



Mosses of the northern Russian Far East, an annotated check-list

Olga M. Afonina¹, Irina V. Czernyadjeva¹, Olga Yu. Pisarenko² & Vladimir E. Fedosov^{3,4*}

Olga M. Afonina¹
e-mail: stereodon@yandex.ru

Irina V. Czernyadjeva¹
e-mail: irinamosses@yandex.ru

Olga Yu. Pisarenko²
e-mail: o_pisarenko@mail.ru

Vladimir E. Fedosov^{3,4*}
e-mail: fedosov_v@mail.ru

¹ Botanical Institute RAS, St. Petersburg, Russia

² Central Siberian Botanical Garden SB RAS, Novosibirsk, Russia

³ Lomonosov Moscow State University, Faculty of Biology, Geobotany Dept., Moscow, Russia

⁴ Botanical Garden-Institute FEB RAS, Vladivostok, Russia

* corresponding author

Manuscript received: 06.07.2022

Review completed: 22.07.2022

Accepted for publication: 25.08.2022

Published online: 30.08.2022

ABSTRACT

The check-list of mosses of the northern part of the Russian Far East includes 730 species and 13 additional infraspecific taxa with references on their distribution in eleven floristic regions within Chukotka Autonomous district, Kamchatsky Territory, Magadan Province and northern part of Khabarovsk Territory. Number of taxa, reported from regions is following: Wrangel Island – 286, Chukotka, western part – 267, Chukotka, continental part – 272, Chukotka, southern part – 384, Chukotka, Beringian part – 434, Magadan Region – 435, Koryakia, northern part – 178, Khabarovsk Territory, northern part – 219, Koryakia, southern part – 152, Kamchatka – 572, Commander Islands – 336. List of species is accompanied with brief treatment of the area and history of its bryoflora exploration. Comments on species, which regional records are considered as doubtful or erroneous are provided along with lists of 45 taxa excluded from flora of whole area and synonyms widely used in recent literature.

Keywords: bryophytes, North Pacific, flora, biodiversity, rare species, bibliography

РЕЗЮМЕ

Афонина О.М., Чернядьева И.В., Писаренко О.Ю., Федосов В.Э. Мхи северной части российского Дальнего Востока: аннотированный список. Чек-лист включает 730 видов мхов и 13 внутривидовых таксонов со ссылками на опубликованные данные иногда гербарные материалы по одиннадцати флористическим районам в пределах Чукотского автономного округа, Камчатского края, Магаданской области и северной части Хабаровского края. Для отдельных регионов приводятся: остров Врангеля – 286, западная Чукотка – 267, континентальная Чукотка – 272, южная Чукотка – 384, Берингийский сектор Чукотки – 434, Магаданская область – 435, северная Корякия – 178, север Хабаровского края – 219, южная Корякия – 152, Камчатка – 572, Командорские острова – 336 видов и внутривидовых таксонов. Список сопровождается краткой характеристикой условий региона и очерком истории изучения его бриофлоры. Приводится список из 45 исключенных таксонов, комментарий к сомнительным и не подтвержденным образцами указаниям. Также приводится список широко употреблявшихся в литературе по региону синонимов..

Ключевые слова: мохообразные, Северная Пацифика, флора, биоразнообразие, редкие виды, библиография

INTRODUCTION

The area of the present Check-list

The northern part of the Russian Far East as it is considered here includes eleven floristic regions within Chukotka Autonomous District, Koryak Autonomous District, Kamchatka Territory, Magadan Region, and Khabarovsk Territory, covering the area of ca. 2 mln km². In considering these geographic units we follow Ignatov et al. (2017, 2018, 2020) (cf. Fig. 1).

Although formal boundaries of the area are largely traced along the administrative borders, this area represents consistent entity physiographically. Largely this is the territory influenced by the Pacific air masses with adjacent areas under contemporary continental climates on the eastern periphery of the Siberian High. Thus, the whole area represents northeastern edge of Eurasia not affected by Atlantic cyclonal activity. In the west, the territory is bordered administratively, but not so in the south. The southern

boundary of the discussed region crosses the Khabarovsk Territory; here Northern Far East is limited by Uda Gulf and by the boundary of the Amur River basin. Several important isolines occur here: 1400 MJ/sq m isoline of the annual radiation balance; 1000 isoline of air temperatures sum for a period with an average daily temperatures above 10°C and so on. Amur River basin is the northern limit of ranges of numerous cool temperate eastern species of vascular plants and bryophytes. Many authors accept the latitude of the Uda Bay as an important phytogeographic boundary (Bobrov et al. 1934, Lupinovich 1947, Sochava 1962, Ogureeva et al., 2015).

So, Northern Far East stretches from the 51st parallel in the Kamchatka Peninsula to nearly 72th one in Wrangel Island. The territory is very sparsely populated and has an extremely weakly developed road net; there are no railways here and auto-roads are very few, so most of the areas may be reached only by air. The latitudinal temperature gradient is added here by (1) cold continental climates established in

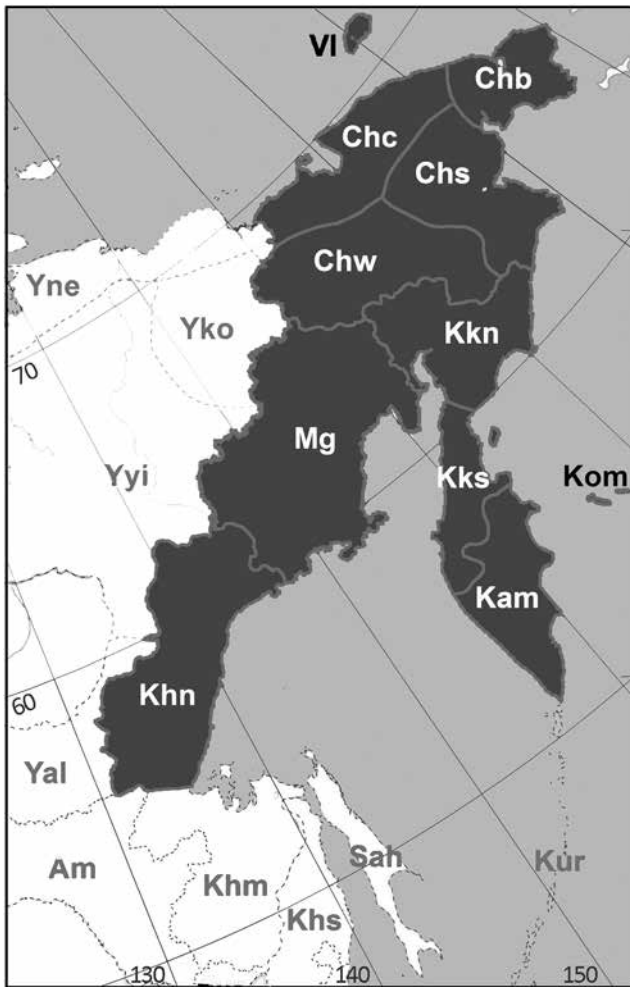


Figure 1 Regions of the Northern part of the Russian Far East (shaded) according to Ivanov et al. (2017): VI – Wrangel Island, Chw – Chukotka, western part, Chc – Chukotka, continental part, Chs – Chukotka, southern part, Chb – Chukotka, Beringian part, Mg – Magadan Region, Kkn – Koryakia, northern part, Khn – Khabarovsk Territory, northern part, Kks – Koryakia, southern part, Kam – Kamchatka, Kom – Commander Islands.

continental areas due to the permanent high-pressure conditions since late Miocene; (2) cooling influence of the Sea of Okhotsk, which affects coastal areas of the Northern part of the Khabarovsk Territory, Magadan Region, and the western part of Kamchatka Peninsula, and (3) cold Kuril (Oyashio) Current along Pacific coast of Chukotka and Kamchatka. In addition, due to the peculiarities of atmospheric circulation, which determines the cloud regime, the regions of the North of the Far East receive noticeably (up to 30 %) less solar heat, compared with the average data of the same latitudes of the central part of the continent. The radiation balance does not exceed 20 kcal/sq cm per year. As the result, the latitudinal temperature gradient is very small for such a vast latitudinal range.

The peculiarity of the water regime of the region is determined by the adjacency of excessively moist and xeric areas. Very strong moisture gradient often forms even on rather short distances between coastal and inland areas. In general, precipitation decreases from the south-east to the north-west, from the southern coast of Kamchatka to the basin of the middle course of the Kolyma, reaching a mi-

nimum in the intermountain depressions. Despite large difference in the amount of precipitation, the humidification index of the territory (the ratio of precipitation to possible evaporation) reveals a relatively small spatial variability. The predominant part of the North of the Far East belongs to excessively humid and humid zones.

Permafrost is distributed nearly throughout the area. The exception is the south of the Kamchatka and the coastal areas of the Sea of Okhotsk and Bering Sea, where permafrost occurs sporadically. Permafrost causes wide spectrum of cryogenic processes resulting in increase of the vegetation heterogeneity and abundant patches of bare ground where various pioneer mosses occur.

The relief of most of the territory is low- and medium-mountainous. Rock composition is mosaic and differs from range to range. High mountain ridges typically are composed of acidic rocks, but extensive outcrops of basic igneous rocks and calcareous sedimentary outcrops in several areas occur as well. High modern volcanic activity is a remarkable feature of the eastern edge of the area, especially of the Kamchatka Peninsula. Stratovolcanoes are especially characteristic of Kamchatka, among which the Klyuchevskaya Sopka volcano (4649 meters) is the highest peak of Asian Russia. Several volcanic areas, have high mountain relief with modern glaciation. In general, there are few modern glaciers, while snowfields are common. Apart of Kamchatka, there are glaciers in the Dzugdzhur Range, Chersky Mountain system (within Magadan Region), Kolyma Upland, and mountains of Chukotka. Volcanic activity has also resulted in wide distribution of pyroclastic rocks and volcanic ash deposits in the Eastern Kamchatka. Thermal springs and associated with them specific ecotopes occur throughout Kamchatka, and occasionally in Chukotka, although usually they are very local.

The vegetation cover of the area drastically differs from that of the southern part of the Russian Far East in composition and much younger age of its formation. Biomes of the area have originated after the late Miocene climate cooling and are characterized by a lack of Arcto-Tertiary elements. Although extensive shield glaciation has not appeared in North Asia during late Cenozoic climate cooling (Bol'shiyanov 2006), the areas with moister climate (especially Kamchatka Peninsula) have experienced extensive mountain-valley glaciation, which covered more than 2/3 of the peninsula (Davydovich 2006). At the same time, the inland sector of the North Far East underwent dramatic changes in landscapes and vegetation due to climate oscillation. During cryochrons characterized by cryo-xeric environments, it was covered by xerothermic tundra-steppe vegetation of Mega-Beringia, while during thermochrons with their warmer and moister conditions boreal forests have spread far northward and the northern limit of forest vegetation reached Arctic coastal line (for detailed discussion see Yurtsev 1981, 1986, Lozhkin 1997). Due to contact and floristic change with Siberian mountains and suite of endemic vascular plants North Far East was considered as a key area for current Arctic flora formation (Tolmachev & Yurtsev 1970).

Nowadays, due to a rather weak temperature gradient and montane relief, the latitudinal differentiation of the ve-

getation is also weak for such a huge latitudinal gradient. Three bioclimatic zones - tundra, forest-tundra, and taiga occur within the considered area. Boundaries of these bioclimatic zones within the area are remarkably shifted southwards comparing with their positions even in cold Siberia direction becoming meridional along coastline. Due to the harsh environmental conditions, relatively monotonous plant communities prevail over huge areas and altitude zonation of vegetation is rather simple. Most of the area is covered by hemiarctic and arctic communities, only limited areas of the northern part of the Khabarovsk Territory and the Kamchatsky Territory are covered by boreal forests dominated by *Picea ajanensis*. Northward forest vegetation is usually represented by *Betula lanata* and in Eastern Kamchatka also by *B. platyphylla*. In drier conditions, forest belt is largely composed of *Larix cajanderi* forests. *Duschekia fruticosa* shrubs occur from nearly sea level to the subalpine belt where they alternate with almost impassable bushes of *Pinus pumila* and *Alnus fruticosa*. Along watercourses, *Chosenia* and *Populus* stands are intermingled with Salicaceae shrubs and forb communities. Areas under hyperoceanic climate are forestless due to extremely strong winds. They are occupied by meadows and dwarf-shrub dominated heaths. Various tundra-like communities also occupy the alpine belt throughout the area; northward they gradually become a dominating type of watershed vegetation. In Chukotka and Wrangel Island, all latitudinal divisions of the tundra zonal vegetation are represented. In the xeric continental areas and in the areas where calcareous rocks outcrop relic tundra-steppe communities characteristic for huge areas of Mega-Beringia in Pleistocene occur.

History of bryological exploration

First data about the moss flora of the Northern Far East appeared in the early 19th century for Chukotka (**VI, Chw, Chc, Chs, Chb** – here and further as it accepted in the Moss flora of Russia project, <http://arctoa.ru/Flora/regions.php>) and Kamchatka (**Kam**); these areas have the richest history of the bryophyte flora exploration and at the moment remain the best studied, while bryophyte data existing for other regions can only be considered as preliminary. First data about mosses of Chukotka are provided by I.A. Weinmann (1845). Later, in 1883 C. Müller published the list of mosses for the Chukotka Peninsula including 75 species based on the results of processing the collection made by brothers Aurel and Arthur Krause (Müller 1883). From this list, 29 species were described by the author as new for science. However, the subsequent revision of the type collections shows that most of these new species should be attributed to already existed ones (Schultze-Motel 1968, Abramova & Abramov 1980). In 1818, H.W. Arnell published the treatment of mosses collected by F.R. Kjellman during the expedition on the ship “Vega”, which explored the northern shores of Siberia and Chukotka. For Chukotka Arnell listed 96 moss species (Arnell 1818). Some data on mosses of Chukotka appear in an unfinished treatment “Flora Asiatic Russia” (Brotherus 1914, 1918, 1932). An important contribution to the study of the mosses of Chukotka was made by geobotanists,

thanks to their collections data on the distribution of moss species from many hard-to-reach areas were obtained and published (Soczawa 1930, Tyulina 1936, Abramova 1956, Smirnova 1959). In 1934 and 1938, B.N. Gorodkov carried out soil-botanical research in Chukotka and Wrangel Island (respectively). Based on his own collections he published the list of mosses for Chukotka including 98 species and for the first time he published the list of mosses for Wrangel Island including 100 species (Gorodkov 1939, 1958). Data about mosses of Chukotka from Weinmann (1845), Müller (1883), Arnell (1818), Brotherus (1914, 1918, 1932), Gorodkov (1939), were summarized by A.S. Lazarenko in a summary of the mosses of the Far East (Lazarenko 1940, 1941a, 1941b, 1945). Regular bryofloristic exploration of the region has started in 1969, by O.M. Afonina. Extensive collections of bryophytes collected by Afonina during 16 field seasons served as a background for numerous papers and monograph “Moss flora of Chukotka” (Afonina 2004), which summarized all the previously existing data about moss flora of the Chukotka Autonomous District (467 species).

The first information about the mosses of Kamchatka was published by G. Wahlenberg (1811), S. Bridel-Brideri (1826), W.J. Hooker & G.A.W. Arnott (1841). In 1908–1909 a large collection of mosses was made by V.P. Savich, who took part in the F.P. Ryabushinsky’ expedition to Kamchatka. The specimens of mosses were determined and published by L.I. Savich-Lyubitskaya (1932, 1934). In 1920–1922 the Swedish expedition worked in Kamchatka. Mosses were collected by E. Hultén and R. Malaise and further partly identified and published by I. Melin (1924) and H. Möller (1927). Later, G. Persson (1970) processed the unstudied Malaise’s collection and revised the specimens identified by Möller. In 1935–1936 the Complex Kamchatka Expedition of the Academy of Sciences of the USSR (AS USSR) yielded moss collections, identified by Lazarenko. He combined all the known data on the mosses of the Kamchatka and included them in his summary of the mosses of the Far East (Lazarenko 1940, 1941a, 1941b, 1945). In 1981 and 1990 collections of mosses from bogs of Kamchatka were made by M.S. Boch; they were identified by E.O. Kuzmina (Boch & Kuzmina 1991), and G.V. Vyunova (1991). The first professional bryologist who collected mosses in Kamchatka and published results of their identifications was V.Ya. Cherdantseva (Cherdantseva 1978, 1989, 2003, Cherdantseva & Osipov 1998). In 2006, 2010 and 2011 V.E. Fedosov carried out bryofloristic research in Kamchatka and published the list of mosses for Sredinnyj Range (Fedosov 2010). In 2010 and 2011 E.Yu. Kuzmina worked in Kronotsky Reserve and published some preliminary data (Kuzmina 2010, 2011). In 1990, 2001–2007 I.V. Czernyadjeva conducted systematic bryofloristic exploration on Kamchatka. As a result of the identification of large collections, revision of the herbarium materials, taking into account all the literature data, annotated check-list of mosses of Kamchatka, which included 530 species was published (Czernyadjeva 2012). Since that time few new records were later published by Fedosov (Sofronova et al. 2016) and M.N. Kozhin (Sofronova et al. 2020).

The territory of Koryakia (**Kkn**) (at present, the northern part of the Kamchatka Territory) remained nearly

unexplored for bryophytes until Cherdantseva (1978) published a list of 66 species, collected during the expedition of the Institute of Biology and Soil Sciences FEB of the AS USSR in 1974–1976. The next contribution to the knowledge of bryophyte flora Koryakia was made by E.Yu. Kuzmina, who took part in the expeditions of the Komarov Botanical Institute in 2012, 2014 and 2019–2021. Unfortunately collections were identified partly and only preliminary results were published (Kuzmina et al. 2012, 2020).

