himalayanum* (Mitt.) A.Jaeger (Okamura, 1915; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Hylocomiastrum pyrenaicum (Spruce) M.Fleisch. ex Broth. (NIBRMS106719) (Reimers, 1930; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1961; He and Song, 2011; Yoon *et al*., 2011b)
- *Hylocomium pyrenaicum* (Spruce) Lindb. (Okamura, 1916; Chung and Uhm, 1961; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Hylocomiastrum umbratum (Hedw.) M.Fleisch. ex Broth.
- *Hylocomium umbratum* (Hedw.) Schimp. (Uno and Takahasi, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Hylocomium splendens (Hedw.) Schimp. (Okamura, 1916; Nakai, 1917; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
- *Hylocomium proliferum* (Brid.) Lindb. (Sasaoka, 1933; Horikawa, 1935b; Kashimura, 1940; Sakurai, 1941b; Osada, 1958)
- *Hylocomium alaskanum* (Lesq. & James) Austin (Park, 1997)

Hylocomiadelphus triquetrus (Hedw.) Ochyra & Stebel
- *Rhytidiadelphus triquetrus* (Hedw.) Warnst. (Okamura, 1916; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong and Ando, 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2011)

Loeskeobryum brevirostre (Brid.) M.Fleisch. (Horikawa, 1935a; Kashimura, 1940; He and Song, 2011; Yoon *et al*., 2011b)
- *Hylocomium brevirostre* (Brid.) Schimp. (Hong and Ando, 1961; 1963; Hwang, 1991)

Loeskeobryum cavifolium (Sande Lac.) M.Fleisch. ex Broth. (NIBRMS107490) (He and Song, 2011)
- *Hylocomium brevirostre* var. *cavifolium* (Sande Lac.) Nog. (Hong and Ando, 1963; Choe and Choi, 1980; Song, 1987)

Pleurozium schreberi (Brid.) Mitt. (Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Song, 1987; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Hypnum schreberi* Willd. ex Brid. (Okamura, 1915; 1916)
- *Calliergonella schreberi* (Willd. ex. Brid.) Grout (Hong and Ando, 1963)

Rhytidiadelphus japonicus (Reimers) T.J.Kop. (NIBR MS107330; NIBRMS106842; NIBRMS107090) (Hwang, 1991; He and Song, 2011)

Rhytidiadelphus squarrosus (Hedw.) Warnst. (Okamura, 1916; Sasaoka, 1933; Kashimura, 1940)
- *Rhytidiadelphus calvescens* (Lindb.) Broth. (Okamura, 1916; Sasaoka, 1933; Kashimura, 1940; Sakurai, 1941b; Osada, 1958; Hong, 1960a; Hong and Ando, 1963)
- *Rhytidiadelphus subpinnatus* (Lindb.) T.J. Kop. (Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Rhytidium rugosum (Hedw.) Kindb. (Okamura, 1915; 1916; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

Hypnaceae Schimp.

Breidleria erectiuscula (Sull. & Lesq.) Hedenäs (NIBR MS107092) (He and Song, 2011)

- *Hypnum homaliaceum* (Besch.) Ando (Hong and Ando, 1963)

Callicladium haldaneanum (Grev.) H.A.Crum. (NIBRMS107216; NIBRMS107231; NIBRMS107319) (Choe and Choi, 1980; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)
- *Stereodon haldaneanus* (Grev.) Lindb. ex Broth. (Okamura, 1915; Nakai, 1917)
- *Heterophyllium haldaneanum* (Grev.) M.Fleisch. (Reimers, 1930; Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Song, 1987; Hwang, 1991; Park, 1997)

Calliergonella cuspidate (Hedw.) Loeske (Saito, 1938; Kashimura, 1940; Sakurai, 1941b; Choe and Choi, 1980)

Calliergonella lindbergii (Mitt.) Hedenäs (NIBRMS106970; NIBRMS105860) (Hong and Ando, 1963; He and Song, 2011; Yoon *et al*., 2011b)
- *Hypnum arcuatum* Lindb. (Cardot, 1904)
- *Breidleria arcuata* (Molendo) Loeske (Sasaoka, 1933; Kashimura, 1940)
- *Hypnum lindbergii* Mitt. (Choe and Choi, 1980; Hwang, 1991)

Ctenidium capillifolium (Mitt.) Broth. (NIBRMS107183; NIBRMS107185; NIBRMS107215; NIBRMS106754) (Hong, 1960b; Chung and Uhm, 1961; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
- *Ctenidium brevipes* Broth. (Choe and Choi, 1980)

Ctenidium hastile (Mitt.) Lindb. (NIBRMS106994) (Okamura, 1915; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yim *et al*., 2013)

Ctenidium molluscum (Hedw.) Mitt. (Hwang, 1991; He and Song, 2011)

Ectropothecium zollingeri (Müll.Hal.) A.Jaeger (NIBRMS107465)

Eurohypnum leptothallum (Paris) Ando (NIBRMS107129; NIBRMS107137; NIBRMS106222; NIBRMS106300) (Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991)
- *Erythrodontium leptothallum* (Paris) Nog. (Osada, 1958)
- *Homomallium leptothallum* (Müll.Hal.) Nog. (Park, 1997)

Giraldiella levieri Müll.Hal. (Hwang, 1991)

Gollania neckerella (Müll.Hal.) Broth. (Hwang, 1991)

Gollania ruginosa (Mitt.) Broth. (NIBRMS107235; NIBRMS107263; NIBRMS107270; NIBRMS107288; NIBRMS107307; NIBRMS107322) (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)
- *Hylocomium neckerella* var. *coreense* Cardot (Cardot, 1904)
- *Gollania neckera* var. *coreensis* (Cardot) Broth. (Brotherus, 1909; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980)
- *Gollania longibracteata* Dixon (Kashimura, 1940; Sasaoka, 1933)

Gollania varians (Mitt.) Broth. (Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Herzogiella perrobusta (Broth. ex Cardot) Z. Iwats. (NIBRMS106214) (Choe and Choi, 1980; Hwang, 1991)
- *Dolichotheca perrobusta* (Broth. ex Cardot) Broth. (Hong, 1960a)

Herzogiella turfacea (Lindb.) Z.Iwats. (NIBRMS106053) (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011; Yoon *et al*., 2011b)
- *Isopterygium turfaceum* (Lindb.) Lindb. (Sasaoka, 1933; Kashimura, 1940)

Homomallium connexum (Card.) Broth. (NIBRMS107156; NIBRMS107289; NIBRMS106167; NIBRMS107346) (Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Hong, 1960a; Chung and Uhm, 1961; Choe and Choi, 1980; Hwang, 1991)
- *Amblystegium connexum* Cardot (Cardot, 1904)

Homomallium incurvatum (Schrad. ex Brid.) Loeske (NIBRMS107245; NIBRMS107250; NIBRMS107258; NIBRMS107269) (Hwang, 1991)

Homomallium japonico-adnatum (Broth.) Broth. (NIBRMS106117; NIBRMS107010) (Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Hypnum calcicola Ando (NIBRMS107447; NIBRMS107448) (Hwang, 1991; Tanaka *et al*., 2001)

Hypnum cupressiforme Hedw. (NIBRMS107457; NIBRMS107459) (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Hypnum densirameum Ando (NIBRMS107356) (Choe and Choi, 1980)

Hypnum dieckii Renauld & Cardot (Choe and Choi, 1980)
- *Stereodon dieckii* (Renauld & Cardot) Broth. (Yoon *et al*., 2011b)

Hypnum fauriei Cardot (Cadrot, 1904; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; He and Song, 2011)
- *Stereodon fauriei* (Cardot) Broth. (Brotherus, 1909)

Hypnum fujiyamae (Broth.) Paris (Saito, 1938; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Hypnum hamulosum Schimp. (Hong and Ando, 1961; 1963; Hwang, 1991; Park, 1997; He and Song, 2011)

Hypnum oldhamii (Mitt.) A.Jaeger (other use: ***Calohypnum oldhamii*** **(Mitt.)** Jan Kucera & Ignatov) (NIBRMS107234; NIBRMS106723; NIBRMS106765; NIBRMS107032; NIBRMS107098) (Sasaoka, 1933; Kashimura, 1940; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Hypnum pallescens (Hedw.) P.Beauv. (Kashimura, 1940; Choe and Choi, 1980; Park, 1997)
- *Hypnum reptile* Michx. (Cardot, 1904; Sasaoka, 1933; Hwang, 1991)

Hypnum plicatulum (Lindb.) A.Jaeger (Reimers, 1930; Kashimura, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Hypnum plumiforme Wilson. (NIBRMS107146; NIBRMS107182; NIBRMS106782; NIBRMS106948; NIBRMS106978; NIBRMS107004; NIBRMS107056; NIBRMS107086; NIBRMS106093; NIBRMS106154; NIBRMS106200; NIBRMS105871; NIBRMS106690) (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yim *et al*., 2013)
- *Stereodon ctenium* (Schimp. ex Besch.) Broth. (Okamura, 1915)
- *Stereodon plumiformis* (Wilson) Mitt. (Nakai, 1917; Yoon *et al*., 2011b)
- *Hypnum ctenium* Schimp. ex Besch. (Sasaoka, 1933; Kashimura, 1940)