Active bryofloristic exploration of the Magadan Region (**Mg**) was started in the mid 1970s of the last century by L.S. Blagodatskikh. Previously, brief information about the mosses of this region was given in few works (Zerov & Lazarenko 1931, Lazarenko 1940, 1941a, 1941b, 1945). The results of many years of L.S. Blagodatskikh work, including the treating of collections made by her colleagues at the Institute of Biological Problems of the North (Magadan), were summarized in a monograph “Mosses of the Kolyma Upland” (Blagodatskikh 1984). Later, O.A. Mochalova collected mosses along with her main work, the emphasis was on aquatic inhabitants (Chemeris & Mochalova 2015). Between 2010 and 2014, V.A. Bakalin organized several expeditions to explore the bryoflora of the Magadan Region. Thanks to his efforts, collections made by him, and also by E.V. Malashkina (2011) and A.V. Ermolenko (2012, 2013) under his supervision were obtained from a number of hard-to-reach sites. These collections were proceeded by V.Ya. Cherdantseva, who, revealed several new moss records for the region (Cherdantseva & Bakalin 2011, Malashkina 2012). During the summer of 2014, O.Yu. Pisarenko undertook fieldwork in Bolshoj Annachag Ridge and Olskoye Basalt Plateau areas. She processed her and backlog collections and reviewed previous data, resulting in an updated checklist of 364 species (Pisarenko & Bakalin 2018). Currently, E.F. Vilks (Kuznetsova) under supervision of O.M. Afonina (Kuznetsova & Afonina 2019; Vilks & Afonina 2020, 2021) continues exploration of the Magadan Region moss flora.

Until recently, moss flora of the Commander Islands has remained rather poorly explored. First data about the moss of the Bering Island was published by H.W. Arnell (1917), who studied specimens collected by “Vega Expedition”; the list included 22 species. In 2002 and 2004 Bering and Medny Islands were explored by V.A. Bakalin, who along with liverworts collected mosses, subsequently identified by V.Ya. Cherdantseva (Bakalin & Cherdantseva 2006, 2008). They recorded 23 moss species for Bering Island and 92 for Medny Island. In 2010, V.E. Fedosov conducted field work in the Bering Island. As a result of processing the gathered collection and also two small collections gathered by E.O. Ponomareva, T.O. Yanitskaja and O.A. Mochalova, 312 moss species were identified for the island (Fedosov et al. 2012).

The composition of the bryophyte flora of the northern part of Khabarovsk Territory (**Kh**) until recently remained likely the least known among all regions considered by this treatment. For several species, localities of the western Okhotsk coast are mentioned by A.S. Lazarenko (1940, 1941ab, 1944). In the monograph on Magadan, there were some records for the surroundings of the Okhotsk

Settlement (Blagodatskikh 1984). In 2008, V.A. Bakalin participated in the complex expedition of the Institute of Biology and Soil Science (Vladivostok) in the Lanchinskiy Gory (Okhotia) Mountains. In addition to liverworts, he assembled a collection of mosses; V.Ya. Cherdantseva treated the collection and listed 111 moss species for the key plot (Omelko et al. 2010). In 2019 V.A. Bakalin and K.G. Klimova collected bryophytes in the Ayan Settlement surroundings and Ayansky State Reserve; Ignatova et al. (2021) published results of identification of this collection where 164 moss species were found.

The present check-list complements an annotated check-list of mosses of Southern Far East, published by Cherdantseva et al. (2017). It summarises data on taxa reported up to date from the northern part of Russian Far East, partially revisited in course of preparation of “The Moss Flora of Russia”, led by M.S. Ignatov and E.A. Ignatova and specially focused revisions of collections from the area.

CHECK-LIST

The check-list includes 730 species and 13 infraspecific taxa with references on their distribution within eleven floristic regions according to subdivisions accepted in the “Moss flora Russia” (Ignatov et al. 2017, 2018, 2020, 2022). The nomenclature follows mostly “Check-list of mosses of East Europe and North Asia” (Ignatov et al. 2006) with additions accepted in “Moss flora of Russia” and in “An annotated checklist of bryophytes of Europe, Macaronesia and Cyprus” (Hodgetts et al. 2020), and also took into account the recent taxonomic treatments of some groups of mosses, providing amended data on species names and distribution. Citations just after the genus names address to publications on taxonomic concepts accepted in the present account. Species names are followed by the widespread synonyms in cases of recent amendments in taxonomy, then the region abbreviations (cf. Fig. 1) are given with respective references in brackets. Older references for **VI**, **Chw**, **Chc**, **Chs** and **Chb** summarized by [5] and for **Kam** summarized by [41] are mostly not listed. Since the volume [94] was not published at the moment of the present paper submission, we refer to it only in cases when no other suitable references existed. In some cases, mostly for the species rare in the region, unpublished data of the authors of the present paper are also accounted, referring to herbaria where the specimens are deposited. If particular specimen(s) or record(s) are assigned only to the species identified with “cf.” mark it is placed prior to the region abbreviation. For species, which identity in the region remains insufficiently known, “cf.” mark is placed prior to the species name. Comments on the on the doubtful records in some regions or records not supported by specimen(s) in herbarium are provided; species, followed by such comments are marked with (!). The regions, where the distribution of the species is known from literature that we have not been able to verify, are given in italics. Regions where species presence was not proved by the preliminary results of the ongoing revisions are provided with the “?” mark before the region abbreviation. After the list of taxa

that are confirmed and comments to it, we place the list of excluded taxa with corresponding explanations and the list of synonyms.

Abietinella Müll. Hal. [127] [Leskeaceae]

– *abietina* (Hedw.) M. Fleisch.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 132], **Khn** [17, 111, 120, 132], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].

Aloina Kindb. [Pottiaceae]

– *brevirostris* (Hook. & Grev.) Kindb.: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Kom** [54, 67, 120].

– *rigida* (Hedw.) Limpr.: **Mg** [120, 161].

Amblyodon P. Beauv. [Meesiaceae]

– *dealbatus* (Hedw.) P. Beauv.: **Chb** [5, 97, 120, 164].

Amblystegium Schimp. [Amblystegiaceae]

– *serpens* (Hedw.) Schimp.: **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [132], **Khn** [156], **Kam** [41, 120], **Kom** [13, 67, 120].

Amphidium Schimp. [Amphidiaceae]

– *asiaticum* Sim-Sim, Afonina & M. Stech: **Mg** [195, 196].

– *lapponicum* (Hedw.) Schimp.: **Chw** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Khn** [111], **Kam** [41, 120], **Kom** [13, 67, 120].

– *mougeotii* (Bruch & Schimp.) Schimp.: **VI** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 161], **Kam** [66, 120].

Anacamptodon Brid. [Amblystegiaceae]

– *kamchaticus* Czernyadjeva: **Kam** [40, 41, 120].

– *latidens* (Besch.) Broth.: **Kam** [40, 41, 120].

Andreaea Hedw. [Andreaeaceae]

– *alpestris* (Thed.) Schimp.: **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Kam** [41, 120], **Kom** [67, 120].

– *alpina* Hedw. (*A. obovata* Thed.): **Chw** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161, 178], **Khn** [111, 120] – (!).

– *blyttii* Schimp.: **VI** [5, 120], **Chw** [5], **Chb** [5, 120], **Mg** [120, 161, 165, 178], **Kam** [120].

– *nivalis* Hook.: **Mg** [120, 161, 165, 178], **Kks** [14], **Kam** [41, 120].

– *rupestris* Hedw. var. *rupestris*: **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [17, 111, 120, 156], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].

– *rupestris* Hedw. var. *papillosa* (Lindb.) Podp.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, NSK], **Kks** [41], **Kam** [41, 120], **Kom** [13].

– *rupestris* var. *sparsifolia* (J.E. Zetterst.) Sharp: **Chw** [5, 120], **Chc** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [196], **Kam** [41, 120].

Anoetangium Schwägr. [Pottiaceae]

– *thomsonii* Mitt.: **Khn** [111].

Anomobryum Schimp. [Bryaceae]

– *concinatum* (Spruce) Lindb.: **Chw** [42, 97], **Chc** [97, 120], **Chs** [42, 97, 120], **Chb** [42, 120], **Khn** [111], **Kam** [42, 97, 120], **Kom** [13, 120].

– *nitidum* (Mitt.) A. Jaeger: **Kom** [97].

Anomodon Hook. & Taylor [Anomodontaceae] see also *Anomodontella*, *Anomodontopsis*

– *minor* (Hedw.) Fűrnr.: **Kam** [41, 96, 120].

Anomodontella Ignatov & Fedosov [90] [Anomodontaceae]

– *longifolia* (Schleich. ex Brid.) Ignatov & Fedosov (*Anomodon longifolius* (Brid.) Hartm.): **Kam** [41, 96, 120], **Kom** [67, 96, 120].

Anomodontopsis Ignatov & Fedosov [90] [Anomodontaceae]

– *rugelii* (Müll. Hal.) Ignatov & Fedosov (*Anomodon rugelii* (Müll. Hal.) Keissl.): **Kam** [96].

Aongstroemia Schimp. [21] [Aongstroemiaceae]

– *longipes* (Sommerf.) Bruch & Schimp.: **VI** [5, 50], **Chc** [5, 50], **Chs** [5], **Chb** [5, 50], **Kam** [41, 50, 120].

Aplodon R. Br. [Splachnaceae]

– *wormskjoldii* (Hornem.) R. Br.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97], **Kam** [97, 120].

Aquilonium Hedenäs, Schlesak, D. Quandt [170] [Pylaisiaceae]

– *adscendens* (Lindb.) Hedenäs, Schlesak & D. Quandt (*Herzogiella adscendens* (Lindb.) Z. Iwats. & W.B. Schofield): **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [17], **Kam** [41, 120], **Kom** [13, 67, 120].

– *plicatulum* (Lindb.) Hedenäs, Schlesak & D. Quandt (*Stereodon plicatulus* Lindb.): **Chw** [4, 5, 120], **Chc** [4, 5, 120], **Chs** [4, 5, 120], **Chb** [4, 5, 120], **Mg** [4, 17, 120, 160, 161], **Kkn** [130, 132], **Khn** [111, 120, 156], **Kks** [4, 14], **Kam** [4, 41, 120], **Kom** [41, 67, 120].

Arctoa Bruch & Schimp. [63] [Rhabdoweisiaceae]

– *anderssonii* Wich.: **Kam** [41, 120].

– *blyttii* (Bruch & Schimp.) Loeske. (*Kiaeria blyttii* (Bruch & Schimp.) Broth.): **Chs** [5], **Chb** [5], **Mg** [17, 120, 161], **Kam** [41, 120], **Kom** [67, 120].

– *fulvella* (Dicks.) Bruch & Schimp.: **VI** [53], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [111, 120], **Kks** [14], **Kam** [41, 120], **Kom** [13, 55, 67, 120].

– *glacialis* (Berggr.) Fedosov, Jan Kučera & M. Stech (*Kiaeria glacialis* (Berggr.) I. Hagen): **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].

– *hyperborea* (Gunnerus ex Dicks.) Bruch & Schimp.: **Chb** [LE].

– *starkei* (F. Weber & D. Mohr) Loeske (*Kiaeria starkei* (F. Weber & D. Mohr) I. Hagen): **VI** [5], **Chb** [5, 120], **Kam** [41, 120], **Kom** [13, 67, 120].

Atrichum P. Beauv. [Polytrichaceae]

– *tenellum* (Röhl.) Bruch & Schimp.: **Kkn** [129], **Kam** [41, 95, 120].

– *undulatum* (Hedw.) P. Beauv.: **Kam** [120, 180].

Aulacomnium Schwägr. [Aulacomniaceae]

– *acuminatum* (Lindb. & Arnell) Kindb.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161, 178], **Khn** [137].

– *palustre* (Hedw.) Schwägr.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 161, 120], **Kkn** [28, 97, 129, 132, 133], **Khn** [111, 156, 120], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].

– *turgidum* (Wahlenb.) Schwägr.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kkn** [28, 97, 129, 132], **Khn** [17, 111, 120, 156], **Kks** [41, 97], **Kam** [41, 55, 97, 120], **Kom** [13, 67, 97, 120].

Barbula Hedw. [Pottiaceae] see also *Streblotrichum*

– *unguiculata* Hedw.: **Kam** [41, 120], **Kom** [67, 120].

Bartramia Hedw. [Bartramiaceae]

– *deciduiifolia* Broth. & Yasuda: **Khn** [111, 120].

– *ibiphylla* Brid.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kkn** [129], **Khn** [17, 156], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].

– *pomiformis* Hedw.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kam** [41, 97, 120], **Kom** [67, 97, 120].

Bartramiaopsis Kindb. [Polytrichaceae]

– *lescurii* (James) Kindb.: **Mg** [17, 18, 95, 161, 165], **Kkn** [95], **Khn** [111, 120, 156], **Kam** [41, 95, 120], **Kom** [67, 95, 120].

Blindia Bruch & Schimp. [Seligeriaceae]

– *acuta* (Hedw.) Bruch & Schimp.: **VI** [5, 95, 120], **Chw** [5, 95], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 178, 195], **Kam** [41, 95, 120].

Blindiadelphus (Lindb.) Fedosov & Ignatov [62] [Seligeriaceae]

– *diversifolia* (Lindb.) Fedosov & Ignatov (*Seligeria diversifolia* Lindb.): **Mg** [95, 161], **Khn** [95, 111], **Kam** [95], **Kom** [95].

– *polaris* (Berggr.) Fedosov & Ignatov (*Seligeria polaris* Berggr.): **VI** [5, 95, 120], **Chb** [5, 95, 120].

Brachydontium Fűrnr. [60] [Ptychomitriaceae]

– *trichodes* (F. Weber) Fűrnr.: **Kam** [17, 41, 95, 120].

Brachymenium Schwägr. [Bryaceae]

– *nepalense* Hook.: **Kom** [67, 97, 120].

Brachytheciastrum Ignatov & Huttunen [Brachytheciaceae]

– *collinum* (Schleich. ex Muell. Hal.) Ignatov & Huttunen: **VI** [53], **Kam** [41, 120].

– *trachypodium* (Brid.) Ignatov & Huttunen: **VI** [96], **Chw** [96],

- Chc [96], Chs [96], Chb [96], Mg [17, 96, 120, 161], Kam [41, 96, 120], Kom [67, 96, 120].
- Brachythecium** Schimp. [Brachytheciaceae]
- *albicans* (Hedw.) Schimp.: Chs [120], Chb [96, 120], Mg [187], Kam [41, 96, 120], Kom [13, 67, 120].
 - *auriculatum* Lindb.: Kam [120].
 - *baicalense* Ignatov: Khn [111, 120], Kam [184].
 - *boreale* Ignatov: VI [LE, 120], Chw [120], Chc [120], Chs [96, 102, 120], Chb [96, 102, 120], Mg [120, 161], Kam [41, 96, 120].
 - *buchananii* (Hook.) A. Jaeger: Kkn [133], Kam [41, 96, 120].
 - *cirrosum* (Schwägr.) Schimp.: VI [96, 120], Chw [96, 120], Chc [96], Chs [96, 120], Chb [96, 120], Mg [17, 96, 120, 161], Khn [111, 120], Kam [41, 96, 120], Kom [67, 96, 120].
 - *daburicum* Ignatov: Mg [196].
 - *erythrorrhizon* Schimp.: VI [5], Chw [5, 120], Chs [5, 120], Chb [5, 120], Mg [18, 196], Khn [111, 120, 133], Kam [41, 96, 120].
 - *frigidum* (Müll. Hal.) Besch.: Kom [13, 31, 67, 96, 120].
 - *hultenii* (E.B. Bartram) Min Lin & Y.F. Wang: Kam [41, 96, 120], Kom [13, 67, 96, 120].
 - *irinae* Ignatov: Chs [96, 100, 120], Kks [41, 100], Kam [41, 96, 100, 120], Kom [67, 120].
 - *jacuticum* Ignatov: VI [96, 100, 120], Chc [96, 100, 120], Chs [97, 100, 120], Chb [96, 100, 120], Mg [96, 100, 120, 161], Kam [41, 96, 100, 120].
 - *mildanum* (Schimp.) Schimp.: VI [5, 120], Chb [5, 120], Mg [96, 100, 120, 161], Kkn [129], Khn [138], Kam [41, 96, 120].
 - *noesicum* Besch.: Kam [120].
 - *rivulare* Schimp.: Mg [17, 96, 120, 161], Kkn [133], Kam [41, 96, 120], Kom [13, 67, 120].
 - *rotaeaanum* De Not.: Chb [120], Mg [96, 120], Kkn [132], Khn [111, 120], Kam [41, 96, 120, 184], Kom cf. [120, 67].
 - *rutabulum* (Hedw.) Schimp.: Mg [120], Kam [96, 120].
 - *salebrosum* (F. Weber & D. Mohr) Schimp.: Kkn [28, 129], Kks [41], Kam [41, 96, 120], Kom [67, 120] – (!).
 - *tauriscorum* Molendo & Lorentz (*B. coruscum* I. Hagen): VI [96, 120], Chw [120], Chs [96, 120], Chb [96, 120], Khn [111], Kom [96, 120].
 - *turgidum* (Hartm.) Kindb.: VI [96, 120], Chb [5, 120], Chc [96, 120], Chs [96, 120], Chb [96, 120], Mg [96, 120, 161, 178], Kam [41, 96, 120].
 - *udum* I. Hagen: VI [5, 120], Chw [120], Chc [120], Chs [120], Chb [5, 96, 120], Mg [96, 120, 161], Kam [41, 96, 120], Kom [13, 67, 120].
- Breidleria* Loeske – see **Streodon**
- Brideliella** Fedosov, M. Stech & Ignatov [63] [Rhabdoweisiaceae]
- (!).
 - *demetrii* (Renauld & Cardot) Fedosov, M. Stech & Ignatov (*Oncophorus demetrii* (Renauld & Cardot) Hedenäs): VI [LE], Chc [LE], Chs [184, LE], Chb [LE], Mg [43, LE], Kam [LE].
 - *wahlenbergii* (Brid.) Fedosov, M. Stech & Ignatov (*Oncophorus wahlenbergii* Brid.): VI [LE], Chw [LE], Chs [LE], Chb [LE], Mg [LE], Kkn [28, LE], Kam [LE], Kks [LE], Kom [LE].
- Bryobrittonia** Williams [Encalyptaceae]
- *longipes* (Mitt.) D.G. Horton: VI [5, 120], Chb [5, 95, 120].
- Bryoerythrophyllum** P.C. Chen [Pottiaceae]
- *alpigenum* (Venturi) P.C. Chen: Chb [5, 24, 150] – (!).
 - *brachystegium* (Besch.) K. Saito: Kom [67, 120].
 - *ferruginascens* (Stirt.) Giacom: VI [5, 120], Chc [5], Mg [18, 195], Kam [41, 64, 120], Kom [67, 120].
 - *rubrum* (Jur.) P.C. Chen: VI [3, 5, 64, 76, 169] – (!).
 - *recurvirostrum* (Hedw.) P.C. Chen: VI [5, 120], Chw [5, 120], Chc [5, 120], Chs [5, 64, 120], Chb [5, 120], Mg [17, 64, 120, 161], Kkn [132], Khn [111], Kam [41, 64, 120], Kom [67, 120].
- Broxiphium** Mitt. [Broxophiaceae]
- *norvegicum* (Brid.) Mitt.: Chs [5, 58, 95, 120], Chb [5, 58, 95, 120, 164], Mg [32, 58, 95, 120, 161, 165], Kam [55, 95, 120], Kom [67, 95, 120].
- Bryum** Hedw. [Bryaceae]
- *algovicum* Sendtn. ex Müll. Hal.: VI [5, 76, 97, 120], Chb [97, 120], Mg [120, 161], Kam [41, 97, 120], Kom [67, 97, 120].
 - *alpinum* J. Huds. ex With.: Kam [41, 97, 120].
 - *altaicum* Broth.: Chb [97, 120, 178], Kks [41], Kam [41, 97, 120].
 - *amblyodon* Müll. Hal.: VI [5, 150], Chw [5, 97, 120], Chc [972], Chs [5, 97, 120], Chb [5, 97, 120], Mg [120, 161], Khn [111, 120], Kam [41, 97, 120], Kom [13, 67, 97, 120].
 - *archangelicum* Bruch & Schimp.: Chb [97, 120, 178], Mg [120, 161], Kam [41, 97, 120], Kom [67, 97, 120].
 - *arcticum* (R. Br.) Bruch & Schimp.: VI [5, 97, 120], Chc [5, 97, 120], Chs [5, 97], Chb [5, 97, 120], Kam [41, 97, 120].
 - *argenteum* Hedw.: VI [5, 97, 120], Chc [5, 97, 120], Chw [5, 120], Chs [5, 97, 120], Chb [5, 97, 120], Mg [17, 120, 161], Kkn [129], Khn [111, 120], Kks [58], Kam [41, 97, 120], Kom [67, 97, 120].
 - *axel-blyttii* H. Philib.: Chb [97, 120, 178].
 - *bimum* (Schreb.) Turner: Mg [161], Kam [41, 97, 120].
 - *caespiticium* Hedw.: Chc [5, 97, 120], Mg [17, 120, 161], Kkn [28], Khn [111], Kam [41, 97, 120].
 - *calophyllum* R. Br.: VI [5, 97, 120], Chb [5, 97, 120].
 - *capillare* Hedw.: Chc [5, 97, 120], Chs [5, 97, 120], Chb [97, 120], Mg [18], Kam [41, 97, 120], Kom [13, 120].
 - *creberrimum* Taylor: Chw [97, 120], Chc [97], Chs [97], Chb [5, 12, 120], Mg [120], Khn [111, 120], Kam [41, 97, 120], Kom [13, 67, 120].
 - *cryophilum* Mårtensson: VI [5, 97], Chw [5, 97, 120], Chc [97], Chs [5, 97, 120], Chb [5, 97, 120], Mg [17, 97, 120, 161], Kam [41, 97, 120].
 - *cyclophyllum* (Schwägr.) Bruch & Schimp.: VI [97, 120, 178], Chc [97, 120, 178], Chs [97, 120], Chb [97, 120], Mg [120, 161], Kam [41, 97, 120].
 - *dichotomum* Hedw.: Kam [41, 97, 120].
 - *elegans* Nees: Chc [5, 97], Chs [5, 97, 120], Chb [5, 97, 120], Kam [41, 97, 120], Kom [13, 67, 97, 120].
 - *funkii* Schwägr.: Mg [120], Kam [41, 97, 120].
 - *intermedium* (Brid.) Blandow: VI [120, LE], Chc [97], Chs [97, 120], Chb [120, LE], Mg [120, 161], Kam [41, 97, 120], Kom [67, 120].
 - *knowltonii* Barnes: Chc [97], Chs [97, 120], Chb [120, 178], Mg [120, 161], Kam [41, 97, 120], Kom [67, 120].
 - *kunzei* Hoppe & Hornsch.: Kam [41, 97, 120].
 - *lonchocaulon* Müll. Hal.: Chc [97], Chs [97, 120], Chb [97, 120, 178], Kam [41, 97, 120].
 - *longisetum* Blandow ex Schwägr.: Chb [97], Mg [120, 161].
 - *mirabile* Müll. Hal.: Chc [120, LE], Chs [120, LE], Chb [5, 97, 120].
 - *moravicum* Podp.: Chw [5, 120], Kam [41, 97, 120].
 - *muehlenbeckii* Bruch & Schimp.: Kam [41, 97, 120].
 - *neodamense* Itzigs.: VI [97], Chw [LE], Chc [97], Chs [5, 97], Chb [5, 97, 120], Kam [41, 67, 97, 120], Kom [67, 120].
 - *pallens* Sw. ex anon: Chs [97, 120], Kam [41, 97, 120], Kom [67, 120].
 - *pallescens* Scheich. ex Schwägr.: Chb [5, LE, 120], Kam [22, 33, 41] – (!).
 - *pseudotriquetrum* (Hedw.) P. Gaertn., B. Mey. & Scherb.: VI [5, LE, 120], Chw [5, 120], Chc [5, 97, 120], Chs [5, 97, 120], Chb [LE, 120], Mg [120, 161], Kkn [129, 132, 133], Khn [111, 120], Kks [41], Kam [41, 97, 120], Kom [67, 97, 120].
 - *purpurascens* (R. Br.) Bruch & Schimp.: Chc [5, 12], Chb [97, 120, LE].
 - *rutilans* Brid.: VI [5], Chw [5, 120, LE], Chc [5, 97, 120], Chs [5, 97, 120], Chb [5, 97, 120], Mg [18].
 - *salinum* I. Hagen ex Limpr.: Chb [120], Mg [120], Kam [41, 97, 120], Kom [67, 120].
 - *schleicherii* DC. var. *schleicherii*: Chb [LE, 120], Kam [55, 120].
 - *schleicherii* DC. var. *latifolium* (Schwägr.) Schimp.: Chb [97], Kam [41, 120], Kom [13, 67, 97, 120].
 - *teres* Lindb.: VI [5, 97, 120], Chc [97], Chs [5, 97, 120], Chb [5, 97, 120], Kom [67, 120].
 - *turbinatum* (Hedw.) Turner: Chc [97], Chs [97, 120], Chb [5, 97, 120], Kam [41, 97, 120].
 - *uliginosum* (Brid.) Bruch & Schimp.: Kam [41, 97, 120].
 - *violaceum* Crundw. & Nyholm: Kam [41, 97, 120].
 - *weigelii* Spreng.: Chs [5], Chb [5, 97, 120], Mg [17, 120, 161], Kkn [129], Kam [41, 97, 120], Kom [67, 97, 120].
 - *wrightii* Sull. & Lesq.: VI [5, 97, 120], Chw [97], Chc [97], Chs

- [5, 97, 120], **Chb** [5, 97, 120].
- Buckia** D. Ríos, M.T. Gallego & J. Guerra [27] [Pylaisiaceae]
- *vaucheri* (Lesq.) D. Ríos, M.T. Gallego & J. Guerra (*Stereodon vaucheri* (Lesq.) Lindb.): **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kh** [51, 120], **Kam** [41, 120].
- Bucklandiella** Roiv. [Grimmiaceae]
- *afoninae* (Frisvoll) Bedn.-Ochyra & Ochyra (*Racomitrium afoninae* Frisvoll): **VI** [95, 120, 164], **Chb** [5, 73, 95, 120, 164].
 - *laeta* (Besch. & Cardot) Bedn.-Ochyra & Ochyra: **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *macounii* (Kindb.) Bedn.-Ochyra & Ochyra subsp. *alpina* (E. Lawton) Bedn.-Ochyra & Ochyra: **Kom** [67, 95, 120].
 - *microcarpa* (Hedw.) Bedn.-Ochyra & Ochyra: **Chs** [95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 161], **Kh** [111, 120], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
 - *nitidula* (Cardot) Bedn.-Ochyra: **Kam** [41, 95, 120].
 - *sudetica* (Funck) Bedn.-Ochyra & Ochyra: **Chs** [5], **Chb** [5, 95, 120], **Mg** [95, 120, 161, 178], **Kkn** [95, 132, 181], **Kh** [111, 120], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *vulcanicola* (Frisvoll & Deguchi) Bedn.-Ochyra & Ochyra: **Kam** [41, 95, 120].
- Buxbaumia** Hedw. [Buxbaumiaceae]
- *aphylla* Hedw.: **Chb** [5, 95, 120, 164], **Mg** [17, 95, 120, 161], **Kam** [41, 95, 120].
- Callicladium** H.A. Crum [128] [Callicladiaceae]
- *baldaneanum* (Grev.) H.A. Crum: **Chb** [5, 12], **Kam** [41, 96, 120] – (!).
- Calliergon** (Sull.) Kindb. [Calliergonaceae]
- *cordifolium* (Hedw.) Kindb.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [129, 132], **Kh** [138, 156], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *giganteum* (Schimp.) Kindb. var. *giganteum*: **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [133], **Kh** [17], **Kam** [41, 120], **Kom** [67, 120].
 - *giganteum* (Schimp.) Kindb. var. *sibiricum* Ignatova & Czernyadjeva: **VI** [105, 120], **Chc** [105], **Chs** [105], **Chb** [105, 120], **Mg** [105, 120], **Kam** [105].
 - *megalophyllum* Mikot.: **Chc** [5], **Chs** [5, 120], **Mg** [120, 161], **Kks** [LÉ], **Kam** [41, 120], **Kom** [67, 120].
 - *richardsonii* (Mitt.) Kindb.: **VI** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kks** [14], **Kam** [41, 120, 178], **Kom** [13, 67, 120].
- Calliergonella** Loeske [Pylaisiaceae]
- *cuspidata* (Hedw.) Loeske: **Chb** [5, 120], **Mg** [17, 161], **Kam** [41, 120].
 - *lindbergii* (Mitt.) Hedenäs: **VI** [5, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [129, 132, 133], **Kh** [111, 139], **Kam** [41, 120], **Kom** [13, 67, 120].
- Calohypnum** Sakurai [128] [Pylaisiaceae]
- *plumiforme* (Wilson) Jan Kučera & Ignatov (*Stereodon plumiformis* (Wilson) Mitt.): **Mg** [10, 161, 165].
- Campyliadelphus* (Kindb.) R.S. Chopra – see *Campylium*
- Campylidium* (Kindb.) Ochyra – see *Campylophyllopsis*
- Campylium** (Sull.) Mitt. [125, 170] [Amblystegiaceae]
- *bambergeri* (Schimp.) Hedenäs, Schlesak & D. Quandt (*Stereodon bambergeri* (Schimp.) Lindb.): **VI** [5, 120], **Chw** [5, LE], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kam** [41, 120].
 - *chrysophyllum* (Brid.) J. Lange: **Chb** [5, 120], **Mg** [94], **Kam** [41, 120], **Kom** [67, 120].
 - *longicuspis* (Lindb. & Arnell) Hedenäs: **VI** [5], **Chb** [5].
 - *protensum* (Brid.) Kindb.: **VI** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5], **Kkn** [94, 133], **Kks** [94], **Kam** [41, 120], **Kom** [67, 120].
 - *stellatum* (Hedw.) C.E.O. Jensen: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 133], **Kh** [111, 120], **Kks** [14, 41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Campylophyllopsis* W.R. Buck [74; 188] [Amblystegiaceae]
- *calcareae* (Crundw. & Nyholm) Ochyra: **VI** [120], **Chs** [120], **Chb** [120].
 - *sommerfeltii* (Myrin) Ochyra: **Chs** [5, 120], **Mg** [161], **Kks** [41], **Kam** [41, 120].
- Campylopus** Brid. [Leucobryaceae]
- *atrovirens* De Not.: **Kam** [41, 120, 117].
 - *pyriformis* (Schultz) Brid.: **Kam** [41, 117].
 - *schimperii* Milde: **Chb** [5, 120], **Kam** [41, 120].
 - *umbellatus* (Arn.) Paris: **Kam** [41, 117, 120].
- Catoscopium** Brid. [Catoscopiaceae]
- *nigratum* (Hedw.) Brid.: **VI** [5, 95, 120], **Chw** [5], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Kh** [111].
- Ceratodon** Brid. [Ditrichaceae]
- *heterophyllum* Kindb.: **VI** [5, 76], **Chb** [LE], **Kam** [41, 120], **Kom** [67, 120] – (!).
 - *purpureus* (Hedw.) Brid.: **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 120, 132, 133], **Kh** [111, 120], **Kks** [14, 41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Chionoloma** Dixon [11] [Pottiaceae]
- *tenuirostre* (Hook. & Taylor) M. Alonso, M.J. Cano & J.A. Jiménez (*Oxystegus tenuirostris* (Hook. & Taylor) A.J.E. Sm.) [11]: **Mg** [17, 120, 161], **Kkn** [129], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- Cinclidium** Sw. [Mniaceae]
- *arcticum* (Bruch & Schimp.) Schimp.: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 97], **Chs** [5, 97], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kh** [111].
 - *latifolium* Lindb.: **VI** [5, 97], **Chw** [5, 97], **Chc** [5, 97], **Chs** [5, 97], **Chb** [5, 97], **Mg** [17], **Kam** [41, 97, 120].
 - *minutifolium* Broth.: **VI** [5, 97], **Chs** [97], **Chb** [97].
 - *stygium* Sw.: **Chw** [5, 97], **Chs** [5, 97], **Chb** [5, 97], **Mg** [120, 161], **Kkn** [129], **Kh** [111, 120, 137], **Kks** [97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
 - *subrotundum* Lindb.: **VI** [5, 97], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 9, 120, 6], **Mg** [17, 161], **Kkn** [129], **Kks** [97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- Cirriphyllum** Grout [Brachytheciaceae]
- *piliferum* (Hedw.) Grout: **Kam** [41, 96, 120].
- Claopodium** (Lesq. & James) Renaud & Cardot [Brachytheciaceae]
- *bolanderi* Best: **Kom** [13, 31, 67, 96, 120].
 - *pellucinerve* (Mitt.) Best: **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Climacium** F. Weber & D. Mohr [Climaciaceae]
- *dendroides* (Hedw.) F. Weber & D. Mohr: **Chw** [5, 96, 120], **Chc** [5, 96], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kkn** [96, 129, 132, 133], **Kh** [17, 111, 120, 156], **Kks** [41, 96], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
 - *japonicum* Lindb.: **Kam** [41, 96, 120].
- Cnestrum** I. Hagen [Rhabdoweisiaceae]
- *alpestre* (Wahlenb. ex Huebener) Nyholm ex Mogensen: **VI** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [187], **Kh** [111, 120], **Kam** [41, 120].
 - *glaucescens* (Lindb. & Arnell) Holmen ex Mogensen & Steere: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120].
 - *schisti* (F. Weber & D. Mohr) I. Hagen: **Chw** [5, 120], **Chc** [120, 5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 195], **Kam** [41, 120].
- Codriophorus** P. Beauv. [Grimmiaceae]
- *carinatus* (Cardot) Bedn.-Ochyra & Ochyra (*Racomitrium carinatum* Cardot): **Kam** [41, 95, 120].
 - *mollis* (Cardot) Bedn.-Ochyra & Ochyra (*Racomitrium molle* Cardot): **Kam** [41, 95], **Kom** [67, 95, 120] – (!).
- Conostomum** Sw. ex F. Weber & D. Mohr [Bartramiaceae]
- *tetragonum* (With.) Lindb.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kh** [97, 111, 120, 156], **Kks** [14, 41, 97], **Kam** [41, 97], **Kom** [13, 67, 97, 120].
- Coscinodon** Spreng. [Grimmiaceae]
- *cribrosus* (Hedw.) Spruce: **Kam** [41, 95, 120].
 - *hartzii* C.E.O. Jensen: **VI** [53], **Chs** [95], **Mg** [18, 95, 120, 161, 178], **Kam** [41, 95, 120].
 - *yukonensis* Hastings: **Mg** [32, 120, 161], **Kh** [95, 111, 120, 156], **Kam** [41, 95, 120].