Hypnum plumiforme* var. *minus Broth. ex Ihsiba (Osada, 1958)

Hypnum pratense W.D.J. Koch ex Spruce (Choe and Choi, 1980; Hwang, 1991)
- *Breidleria pratensis* (W.D.J.Koch ex Spruce) Loeske (Saito, 1938; Kashimura, 1940; Osada, 1958)

Hypnum sakuraii (Sakurai) Ando (NIBRMS107431) (Choe and Choi, 1980; Hwang, 1991; Yim *et al*., 2013)
- *Hypnum sakuraii* var. *venustum* Ando (Hong & Andro, 1961)
- *Stereodon sakuraii* (Sakurai) Broth. (Yoon *et al*., 2011b)

Hypnum subimponens Lesq. (Hwang, 1991)

Hypnum subimponens subsp. ulophyllum (Paris) Ando (Choe and Choi, 1980)

Isopterygium albescens (Hook.) A.Jaeger (NIBRMS 105918; NIBRMS105957; NIBRMS106772)

Isopterygium minutirameum (Müll.Hal.) A.Jaeger (NIBRMS107171; NIBRMS106760; NIBRMS106182; NIBRMS105958) (Yim *et al*., 2013)

Platygyrium repens (Britd.) Schimp. (NIBRMS107449) (Reimers, 1930; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Pseudohygrohypnum fertile (Sendtn.) Jan Kucera & Ignatov
- *Stereodon fertilis* (Sendtn.) Lindb. (Okamura, 1916)
- *Hypnum fertile* Sendtn. (Sasaoka, 1933; Kashimura, 1940; Hwang, 1991; Park, 1997)

Pseudotaxiphyllum densum (Cardot) Z.Iwats. (NIBRMS 107350)

Pseudotaxiphyllum elegans (Brid.) Z.Iwats.
- *Isopterygium elegans* (Brid.) Lindb. (Hwang, 1991)

Pseudotaxiphyllum pohliaecarpum (Sull. & Lesq.) Z.Iwtas. (NIBRMS107162; NIBRMS106790; NIBRMS106865; NIBRMS107114; NIBRMS106131; NIBRMS106203; NIBRMS105897; NIBRMS106691) (He and Song, 2011; Yim *et al*., 2013)
- *Isopterygium neckeroides* Cardot (Cardot, 1912)
- *Isopterygium pohliaecarpum* (Sull. & Lesq.) A.Jaeger (Choe and Choi, 1980)

Ptilium crista-castrensis (Hedw.) De Not. (Horikawa, 1935a; 1935d; 1939; Saito, 1938; Kashimura, 1940; Sakurai, 1941b; Osada, 1958; Hong and Ando, 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; He and Song, 2011)

Pylaisia subcircinata Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Park, 1997)
- *Pylaisiella subcircinata* (Cardot) Z.Iwats. & Nog. (Choe and Choi, 1980; Hwang, 1991)

Pylaisia brotheri Besch. (NIBRMS107238; NIBRMS 107239; NIBRMS107282) (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940; Hong, 1960a; Choe and Choi, 1980; Yoon *et al*., 2011b)
- *Pylaisiella brotheri* (Besch.) Z.Iwats. & Nog. (Hwang, 1991)

Pylaisia condensata (Mitt.) A.Jaeger
- *Pylaisia selwynii* Kindb. (Yoon *et al*., 2015c)

Pylaisia cristata Cardot (NIBRMS107432) (He and Song, 2011; Yoon *et al*., 2011b)
- *Pylaisiella cristata* (Cardot) Z.Iwats. & Nog. (Choe and Choi, 1980; Hwang, 1991)

Pylaisia intricata Hedw. (Park, 1997; Yoon *et al*., 2011b)
- *Pylaisiella intricata* (Hedw.) Grout (Choe and Choi, 1980; Hwang, 1991)

Pylaisia polyantha (Hedw.) Schimp. (Hwang, 1991; Park, 1997)
- *Pylaisia coreana* Nog. (Noguchi, 1954)
- *Pylaisiella coreana* (Nog.) Nog. (Choe and Choi, 1980; Hwang, 1991)

Pylaisia stereodontoides Broth. & Yasuda ex Ihsiba (NIBRMS107473; NIBRMS107474)
- *Pylaisia cardotii* Toyama (Toyama, 1938)

Roaldia revoluta (Mitt.) P.E.A.S.Câmara & Carv.-Silva
- *Hypnum revolutum* (Mitt.) Lindb. (Hwang, 1991; Park, 1997)

Stereodon erectiusculus (Sull. & Lesq.) Jan Kucera & Ignatov
- *Hypnum erectiusculum* Sull. & Lesq. (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Trachythecium verrucosum (A.Jaeger) M. Fleisch. (Park, 1997)

Vesicularia ferriei (Cardot & Ther.) Broth. (NIBRMS 107367)

Vesicularia flaccida (Sull. et Lesq.) Z.Iwats. (Deguchi *et*

al., 1998; He and Song, 2007)
Vesicularia montagnei (Bel.) Broth. (He and Song, 2007)

Lembophyllaceae Broth.

Dolichomitra cymbifolia (Lindb.) Broth. (Hong and Ando, 1962; Choe and Choi, 1980; He and Song, 2011)
Dolichomitriopsis diversiformis (Mitt.) Nog. (NIBRMS 107196; NIBRMS107204; NIBRMS106952) (Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)
- *Isothecium diversiforme* (Mitt.) Besch. (Okamura, 1915; Sasaoka, 1933; Kashimura, 1940)

Tripterocladium coreanum Sakurai (Sakurai, 1941b; Hwang, 1991)

Leskeaceae Schimp.

Iwatsukiella leucotricha (Mitt.) W.R.Buck & H.A.Crum (NIBRMS105851) (Choe and Choi, 1980; Park, 1997)
- *Habrodon leucotrichus* (Mitt.) Perss. (Osada, 1958; Hwang, 1991)
- *Habrodon piliferus* Cardot (Sakurai, 1941b)

Lescuraea mutabilis (Brid.) Lindb. (Choe and Choi, 1980)
- *Lescuraea striata* (Schwägr.) Bruch & Schimp. (Hong and Ando, 1963)

Lescuraea saxicola (Schimp.) Milde (Hwang, 1991)
- *Ishibaea japonica* Broth. & S.Okamura (Saito, 1938)

Leskeodon maibarae* var. *jejuensis Y.-J.Yoon, B.C.Tan & B.-Y.Sun (Yoon *et al*., 2015c)
Leskea polycarpa Hedw. (Choe and Choi, 1980; He and Song, 2007; Yim *et al*., 2013)
Leskeella nervosa (Brid.) Loeske (Kim *et al*., 2019)
Leskeella pusilla (Mitt.) Nog. (NIBRMS107439)
Okamuraea brachydictyon (Cardot) Nog. (NIBRMS106 107; NIBRMS106196) (Osada, 1958; Hong and Ando, 1961; 1962; 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)
- *Brachythecium brachydictyon* Cardot (Cardot, 1904; Sasaoka, 1933; Kashimura, 1940)
- *Okamuraea ussuriensis* (Broth.) Broth. (Okamura, 1916; Reimers, 1930; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940)
- *Okamuraea hakoniensis* var. *ussuriensis* (Broth.) Nog. (Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Okamuraea hakoniensis (Mitt.) Broth. (NIBRMS107208; NIBRMS105850) (Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b; Yoon *et al*., 2015c)
Okamuraea hakoniensis* fo. *multiflagellifera (S.Okamura) Nog. (Yoon *et al*., 2015c)
Orthoamblystegium spuriosubtile (Broth. & Paris) Kanda & Nog. (NIBRMS107475; NIBRMS107476) (Yim *et al*., 2013)
- *Orthoamblystegium longinerve* (Cardot) Toyama (Choe and Choi, 1980; Hwang, 1991)

Pseudoleskea coreana Sakurai (Uno and Takahasi, 1940; Hong and Ando, 1961; Hwang, 1991)
Pseudoleskea incurvata (Hedw.) Loeske
- *Lescuraea incurvata* (Hedw.) E. Lawton (Choe and Choi, 1980; Hwang, 1991)

Pseudoleskea incurvata* var. *tenuiretis (Culmann) Podpera
- *Lescuraea incurvata* var. *tenuiretis* (Culm.) E.Lawton (Choe and Choi, 1980)

Pseudoleskea papillarioides Müll.Hal. (Sasaoka, 1933; Kashimrua, 1941)
Pseudoleskea patense (Lindb.) Kindb. (He and Song, 2007)
Pseudoleskeella catenulata (Brid. ex Schrad.) Kindb. (Hwang, 1991)
Pseudoleskeopsis mollicula Cardot (Cardot, 1913; Hong and Ando, 1963; Choe and Choi, 1980; He and Song, 2011)
Pseudoleskeopsis zippelii (Dozy & Molk.) Broth. (NIBR MS107450; NIBRMS107451; NIBRMS105906) (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)
- *Pseudoleskea laticuspis* Cardot (Cardot, 1904)
- *Pseudoleskeopsis laticuspis* (Cardot) Broth. (Brotherus, 1907; 1909)
- *Pseudoleskeopsis orbiculata* var. *laticuspis* (Cardot) Thér. (Sasaoka, 1933; Kashimura, 1940)
- *Pseudoleskeopsis decurvata* (Mitt.) Broth. (Uno and Takahasi, 1940; Hong, 1960a)
- *Pseudoleskeopsis orbiculata* (Mitt.) Broth. (Hong, 1960a; Hong and Ando, 1961)

Pterigynandrum filiforme Hedw. (Choe and Choi, 1980; Hwang, 1991)
Rigodiadelphus robustus (Lindb.) Nog. (NIBRMS105 852) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
- *Lesquereuxia robusta* Lindb. (Hong and Ando, 1963)

Leucodontaceae Schimp.