- Cratoneuron* (Sull.) Spruce [Amblystegiaceae]
 – *curvicaule* (Jur.) G. Roth: **VI** [5, 120], **Chb** [5, 120], **PMg** [120, 160, 161], **PKam** [41, 120]. – (!).
- *filicinum* (Hedw.) Spruce: **VI** [5, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Khn** [111], **Kks** [14, 41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Ctenidium* (Schimp.) Mitt. [Myuriaceae]
 – *molluscum* (Hedw.) Mitt.: **VI** [5, 9, 120, 5], **Kam** [41, 96].
- Cynodontium* Bruch & Schimp. [Rhabdoweisiaceae]
 – *asperifolium* (Lindb. & Arnell) Paris: **Mg** [161, 120], **Khn** [111, 120], **Kam** [41, 120], **Kom** [67, 120].
 – *strumiferum* (Hedw.) Lindb.: **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28], **Khn** [17, 111, 120], **Kks** [41], **Kam** [41, 120].
 – *tenellum* (Schimp.) Limpr.: **Chw** [120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [17, **Kam** [41, 120].
- Cyrtomnium* Holmen [Mniaceae]
 – *hymenophylloides* (Huebener) T.J. Kop.: **Chw** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Khn** [111].
 – *hymenophyllum* (Bruch & Schimp.) Holmen: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [161, 120], **Kam** [41, 159] – (!).
- Dichelyma* Myrin [Fontinalaceae]
 – *falcatum* (Hedw.) Myrin: **Chs** [5, 96, 120], **Chw** [LE], **Chb** [5, 96, 120], **Mg** [161, 195], **Kkn** [132], **Kam** [41, 96, 120].
 – *uncinatum* Mitt.: **Chs** [96, 120], **Kkn** [96, 120, 179], **Kom** [96, 120].
- Dichodontium* Schimp. [21] [Aongstroemiaceae]
 – *pellucidum* (Hedw.) Schimp.: **VI** [5, 120], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [18], **Kks** [14], **Kam** [41, 120], **Kom** [13, 67, 120].
- Dicranella* (Müll. Hal.) Schimp. [21] [Dicranellaceae]
 – *cerviculata* (Hedw.) Schimp.: **VI** [5], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 129, 133], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 – *crispa* (Hedw.) Schimp.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kam** [41, 120], **Kom** [67, 120].
 – *curvipes* (Lindb.) Ignatov: **Khn** [111].
 – *heteromalla* (Hedw.) Schimp.: **Kks** [14], cf. **Kam** [41, 120].
 – *humilis* Ruthe: **Kam** [41, 120].
 – *grevilleana* (Brid.) Schimp.: **Chs** [5, 120], **Mg** [17], **Kam** [41, 120].
 – *rufescens* (Dicks.) Schimp.: **Kam** [41, 120].
 – *schreberiana* (Hedw.) Hilf. ex H.A. Crum & L.E. Anderson: **VI** [5], **Chb** [5, 120], **Mg** [32, 120], **Kam** [22, 41, 197], **Kom** [67, 120] – (!).
 – *subulata* (Hedw.) Schimp.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [17, 111, 156], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 – *varia* (Hedw.) Schimp.: **Mg** [120, 161], **Kam** [41, 120].
- Dicranodontium* Bruch & Schimp. [Leucobryaceae]
 – *denudatum* (Brid.) E. Britton: **Chs** [5, 120], **Mg** [196], **Kam** [41, 120], **Kom** [67, 120].
- Dicranum* Hedw. [Dicranaceae]
 – *acutifolium* (Lindb. & Arnell) C.E.J. Jensen ex I.J. Weinm.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Kkn** [132], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 – *angustum* Lindb.: **Mg** [17, 120], **Kkn** [28, 129], **Kam** [41, 120], **Kom** [67, 120].
 – *bardunovii* Tubanova & E. Ignatova: **Chs** [120, 190], **Mg** [120, 161, 195], **Kam** [120, LE], **Kom** [67, 120].
 – *bonjeanii* De Not.: **VI** [5], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [129, 132], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 – *brevifolium* (Lindb.) Lindb.: **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5], **Kkn** [132], **Kam** [41, 120], **Kom** [67, 120].
 – *dispersum* Engelmark: **Kam** [41, 120].
 – *drummondii* Müll. Hal.: **Kkn** [129], **Kam** [41, 120].
 – *elongatum* Schleich. ex Schwägr.: **VI** [5, 120, 191], **Chw** [5, 120, 191], **Chc** [5, 120], **Chb** [5, 120, 191], **Mg** [17, 120, 161, 191], **Kkn** [28, 129, 132, 191], **Khn** [17, 111, 120], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120, 191].
 – *flagellare* Hedw.: **Mg** [18], **Kam** [41, 120].
 – *flexicaule* Brid.: **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [132], **Khn** [17, 51, 120, 156], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].
 – *fragilifolium* Lindb.: **Mg** [17, 108, 120, 161], **Khn** [156], **Kam** [41, 55, 108, 120, 159].
 – *fuscescens* Turn.: **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 160, 161], **Kkn** [132], **Khn** [111, 120, 136], **Kks** [41], **Kam** [412], **Kom** [67, 120].
 – *groenlandicum* Brid.: **Chw** [5, 120, LE], **Chc** [5, 120], **Chs** [5, 120, 191], **Chb** [5, 120, 191], **Mg** [17, 120, 161, 191], **Kkn** [129, 132], **Khn** [17, 156], **Kam** [41, 120, 191], **Kom** [67, 120, 191].
 – *laevidens* R.S. Williams: **VI** [5, 120], **Chw** [5, 120, LE], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 160, 161], **Khn** [111, 120], **Kam** [41, 120], **Kom** [67, 120].
 – *leioneuron* Kindb.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120, 160, 161], **Kam** [41], **Kom** [67, 120].
 – *majus* Sm. var. *majus*: **VI** [5], **Chc** [5], **Chw** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 129, 132], **Khn** [17, 111, 120, 156], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 – *majus* var. *orthophyllum* A. Braun ex Milde: **Kks** [14], **Kam** [41, 120], **Kom** [13].
 – *montanum* Hedw.: **Mg** [17, 161], **Khn** [111, 120, 156], **Kam** [41, 120].
 – *muehlenbeckii* Bruch & Schimp.: **Chs** [5], **Chb** [5], **Mg** [17, 161], **Kks** [41, 136] – (!).
 – *nipponense* Besch.: **Kam** [184].
 – *pacificum* Ignatova & Fedosov: **Mg** [195, 196], **Kam** [41, 108, 120].
 – *polysetum* Sw.: **Mg** [17, 161], **Khn** [136, 156], **Kam** [41, 120], **Kom** [13].
 – *schljakovii* Ignatova & Tubanova: **Khn** [111, 120], **Kam** [118, 120], **Kom** [118].
 – *scoparium* Hedw.: **VI** [5], **Chw** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 133], **Kks** [41], **Kam** [41, 120], **Kom** [120, S].
 – *septentrionale* Tubanova & Ignatova: **Chb** [189, 120], **Kam** [41, 120, 189], **Kom** [67, 120].
 – *setifolium* Cardot: **Mg** [43, 120].
 – *spadicum* J.E. Zetterst. var. *spadicum*: **VI** [5, 118], **Chw** [5, 118], **Chc** [5], **Chs** [5, 120], **Chb** [5, 118, 120], **Mg** [17, 120, 161], **Kkn** [132], **Kks** [14, 41], **Kam** [41, 118, 120], **Kom** [13, 67, 118, 120].
 – *spadicum* J. E. Zetterst. var. *subscabrifolium* Schljakov: **Chs** [120], **Kam** [41].
 – *spurium* Hedw.: **Khn** [136], **Kks** [41, 136] – (!).
 – *undulatum* Schrad. ex Brid.: **Chw** [5, 120], **Chs** [5, 120], **Mg** [17, 120, 161], **Kkn** [28], **Khn** [136, 156], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Didymodon* Hedw. [Pottiaceae]
 – *asperifolius* (Mitt.) H.A. Crum, Steere & L.E. Anderson: **VI** [5, 120, LE], **Chs** [5, 120, LE], **Chb** [5, 120, LE], **Mg** [120, 161], **Kam** [41, 120, LE].
 – *brachyphyllus* (Sull.) R.H. Zander: **Kam** [8, 41, 120, LE], **Kom** [67, 120].
 – *erosodenticulatus* (Müll. Hal.) K. Saito: **Kom** [67, 120].
 – *fallax* (Hedw.) R.H. Zander: **VI** [LE], **Chs** [LE], **Chb** [LE].
 – *ferrugineus* (Schimp. ex Besch.) M.O. Hill: **VI** [5, LE], **Chs** [5, LE], **Chb** [5, LE], **Mg** [120, 161, 195], **Khn** [111], **Kom** [67, 120].
 – *gaochienii* B.C. Tan & Y. Jia: **Kam** [41, 120].
 – *giganteus* (Funck) Jur.: **VI** [126], **Chw** [LE], **Chb** [126, 120, LE].
 – *glaucus* Ryan: **Kam** [41, LE].
 – *hedysarififormis* Otnyukova: **Kam** [41, 120, LE].
 – *icmadophilus* (Schimp. ex Müll. Hal.) K. Saito: **VI** [5], **Chw** [5], **Chc** [5], **Chs** [5], **Chb** [5], **Mg** [120], **Kam** [41, 120].
 – *insulanus* (De Not.) M.O. Hill: **Kom** [13, 54, 120].
 – *johansenii* (R.S. Williams) H.A. Crum: **VI** [5, 120, 164], **Chb** [5, 120, 157, 164].
 – *leskeoides* K. Saito: **Chb** [8, LE].
 – *maschalogenus* (Renauld & Cardot) Broth.: **Kam** [8, 41, 120, LE].
 – *maximus* (Syed & Crundw.) M.O. Hill: **VI** [5, 120, LE], **Chb** [120, LE].
 – *rigidulus* Hedw.: **Chb** [5, LE], **Khn** [111], **Kam** [41, 120, LE],

- Kom** [67, 120].
- *subandreaeoides* (Kindb.) R.H. Zander: **Chb** [5, 120, 164, LE].
 - cf. *validus* Limpr.: **VI** [LE], **Chb** [LE], **Mg** [196], **Khn** [111].
 - *vinealis* (Brid.) R.H. Zander: **Kom** [67, 120].
 - *zanderi* Afonina & Ignatova: **Chs** [LE], **Chb** [LE], **Kam** [9, 41, 120].
- Dilutineuron** Bedn.-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek [15] [Grimmiaceae]
- *brevisetum* (Lindb.) Bedn.-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek (*Racomitrium brevisetum* Lindb.): **Kam** [41, 95, 120], **Kom** [55, 67, 95, 120].
 - *corrugatum* (Bedn.-Ochyra) Bedn.-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek (*Codriophorus corrugatus* Bedn.-Ochyra): **Kam** [41, 95, 120], **Kom** [67, 95, 120].
 - *fasciculare* (Hedw.) Bedn.-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek (*Racomitrium fasciculare* (Schr. ex Hedw.) Brid., *Codriophorus fascicularis* (Hedw.) Bedn.-Ochyra & Ochyra): **VI** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 161, 195], **Kkn** [133], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
- Diobelonella** Ochyra [21, 72, 153] [Aongstroemiaceae]
- *palustris* (Dicks.) Ochyra (*Anisothecium palustre* (Dicks.) I. Hagen, *Dicobodontium palustre* (Dicks.) M. Stech, *Dicranella palustris* (Dicks.) Crundw.): **Chb** [5, 120], **Kam** [41, 120], **Kom** [13, 67, 120].
- Diphyscium** D. Mohr [Diphysciaceae]
- *foliosum* (Hedw.) D. Mohr: **Kam** [41, 95, 120].
- Distichium** Bruch & Schimp. [119] [Distichiaceae]
- *capillaceum* (Hedw.) Bruch & Schimp.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Khn** [111, 120, 156], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *hagenii* Ryan ex H. Philib.: **Chb** [5, 95, 120], **Mg** [120, 161, 178].
 - *inclinatum* (Hedw.) Bruch & Schimp.: **VI** [5, 95, 120], **Chw** [5], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [120, 161, 178], **Khn** [111, 120], **Kam** [41, 95, 120].
- Ditrichum** Timm ex Hampe [Ditrichaceae]
- *beteromallum* (Hedw.) E. Britton: **Mg** [120, 161], **Khn** [17, 111, 120], **Kam** [41, 120], **Kom** [67, 120].
 - *lineare* (Sw.) Lindb.: **Kam** [41].
 - *pallidum* (Hedw.) Hampe: **Kam** [41, 120, MW] – (!).
 - *pusillum* (Hedw.) Hampe: **Mg** [120, 160, 161], **Kam** [41, 120].
 - *zonatum* (Brid.) Kindb. var. *zonatum*: **Mg** [120, 160, 161].
 - *zonatum* (Brid.) Kindb. var. *scabrifolium* Dixon: **Kom** [67, 109, 120].
- Drepanium** (Schimp.) C.E.O. Jensen [Amblystegiaceae]
- *fastigiatum* (Hampe) Lange & Jensen (*Drepanium recurvatum* (Lindb. & Arnell) G. Roth) nom. illeg.: **Mg** [120, 196], **Kom** [67, 120].
- Drepanocladus** (Müll. Hal.) G. Roth [Amblystegiaceae]
- *aduncus* (Hedw.) Warnst.: **VI** [5, 120], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [129, 133], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *angustifolius* (Hedenäs) Hedenäs & C. Rosborg (*Pseudocalliergon angustifolium* Hedenäs): **Chs** [5, 120].
 - *arcticus* (R.S. Williams) Hedenäs: **VI** [5, 120], **Chc** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [120], **Kom** [67, 120].
 - *brevifolius* (Lindb.) Warnst. (*Pseudocalliergon brevifolium* (Lindb.) Hedenäs): **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [120, 161].
 - *latinervis* Warnst.: **Chb** [5, 81, 120], **Kam** [94].
 - *polygamus* (Schmp.) Hedenäs: **VI** [5, 120], **Chc** [5, 120], **Chb** [5, 120], **Mg** [17, 196], **Kkn** [94, 129, 132, 133], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 - *sendtneri* (Schimp. ex H. Müll.) Warnst.: **?VI** [5, 120], **?Chc** [5, 120], **?Chs** [5, 120], **Chb** [5, 120], **?Mg** [17, 120], **?Kam** [41, 120] – (!).
 - *sordidus* (Müll. Hal.) Hedenäs: **?Kom** [67, 120]. – (!).
 - *trifarum* (F. Weber & D. Mohr) Broth. ex Paris (*Pseudocalliergon trifarium* (F. Weber & D. Mohr) Loeske): **VI** [5, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5], **Chb** [5, 120], **Mg** [17].
 - *turgescens* (T. Jensen) Broth. (*Pseudocalliergon turgescens* (T. Jensen) Loeske): **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **?Kkn** [129], **Kam** [41, 120].
- Echinophyllum** O'Brian [127, 152] [Leskeaceae]
- *sachalinense* (Lindb.) O'Brian (*Helodium sachalinense* (Lindb.) Broth.): **Mg** [17, 165], **Khn** [111, 120], **Kam** [41, 120], **Kom** [67, 120].
- Encalypta** Hedw. [Encalyptaceae]
- *affinis* R. Hedw.: **VI** [5, 95, 120], **Chw** [5, 95], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 161, 165, 178], **Kam** [41, 95, 120].
 - *alpina* Sm.: **VI** [5, 95, 120], **Chw** [95, 120], **Chc** [95], **Chs** [5, 95], **Chb** [5, 95], **Mg** [161], **Kks** [95], **Kam** [41, 95, 120].
 - *brevicollis* (Bruch & Schimp.) Ångstr.: **Chw** [95], **Chc** [5, 95], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [56, 95, 120, 160, 161], **Kkn** [28, 95], **Khn** [111, 120], **Kam** [41, 95, 120].
 - *brevipes* Schljakov: **VI** [5, 53], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 161, 165], **Kam** [41, 95, 120].
 - *ciliata* Hedw.: **Chc** [5, 95], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Khn** [111, 120], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
 - *longicollis* Bruch: **Chs** [5, 95, 120], **Chb** [5, 95, 120].
 - *mutica* I. Hagen: **VI** [5, 95, 120, 164], **Chb** [5, 95, 120].
 - *pilifera* Funck: **VI** [57, 95, 120], **Chc** [57, 95], **Chs** [120], **Chb** [57, 95, 120], **Mg** [18], **Khn** [111], **Kam** [57].
 - *procera* Bruch: **VI** [5, 95], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Kam** [41, 95, 120].
 - *rhaptocarpa* Schwägr.: **VI** [5, 57, 95, 120], **Chw** [5, 95], **Chc** [5, 57, 95, 120], **Chs** [5, 57, 95, 120], **Chb** [5, 57, 95, 120], **Mg** [17, 57, 95, 120, 160, 161], **Kam** [41, 57, 95, 120], **Kom** [57, 67, 95, 120].
 - *trachymitria* Ripart: **Chw** [5, 95], **Chs** [57, 95, 120], **Chb** [5, 57, 95], **Mg** [95, 120, 161, 178], **Kam** [41, 57, 95, 120, 180], **Kom** [57, 95, 120].
- Entodon** Müll. Hal. [Entodontaceae]
- *concinus* (De Not.) Paris: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Kam** [41, 120].
 - *flavescens* (Hook.) A. Jaeger: **Kam** [41, 120].
- Eurhynchiadelphus** Ignatov, Huttunen & T.J. Kop. [91] [Brachytheciaceae]
- *eustegia* (Besch.) Ignatov & Huttunen (*Eurhynchium eustegium* (Besch.) Dixon): **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Eurhynchiastrum** Ignatov & Huttunen [Brachytheciaceae]
- *pulchellum* (Hedw.) Ignatov & Huttunen: **VI** [5, 96, 120], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kkn** [132], **Khn** [120, 138], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Fissidens** Hedw. [Fissidentaceae]
- *adianthoides* Hedw.: **VI** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [120, 161, 178], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *bryooides* Hedw.: **VI** [53], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 147, 161, 178], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *curvatus* Hornsch.: **Kam** [41, 120].
 - *dubius* P. Beauv.: **Khn** [111, 120], **Kam** [41, 120].
 - *osmundoides* Hedw.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [32, 120, 161, 178], **Kkn** [133], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 - *viridulus* (Sw.) Wahlenb.: **VI** [5], **Chs** [5, 120], **Chb** [120], **Kam** [4, 120, 1]. – (!)
- Flexitrichum** Ignatov & Fedosov [59] [Flexitrichaceae]
- *flexicaule* (Schwägr.) Ignatov & Fedosov: **VI** [5, 95, 120], **Chw** [120, LE], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Khn** [95, 111], **Kks** [41], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *gracile* (Mitt.) Ignatov & Fedosov: **Chw** [LE, 120], **Chs** [5, 95, 120], **Mg** [120, 161], **Khn** [111, 120], **Kam** [95, 184], **Kom** [95].
- Fontinalis** Hedw. [Fontinalaceae]
- *antipyretica* Hedw. s.l. (including *F. gracilis* Lindb.): **Mg** [17, 96, 120, 161, 195], **Kam** [41, 96, 120], **Kom** [67, 96].
 - *hypnoides* Hartm.: **Mg** [195], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
 - *perfida* Cardot: **Chc** [96], **Chs** [96], **Chb** [96], **Mg** [96], **Kam** [96], **Kom** [96].
- Funaria** Hedw. [Funariaceae]
- *arctica* (Berggr.) Kindb.: **VI** [53], **Chb** [95].
 - *hygrometrica* Hedw.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5,

- 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 160, 161], **Kkn** [95, 133], **Khn** [95, 111], **Kks** [41, 95], **Kam** [41, 95, 120], **Kom** [67, 95, 120, 149, 167].
- *polaris* Bryhn: **VI** [5, 95, 120, 164], **Chb** [5, 95, 120, 164].
- Gollania** Broth. [Pylaisiaceae]
- *turgens* (Müll. Hal.) Ando: **Kam** [L.E.], **Kom** [67, 120].
- Grimmia** Hedw. [Grimmiaceae]
- *alpestris* (F. Weber & D. Mohr) Schleich.: **Mg** [120, 161], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *anodon* Bruch & Schimp.: **VI** [5, 95, 120, 164], **Chw** [5], **Chc** [95, 120], **Chb** [5, 95, 120], **Mg** [195].
- *anomala* Hampe ex Schimp.: **Kks** [14], **Kam** [41, 95, 120, 180].
- *beringiensis* Ignatova & Ignatov: **Chs** [95], **Chb** [95, 113, 120].
- *donniana* Sm.: **VI** [53], **Chw** [95, 120], **Chc** [5, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 116, 120, 160, 161], **Khn** [111, 120], **Kam** [41, 95, 120].
- *elator* Bruch ex Bals.-Criv & De Not.: **Chb** [5, 95, 120, 164], **Mg** [161, 196].
- *elongata* Kaulf.: **Kam** [41, 95, 120].
- *funalis* (Schwägr.) Bruch & Schimp.: **VI** [120], **Chw** [95], **Chs** [5, 95, 120], **Chb** [95], **Mg** [95, 120, 161], **Kam** [95].
- *fuscolutea* Hook.: **Kam** [41, 95, 120].
- *bartmanii* Schimp.: **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *incurva* Schwägr.: **VI** [53], **Chb** [5, 95, 120], **Mg** [95, 116, 120, 160, 161], **Khn** [156], **Kam** [41, 95, 120].
- *jacutica* Ignatova, Bedn.-Ochyra, Afonina & J. Muñoz: **Chw** [95, 103, 120], **Chc** [95, 103, 120], **Chs** [95, 103, 120], **Ghb** [103, 120], **Mg** [95, 120, 160, 161, 178, 195], **Khn** [111, 120].
- *longirostris* Hook.: **VI** [5], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 116, 120, 160, 161], **Kkn** [95, 133], **Khn** [111], **Kks** [14], **Kam** [41, 95, 120].
- *mollis* Bruch & Schimp.: **Chw** [95], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 116, 120, 160, 161], **Khn** [156], **Kam** [41, 95, 120].
- *muehlenbeckii* Schimp.: **Mg** [18].
- *pilifera* P. Beauv.: **Chw** [5], **Chs** [5, 95, 120], **Chb** [120], **Mg** [195].
- *reflexidens* Müll. Hal.: **VI** [5, 95, 120], **Chw** [5], **Chc** [5, 120], **Chs** [95, 120, 181], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161, 178], **Kkn** [95], **Khn** [111, 120], **Kam** [41, 95, 120].
- *torquata* Drumm.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Ghb** [5, 95, 120], **Mg** [95, 120, 160, 161, 178], **Kam** [41, 95, 120, 180].
- *triformis* Carestia & De Not.: **Kam** [41, 95].
- Gymnostomum** Nees & Hornsch. [Pottiaceae]
- *aeruginosum* Sm.: **Chb** [5, 12], **Mg** [120, 161], **Kam** [66, 120] – (!).
- Hamatocaulis** Hedenäs [Scorpidiaceae]
- *lapponicus* (Norrl.) Hedenäs: **Chc** [5, 120], **Chs** [5, 120], **Mg** [17, 120, 161].
- *vernicosus* (Mitt.) Hedenäs: **VI** [120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [161, 196], **Kam** [41, 120].
- Hedwigia** P. Beauv. [Hedwigiaceae]
- *czernyadjevae* Ignatova, Ignatov & Fedosov: **Mg** [114, 195].
- *emodica* Hampe ex Müll. Hal.: **Chs** [97], **Mg** [43], **Kam** [97, 114].
- *kuzenevae* Ignatova & Ignatov: **Khn** [111].
- Helodium** Warnst. [127] [Leskeaceae]
- *blandowii* (F. Weber & D. Mohr) Warnst.: **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 133], **Khn** [17, 138, 156], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- Henediella** Paris [Pottiaceae]
- *beimii* (Hedw.) R.H. Zander var. *beimii*: **Kom** [67, 120].
- *beimii* (Hedw.) R.H. Zander var. *arctica* (Lindb.) R.H. Zander: **VI** [5, 120], **Chc** [5, 120], **Chb** [5, 120], **Kam** [41, 120].
- Herzogiella** Broth. [Plagiotheciaceae]
- *striatella* (Brid.) Z. Iwats.: **Kam** [41, 96].
- *turfacea* (Lindb.) Z. Iwats.: **Khn** [111], **Kam** [41, 96].
- Heteroclediella** Ignatov & Fedosov [90] [Heteroclediellaceae]
- *dimorpha* (Brid.) Ignatov & Fedosov: **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- *procurrens* (Mitt.) Ignatov & Fedosov: **Chb** [5, 25, 96].
- Homomallium** (Schimp.) Loeske [Pylaisiaceae]
- *connexum* (Cardot.) Broth.: **Mg** [18].
- *plagiangium* (Müll. Hal.) Broth.: **Mg** [18].
- Hygroamblystegium** Loeske [Amblystegiaceae]
- *humile* (P. Beauv.) Vanderp., Goffinet & Hedenäs: **Mg** [17, 120, 161], **Kam** [41, 120], **Kom** [67, 120].
- *tenax* (Hedw.) Jenn.: **Kam** [41, 120].
- *varium* (Hedw.) Mönk.: **VI** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [120, 129, 179], **Kom** [67, 120].
- Hygrohypnella** Ignatov & Ignatova [93] [Scorpidiaceae]
- *bestii* (Renauld & Bryhn) Ignatov & Ignatova: **Mg** [120, 196], **Kks** [41], **Kam** [37, 38, 41, 120], **Kom** [13, 67, 120].
- *ochracea* (Turner ex Wilson) Ignatov & Ignatova: **Chw** [38, 120], **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [38, 120, 160, 161], **Kkn** [28, 129, 132], **Khn** [111, 2156], **Kks** [14, 38, 41], **Kam** [38, 41, 120], **Kom** [13, 67, 120].
- *polaris* (Lindb.) Ignatov & Ignatova: **VI** [5, 38, 120], **Chw** [5, 38, 120], **Chc** [5, 38, 120], **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [17, 38, 120, 160, 161], **Kkn** [94], **Khn** [156, L.E.], **Kks** [94], **Kam** [41, 120].
- Hygrohypnum** Lindb. [Amblystegiaceae]
- *luridum* (Hedw.) Jenn.: **Chw** [5, 120], **Chc** [5], **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [18], **Kam** [38, 41, 120], **Kom** [94, MW].
- Hylocomiadelphus** Ochyra & Stebel [98] [Hylocomiaceae]
- *triquetrus* (Hedw.) Ochyra & Stebel: **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [161], **Khn** [111, 120, 132], **Kks** [14], **Kam** [41, 96, 120], **Kom** [13, 67, 96, 120].
- Hylocomiastrum** Broth. [Hylocomiaceae]
- *pyrenaicum* (Spruce) M. Fleisch. in Broth.: **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 160, 161], **Kkn** [96], **Khn** [111, 120, 129, 133], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- *umbratum* (Hedw.) M. Fleisch.: **Kam** [41, 96, 120].
- Hylocomium** Bruch & Schimp. [Hylocomiaceae]
- *splendens* (Hedw.) Schimp.: **VI** [5, 96, 120], **Chw** [5, 96], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Kkn** [28, 96, 129, 132], **Mg** [17, 96, 120, 160, 161], **Khn** [17, 111, 120, 156], **Kks** [14, 41, 96], **Kam** [41, 96, 120], **Kom** [13, 67, 96, 120].
- Hymenoloma** Ochyra [Hymenolomataceae]
- *crispulum* (Hedw.) Ochyra (*Dicranoweisia crispula* (Hedw.) Milde): **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 95, 133], **Khn** [17], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
- *mulabaceni* (Höhn.) Ochyra (*Dicranoweisia intermedia* [J.] Amann): **VI** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [18], **Kam** [41, 95, 120, 180].
- Hymenostylium** Brid. [Pottiaceae]
- *recurvirostrum* (Hedw.) Dixon: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Khn** [111], **Kam** [41, 120].
- Hypnum** Hedw. [Hypnaceae]
- *cupressiforme* Hedw. var. *cupressiforme*: **VI** [5, 96, 120], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120, 161], **Kkn** [28, 96, 132, 133], **Khn** [96, 111, 120], **Kks** [96], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- *cupressiforme* Hedw. var. *subfulaceum* Molendo: **Khn** [111].
- *saitoi* Ando: **Mg** [7, 18, 96, 160, 161].
- Isopterygiella** Ignatov & Ignatova [107] [Plagiotheciaceae]
- *alpicola* (Lindb.) Ignatov & Ignatova: **VI** [53], **Chs** [5, 96, 120], **Mg** [96, 120, 160, 161, 178], **Khn** [111], **Kam** [41, 95, 120].
- *pulchella* (Hedw.) Ignatov & Ignatova: **VI** [5], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 160, 161], **Kkn** [96, 129, 132], **Khn** [111], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Isopterygiopsis** Z. Iwats. [107] [Plagiotheciaceae] see also *Isopterygiella*
- *catagonioides* (Broth.) Ignatov & Ignatova: **Chs** [96, 120], **Chb** [96, 120], **Mg** [96, 120], **Khn** [111], **Kam** [96, 120], **Kom** [96, 120] – (!).
- Iwatsukiella** W.R. Buck & H.A. Crum [Leskeaceae]
- *leucotricha* (Mitt.) W.R. Buck & H.A. Crum: **Chw** [120, 164],

- Chs** [5, 120, 164], **Mg** [17, 195], **Khn** [111, 120, 156], **Kam** [41, 120], **Kom** [67, 120].
- Kiaeria* I. Hagen – see *Arctoa*, *Pseudoblindia*
- Jochenia** Hedenäs, Schlesak & D. Quandt [170] [Jocheniaceae]
- *pallescens* (Hedw.) Hedenäs, Schlesak & D. Quandt (*Sterodon pallescens* (Hedw.) Mitt.): **Mg** [18], **Kks** [41], **Kam** [41, 120]. – (!).
- Leptobryum** (Bruch & Schimp.) Wilson [Meesiaceae]
- *pyriforme* (Hedw.) Wilson: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Kkn** [28, 129, 97], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [67, 120].
- Leptodictyum** (Schimp.) Warnst. [Amblystegiaceae]
- *riparium* (Hedw.) Warnst.: **Chc** [120], **Chs** [5], **Chb** [5], **Mg** [18, 120, 161], **Kks** [41], **Kam** [41, 120]. – (!).
- Leptodontium** (Müll. Hal.) Lindb. [Pottiaceae]
- *flexifolium* (Dicks.) Hampe: **Kam** [41, 120].
- Leptopterigynandrum** Müll. Hal. [Taxiphyllaceae]
- *australpinum* Müll. Hal.: **Chs** [5, 96, 120, 164], **Chb** [5, 89, 96], **Mg** [96, 195].
 - *tenellum* Broth.: **Chs** [96].
- Lescuraea** Bruch & Schimp. [Pseudoleskeaceae]
- *baileyi* (Best & Grout) E. Lawton: **Kom** [13, 31, 67, 96, 120].
 - *incurvata* (Hedw.) E. Lawton: **Kks** [41], **Kam** [41, 96, 120].
 - *patens* Lindb.: **Kks** [14, 41], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
 - *radicosa* (Mitt.) Moenk.: **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kam** [41, 96, 120], **Kom** [96, 120].
 - *robusta* (Lindb.) A. Jaeger: **Kam** [41, 96, 120], **Kom** [67, 96].
 - *saviana* (De Not.) E. Lawton: **Kom** [67, 96, 120].
 - *saxicola* (Schimp.) Molendo: **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
 - *secunda* Arnell: **Kam** [41, 96, 120, 149].
- Leskea** Hedw. [Leskeaceae]
- *polycarpa* Hedw.: **Chs** [5, 120], **Kks** [41], **Kam** [41, 120].
- Lewinskya** F. Lara, Garilleti & Goffinet [Orthotrichaceae]
- *elegans* (Schwagr. ex Hook. & Grev.) F. Lara, Garilleti & Goffinet: **Mg** [195], **Kam** [97].
 - *iwatsukii* (Ignatov) F. Lara, Garilleti & Goffinet: **VI** [97], **Chw** [97], **Chc** [97], **Chs** [97], **Chb** [97], **Mg** [97, 120, 161], **Kam** [97, 120, 180].
 - *pylaisii* (Brid.) F. Lara, Garilleti & Goffinet: **Chs** [185], **Chb** [185, 120], **Mg** [17], **Kam** [33, 41, 97, LE], **Kom** [67, 97, 120].
 - *rupestris* (Schleich. ex Schwagr.) F. Lara, Garilleti & Goffinet: **Chb** [97, 120].
 - *sordida* (Sull. & Lesq.) F. Lara, Garilleti & Goffinet: **VI** [5, 97], **Chw** [5, 97], **Chc** [97, 120], **Chs** [5, 97, 120], **Mg** [97, 120, 161], **Kkn** [97], **Khn** [111, 120, 156], **Kks** [97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- Limnophyllum** Ignatov & Czernyadjeva [99] [Climaciaceae].
- *mizushimae* (Sak.) Ignatov & Czernyadjeva (*Leptodictyum mizushimae* (Sak.) Kanda): **Kam** [41, 96, 99, 120].
- Loeskeobryum** M. Fleisch. ex Broth. [Hylocomiaceae]
- *cavifolium* (Sande Lac.) M. Fleisch.: **Kam** [41, 96, 149]. – (!).
- Loeskypnum** H.K.G. Paul [Calliergonaceae]
- *badium* (C. Hartm.) H.K.G. Paul: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132], **Khn** [111, 138], **Kam** [41], **Kom** [67].
 - *wickesii* (Grout) Tuom.: **Chb** [5, 150], **Kam** [79, 120], **Kom** [13, 120]. – (!).
- Lyellia** R. Br. [Polytrichaceae]
- *aspera* (I. Hagen & C.E.O. Jensen) Frye: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [18, 95, 120, 161, 165], **Kam** [41, 95, 120].
- Mesia** Hedw. [Meesiaceae]
- *hexasticha* (Funck) Bruch: **Chw** [5, 97].
 - *longiseta* Hedw.: **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [97, 120, 161], **Kam** [41, 97].
 - *minor* Brid.: **VI** [LE], **Chb** [LE], **Mg** [LE], **Kam** [51], **Kom** [51, 120].
- *triquetra* (L. ex Lolycl.) Ångstr.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97], 120, **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Khn** [111], **Kam** [41, 97, 120], **Kom** [67, 120].
 - *uliginosa* Hedw.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120, 181], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kam** [41, 97, 120], **Kom** [67, 120].
- Mielichhoferia** Nees & Hornsch. [Mielichhoferiaceae]
- *elongata* (Hoppe & Hornsch.) Nees & Hornsch.: **Chs** [97].
 - *mielichhoferiana* (Funck) Loeske: **VI** [53], **Chc** [5, 164, 120], **Chs** [97], **Chb** [5, 97, 120, 164], **Mg** [97, 120, 160, 161, 178], **Kam** [41, 97, 120].
- Mnium** Hedw. [Mniaceae]
- *blyttii* Bruch & Schimp.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97], 120, **Mg** [97, 120, 160, 161, 178], **Kom** [97].
 - *lycopodioides* Schwagr.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Khn** [111], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
 - *marginatum* (Dicks.) P. Beauv.: **Chw** [5, 97], **Chc** [5, 97], **Chb** [97], **Mg** [17, 97, 161], **Khn** [111, 120], **Kam** [41, 97, 120].
 - *spinosum* (Voit) Schwagr.: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Khn** [111, 120], **Kam** [41, 97, 120].
 - *stellare* Hedw.: **Khn** [137], **Kam** [41, 97, 120].
 - *thomsonii* Schimp.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 120, 161], **Kkn** [28], **Khn** [111], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- Molendoa** (Müll. Hal.) Hampe [Pottiaceae]
- *sendtneriana* (Bruch & Schimp.) Limpr.: **VI** [5, 164], **Chw** [5, 164].
 - *tenuinervis* Limpr.: **Chw** [5, 120], **Chb** [5, 120].
- Myrinia** Schimp. [Amblystegiaceae]
- *pulvinata* (Wahlenb.) Schimp.: **Chs** [5, 120, 164], **Mg** [18].
- Myurella** Bruch & Schimp. [Plagiotheciaceae]
- *julacea* (Schwagr.) Schimp.: **VI** [5, 96, 120], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 161], **Khn** [111, 120], **Kam** [41, 96, 120], **Kom** [13, 67, 96, 120].
 - *sibirica* (Müll. Hal.) Reimers: **Chs** [5, 96], **Mg** [96, 120, 161], **Kam** [41, 96, 120].
 - *tenerrima* (Brid.) Lindb.: **VI** [5, 96], **Chw** [5, 96, 120], **Chc** [5, 96], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 160, 161], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Myuroclada** Besch. [Brachytheciaceae]
- *longiramea* (Müll. Hal.) Min Li, Y.F. Wang, Ignatov & Huttunen: **Mg** [18, 96, 120, 161, 178], **Khn** [96, 120], **Kam** [92, 96, 120], **Kom** [96].
 - *maximowiczii* (G.G. Borshch.) Steere & W.B. Schofield: **Mg** [17, 96, 120, 161, 165], **Khn** [111], **Kam** [41, 96, 120], **Kom** [96].
- Neckera** Hedw. [Neckeraceae]
- *oligocarpa* Bruch in Ångström: **Chw** [5, 120], **Chc** [96], **Chs** [96], **Chb** [96, 120], **Mg** [17, 96, 120, 161], **Kam** [96, 120].
- Nyholmiella** Holmen & E. Warncke [Orthotrichaceae]
- *obtusifolia* (Brid.) Holmen & E. Warncke: **Chs** [5, 97, 120], **Mg** [196], **Kam** [41, 97, 120].
- Niphotrichum** (Bedn.-Ochyra) Bedn.-Ochyra & Ochyra [Grimmiaceae]
- *barbuloides* (Cardot) Bedn.-Ochyra & Ochyra: **Kam** [41, 95, 120].
 - *canescens* (Hedw.) Bedn.-Ochyra & Ochyra var. *canescens*: **VI** [5, 95, 120], **Chw** [5], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 129, 95], **Khn** [111, 120], **Kks** [14], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *canescens* var. *latifolium* (C. E. O. Jensen) Bedn.-Ochyra & Ochyra: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Kam** [41].
 - *elongatum* (Frisvoll) Bedn.-Ochyra & Ochyra: **Chb** [95, 120, 179], **Kam** [95, 120], **Kom** [95].
 - *ericoides* (Brid.) Bedn.-Ochyra & Ochyra: **VI** [5, 95, 120], **Chw** [5, 95], **Chc** [5, 95], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161, 178], **Kkn** [95], **Khn** [17], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *muticum* (Kindb.) Bedn.-Ochyra & Ochyra: **Kks** [14], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *panschii* (Müll. Hal.) Bedn.-Ochyra & Ochyra: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5,