Dozya japonica Sande Lac. (Hwang, 1991)
Forsstroemia cryphaeoides Cardot (Choe and Choi, 1980; Yoon *et al*., 2011b; Yim *et al*., 2013)
Forsstroemia japonica (Besch.) Paris (NIBRMS107207) (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)
Forsstroemia konoi (Broth.) Enroth, Fedosov & Ignatov
- *Neckera konoi* Broth. (Hong and Ando, 1961; Choe and

Choi, 1980)

Forsstroemia neckeroides Broth. (NIBRMS107213 (dendroidea)) (Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Forsstroemia trichomitria (Hedw.) Lindb. (NIBRMS 107297; NIBRMS106833; NIBRMS106880; NIBR MS106197) (Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; Yim *et al*., 2013)

Leucodon atrovirens Nog. (Akiyama, 1988)

Leucodon coreensis Cardot (Cardot, 1904; Brotherus, 1909; Kashimura, 1940; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Leucodon exaltatus Müll.Hal. (Choe and Choi, 1980; Hwang, 1991)

Leucodon secundus* var. *strictus (Harv.) H.Akiyama (Akiyama, 1988)

Leucodon flagelliformis Müll.Hal. (Kashimura, 1940; Sakurai, 1941b; Park, 1997)

Leucodon luteus Besch. (He and Song, 2011)

– *Leucodon dozyoides* Broth. & Paris (Horikawa, 1935a; Kahimura, 1941)

– *Macrosporiella dozyoides* (Broth. & Paris) Nog. (Hong and Ando, 1961; 1962)

Leucodon nipponicus Nog. (Akiyama, 1988)

Leucodon sapporensis Besch. (Choe and Choi, 1980; Yoon *et al*., 2011b)

Leucodon sciuroides (Hedw.) Schwägr. (Hwang, 1991; Park, 1997)

Leucodon secundus (Harv.) Mitt. (Uno and Takahasi, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Pterogoniadelphus pendulus (Lindb.) Tad.Suzuki & Z.Iwats.

– *Leucodon perdependens* S.Okamura (Okamura, 1916; Nakai, 1917; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940)

– *Leucodontella perdependens* (S.Okamura) Nog. (Osada, 1958; Chung and Uhm, 1961; Hong and Ando, 1961)

– *Leucodon pendulus* Lindb. (Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Pterogonium coreense Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Suzuki & Iwatsuki, 2012)

– *Pylaisia coreense* (Cardot) Toyama (Toyama, 1938b)

Comment: This species was treated as a synonym of *Eurohypnum leptothallum* by Noguchi (1939). However; Suzuki and Iwatsuki (2012) recognized that this species was distinguished by upper laminal cells prorate on the dorsal leaf side from the latter. Thus; this study accepts the concept of Suzuki and Iwatsuki (2012)

Meteoriaceae Kindb.

Meteorium buchananii (Brid.) Broth. (Choe and Choi, 1980)

Meteorium buchananii* subsp. *helminthocladulum (Cardot) Nog.

– *Papillaria helminthocladula* Cardot (Cardot, 1904)

– *Meteorium helminthocladulum* (Cardot) Broth. (Brotherus, 1909; Kashimura, 1940; Sasaoka, 1933; Hong and Ando, 1961; Hwang, 1991)

Meteorium atrovariegatum Cardot & Ther.

– *Meteorium miquelianum* subsp. *atrovariegatum* (Cardot & Ther.) Nog. (Yoon *et al*., 2011)

***Meteorium subpolytrichum* (Besch.)** Broth. (Choe and Choi, 1980; Yoon *et al*., 2011b)

Neodicladiella flagellifera (Cardot) Hutteunen & D. Quandt (NIBRMS107189; NIBRMS106138; NIBRMS 106141; NIBRMS106148)

– *Barbella flagellifera* (Cardot) Nog. (Yoon and Sun, 2010)

Neodicladiella pendula (Sull.) W.R.Buck (NIBRMS 107482)

Trachycladiella aurea (Mitt.) M.Menzel (He and Song, 2011)

Trachypus bicolor Reinw. & Hornsch. (NIBRMS107 018) (Yoon *et al*., 2011a)

Trachypus humilis Lindb. (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

– *Trachypus humilis* var. *brevifolius* Cardot (Cardot, 1911; Kashimura, 1940; Sasaoka, 1933)

Myuriaceae Broth. ex M.Fleisch.

Eumyurium sinicum (Mitt.) Nog.

– *Oedicladium sinicum* Mitt. (Cardot, 1904; Brotherus, 1909)

– *Myurium sinicum* (Mitt.) Broth. (Sasaoka, 1933; Kashimura, 1940)

– *Myuriopsis sinica* (Mitt.) Nog. (Choe and Choi, 1980; Hwang, 1991)

Neckeraceae Schimp.

Bissetia lingulata (Mitt.) Broth. (Uno and Takahasi, 1940; Choe and Choi, 1980; Hwang, 1991)

Homalia trichomanoides (Hedw.) Schimp. (NIBRMS 107324) (Nakai, 1917; Sasaoka, 1933; Kashimura, 1940; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b)

– *Homalia japonica* Besch. (Choe and Choi, 1980; Hwang, 1991)

Homaliadelphus targionianus (Mitt.) Dixon & P. de la Varde (NIBRMS107277) (Choe and Choi, 1980)

Homaliodendron flabellatum (Sw.) M. Fleisch. (NIBR MS106744; NIBRMS106853; NIBRMS106862; NIBRMS107096) (Yim *et al*., 2013)

– *Homaliodendron scalpellifolium* (Mitt.) M.Fleisch. (Hong and Ando, 1962; Choe and Choi, 1980; He and

Song, 2011)

Neckera coreana Card. (Cardot, 1911; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Neckera fauriei Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Neckera flexiramea Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

Neckera goughiana Mitt. (NIBRMS107480; NIBRMS 107481) (Tanaka *et al*., 2001)

Neckera humilis Mitt. (NIBRMS107188; NIBRMS1061 89; NIBRMS105961) (Hong and Ando, 1962; Choe and Choi, 1980; He and Song, 2011; Yim *et al*., 2013)

- *Neckera humilis* var. *complanatula* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991)

Neckera pennata Hedw. (NIBRMS106781; NIBRMS 106119; NIBRMS106129; NIBRMS106140) (Sakurai, 1941b; Osada, 1958; Hong and Ando, 1961; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

- *Neckera abbreviata* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)

Neckera pusilla Mitt. (Choe and Choi, 1980)

Neckera yezoana Besch. (Other use: ***Forsstroemia yezoana*** (Besch.) S.Olsson, Enroth & D.Quandt) (NIBRMS107211; NIBRMS106858; NIBRMS106 878; NIBRMS107020; NIBRMS107412) (Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

- *Neckera yezoana* var. *uematsui* (Broth.) Horik. (Choe and Choi, 1980; Hwang, 1991)
- *Neckera uematsui* Broth. (Brotherus, 1921; Sasaoka, 1933; Kashimura, 1940)

Neckeropsis nitidula (Mitt.) M.Fleisch. (NIBRMS107 170; NIBRMS106737; NIBRMS106748; NIBRMS 106795; NIBRMS107133; NIBRMS106122; NIBR MS106171; NIBRMS105910) (Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yim *et al*., 2013)

Thamnobryum alopecurum (Hedw.) Nieuwl. ex Gangulee (Hong and Ando, 1962; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b)

- *Thamnium alopecurum* (Hedw.) Schimp (Cardot, 1904; Sasaoka, 1933; Saito, 1938; Kashimura, 1940; Osada, 1958; Hong and Ando, 1962)

Thamnobryum coreanum (Cardot) Nog. & Z.Iwats. (NIBRMS106137) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; Yoon *et al*., 2011b)

- *Thamnium coreanum* Cardot (Cardot, 1911; Sasaoka, 1933)

Thamnobryum plicatulum (Sande Lac.) Z.Iwats. (NI BRMS106747; NIBRMS106761; NIBRMS106824; NIBRMS107097; NIBRMS107100; NIBRMS105938) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Thamnium plicatulum* Sande Lac. (Sasaoka, 1933; Kashimura, 1940; Park and Hong, 1959; Hong, 1960a)

Thamnobryum sandei* var. *coreense Cardot (Choe and Choi, 1980)

- *Thamnium sandei* var. *coreense* Cardot (Cardot, 1904; Sasaoka, 1933)

Thamnobyum sandei* var. *cymbifolium (Cardot) Nog. & Z.Iwats. (Choe and Choi, 1980)

- *Thamnium sandei* var. *cymbifolium* Cardot (Uno and Takahasi, 1940; Hong and Ando, 1961)

Thamnobryum subseriatum (Mitt. ex Sande Lac.) B.C. Tan. (NIBRMS107135) (Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Thamnium sandei* Besch. (Nakai, 1917; Sasaoka, 1933; Kashimura, 1940)

Plagiotheciaceae M.Fleisch.

Isopterygiopsis muelleriana (Schimp.) Z.Iwats. (NIBR MS106854; NIBRMS106900)

Plagiothecium cavifolium (Brid.) Z. Iwats. (NIBRMS 107314) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011)

- *Plagiothecium roeseanum* var. *julaceum* Cardot (Osada, 1958)

Plagiothecium denticulatum (Hedw.) Schimp. (Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Plagiothecium depressum (Brid.) Spruce (Osada, 1958)

Plagiothecium euryphyllum (Cardot & Thér.) Z.Iwats. (NIBRMS105920; NIBRMS106039; NIBRMS1060 40) (Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2011; Yim *et al*., 2013)

Plagiothecium laetum Schimp. (Hwang, 1991)

- *Plagiothecium curvifolium* Schlieph. ex Limpr. (Deguchi *et al*., 1998)

Plagiothecium neckeroidium Schimp. (Nakai, 1917; Kashimura, 1940; Choe and Choi, 1980; Song, 1987; Hwang, 1991)

Plagiothecium nemorale (Mitt.) A.Jaeger. (NIBRMS10 7174; NIBRMS107308; NIBRMS106733; NIBRMS 106746; NIBRMS106783; NIBRMS106843; NIBR MS107070; NIBRMS106116; NIBRMS106139; NI BRMS106146) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Plagiothecium sylvaticum* var. *latifolium* Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940)

Plagiothecium piliferum (Sw.) Schimp. (Hwang, 1991)

Plagiothecium platyphyllum Mönk. (Hwang, 1991)

Plagiothecium succulentum (Wilson) Lindb. (Hwang, 1991)

Plagiothecium sylvaticum (Brid.) Schimp. (Uno and Takahasi, 1940; He and Song, 2011)

– *Plagiothecium silvaticum* Bruch & Schimp. (Reimers, 1930; Sasaoka, 1933; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Chung and Uhm, 1961; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Song, 1987)

Pterobryaceae Kindb.

Pterobryon arbuscula Mitt. (Hong and Ando, 1962; Choe and Choi, 1980; He and Song, 2011)

Sematophyllaceae Broth.

Acanthocladium integrifolium* var. *brevifolium Thér. & Dixon (Sasaoka, 1933)

Brotherella coreana Sakurai (other use: ***Pylaisiadelpha coreana*** (Sakurai) W.R.Buck) (Sakurai, 1949; Choe and Choi, 1980)

Brotherella fauriei (Besch. ex Cardot) Broth. (other use: ***Pylaisiadelpha fauriei*** (Besch. ex Cardot) W.R.Buck) (NIBRMS106818; NIBRMS106118) (Hwang, 1991; He and Song, 2011)

Brotherella henonii (Duby.) Fleisch. (other use: ***Pylaisiadelpha henonii*** (Duby) W.R.Buck) (NIBRMS107167; NIBRMS106682; NIBRMS106683) (Saito, 1938; Kashimura, 1940; Osada, 1958; Choe and Choi, 1980; Hwang, 1991)

Brotherella recurvans (Michx.) M.Fleisch. (other use: ***Pylaisiadelpha recurvans*** (Michx.) W.R.Buck) (Chung and Uhm, 1961; Choe and Choi, 1980)

Brotherella yokohamae (Broth.) Broth. (other use: ***Pylaisiadelpha yokohamae*** (Broth.) W.R.Buck) (Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011)

– *Clastobryella tsunodae* (Broth. & Yasuda) Broth. (Hong and Ando, 1963)

– *Clastobryella kusatsuensis* (Besch.) Z.Iwats. (Choe and Choi, 1980)

– *Pylaisiadelpha yokohamae* (Broth.) W.R.Buck (Yim *et al*., 2013)

Brotherella tenuirostris (Bruch & Scimp. ex Sull.) Broth. (other use: ***Pylaisiadelpha tenuirostris*** (Bruch & Schimp. ex Sull.) W.R.Buck) (NIBRMS107145; NIBRMS107296; NIBRMS107160; NIBRMS106720; NIBRMS106721; NIBRMS107062; NIBRMS106212; NIBRMS106205) (Yoon *et al*., 2011b; Yoon *et al*., (2015b)

Pylaisiadelpha tristoviridis (Broth.) Afonina; H.Tsubota & Ignatova (NIBRMS107225; NIBRMS107227; NIBRMS105831) (Yoon *et al*., 2011b)

– *Hypnum rhynchothecium* Müll.Hal. ex Ihsiba (Sasaoka, 1933)

– *Hypnum tristo-viride* (Broth.) Paris (Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

– *Hypnum tristo-viride* var. *brevisetum* Ando (Hong and Ando, 1961; 1963)

Sematophyllum phoeniceum (Müll.Hal.) M.Fleisch. (Yoon *et al*., 2015c)

Sematophyllum subhumile (Müll.Hal.) M.Fleisch. (NIBRMS106777; NIBRMS106822; NIBRMS106946; NIBRMS107134; NIBRMS106169; NIBRMS105928) (Yim *et al*., 2013)

Sematophyllum subpinnatum (Brid.) E.Britton (NIBRMS105926) (Yoon *et al*., 2015c)

Taxithelium parvulum (Broth. & Paris) Broth. (Brotherus, 1909)

Taxiphyllaceae Ignatov

Filibryum ogatae (Broth. & Yasuda) W.Kim & T.Yamag. (NIBRMS106798; NIBRMS106802; NIBRMS106094; NIBRMS105937) (Kim and Yamaguchi, 2017)

Hondaella caperata (Mitt.) B.C.Tan & Z.Iwats. (He and Song, 2011)

– *Campylodontium gracile* Cardot (Cardot, 1913)

– *Hondaella brachytheciella* (Broth. & Paris) Ando (Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Taxiphyllum alternans (Cardot) Z.Iwats. (Choe and Choi, 1980; Hwang, 1991)

– *Isopterygium alternans* Cardot (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kashimura, 1940)

– *Isopterygium alternans* var. *puteanum* Cardot (Cardot, 1912; Sasaoka, 1933; Kashimura, 1940)

Taxiphyllum aomoriense (Besch.) Z.Iwats. (NIBRMS106825; NIBRMS106864; NIBRMS107130; NIBRMS105970) (Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2007; 2011; Yoon *et al*., 2011b)

– *Hypnum platycladum* Cardot (Cardot, 1904)

– *Plagiothecium platycladum* (Cardot) Broth. (Brotherus, 1909)

– *Breidleria platyclada* (Cardot) Ihsiba (Kashimura, 1940)

– *Plagiothecium aomoriense* Besch. (Osada, 1958; Hong, 1960a; Hong and Ando, 1961; 1963)

Taxiphyllum cuspidifolium (Cardot) Z.Iwats. (NIBRMS106351; NIBRMS106353; NIBRMS106354; NIBRMS106168; NIBRMS106356)

Taxiphyllum deplanatum (Bruch & Schimp. ex Sull.) M.Fleisch. (NIBRMS107466-b; NIBRMS107467)

Taxiphyllum giraldii (Müll.Hal.) M.Fleisch. (Hwang, 1991; Park, 1997)

Taxiphyllum taxiphylloides (Ando & Higuchi) Higuchi (NIBRMS107369)

– *Gollania taxiphylloides* Ando & Higuchi (Tanaka *et*

al., 2001)

Taxiphyllum taxirameum (Mitt.) M.Fleisch. (NIBRMS 107348; NIBRMS107354; NIBRMS106123) (Osada, 1958; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

Theliaceae M.Fleisch.

Fauriella tenuis (Mitt.) Cardot (NIBRMS107214; NIBR MS107226; NIBRMS106776; NIBRMS107046; NIBRMS105872) (Reimers, 1930; Kashimura, 1940; Ando, 1961; Hong, 1960a; Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b)

- *Trichosteleum subtile* Cardot (Cardot, 1904)
- *Taxithelium subtile* (Cardot) Broth. (Brotherus, 1909; Kashimura, 1940)

Myurella tenerrima (Brid.) Lindb. (Yoon *et al*., 2011a)

Myurella sibirica (Müll.Hal.) Reimers (Kim *et al*., 2019)

Thuidiaceae Schimp.