- 95, 120], **Mg** [95, 120, 161], **Kkn** [95], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- Ochyraea* Vána – see *Platyhypnum*
- Oedipodium** Schwägr. [Oedipodiaceae]
- *griffithianum* (Dicks.) Schwägr.: **Mg** [95, 161, 165], **Khn** [95, 111, 120, 156].
- Oligotrichum** DC. [Polytrichaceae]
- *aligerum* Mitt.: **Khn** [95, 120, 156], **Kam** [39, 41, 95, 120], **Kom** [67, 95, 120].
- *falcatum* Steere: **VI** [53], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161, 178], **Kkn** [95], **Khn** [111, 120], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *bercynicum* (Hedw.) Lam. & DC.: **Chc** [5, 120], **Chs** [5], **Chb** [95, 120], **Khn** [95, 156], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *parallellum* (Mitt.) Kindb.: **Mg** [17, 95, 120, 160, 161], **Khn** [111, 120], **Kks** [14], **Kam** [41, 95, 120], **Kom** [95, 120].
- Oncophorus** (Brid.) Brid. [63] – (!) [Rhabdoweisiaceae] see also *Bridellia*, *Symblypharis*
- *integerrimus* Hedenäs: **VI** [53, LE], **Chw** [LE], **Chs** [LE], **Chb** [LE], **Mg** [196, LE], **Kam** [LE].
- *virens* (Hedw.) Brid.: **VI** [120, LE], **Chw** [120, LE], **Chc** [120, LE], **Chs** [120, LE], **Chb** [120, LE], **Mg** [120, 161, LE], **Kkn** [28], **Khn** [111, 120], **Kks** [14, 41], **Kam** [41, 120, LE], **Kom** [13, 67, 120].
- Oreas** Brid. [Rhabdoweisiaceae]
- *martiana* (Hoppe & Hornsch.) Brid.: **Chb** [5, 120, 164].
- Orthothecium** Bruch & Schimp. [Plagiotheciaceae]
- *chryseon* (Schwägr.) Schimp.: **VI** [5, 96, 120], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 160, 161], **Kkn** [96], **Kam** [41, 55, 96, 120].
- *retroflexum* Ignatov & Ignatova: **VI** [96, LE], **Chw** [96, LE], **Chc** [96, LE], **Chs** [96, LE], **Chb** [96, LE], **Mg** [96, 120], **Kkn** [96], **Kam** [LE] – (!).
- *strictum* Lorentz: **VI** [5, 96, 120], **Chw** [5, 96, 120], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kam** [41, 96], **Kom** [55, 96, 120].
- Orthotrichum** Hedw. [Orthotrichaceae]
- *anomalum* Hedw.: **VI** [53], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Mg** [120, 161].
- *hyperboreum* Fedosov & Ignatova: **VI** [53], **Chs** [61, 97].
- *pellucidum* Lindb.: **Chw** [5, 164], **Chs** [65, 97, 120], **Mg** [65, 97, 161], **Kkn** [97].
- *urnigerum* Myrin: **Chb** [2, 5, 97, 150] – (!).
- Paludella** Brid. [Meesiaceae]
- *squarrosa* (Hedw.) Brid.: **Chw** [5, 97, 120], **Chc** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Kkn** [28, 129, 97], **Khn** [17, 111, 156], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [13, 120].
- Paraleucobryum** (Limpr.) Loeske [Dicranaceae]
- *enerve* (Thed.) Loeske: **Chb** [5, 120], **Kam** [41, 120], **Kom** [67, 120].
- *longifolium* (Hedw.) Loeske: **Chb** [5, 12], **Mg** [17, 161], **Kam** [41, 120], **Kom** [67] – (!).
- Pelekium** Mitt. [Leskeaceae] [127]
- *pygmaeum* (Schimp.) Touw: **Kam** [41, 120].
- Philonotis** Brid. [Bartramiaceae]
- *americana* Dism.: **Chb** [44], **Kam** [97, 123], **Kom** [67, 120, 123].
- *capillaris* Lindb.: **Kom** [13, 67, 97, 120, 123].
- *falcata* (Hook.) Mitt.: **Kam** [97, 123].
- *fontana* (Hedw.) Brid.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 97], **Chs** [5, 97, 120, 123], **Chb** [5, 97, 120, 123], **Mg** [97, 120, 123, 160, 161], **Kkn** [28, 97, 120, 129, 133], **Khn** [156], **Kks** [14, 41, 97, 120], **Kam** [41, 97, 120, 123], **Kom** [13, 67, 97, 120].
- *tomentella* Molendo: **VI** [5, 97, 120, 123], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120, 123], **Chb** [5, 97, 120, 123], **Mg** [97, 120, 123, 161, 178], **Kkn** [28, 97], **Kks** [14, 97], **Kam** [55, 120], **Kom** [13].
- *jezoana* Besch. & Cardot: **Kam** [34, 41, 97, 120, 123].
- Plagiobryum** Lindb. [Bryaceae]
- *demissum* (Hook.) Lindb.: **VI** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Kam** [41, 97], **Kom** [13, 67, 97, 120].
- *zierii* (Hedw.) Lindb.: **Chs** [97, 120], **Chb** [97, 120], **Kom** [67, 97, 120].
- Plagiomnium** T.J. Kop. [Mniaceae]
- *acutum* (Lindb.) T.J. Kop.: **Kam** [41, 97, 120].
- *curvatum* (Lindb.) Schljakov: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Kam** [33, 41, 120], **Kom** [67, 97, 120] – (!).
- *cuspidatum* (Hedw.) T.J. Kop.: **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Khn** [156], **Kam** [41, 97, 120].
- *ellipticum* (Brid.) T.J. Kop.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [97, 120, 160, 161], **Kkn** [28, 129, 132], **Khn** [111, 120, 137], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *medium* (Bruch & Schimp.) T.J. Kop.: **Chw** [5, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [97, 120, 160, 161], **Kkn** [133], **Kks** [14, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].
- *rostratum* (Schrad.) T.J. Kop.: **Chw** [97], **Khn** [137], **Kam** [41, 55, 97, 120, 149].
- Plagiopus** Brid. [Bartramiaceae]
- *oederi* (Sw.) H.A. Crum & L.E. Anderson: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [97, 120, 161, 178], **Khn** [111], **Kam** [41, 97, 120].
- Plagiothecium** Bruch & Schimp. [Plagiotheciaceae]
- *berggrenianum* Frisvoll: **VI** [5, 96, 120], **Chw** [5, 96, 120, LE], **Chc** [5, 96, 120], **Chs** [5], **Chb** [5, 96, 106, 120], **Mg** [96, 106, 120, 161], **Kam** [41, 96, 106, 120].
- *cavifolium* (Brid.) Z. Iwats.: **VI** [5, 53], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120], **Kkn** [129, 132, 133], **Khn** [111, 156], **Kks** [96], **Kam** [41, 96, 184], **Kom** [13, 67, 96, 120].
- *denticulatum* (Hedw.) Schimp.: **VI** [5, 96, 120], **Chw** [5], **Chc** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 160, 161], **Kkn** [28, 129, 96], **Khn** [111, 120, 156], **Kks** [14, 41], **Kam** [41, 96, 120], **Kom** [13, 67, 96, 120].
- *eurphyllum* (Cardot & Thér.) Z. Iwats.: **Mg** [96, 120, 161, 178], **Kam** [41, 96, 120].
- *japonicum* Sakurai: **Kam** [106].
- *latebricola* Bruch & Schimp.: **Mg** [18, 96, 120, 161], **Kam** [41, 96, 120, 184].
- *obtusissimum* Broth.: **Kam** [41, 96, 120].
- *svalbardense* Frisvoll: **Chs** [96], **Mg** [96, 120], **Kkn** [LE], **Khn** [111, 120], **Kks** [LE], **Kam** [96, 120].
- *undulatum* (Hedw.) Schimp.: **Chb** [5, 96, 120, 164].
- Platydictya** Berk. [Plagiotheciaceae]
- *jungermannioides* (Brid.) H.A. Crum: **VI** [5, 96, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 161], **Kkn** [129], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Platyhypnum** Loeske [154] [Amblystegiaceae]
- *alpestre* (Hedw.) Ochyra (*Ochyraea alpestris* (Hedw.) Ignatov & Ignatova): **Chw** [38], **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [120, 161, 165, 178], **Khn** [111], **Kam** [120, 180].
- *cochlearifolium* (Venturi) Ochyra (*Ochyraea cochlearifolia* (Venturi) Ignatov & Ignatova): **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [120, 160, 161, 178], **Kkn** [38], **Kam** [41, 120].
- *duriusculum* (De Not.) Ochyra (*Ochyraea duriuscula* (De Not.) Ignatov & Ignatova): **Chs** [5, 38, 120], **Chb** [5, 38, 120], **Mg** [120, 161], **Kkn** [129], **Khn** [111, 120, 138], **Kks** [38, 41, 182], **Kam** [38, 41, 120], **Kom** [67, 120].
- *molle* (Dicks ex Hedw.) Ochyra (*Ochyraea mollis* (Hedw.) Ignatov): **Chc** [5, 38], **Mg** [38], **Kam** [94].
- *norvegicum* (Schimp.) Ochyra (*Ochyraea norvegica* (Schimp.) Ignatov & Ignatova): **Mg** [38, 120, 160, 161], **Khn** [111, 120], **Kam** [41, 120].
- Platygyrium** Bruch & Schimp. [Pylaisiadelphaceae]
- *repens* (Brid.) Schimp.: **Kam** [41, 120].
- Plenogemma** Plášek, Sawicki & Ochyra [162] [Orthotrichaceae]
- *phyllantha* (Brid.) Sawicki, Plášek & Ochyra (*Ulota phyllantha* Brid.): **Kom** [13, 31, 54, 97, 120].
- Pleuridium** Rabenh. [Ditrichaceae]
- *subulatum* (Hedw.) Rabenh.: **Kam** [1, 4, 120].
- Pleuroziopsis** Kindb. ex E. Britton [Climiaceae]
- *ruthenica* (Weinm.) Kindb. ex E. Britton: **Kam** [41, 96, 120], **Kom** [13, 67, 96, 120, 167].

Pleurozium Mitt. [Hylocomiaceae]

- *schreberi* (Brid.) Mitt.: **Chw** [5, 96], **Chc** [5, 96], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 160, 161], **Kkn** [28, 96, 129, 132], **Khn** [17, 111, 120, 156], **Kks** [41, 96], **Kam** [41, 96, 120], **Kom** [13, 96, 120].

Pogonatum P. Beauv. [Polytrichaceae]

- *contortum* (Brid.) Lesq.: **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *dentatum* (Brid.) Brid.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161], **Kkn** [28, 95], **Khn** [17, 95, 111, 120, 156], **Kks** [14], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *japonicum* Sull. & Lesq.: **Kam** [41, 95, 120, 167].
- *urnigerum* (Hedw.) P. Beauv.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Kkn** [129, 95], **Khn** [111, 120], **Kks** [41, 95, 120], **Kam** [41, 95, 120], **Kom** [67, 95, 120].