Abietinella abietina (Hedw.) M.Fleisch. (Sakurai, 1941b; Osada, 1958; Choe and Choi, 1980; Song, 1987; Hwang, 1991; Park, 1997)

- *Thuidium abietinum* (Hedw.) Schimp (Saito, 1938)

Actinothuidium hookeri (Mitt.) Broth. (Hwang, 1991)

Boulaya mittenii (Broth.) Cardot (NIBRMS107155; NIB RMS107200; NIBRMS107220; NIBRMS106956; NIBRMS107076; NIBRMS105853) (Okamura, 1915; Nakai, 1917; Sasaoka, 1933; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Chung and Uhm, 1961; Hong and Ando, 1961; 1962; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

Bryonoguchia molkenboeri (Sande Lac.) Z.Iwats. & Inoue (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b)

- *Tetracladium molkenboeri* (Sande Lac.) Broth. (Osada, 1958)

Claopodium aciculum (Broth.) Broth. (NIBRMS107 442) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

- *Claopodium assurgens* var. *brevifolium* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940)
- *Claopodium viridulum* Cardot (Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963)

Claopodium assurgens (Sull. & Lesq.) Cardot (Cardot, 1911; Sasaoka, 1933; Horikawa, 1935c; Kashimura, 1940; Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

- *Claopodium asperrimum* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963)

Claopodium gracillimum (Cardot & Thér.) Nog. (NIB RMS107427)

Claopodium nervosum* var. *septentrionale (Cardot) Ihsiba (NIBRMS107320) (Sasaoka, 1933; Hong and Ando, 1963)

- *Claopodium prionophyllum* var. *septentrionale* Cardot (Cardot, 1911; Kashimura, 1940)

Claopodium pellucinerve (Mitt.) Best (Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007)

- *Claopodium pugionifolium* (Broth. & Paris) Broth. (Saito, 1938)
- *Claopodium subpiliferum* (Lindb. & Arnell) Broth. (Osada, 1958; Hong, 1960a; 1960b)
- *Claopodium piliferum* Broth. (Choe and Choi, 1980)

Claopodium prionophyllum (Müll.Hal.) Broth. (Cardot, 1911; Kashimura, 1940; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

- *Claopodium nervosum* M.Fleisch. (Sasaoka, 1933)

Echinophyllum sachalinense (Lindb.) T.J.O'Brien

- *Tetracladium osadae* Sakurai (Sakurai, 1941b)
- *Helodium sachalinense* (Lindb.) Broth. (Osada, 1958; Choe and Choi, 1980; Hwang, 1991; Park, 1997)

Haplocladium angustifolium (Hampe & Müll.Hal.) Broth. (Other use: ***Bryohaplocladium angustifolium*** (Hampe & Müll.Hal.) R. Watan. & Z. Iwats.) (NIBRMS107168; NIBRMS107177; NIBRMS107191; NIBRMS107257; NIBRMS107128; NIBRMS107132; NIBRMS106106; NIBRMS106127; NIBRMS106161; NIBRMS106166) (Choe and Choi, 1980; Hwang, 1991; Park, 1997; Deguchi *et al*., 1998; He and Song, 2007; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Thuidium macropilum* (Müll.Hal. ex Broth.) Paris (Cardot, 1904)
- *Haplocladium macropilum* Müll.Hal. ex Broth. (Thériot, 1930; Kashimura, 1940)
- *Haplocladium subulaceum* var. *macropilum* (Müll.Hal. ex Broth.) Thér. (Osada, 1958)
- *Haplocladium subulatum* Cardot (Hong, 1960a)

Haplocladium discolor (Broth. & Paris) Broth. (Hwang, 1991)

Haplocladium incurvum Broth. (Uno and Takahasi, 1940; Choe and Choi, 1980; Hwang, 1991)

Haplocladium gracile (Schimp.) Müll.Hal.

- *Thuidium gracile* Schimp. (Cardot, 1904)

Haplocladium microphyllum (Hedw.) Broth. (NIBR MS107316; NIBRMS106174; NIBRMS105873) (Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Choe and Choi, 1980; Hwang, 1991; Park, 1997; Yoon *et al*., 2011b; Yim *et al*., 2013)

- *Thuidium capillatum* (Mitt.) A.Jaeger (Cardot, 1904)
- *Haplocaldium capillatum* (Mitt.) Broth. (Reimers, 1930; Sasaoka, 1933; Hong, 1960a)
- *Haplocladium latifolium* (Sande Lac.) Broth. (Reimers, 1930; Kashimura, 1940)

– *Haplocladium papillariaceum* Müll.Hal. (Reimers, 1930; Kashimura, 1940; Hwang, 1991)

Haplocladium perparaphyllum R.Watan. (Other use: ***Bryohaplocladium perparaphyllum*** (R. Watan.) R. Watan. & Z.Iwats.) (Choe and Choi, 1980; Hwang, 1991)

Haplocladium strictulum (Cardot) Reimers (Other use: ***Bryohaplocladium strictulum*** (Cardot) R.Watan. & Z.Iwats.) (Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

– *Thuidium strictulum* Cardot (Cardot, 1904; Brotherus, 1909)

– *Thuidiopsis strictula* (Cardot) Broth. (Sasaoka, 1933; Kashimura, 1940)

Haplocladium subulaceum (Mitt.) Broth. (Park and Hong, 1959)

Helodium blandowii (F.Weber & D.Mohr) Warnst. (Hwang, 1991; Park, 1997)

Heterocladium angustifolium (Dixon) R.Watan. (Hwang, 1991)

Heterocladium capillaceum Broth. ex Ihsiba (NIBRMS 107384)

Hylocomiopsis ovicarpa (Besch.) Cardot (NIBRMS 106029; NIBRMS106030) (Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Song, 1987; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

Miyabea fruticella (Mitt.) Broth. (NIBRMS107202) (Uno and Takahasi, 1940; Park and Hong, 1959; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991; Park, 1997; He and Song, 2011; Yoon *et al*., 2011b)

– *Miyabea thuidioides* Broth. (Uno and Takahasi, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Miyabea rotundifolia Cardot (Cardot, 1909; Okamura, 1915; Reimers, 1930; Sasaoka, 1933; Uno and Takahasi, 1940; Kashimura, 1940; Hong and Ando, 1961; Choe and Choi, 1980; Hwang, 1991)

Pelekium microphyllum (Schwägr.) T.J.Kop. & Touw

– *Haplohymenium microphyllum* Schwägr. (Brotherus, 1909; Kashimura, 1940)

Pelekium minutulum (Hedw.) Touw

– *Thuidium minutulum* (Hedw.) Schimp. (Park, 1997)

Pelekium pygmaeum (Schimp.) Touw (NIBRMS107437; NIBRMS105908)

– *Thuidium pygmaeum* Schimp. (Choe and Choi, 1980; Hwang, 1991)

Pelekium versicolor (Müll.Hal.) Touw (NIBRMS106 752; NIBRMS106759; NIBRMS106832; NIBRMS 107022; NIBRMS106343) (He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Thuidium micropteris* Besch. (Osada, 1958)

– *Thuidium bipinnatulum* Mitt. (Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991)

Rauiella fujisana (Paris) Reimers (Hong and Ando, 1963; Choe and Choi, 1980; Deguchi *et al*., 1998; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

– *Rauia bandaiensis* (Broth. & Paris) Broth. (Brotherus, 1909; Reimers, 1930; Sasaoka, 1933; Kashimura, 1940)

Thuidium assimile (Mitt.) A.Jaeger

– *Thuidium viridiforme* Cardot (Hong and Ando, 1961)

– *Thuidium philibertii* Limpr. (Hwang, 1991)

Thuidium cymbifolium (Dozy & Molk.) Dozy & Molk. (NIBRMS107341; NIBRMS105939; NIBRMS106031; NIBRMS106032; NIBRMS106033) (Choe and Choi, 1980; Hwang, 1991; He and Song, 2011)

– *Thuidium japonium* Dozy & Molk. ex Sande Lac. (Sasaoka, 1933; Saito, 1938; Kashimura, 1940)

– *Thuidium subpycnothallum* Cardot (Sasaoka, 1933; Kashimura, 1940)

Thuidium delicatulum (Hdew.) Schimp. (NIBRMS 106036) (Hong, 1960a; Hwang, 1991; He and Song, 2011; Yoon *et al*., 2011b)

– *Thuidium uliginosum* Cardot (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1963)

– *Thuidium viride* Mitt. (Uno and Takahasi, 1940; Hong and Ando, 1961)

– *Thuidium recognitum* var. *delicatulum* (Hedw.) Warnst. (Choe and Choi, 1980)

Thuidium kanedae Sakurai (NIBRMS106867; NIBRMS 106964; NIBRMS107044; NIBRMS106115; NIBR MS105846; NIBRMS106689) (Hong and Ando, 1963; Choe and Choi, 1980; Hwang, 1991; Deguchi *et al*., 1998; He and Song, 2007; 2011; Yoon *et al*., 2011b; Yim *et al*., 2013)

– *Thuidium unoi* Sakurai (Sakuria, 1943)

– *Thuidium toyamae* Nog. (Hong, 1960a; 1960b; Chung and Uhm, 1961; Hong and Ando, 1961)

Thuidium pristocalyx (Müll.Hal.) A.Jaeger (NIBRMS 105867) (He and Song, 2011; Yoon *et al*., 2011b)

– *Thuidium glaucinum* (Mitt.) Bosch & Sande Lac. (Reimers, 1930; Sasaoka, 1933; Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Hong and Ando, 1961; 1963; Choe and Choi, 1980; Hwang, 1991)

Thuidium pycnothallum (Müll.Hal.) Paris (Hwang, 1991; Park, 1997)

Thuidium recognitum (Hedw.) Lindb. (Saito, 1938; Uno and Takahasi, 1940; Kashimura, 1940; Osada, 1958; Park and Hong, 1959; Hong, 1960a; Chung and Uhm, 1961; Hong and Ando, 1961; Hwang, 1991)

Thuidium subglaucinum Cardot (NIBRMS106179; NIBRMS106192; NIBRMS105843) (Cardot, 1911; Sasaoka, 1933; Kashimura, 1940; Hong and Ando, 1962; Choe and Choi, 1980; Hwang, 1991; He and Song, 2011; Yim *et al*., 2013)

Thuidium submicropteris Cardot (NIBRMS107495) (Cardot, 1904; Brotherus, 1909; Sasaoka, 1933; Kas-

himura, 1940; Choe and Choi, 1980; Hwang, 1991; Yoon *et al*., 2011b)

Thuidium tamariscinum (Hedw.) Schimp. (Choe and Choi, 1980; Hwang, 1991)

Excluded species

Brachythecium populeum* var. *longisetum Schimp.

This species was first recorded by Park and Choi (2007). However, as a reference, *Cirriphyllum crassinervium* recorded by Hwang (1991) is not a synonym of *B. populeum var. longisetum*. Thus, *B. populeum* var. *longisetum* is excluded due to taxonomic error and unclear source.

Brotherella robustula Sakurai

This species was first recorded by Park and Choi (2007) and was referred from Hwang (1991). However, Hwang (1991) reported as *Brotherella roseana*. That species is not described in any articles. Furthermore, *B. robustula* was treated as a synonym of *B. henonii* by Iwatsuki (1991).

Hygrohypnum duriusculum (De Not.) D.W.Jamieson

Corley *et al*. (1981) recognized *Hygrohypnum dilatatum* as a synonym of *H. duriusculum*. In contrast, Iwatsuki (1991) recognized *H. dilatatum* as a synonym of *H. molle*. Park and Choi (2007) cited the paper of Corley *et al*. (1981), whereas this study cited the paper of Iwatsuki (1991).

Hygrohypnum subeugyrium (Renauld & Cardot) Broth.

Park and Choi (2007) recognized *H. purpurascens* as a synonym of *Hygrohypnum subeugyrium*. As it is based on the dissertation of Jamieson (1976), the taxonomic treatment is not validly published. Therefore, *H. purpurascens* is accepted as the correct name.

***Hypnum subimponens* Lesq.**

This species was first added to the list of bryophytes of Korea by Park and Choi (2007). However, the scientific name is not accepted due to taxonomic problem. Therefore, *H. subimponens* subsp. *ulophyllum* has been accepted as the correct name.

Lescuraea longinervis (Cardot) Nog.

This species was originally recorded by Hong & Ando (1963) by citing specimens collected in Mt. Halla. Unfortunately, the cited specimens are not able to be re-examined. Later, this species has not been reported by any researchers. It is possible to estimate that it would be *Schwetschkea longinervis*. Then, *S. longinervis* was treated as a synonym of *Orthoamblystegium spurio-subtile* by Noguchi (1982).

Polytrichastrum ohioense (Renauld & Cardot) G.L.Sm.

According to Park and Choi (2007), the reference for *Polytrichastrum ohioense* was based on *Polytrichum decipiense* that had been recorded by Hwang (1991). However, *P. descipiense* is a synonym of *P. pallidisetum,* causing error. Thus, *P. ohioense* is excluded.

Scopelophila ligulata (Spruce) Spruce

Park and Choi (2007) treated *Scopelophila ligulate* as a synonym of *Hyophila amblyphylla*, which Cardot (1907) announced as a new species collected from Pyongyang in North Korea. As taxonomic reviews or evidence has not been available. Therefore, this study dosen't accept the taxonomic treatment by Park and Choi (2007).

Sematophyllum subhumile subsp. japonicum (Broth.) Seki

This species was first recorded by Park and Choi (2007). However, specimens or references were not present. Moreover, it was treated as a synonym of *S. subhumile* by Tan and Jia (1999). Therefore, it is excluded.

Ulota curvifolia (Wahlenb.) Sw.

Hwang (1991) recorded a species, *Orthotrichum striatum*. Later, Park and Choi (2007) recognized this species as a synonym of *Ulota curvifolia*. However, this study doesn't accept their taxonomic treatment. It's because Park and Choi (2007) did not present a taxonomic revision ore reason for their taxonomic treatment.

The following, these species were first recorded to the list of Bryophytes of Korea by Park and Choi (2007) or NIBR (2012) with no references like literatures or specimens. Still, it is not actually recorded and specimens have not been known. Therefore, they are excluded.

Archidium ohioense Scimp. ex Müll.Hal.
Bryoerythrophyllum tenerrimum (Broth.) P.C.Chen
Bryum atrovirens Brid.
Campyliadelphus elodes (Lindb.) Kanda
Chaetomitriopsis glaucocarpa (Reinw. ex Schwägr.) M. Fleisch.
Dicranodontium uncinatum (Harv.) A.Jaeger.
Dicranum groenlandicum Brid.
Didymodon asperifolius (Mitt.) H.A.Crum, Steere & L.E.Anderson
Didymodon ferrugineus (Schmp. ex Besch.) M.O.Hill
Fissidens minutulus Sull.
Fissidens perdecurrens Besch.
Grimmia brachydictyon (Cardot) Deguchi
Homaliadelphus targionianus* var. *rotundatus Nog.
Hygrohypnum subeugyrium* var. *japonicum Cardot
Lopidium nazeense (Thér.) Broth.
Meteorium buchananii* var. *cuspidatum (S.Okamura) Nog.
Plagiomnium succulentum (Mitt.) T.J.Kop.
Pleuridium julaceum Besch.
Pohlia filum (Schimp.) Mårtensson
Racomitrium brachypodium (Besch.) Cardot
Racomitrium canescens* subsp. *latifolium (Lange & C.E.O. Jensen) Frisvoll
Racomitrium canescens* var. *tortuloides Pilous
Rhabdoweisia striata Lindb.
Weissia controversa* var. *minutissima (Paris) Wijk & Margad.

Acknowledgements

This work was supported by a grant from the National Institute of Biological Resources (NIBR), funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR202002121).

References

Akiyama, H. 1988. Studies on *Leucodon* (Leucodontaceae, Musci) and related genera in East Asia. IV. Taxonomic revision of *Leucodon* in East Asia. Journal of Hattori Botanical Laboratory 65:1-80.

Brotherus V.F. 1909. *Bryales*, part. I(3): 1009-1152. In: H.G.A. Engler and K. Prantl (eds.), Natuerlichen Pflanzenfamilien. Engelmann, Leipzig.

Brotherus, V.F. 1921. Musci novi japonici. Översikt av Finska Vetenskaps-Societetens Förhandlingar 62(9):1-55.

Cardot, J. 1904. Première contribution á la flore bryologique de la Corée. Beihefte Bot. Centralbl. Bd. XVII. pp. 1-44.

Cardot, J. 1907. Mousses Nouvelles du Japon et de Coree. Bulletin de l'Herbier Boissier 2(9):709-717s.

Cardot, J. 1908. Mousses Nouvelles du Japon et de Coree. Bulletin de l'Herbier Boissier 8(5):331-717s.

Cardot, J. 1909. Mousses Nouvelles du Japon et de Coree. Bulletin de la Societe Botanique de Geneve, ser.2, 1(3):120-132.

Cardot, J. 1911. Mousses Nouvelles du Japon et de Coree Bulletin de la Societe Botanique de Geneve, ser. 2, 3(7): 275-294.

Cardot, J. 1912. Mousses Nouvelles du Japon et de Coree Bulletin de la Societe Botanique de Geneve, ser. 2, 4(9): 378-387.

Cardot, J. 1913. Mousses Nouvelles du Japon et de Coree Bulletin de la Societe Botanique de Geneve, ser. 2, 5(3): 317-324.

Choe, D.M. 1980. Musci, Hepaticae, Illustrated Flora Fauna of Korea, Vol. 24. 790pp. Ministry of Education, Seoul.

Choe, D.M. and H.H. Choi. 1980. A List of Bryophytes of Korea. Journal of Science Education 12:27-55.

Chung, Y.H. and K.B. Uhm. 1961. Moss Flora on Mt. Odae in its climatic aspect. The Korean Journal of Botany 4(2):33-40.

Deguchi, H., M. Higuchi and D.M. Choe. 1998. Mosses of Ulrung Island, Korea. Hikobia 12:365-367.