Poblia Hedw. [Mielichhoferiaceae]

- *andalusica* (Höhn.) Broth.: **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 36, 97, 161], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *andrewsii* A.J. Shaw: **VI** [5, 97, 120], **Chw** [5, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [36, 120, 160, 161, 97], **Kkn** [97], **Kks** [97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *annotina* (Hedw.) Lindb.: **Mg** [17, 97, 120, 161], **Kam** [41, 97, 120].
- *atropurpurea* (Wahlenb.) H. Lindb.: **Mg** [97, 120, 160, 161, 178], **Kam** [97, 120, 180].
- *beringiensis* A.J. Shaw: **VI** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [36, 97, 120, 161], **Khn** [111, 120], **Kom** [67, 97, 120].
- *bulbifera* (Warnst.) Warnst.: **VI** [5, 97], **Chw** [5, 120], **Chc** [97], **Chs** [5, 97], **Chb** [5, 97, 120], **Mg** [36, 97, 120, 160, 161], **Khn** [120, 156], **Kks** [41, 97], **Kam** [41, 97], **Kom** [67, 97, 120].
- *cardotii* (Renauld & Cardot) Broth.: **Kam** [35, 41, 97, 120].
- *cruda* (Hedw.) Lindb.: **VI** [5, 97, 120], **Chc** [5, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [97, 120, 160, 161], **Kkn** [28, 97, 129, 132], **Khn** [17, 97, 111, 120, 156], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].
- *crudooides* (Sull. & Lesq.) Broth.: **VI** [5, 97, 120], **Chc** [5, 120], **Chw** [5, 97], **Chs** [5, 97, 120], **Chb** [97, 120], **Mg** [17, 97, 120, 160, 161], **Khn** [111, 120], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *drummondii* (Müll. Hal.) A.L. Andrews: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Khn** [111, 120], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *elongata* Hedw. var. *elongata*: **Chs** [5, 97, 120], **Mg** [97, 120, 160, 161, 178], **Kam** [41, 66, 97, 120].
- *elongata* Hedw. var. *greenii* (Brid.) A.J. Shaw: **Chc** [97], **Mg** [18], **Kam** [4, 120, 1].
- *filum* (Schimp.) Märt.: **VI** [5, 97, 120], **Chw** [97], **Chc** [5, 120], **Chs** [5, 97], **Chb** [5, 97, 120], **Mg** [97, 120, 161], **Khn** [97], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *lescuriana* (Sull.) Och: **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Khn** [97].
- *longicollis* (Hedw.) Lindb.: **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 160, 161], **Khn** [111, 156], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *ludwigii* (Spreng. ex Schwägr.) Broth.: **Khn** [111, 120].
- *nutans* (Hedw.) Lindb.: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Kkn** [28, 97, 132, 133], **Khn** [97, 111, 120, 156], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *obtusifolia* (Vill. ex Brid.) L.F. Koch: **Chb** [5, 97], **Mg** [18], **Kom** [67, 97, 120].
- *proliger* (Lindb. ex Breidl.) Lindb. ex H. Arnell: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 36, 97, 120, 160, 161], **Khn** [97], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *saprophila* (Müll. Hal.) Broth.: **Kam** [49, 97, 120].
- *schimperii* (Müll. Hal.) A. L. Andrews: **VI** [5, 97, 120], **Chc** [5, 120], **Chs** [5, 97], **Chb** [5, 97, 120], **Mg** [195].
- *sphagnicola* (Bruch & Schimp.) Broth.: **Chc** [5, 97].
- *tundrae* A.J. Shaw: **Kam** [41, 47, 97, 120], **Kom** [67, 97, 120].
- *vexans* (Limpr.) H. Lindb.: **Chc** [5, 97, 120, 164], **Mg** [120].
- *viridis* Lindb. & Arnell: cf. **Kam** [MW].
- *wahlenbergii* (F. Weber & D. Mohr) A.L. Andrews: **VI** [5, 97, 120], **Chw** [5], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160, 161], **Kkn** [129, 97], **Khn** [97], **Kks** [14, 41, 97], **Kam**

[41, 120], **Kom** [13, 67, 120].*Polytrichastrum* G.L. Sm. [Polytrichaceae]

- *alpinum* (Hedw.) G.L. Sm.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 129, 132], **Khn** [111, 120, 156], **Kks** [41], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
- *fragile* (Bryhn) Schljakov: **VI** [5, 120], **Chw** [LE], **Chc** [5, 120], **Chb** [95], **Mg** [17, 95, 120, 160, 161], **Kom** [13].
- *papillatum* G.L. Sm.: cf. **Chc** [95].
- *septentrionale* (Brid.) E.I. Ivanova, N.E. Bell & Ignatov: **VI** [53], **Chc** [95], **Chs** [5, 95], **Chb** [5, 95], **Mg** [95, 120, 161], **Kkn** [28, 95], **Kam** [41, 95, 120], **Kom** [95].
- *sexangulare* (Florke ex Brid.) G.L. Sm.: **VI** [5, 95], **Chs** [5, 95, 120], **Chb** [5, 95], **Mg** [95, 120, 161], **Kkn** [156], **Kks** [14, 41], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *sphaerothecium* (Besch.) J.-P. Frahm: **Chb** [95, 120], **Mg** [95, 120, 160, 161, 165, 178], **Kam** [41, 95, 120].

Polytrichum Hedw. [Polytrichaceae]

- *commune* Hedw.: **Chw** [5, 95], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161], **Kkn** [28, 132], **Khn** [111, 120, 156], **Kks** [14, 41, 95, 167], **Kam** [41, 9, 120, 4], **Kom** [67, 95, 120].
- *densifolium* Wilson ex Mitt.: **Chb** [120, 121], **Kam** [95, 120].
- *hyperboreum* R. Br.: **VI** [5, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 120], **Mg** [95, 120, 160, 161], **Kkn** [132], **Kks** [41, 95], **Kam** [41, 95, 120].
- *jensenii* I. Hagen: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 120, LE], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 95, 129, 132], **Khn** [17, 156], **Kks** [14, 95], **Kam** [41, 95, 120].
- *juniperinum* Hedw.: **VI** [5, 95, 120], **Chw** [5, 95], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120, 121], **Mg** [95, 120, 160, 161], **Kkn** [28, 129], **Khn** [17, 95, 111, 120], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [67, 9, 120].
- *longisetum* Sw. ex Brid.: **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 121, 161], **Kkn** [132, 133], **Kks** [41], **Kam** [41, 95, 120, 121], **Kom** [67, 9, 120, 4].
- *pallidisetum* Funck: **Kkn** [120, 179], **Kam** [41, 95, 120, 121], **Kom** [67].
- *piliferum* Hedw.: **VI** [5, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 95, 132], **Khn** [111, 120, 156], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [67, 120].
- *strictum* Brid.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 95, 120], **Chb** [5, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 132], **Khn** [111, 120], **Kks** [14, 41, 167], **Kam** [41, 95, 120], **Kom** [67, 120].
- *swartzii* Hartm.: **Chs** [95, 120, LE], **Mg** [120, 161], **Kks** [41], **Kam** [41, 95, 136] – (!).

Pseudoblindia Fedosov, M. Stech & Ignatov [63] [Rhabdoweisiaceae]

- *falcata* (Hedw.) Fedosov, M. Stech & Ignatov (*Kiaeria falcata* (Hedw.) I. Hagen): **Kam** [41, 120], **Kom** [67, 120].

Pseudobryum (Kindb.) T.J. Kop. [Mniaceae]

- *cinclidioides* (Huebener) T.J. Kop.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 161], **Kkn** [97, 129, 132, 133], **Khn** [137, 156], **Kks** [41, 97], **Kam** [97, 120], **Kom** [13, 67, 97, 120].

Pseudocalliergon (Limpr.) Loeske – see *Drepanocladus**Pseudohygrohypnum* Kanda [Pylaisiaceae]

- *fauriei* (Cardot) Jan Kučera & Ignatov (*Stereodon fauriei* (Cardot) Ignatov & Ignatova): **Khn** [111, 120], **Kam** [41, 55].
- *sibiricum* Fedosov & Ignatova: **Mg** [68].

Pseudoleskeella Kindb. [Pseudoleskeellaceae]

- *catenulata* (Brid. ex Schrad.) Kindb.: **VI** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 195], **Kkn** [28].
- *nervosa* (Brid.) Nyholm: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120], **Khn** [17], **Kam** [41, 120].
- *papillosa* (Lindb.) Kindb.: **Chw** [120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161, 178], **Kam** [41, 120], **Kom** [67, 120].
- *rupestris* (Berggr.) Hedenäs & L. Söderstr.: **VI** [53], **Mg** [18, 120, 161], **Kam** [41, 120], **Kom** [67, 120].
- *tectorum* (Funck ex Brid.) Kindb.: **Chw** [5], **Chs** [5], **Chb** [5, 120], **Mg** [17], **Kam** [41, 120] – (!).

Pseudostereodon (Broth.) M. Fleisch. [Pylaisiaceae]

- *procerrimus* (Molendo) M. Fleisch. (*Stereodon procerrimus* (Molendo) Bauer): **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161].
- Pseudotaxiphyllum** Z. Iwatz. [Plagiotheciaceae]
- *elegans* (Brid.) Z. Iwats.: **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Psilopilum** Brid. [Polytrichaceae]
- *cavifolium* (Wilson) I. Hagen: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Kkn** [95], **Kam** [41, 9, 120, 4], **Kom** [67, 95, 120].
- *laevigatum* (Wahlenb.) Lindb.: **Chw** [5], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161], **Kkn** [28, 46, 95], **Kh** [17, 95], **Kks** [41], **Kam** [41, 95, 120], **Kom** [54, 67, 95, 120].
- Pterigynandrum** Hedw. [Pterigynandraceae]
- *filiforme* Hedw.: **VI** [5, 96, 120], **Chw** [5, 96], **Chc** [5, 120], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 160, 161, 178], **Kam** [41, 96, 120].
- Pterygoneuron** Jur. [Pottiaceae]
- *lamellatum* (Lindb.) Jur.: **Chs** [5, 120].
- *ovatum* (Hedw.) Dixon: **VI** [5, 120, 164], **Chc** [120, LE].
- Ptilium** De Not. {Pylaisiaceae}
- *crista-castrensis* (Hedw.) De Not.: **Chc** [5], **Chs** [5, 120], **Chb** [5], **Mg** [17, 120, 160, 161], **Kkn** [120, 132, 179], **Kh** [111, 120, 156], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Pylaisia** Schimp. [Pylaisiaceae]
- *coreana* Nog.: **Kam** [115].
- *condensata* (Mitt.) A. Jaeger (*P. schwynii* auct. Fl. As.): **Mg** [17, 120, 161], **Kh** [111], **Kam** [41, 115, 120] – (!).
- *curviramea* Dixon: **Mg** ?[LE], **Kam** [41, 120] – (!).
- *obtusa* Lindb.: **Mg** [LE], **Kam** [94].
- *polyantha* (Hedw.) Bruch, Schimp. & W. Gümbel: **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [132], **Kh** [111, 120, 156], **Kks** [94], **Kam** [41, 120], **Kom** [94].
- *steerei* (Ando & Higuchi) Ignatov: **Chw** [LE], **Chs** [115, LE], **Mg** [LE], **Kam** [LE].
- Racomitrium** Brid. [Grimmiaceae]
- *lanuginosum* (Hedw.) Brid.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161], **Kkn** [28, 95, 132], **Kh** [111, 120, 136], **Kks** [14, 41, 95], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
- Rauvella** Reimers [Leskeaceae] [127]
- *fujisana* (Paris) Reimers: **Kam** [41, 120].
- Rhabdoweisia** Bruch & Schimp. [Rhabdoweisiaceae]
- *crispata* (Dicks. ex With.) Lindb.: **Chs** [5], **Mg** [17, 120, 160, 161], **Kh** [111], **Kam** [41, 120].
- Rhizomnium** (Broth.) T.J. Kop. [Mniaceae]
- *andrusianum* (Steere) T.J. Kop.: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 97], **Chs** [5, 97], **Chb** [5, 97], **Mg** [17, 97, 161], **Kh** [111, 120], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *gracile* T.J. Kop.: **Chw** [5, 97], **Chc** [97], **Chs** [5, 97], **Chb** [5, 97], **Mg** [97, 120, 160, 161, 178], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *magnifolium* (Horik.) T.J. Kop.: **Chs** [5, LE], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 161], **Kkn** [132, 133], **Kh** [17, 111], **Kks** [41, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].
- *nudum* (R.S. Williams) T.J. Kop.: **Mg** [17, 97, 120, 161], **Kkn** [28], **Kh** [111, 120], **Kks** [14, 41], **Kam** [41, 97, 120], **Kom** [67, 97, 120].
- *pseudopunctatum* (Bruch & Schimp.) T.J. Kop.: **VI** [5, 97], **Chw** [5, 97], **Chc** [5, 97], **Chs** [5, 97], **Chb** [5, 97], **Mg** [17, 97, 120, 161], **Kkn** [28, 129, 132], **Kh** [120, 137, 156], **Kks** [14, 41, 97], **Kam** [41, 97], **Kom** [67, 97, 120].
- *striatulum* (Mitt.) T.J. Kop.: **Kam** [41, 97, 120].
- *tuomikoskii* T.J. Kop.: **Kam** [41, 97, 120, 122].
- Rhodobryum** (Schimp.) Limpr. [Bryaceae]
- *roseum* (Hedw.) Limpr.: **Mg** [17, 97], **Kam** [41, 97, 120, 149].
- Rhynchostegium** Bruch, Schimp. & W. Gümbel [Brachytheciaceae]
- *aquaticum* A. Jaeger: **Kom** [120].
- Rhytidiadelphus** (Limpr.) Warnst. [Hylocomiaceae]
- *japonicus* (Reimers) T.J. Kop.: **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- *loreus* (Hedw.) Warnst.: **Kom** [13, 31, 67, 96, 120].
- *squarrosus* (Hedw.) Warnst.: **Chb** [5, 96, 120], **Kkn** [133], **Kks** [41], **Kam** [41, 96], **Kom** [13, 67, 96, 120].
- *subpinnatus* (Lindb.) T.J. Kop.: **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kkn** [133], **Kks** [41], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
- Rhytidium** (Sull.) Kindb. [Rhytidiaceae]
- *rugosum* (Hedw.) Kindb.: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 132], **Kh** [111, 120], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- Roaldia** P.E.A.S. Câmara & Carv.-Silva [27] [Pylaisiaceae]
- *revoluta* (Mitt.) P.E.A.S. Câmara & Carv.-Silva (*Stereodon revoluta* Mitt.): **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kam** [41, 120], **Kom** [67, 120].
- Saelania** Lindb. [59] [Saelaniaceae]
- *glaucescens* (Hedw.) Broth.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 9, 120, 4], **Mg** [17, 95, 120, 160, 161], **Kh** [111, 120], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- Sanionia** Loeske [Scorpidiaceae]
- *orthothecoides* (Lindb.) Loeske: **Chc** [5], **Kkn** [177], **Kam** [41, 120].
- *uncinata* (Hedw.) Loeske: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129, 132, 133], **Kh** [17, 111, 120, 156, 138], **Kks** [14, 41], **Kam** [41, 120], **Kom** [13, 67, 120].
- Sarmentypnum** Tuom. & T.J. Kop. [78] [Calliergonaceae].
- *exannulatum* (Schimp.) Hedenäs (*Warnstorfia excannulata* (Schimp.) Loeske): **VI** [5, 120], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 129, 132, 133], **Kh** [17, 111, 120, 156], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
- *procerum* (Renauld & Arnell) Hedenäs (*Warnstorfia procerum* (Renauld & Arnell) Hedenäs): **Chc** [5, 120], **Kam** [94]. – (!).
- *pseudosarmentosum* (Cardot & Thér.) Hedenäs (*Warnstorfia pseudosarmentosa* (Cardot & Thér.) Tuom & T.J. Kop.): **Chw** [LE], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Kom** [67].
- *sarmentosum* (Wahlenb.) Tuom. & T.J. Kop. (*Warnstorfia sarmentosa* (Wahlenb.) Hedenäs): **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [129, 133], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- *trichophyllum* (Warnst.) Hedenäs (*Warnstorfia trichophyllum* (Warnst.) Tuom & T.J. Kop.): **Chw** [124, LE], **Chb** [120, 124, LE], **Mg** [120, 160, 161, 195], **Kkn** [132], **Kam** [41], **Kom** [67, 120].
- *tundrae* (Arnell) Hedenäs (*Warnstorfia tundrea* (Arnell) Loeske): **Chs** [LE], **Chb** [5, 120], cf. **Kh** [156].
- Schistidium** Bruch & Schimp. [Grimmiaceae]
- *agassizii* Sull. & Lesq.: **VI** [53, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 160, 161, 178], **Kkn** [95], **Kh** [111], **Kam** [4, 9, 41, 120].
- *andreaeopsis* (Müll. Hal.) Laz.: **VI** [5, 95, 120], **Chc** [95], **Chb** [5, 95, 120]
- *bakalinii* Ignatova & H.H. Blom: cf. **Kam** [55, MW].
- *boreale* Poelt: **VI** [53], **Chb** [95, 120].
- *crenatum* H.H. Blom: **Mg** [95, 120, 161].
- *cryptocarpum* Mogensen & H.H. Blom: **Chw** [5, 95, 164], **Chc** [95, 120], **Chs** [5, 95, 120, 164], **Kam** [41, 95, 120], **Kom** [95].
- *dupretii* (Thér.) W. A. Weber: **Kkn** [95], **Kam** [41, 95, 120], **Kom** [95].
- *flexipile* (Lindb. ex Broth.) G. Roth: **VI** [53], **Chw** [5, 95, 120], **Chb** [95, 120].
- *frabmianum* Ochyra & Afonina: **Chb** [95, 120, 155], **Mg** [196].
- *frigidum* H.H. Blom: **VI** [5, 95, 120], **Chw** [95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161], **Kkn** [95], **Kam** [41, 95, 120].
- *frisvollianum* H.H. Blom: **VI** [5, 95, 120], **Chs** [95, 120], **Chc** [120].
- *grandirete* H.H. Blom: **Chb** [5, 95, 120].
- *holmenianum* Steere & Brassard: **VI** [5, 95, 120], **Chc** [95, 120], **Chs** [9, 120, 4], **Chb** [95, 120].
- *konoii* (Broth.) Ignatova & H.H. Blom: **Kam** [95].
- *lancifolium* (Kindb.) H.H. Blom: **Mg** [195], **Kam** [41, 95, 120], **Kom** [95, 120].
- *liliputanum* (Müll. Hal.) Deguchi: **Mg** [95, 120, 160, 161], **Kkn** [95], **Kam** [95, 120], **Kom** [67].
- *maritimum* (Turner ex R. Scott) Bruch & Schimp.: **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
- *obscurum* H.H. Blom, Köckinger & Ignatova: **Mg** [120], **Kam**