Ellis, L.T., M. Aleffi, R. Tacchi, A. Alegro, M. Alonso, A. K. Asthana, V. Sahu, A.B. Biasuso, D.A. Callaghan, T. Ezer, R. Kara, T. Seyli, R. Garilleti, M.J. Gil-López, D. Gwynne-Evans, T.A. Hedderson, T. Kiebacher, J. Larrain, D. Long, M. Lüth, B. Malcolm, Y. S. Mamontov, K.K. Newsham, M. Nobis, A. Nowak, R. Ochyra, P. Pawlikowski, V. Plášek, L. Čihal, A.D. Potemkin, F. Puche, D. Rios, M.T. Gallego, J. Guerra, J. Sawicki, A. Schäfer-Verwimp, J.G. Segarra-Moragues, V. Šegota, E.V. Sofronova, S. Ştefănuţ, P. Szűcs, A. Bidló, B. Papp, E. Szurdoki, B.C. Tan, J. Váňa, B. Vigalondo, I. Draper, F. Lara, Y.-J. Yoon, B.-Y. Sun and N. Nishimura. 2014. New National and Regional Bryophyte Records 41. Journal of Bryology 36(4):306-324.

Ellis, L.T., A.K. Asthana, P. Srivastava, I. Omar, K.K. Rawat, V. Sahu, M.J. Cano, D.P. Costa, E.M. Dias, N. Dias dos Santos, J.B. Silva, V.E. Fedosov, M.N. Kozhin, E.A. Ignatova, S.R. Germano, E.O. Golovina, N.J.M. Gremmen, R. Ion, S. Ştefănuţ, M. von Konrat, M.S. Jimenez, G.M. Suárez, T. Kiebacher, M. Lebouvier, D. G. Long, D. Maity, R. Ochyra, I. Parnikoza, V. Plášek, L. Fialová, Z. Skoupá, S. Poponessi, M. Aleffi, M.S. Sabovljević, A.D. Sabovljević, P. Saha, M.N. Aziz, J. Sawicki, M. Suleiman, B.-Y. Sun, J. Váňa, T. Wójcik, Y.-J. Yoon, J. Żarnowiec and J. Larraín. 2016. New national and regional bryophyte records, 46. Journal of Bryology 38(1):47-63.

Ellis, L.T., M. Alataş, M. Aleffi, A. Alegro, V. Šegota, S. Ozimec, N. Vuković, N. Koletić, D. Prlić, M. Bontek, A.K. Asthana, D. Gupta, V. Sahu, K.K. Rawat, V.A. Bakalin, K.G. Klimova, K. Baráth, L.N. Beldiman, J. Csiky, J. Deme, D. Kovács, M.J. Cano, J. Guerra, I.V. Czernyadjeva, M.V. Dulin, P. Erzberger, T. Ezer, V.E. Fedosov, S. Fontinha, M. Sim-Sim, C.A. Garcia, A. Martins, I. Granzow-de la Cerda, L. Sáez, K. Hassel, H. Weibull, N.G. Hodgetts, M. Infante, P. Heras, T. Kiebacher, J. Kučera, M. Lebouvier, R. Ochyra, M. Ören, B. Papp, S.J. Park, B.-Y. Sun, V. Plášek, S. Poponessi, R. Venanzoni, D. Purger, F. Reis, M. Sinigla, A. Stebel, S. Ştefănuţ, G. Uyar, G. Vončina, M.J. Wigginton, K.-T. Yong, M.S. Chan and Y.-J. Yoon. 2017. New National and regional Bryophyte Records, 52. Journal of Bryology 39(3):285-304.

Ellis, L.T., J. Wilbraham, M. Aleffi, A.K. Asthana, K.K. Rawat, D. Gupta, V. Sahu, P. Katiyar, G. Asthana, A. Srivastava, K. Baráth, H. Bednarek-Ochyra, J. Bruno Silva, C. Emanuely de Araújo Farias, S. Rangel Germano, I.V. Czernyadjeva, G. Ya. Doroshina, C. Delgadillo Moya, P. Peña Retes, P. Erzberger, E. Fuertes, D. Garcia-Avila, R. Garilleti, T.A. Hedderson, A. West, V. Hugonnot, H. Kürschner, J. Lagrandie, F. Lara, I. Draper, M. Lebouvier, N. Lönnell, T. Hallingbäck, A. Mesterházy, J. Muñoz, C.S. Németh, S.J. Park, B.-Y. Sun, G. Pérez, V. Plášek, S. Poponessi, R. Vernanzoni, D. Gigante, M. Philippe, R.D. Porley, C. Sérgio, P. Ministro, S. Ştefănuţ, G.M. Suárez, J.R. Flores, M. Sulayman, N. Wilding and Y.-J. Yoon. 2018a. New national and regional bryophyte records, 54. Journal of Bryology 40(1):74-97.

Ellis, L.T., O.M. Afonina, R.L. Andriamiarisoa, G. Asthana, R. Bharti, P. Aymerich, B. Bambe, M. Boiko, M. Brugués, E. Ruiz, L. Sáez, M.J. Cano, R. Ros, L. Čihal,

J. Deme, J. Csiky, G. Dihoru, P. Dřevojan, T. Ezer, V.E. Fedosov, E.A. Ignatova, A.P. Seregin, C.A. Garcia, A. Martins, C. Sérgio, M. Sim-Sim, A.S.B. Rodrigues, S.R. Gradstein, C. Reeb, A. Irmah, M. Suleiman, T. Koponen, J. Kučera, M. Lebouvier, Y. LiQun, D.G. Long, A.I. Maksimov, T.A. Maksimova, J. Muñoz, M. Nobis, A. Nowak, R. Ochyra, S.V. O'Leary, F. Osorio, O. Yu. Pisarenko, V. Plášek, Z. Skoupá, A. Schäfer-Verwimp, N. Schnyder, J.R. Shevock, S. Ştefănuţ, M. Sulayman, B.-Y. Sun, S.J. Park, D. Ya. Tubanova, J. Vánă, G.J. Wolski, K.-Y. Yao, Y.-J. Yoon and E. Yücel. 2018b. New national and regional bryophyte records, 56. Journal of Bryology 40(3):271-296.

Frey, W., J.-P. Frahm, E. Fischer and W. Lobin. 2006. The Liverworts, Mosses and Ferns of Europe. 512 pp. Harley Books, Colchester.

Gao, C., M.R. Corsby and S. He. 1999. Sphagnaceae-Leucobryaceae. 1 viii+273pp. In Moss Flora of China. Sicence Press & Missouri Botanical Garden, Beijing, New York & St. Louis.

Goffinet, B., W.R. Buck and A.J. Show. 2009. Morphology, anatomy, and classification of the Bryophyta. In: Goffinet and Shaw (eds.), Bryophyte Biology. Second edition. Cambridge University Press, Cambridge, pp. 55-138.

He, S. and S.J. Song. 2007. New records of mosses from Ulleung Island, Korea. Journal of Phytogeography and Taxonomy 55:99-102.

He, S. and J.S. Song. 2011. The mosses of Jeju Island, Korea: New records and an updated checklist. Journal of Phytogeography and Taxonomy 58:97-108.

Hong, W.S. 1960a. The Bryophytes on Mt. Soyo, with some new addition to the Korean Flora. The Korean Journal of Botany 3(1):26-31.

Hong, W.S. 1960b. The Flora of Bryophytes on Mt. Kwanak with some New Additions to the Korean Flora. The Korean Journal of Botany 3(2):19-25.

Hong, W.S. and H. Ando. 1959. An enumeration of mosses recorded from Korea, with some new additions to the Korean flora. Theses Catholic Medical Colleage 3:371-395.

Hong, W.S. and H. Ando. 1961. The Flora o f Moss on Mt. Chii with some new additions to the Korean Flora. The Korean Journal of Botany 4(2):41-50.

Hong, W.S. and H. Ando. 1962. The moss flora of Mt. Hanla, Quelpart Island (1). Hikobia 3(2):86-95.

Hong, W.S. and H. Ando. 1963. The moss flora of Mt. Hanla, Quelpart Island (2). Hikobia 3(3):191-201.

Hooker, W.J. and T. Taylor. 1818. Muscologia Britannica xxxv+152 pp. Longman, Hurst, Rees, Orme, and Brown, London.

Horikawa, Y. 1934a. Symbolae Florae Bryophytae Orientali-Asiae I. The Botanical Magazine, Tokyo 48(571):452-462.

Horikawa, Y. 1934b. Symbolae Florae Bryophytae Orientali-Asiae II. The Botanical Magazine, Tokyo 48(573):599-609.

Horikawa, Y. 1935a. Symbolae Florae Bryophytae Orientali-Asiae IV. The Botanical Magazine, Tokyo 49(578):50-59.

Horikawa, Y. 1935b. Symbolae Florae Bryophytae Orientali-Asiae V. The Botanical Magazine, Tokyo 49(580):211-221.

Horikawa, Y. 1935c. Contributions to the Bryological Flora of Eastern Asia (II). The Journal of Japanese Botany 11(7):499-508.

Horikawa, Y. 1935d. Contributions to the Bryological Flora of Eastern Asia (III). The Journal of Japanese Botany 11(11):761-767.

Horikawa, Y. 1936a. Contributions to the Bryological Flora of Eastern Asia (IV). The Journal of Japanese Botany 12(1):19-27.

Horikawa, Y. 1936b. Contributions to the Bryological Flora of Eastern Asia (V). The Journal of Japanese Botany 12(9):666-673.

Horikawa, Y. 1936c. Symbolae Florae Bryophytae Orientali-Asiae et Micronesiae. VIII. Botanical Magazine (Tokyo) 50(592):201-206.

Horikawa, Y. 1936d. Symbolae Florae Bryophytae Orientali-Asiae et Micronesiae. IX. Botanical Magazine (Tokyo) 50(595):380-385.

Horikawa, Y. 1936e. Symbolae Florae Bryophytae Orientali-Asiae et Micronesiae. X. Botanical Magazine (Tokyo) 50(598):556-561.

Horikawa, Y. 1939. Contributions to the Bryological Flora of Eastern Asia (VI). The Journal of Japanese Botany 15(6):359-368.

Hwang, H.J. 1991. Joseon Sporic Plants vol. 9, Bryophytes 2. Science Encyclopedia Press, Pyeongyan, 391pp.

Iisiba, E. 1932. Classification of Mosses of Japan. Nishigahara Kankokai. Tokyo (in Japanese).

Iwatsuki, Z. 1963. Bryological miscellanies XII-XIII. XII. Preliminary Notes on the Japanies Species of *Taxiphyllum* and its Related Genera. Journal of Hattori Botnical Laboratory 26:63-74.

Kabiersch, W. 1937. Studien über die ostasiatischen Arten einiger Laubmoosfamilien II (Rhizogoniaceae, Bartramiaceae, Aulacomniaceae, Meeseaceae). Hedwigia 77:71-136.

Kashimura, I. 1939. General Enumeration of Mosses from Korea. Journal of Chosen Natural History Society 26:7-19.

Kashimura, I. 1940. General Enumeration of Mosses from Korea. (II). Journal of Chosen Natural History Society 30:60-71.

Kim, J.-H., J.-H. An, B.-Y. Lee and J.-S. Kim. 2019. Bryophyte flora of algific slopes in the Korean Peninsula. Korean Journal of Environmental Biology 37(4):508-525.

Kim, W.H. and T. Yamaguchi. 2017. *Filibryum* (Hypnaceae), a new moss genus with a new species from East Asia. Journal of Bryology 39(2):152-160.

Kwon, W., Y. Kim and J. Park. 2019. A new record of Fissidens protonemaecola Sakurai (Fissidentaceae, Bryophyta) in Korea. Korean Journal of Plant Taxonomy 49(3):265-268.

Lai, M.J., K.W. Park and K. Cho. 2007. New Reports of Bryophytes from Korea. Journal of the National Taiwan Museum 60(1):63-66.

Lee, J.-Y. and B.-H. Choi. 2012. A history of bryological studies on the Korean Peninsula. Korean Journal of Plant Taxonomy 42(2):109-115.

Li, X.-J., M.R. Corsby and S. He. 2001. Fissidentaceae-Ptychomitriaceae. 2. viii+283pp. In Moss Flora of China. Science Press & Missouri Botanical Garden, Beijing, New York & S. Louis.

Nakai, T. 1917[1918]. Report on the Vegetation of Diamond Mountains, Corea. The Government of Chosen. pp. 190-204.

National Institutue of Biological Resources. 2019. National Sepcies list of Korea. I Plants, Fungi, Algae, Prokaryotes. Designzip. 924pp.

Noguchi, A. 1939. Notes on Japanese Musci (3). Journal of Japanese Botany 15:20-32.

Noguchi, A. 1954. Notes on Japanese Musci (16). Journal of Japanese Botany 29(3):83-86.

Okamura, S. 1915. Contributions novae ad Floram Bryophyton Japonicam. The Journal of the College of Science, Imperial University of Tokyo XXXVI, Art. 7.

Okamura, S. 1916. Contributions novae ad Floram Bryophyton Japonicam. The Journal of the College of Science, Imperial University of Tokyo XXXVIII, Art. 4.

Osada, T. 1958. An Additional List of Mosses From North Korea. Journal of Hattori Botanical Laboratory 19:60-66.

Park, M.K. and W.S. Hong. 1959. Investigation Report on Plant Communities of Mt. Sulak. The Korean Journal of Botany 2(2):1-21.

Park, K.-W. 1997. A study on the Musci flora of Mt. Baekdu. Journal of Korean Biota 2:165-181.

Park, S.J., B.-Y. Sun and S.S. Choi. 2019. *Brachydontium olympicum* (E.Britton) T.T.Mclntosh and J.R.Spence (Ptychomitriaceae), a newly recorded species for the Korean moss flora. Korean Journal of Plant Taxonomy 49(4):371-373.

Reimers, H. 1930. Ein Beitrag zur Moos Flora von Korea. Hedwgia 70:359-372.

Saito, T. 1938. A list of mosses from Kankyohokudo Province. Journal of Chosen Natural History Society 23:36-42.

Sakurai, K. 1935a. Beobachtungen über Japanische Moosflora VII. Botanical Magazine (Tokyo) 49(579):126-143.

Sakurai, K. 1935b Beobachtungen über Japanische Moosflora IX. Botanical Magazine (Tokyo) 49(587):765-772.

Sakurai, K. 1935c. Beobachtungen über Japanische Moosflora X. Botanical Magazine (Tokyo) 49(588):843-846.

Sakurai, K. 1937a. Beobachtungen über Japanische Moosflora XIVa. Botanical Magazine (Tokyo) 51(603):103-109.

Sakurai, K. 1937b. Beobachtungen über Japanische Moosflora XIVb. Botanical Magazine (Tokyo) 51(604):133-141.

Sakurai, K. 1937c. Beobachtungen über Japanische Moosflora XV. Botanical Magazine (Tokyo) 51(610):791-797.

Sakurai, K. 1941a. Beobachtungen über Japanische Moosflora XXIII. Botanical Magazine (Tokyo) 55(649):1-15.

Sakurai, K. 1941b. Beobachtungen über Japanische Moosflora XXV. Botanical Magazine (Tokyo) 55(660):531-536.

Sakurai, K. 1943. Beobachtungen über Japanische Moosflora XXVIII. Botanical Magazine (Tokyo) 57(681-682):345-351.

Sakurai, K. 1949. Studies on the Genus *Brotherella* (Musci) in Orient. Journal of Japanese Botany 24:133-139.

Sasaoka, H. 1933. A list of mosses from Korea. Journal of Chosen Natural History Society 16:23-33.

Song, J.S. 1987. New or Additional Bryophyte Records from Korea. The Journal of Phytogeography and Taxonomy 35(2):91-94.

Suzuki, T. 2015. Notes on *Trematodon flaccidisetus* Card. *Hattoria* 6:37-39.

Suzuki, T. and Z. Iwatsuki. 2012. Notes on Leucodontaceae (I) Gen. *Pterogonium* Sw. newly found in Japan. Hattoria 3:57-66.

Tanaka, A., H.-T. Im and H. Ikeda. 2001. Four mosses new to the Korean Peninsula found in a calcareous area of Kangwon-do, South Korea. Bryological Research 8(1): 23-24.

Thériot, I. 1930. Le genre Haplocladium en Asie et en Afrique. Annales de Cryptogamie Exotique 3:57-100.

Toyama, R. 1938. Senrui zakki. Acta Phytotaxonomica et Geobotanica 7:263-265 (in Japaneses).

Uno, K. and H. Takahasi. 1940. The List of Mosses in Mt. Chiisan. Botnical Magazine, Tokyo 54:29-32.

Yamaguchi, T. 1993. A revision of the genus *Leucobryum* (Musci) in Asia. Journal of Botanical Laboratory 73:1-123.

Yim, E.-Y., M.-O. Moon, B-Y. Sun and K. Nakanishi. 2013. Floristics of bryophytes in Dongbaek-dongsan at Seonheul Gotjawal. Korean Journal of Plant Taxonomy 43(4): 274-284.

Yoon, Y.J. and B.-Y. Sun. 2010. Four unrecorded moss species from the Korean flora. Korean Journal of Plant Taxonomy 40(3):186-191.

Yoon, Y.J., C.H. Kim, K.V. Gorobets and B.-Y. Sun. 2011a. Unrecorded moss species from Korean Flora II. Korean Journal of Plant Taxonomy 41(3):235-241.

Yoon, J.Y., C.H. Kim, K.V. Gorobets and B.-Y. Sun. 2011b. The moss flora of Mt. Deogyu in Korea. Korean Journal of Plant Taxonomy 41(3):287-297.

Yoon, Y.-J., M.-O. Moon and B.-Y. Sun. 2015a. Unrecorded moss species from Korean Flora III:Syrrhopodon

japonicus (Besch.) Broth. and Syrrhopodon armatus Mitt. Korean journal of Plant Taxonomy 45(3):262-265.

Yoon, Y.-J., B.C. Tan and B.-Y. Sun. 2015b. Seven new records of overlooked South Korean moss species. Hattoria 6:57-61.

Yoon, Y.-J., B.C. Tan, C.-H. Kim and B.-Y. Sun. 2015c. Ten new records of south Korean mosses. Arctoa 24:37-42.

Submitted: September 8, 2020
Revised: November 10, 2020
Accepted: November 10, 2020