- [41, 95, 120], **Kom** [67, 95, 120].
- *papillosum* Culm.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161, 178], **Khn** [111, 120], **Kkn** [95], **Kam** [41, 95], **Kom** [13, 55, 95, 120].
 - *platyphyllum* (Mitt.) H. Perss.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 160, 161], **Kkn** [95], **Kks** [41], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
 - *pulchrum* H.H. Blom: **VI** [53], **Chw** [95, 120], **Chs** [95, 120], **Chb** [95, 120], **Mg** [95, 120, 161, 195], **Kkn** [95], **Khn** [51], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
 - *rivulare* (Brid.) Podp.: **VI** [LE], **Chs** [5, 120], **Chb** [5, 95, 120], **Mg** [120, 160, 161], **Khn** [95, 111, 120], **Kam** [41, 95, 120], **Kom** [13, 67, 95, 120].
 - *scabripilum* Ignatova & H.H. Blom: **Chs** [95].
 - *sibiricum* Ignatova & H.H. Blom: **Khn** [111], **Kam** [41, 95, 120].
 - *sordidum* I. Hagen: **VI** [53], **Chw** [95], **Chc** [5, 120], **Chb** [95], **Mg** [95, 120, 160, 161], **Kkn** [95], **Kam** [41, 95].
 - *submuticum* Zick ex H.H. Blom: **VI** [95, 120], **Chw** [95], **Chs** [120], **Chb** [95, 120].
 - *succulentum* Ignatova & H.H. Blom: cf. **Kam** [95, 120].
 - *tenerum* (J.E. Zetterst.) Nyholm: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 161, 195], **Kkn** [95], **Kam** [41, 95, 120].
 - *tenuinerve* Ignatova & H.H. Blom: **Mg** [95, 120, 161], **Kam** [41, 95, 104, 120, 184], **Kom** [67, 95, 104, 120].
 - *trichodon* (Brid.) Poelt var. *nutans* H.H. Blom: **Kam** [41, 95, 120].
 - *umbrosium* (J.E. Zetterst.) H.H. Blom: **VI** [53], **Chb** [95, 120].
 - *venetum* H.H. Blom: **Chs** [95, 120].
- Schistostega* D. Mohr [Schistostegaceae]
- *pennata* (Hedw.) F. Weber & D. Mohr: **Mg** [17, 120, 161, 178], **Kam** [41, 120].
- Sciuro-hypnum* (Hampe) Hampe [Brachytheciaceae]
- *brotheri* (Paris) Ignatov & Huttunen: **Kam** [184].
 - *curtum* (Lindb.) Ignatov: **Khn** [96, 120], **Kam** [41, 96, 101, 120].
 - *dovrense* (Limpr.) Draper & Hedenäs: **Chb** [5, 96, 120], **Kam** [41, 96, 120].
 - *glaciale* (Schimp.) Ignatov & Huttunen: **Kam** [96, 120].
 - *latifolium* (Kindb.) Ignatov & Huttunen: **Chw** [5, 96], **Chs** [5, 96], **Chb** [5, 96, 120], **Mg** [96, 101, 120, 161], **Kkn** [96, 120, 179], **Khn** [111], **Kks** [14], **Kam** [41, 96, 120], **Kom** [67, 120].
 - *oedipodium* (Mitt.) Ignatov & Huttunen: **Chb** [96, 101], **Kam** [41, 96, 120].
 - *ornellanum* (Molendoa) Ignatov & Huttunen: **Chb** [96, 120, 164], **Kam** [96, 120].
 - *plumosum* (Hedw.) Ignatov & Huttunen: **VI** [5, 96, 120], **Chw** [5, 96], **Chs** [96, 120], **Chb** [5, 96, 120], **Mg** [96, 120, 161], **Khn** [111], **Kam** [41, 96, 120], **Kom** [13, 96, 120].
 - *populeum* (Hedw.) Ignatov & Huttunen: **Chs** [5, 96].
 - *reflexum* (Starke) Ignatov & Huttunen: **Chw** [5, 96], **Chs** [5, 96, 120], **Chb** [5, 96, 120], **Mg** [17, 96, 120, 161], **Kkn** [28, 96, 120, 129, 132], **Khn** [111, 156], **Kks** [14, 41, 96, 120], **Kam** [41, 96, 120], **Kom** [67, 96, 120].
 - *starkei* (Brid.) Ignatov & Huttunen: **Chs** [5, 96], **Chb** [5, 96], **Mg** [120, 161], **Kkn** [96, 120], **Kks** [41, 96], **Kam** [41, 96, 120].
 - *uncinifolium* (Broth. & Paris) Ochyra & Żarnowiec: **Khn** [111, 120], **Kks** [14], **Kam** [41, 48, 96, 120], **Kom** [13, 67, 96, 120].
- Scorpidium* (Schimp.) Limpr. [Scorpidiaceae]
- *cossonii* (Schimp.) Hedenäs: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [51, 133], **Khn** [111], **Kks** [41], **Kam** [41, 120], **Kom** [67, 41, 120].
 - *revolvens* (Sw. ex anon.) Rubers: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129], **Khn** [111, 138], **Kks** [14, 41], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *scorpioides* (Hedw.) Limpr.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161, 178], **Kkn** [129], **Khn** [111, 120, 138], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- Scouleria* Hook. [Scouleriaceae]
- *pulcherrima* Broth.: **Chw** [LE], **Chs** [95, 112], **Mg** [95, 112, 120, 161, 165, 178, 195].
 - *rschewinii* Lindb. & Arnell: **Chs** [95, 112, 120], **Mg** [195].
- Seligeria* Schimp. [Seligeriaceae] see also *Blindiadelphus*
- *brevifolia* (Lindb.) Lindb. & Arnell: **Kam** [95, 120, 180].
 - *oelandica* C.E.O. Jensen & Medelius: **Chb** [5, 95, 120, 164].
- Sphagnum* L. [Sphagnaceae]
- *alaskense* R.E. Andrus & Janssens: **Chs** [146], **Chb** [146], **Mg** [120, 146, 160, 161, 178], **Kkn** [43, 120, 182], **Khn** [111, 120].
 - *angustifolium* (Russow) C.E.O. Jensen: **Chw** [5, 120, 168], **Chc** [5], **Chs** [5, 120], **Chb** [5], **Mg** [17, 120, 160, 161], **Kkn** [132, 168], **Khn** [111, 120, 156], **Kam** [4, 120], **Kom** [67, 120].
 - *annulatum* H. Lindb. ex Warnst.: **Kam** [41, 120].
 - *aongstroemii* C. Hartm.: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [17, 111, 120, 156].
 - *arcticum* Flatberg & Frisvoll: **VI** [5, 120], **Chb** [5, 120], **Kkn** [133].
 - *balticum* (Russow) C.E.O. Jensen: **VI** [5, 120], **Chw** [5, 120, 168], **Chc** [5, 120], **Chs** [5, 120, 168], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132, 168], **Khn** [111, 120], **Kks** [166], **Kam** [41, 120], **Kom** [67, 120].
 - *beringense* A.J. Shaw, R.E. Andrews & B. Shaw: **VI** [120, 145, 179], **Chw** [120, 145, 179], **Chc** [120, 145, 179], **Chs** [120, 145, 179], **Chb** [120, 145, 179], **Mg** [145], **Kkn** [179], **Kam** [145].
 - *capillifolium* (Ehrh.) Hedw.: **VI** [5, 120], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28], **Khn** [111, 156], **Kks** [166], **Kam** [41, 120], **Kom** [67, 120].
 - *centrale* C.E.O. Jensen: **Chb** [5, 120], **Kkn** [132], **Kam** [41, 120].
 - *compactum* DC.: **Chw** [5, 120, 168], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132], **Khn** [17, 111, 120, 156], **Kks** [120, 166], **Kam** [41, 120], **Kom** [13, 67, 120].
 - *cuspidatum* Ehrh. ex Hoffm.: **Mg** [17], **Kam** [41].
 - *divinum* Flatberg & Hassel (*S. magellanicum* auct. Fl. As.) [77]: **Chw** [LE], **Chc** [LE], **Chs** [LE], **Chb** [LE], **Mg** [LE], **Kam** [LE], **Kom** [77] – (!).
 - *fallax* (Klinggr.) Klinggr.: **Chw** [5], **Chs** [5], **Kkn** [177], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].
 - *fimbriatum* Wilson: **VI** [5, 120], **Chw** [5, 120, 168], **Chc** [5, 120], **Chs** [5, 120, 168], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132], **Khn** [17, 156], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].
 - *flexuosum* Dozy & Molk.: **Chw** [5, 120], **Chs** [5, 120], **Mg** [160, 161], **Kkn** [129, 177], **Khn** [17], **Kam** [41, 120].
 - *fuscum* (Schimp.) Klinggr.: **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [132, 168], **Khn** [156], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
 - *girgensohnii* Russow: **VI** [5, 120], **Chw** [5, 120, 168], **Chc** [5, 120], **Chs** [5, 120, 168], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129, 132], **Khn** [17, 111, 120, 156], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
 - cf. *incundum* Flatberg & Hassel: **Chs** [LE], **Chb** [LE] – (!).
 - *inexpectatum* Flatberg: **VI** [LE], **Chs** [68], **Chb** [68], **Kkn** [120, 179], **Kam** [41, 120], **Kom** [67, 120].
 - *inundatum* Russow: **Kam** [41, 120, LE].
 - *jensenii* H. Lindb.: **Kam** [41, 166], **Kom** [67, 120] – (!).
 - *lenense* H. Lindb. ex Pohle: **VI** [5, 120], **Chw** [5, 120, 168], **Chc** [5], **Chs** [5, 120, 168], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129, 132, 168], **Khn** [17, 111, 120, 156].
 - *lindbergii* Schimp. ex Lindb.: **Chw** [5], **Chs** [5, 120, 168], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [177], **Kks** [41], **Kam** [41, 120], **Kom** [13, 67, 120].
 - × *lydiae* Flatberg & Hassel: **VI** [134].
 - *majus* (Russow) C.E.O. Jensen: **Chc** [5], **Kkn** [129, 177], **Kks** [41], **Kam** [41, 120].
 - *miyabeianum* Warnst.: **Kam** [144].
 - *obtusum* Warnst.: **Chw** [5, 120, 168], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [185], **Kkn** [129, 132], **Khn** [17], **Kam** [41, 120], **Kom** [67, 120].
 - *olafii* Flatberg: **Chb** [70].
 - *orientale* L.I. Savicz: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 77], **Kkn** [183].
 - *palustre* L.: **Mg** [185], **Kkn** [LE], **Khn** [156], **Kam** [41, 120].
 - *papillosum* Lindb.: **Mg** [120, 161], **Khn** [17], **Kam** [41, 120], cf. **Kom** [67, 120].
 - *perfoliatum* L.I. Savicz: **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [120, 177].
 - *platyphyllum* (Lindb. ex Braithw.) Warnst.: **VI** [5, 120], **Chc** [5, 120], **Mg** [120, 160, 161], **Kam** [41, 120].
 - *pulchrum* (Lindb.) Warnst.: **Kam** [41, 120, 166] – (!).
 - *quinquefarium* (Lindb. ex Braithw.) Warnst.: **Mg** [161].
 - *riparium* Ångstr.: **VI** [5], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 177], **Kam** [41, 120], **Kom** [67, 120].

- *rubellum* Wilson: **VI** [5], **Chw** [5, 120], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [32, 120, 160, 161], **Kkn** [28, 129], **Kks** [166], **Kam** [41, 120], **Kom** [67, 120].
- *rubiginosum* Flatberg: **Mg** [120, 161].
- *russowii* Warnst.: **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [132, 168], **Kam** [41, 120], **Kom** [67, 120].
- *squarrosus* Cromé: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Kkn** [28, 129, 132], **Kh** [17, 156], **Kks** [14, 166], **Kam** [41, 120], **Kom** [67, 120].
- *steerei* R.E. Andrus [143]: **Chw** [143], **Chc** [120, 143], **Chs** [120, 143], **Chb** [120, 143], **Mg** [120, 143], **Kkn** [129, 132], **Kam** [143, 41] – (!).
- *subfulvum* Sjörs: **Chs** [120, 143], **Chb** [120, 143], **Mg** [120, 161].
- *subsecundum* Nees: **Chw** [5, 168], **Chc** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Kam** [41, 120], **Kom** [67, 120].
- *tenellum* (Brid.) Pers. ex. Brid.: **Kam** [41, 120], **Kom** [67, 120].
- *teres* (Schimp.) Ängstr.: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 132, 133], **Kh** [17, 156], **Kks** [166], **Kam** [41, 120], **Kom** [13, 67, 120].
- *tescorum* Flatberg: **Chs** [69], **Chb** [69], **Mg** [52], **Kam** [120, LE], **Kom** [67, 120].
- *tundrae* Flatberg: **VI** [5, 71, 120], **Chs** [71, 120], **Chb** [71, 120], **Mg** [120, 161], **Kkn** [43], **Kh** [111, 120], **Kam** [41, 120].
- *warnstorffii* Russow: **VI** [5, 120], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132, 133], **Kh** [17, 111, 120, 156], **Kks** [14, 166], **Kam** [41, 120], **Kom** [13, 67, 120].
- Splachnum** Hedw. [Splachnaceae]
- *ampullaceum* Hedw.: **Mg** [17, 18, 97, 120].
- *luteum* Hedw.: **Chw** [5, 120], **Chc** [97, 120], **Chs** [5, 97, 120], **Mg** [17, 97], **Kkn** [151], **Kam** [22, 41, 97] – (!).
- *melanocaulon* (Wahlenb.) Schwaegr.: **Kam** [41, 97, 197] – (!).
- *rubrum* Hedw.: **Mg** [17, 97], **Kam** [22, 41, 97] – (!).
- *sphaericum* Hedw.: **VI** [53], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Kkn** [28], **Kks** [41, 97], **Kam** [28, 97, 120], **Kom** [LE].
- *vasculosum* Hedw.: **VI** [5, 97, 120], **Chw** [5, 97], **Chc** [5, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120].
- Stegonia** Venturi [Pottiaceae]
- *latifolia* (Schwägr.) Venturi ex Broth.: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120].
- *pilifera* (Brid.) H.A. Crum & L.E. Anderson: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120].
- Stereodon** (Brid.) Brid. [128] [Stereodontaceae] see also *Aquilonium*, *Buckia*, *Calohypnum*, *Jochenia*, *Pseudohygrohypnum*, *Pseudostereodon*, *Roaldia*
- *callicbrous* (Brid.) Lindb.: **Chb** [4], **Kkn** [133], **Kam** [4, 41, 120].
- *bamulosus* (Schimp.) Lindb.: **VI** [4, 5, 120], **Chw** [4, 5, 120], **Chb** [4, 5, 120], **Kam** [41, 120].
- *holmenii* (Ando) Ignatov & Ignatova: **VI** [4, 5, 120], **Chw** [4, 5, 120], **Chc** [4, 5, 120], **Chs** [4, 5, 120], **Chb** [4, 5, 120], **Mg** [4, 161], **Kam** [41, 120], **Kom** [67, 120].
- *pratensis* (W.D.J. Koch ex Spruce) Warnst. (*Breidleria pratensis* (W.D.J. Koch ex Spruce) Loeske): **VI** [5], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161, 178], **Kks** [41], **Kam** [41, 120].
- *subimponens* (Lesq.) Broth. subsp. *subimponens*: **VI** [4, 5, 120], **Chw** [4, 5, 120], **Chc** [4, 5, 120], **Chs** [4, 5, 120], **Chb** [4, 5, 120], **Mg** [4, 17, 161], **Kam** [41, 120].
- *subimponens* subsp. *ulophyllum* (Müll. Hal.) Ando: **Chb** [4, 5], **Mg** [4].
- Straminergon** Hedenäs [Calliergonaceae]
- *stramineum* (Dicks. & Brid.) Hedenäs: **VI** [5, 120], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129, 132, 133], **Kh** [156], **Kks** [14, 41], **Kam** [41, 120], **Kom** [67, 120].
- Streblotrichum** P. Beauv. [Pottiaceae]
- *convolutum* (Hedw.) P. Beauv. (*Barbula convoluta* Hedw.): **Chw** [5, 120], **Kam** [41, 120], **Kom** [67, 120].
- Symblepharis** Mont. [63] [Rhabdoweisiaceae]
- *elongata* (I. Hagen) Fedosov, M. Stech & Ignatov: **VI** [53], **Chw** [LE], **Chc** [LE], **Chs** [LE], **Chb** [LE], **Mg** [LE], **Kkn** [124, LE], **Kam** [LE], **Kom** [LE] – (!).
- Syntrichia** Brid. [Pottiaceae]
- *norvegica* F. Weber: **Chs** [5], **Chb** [5, 120], **Mg** [120, 161, 178], **Kks** [14], **Kam** [41, 120], **Kom** [67, 120].
- *ruralis* (Hedw.) F. Weber & D. Mohr: **VI** [5], **Chw** [5], **Chc** [5], **Chs** [5], **Chb** [5], **Mg** [17, 120, 160, 161], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- Tayloria** Hook. [Splachnaceae]
- *acuminata* Hornsch.: **Chw** [5, 97], **Chc** [97, 120], **Chb** [5, 97, 120], **Kam** [41, 97, 120].
- *froelichiana* (Hedw.) Mitt. ex Broth. in H.G.A. Engler & K. Prantl: **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Kam** [120].
- *bornschuchii* (Grev. & Arn.) Broth.: **VI** [5, 97, 120, 164], **Chw** [5, 97, 164], **Chc** [5, 120], **Chb** [5, 97, 120, 164].
- *lingulata* (Dicks.) Lindb.: **VI** [5, 97, 120], **Chw** [97], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [32, 97, 120, 161], **Kkn** [28], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [97, 120].
- *serrata* (Hedw.) Bruch & Schimp.: **Chs** [5, 97, 120].
- *splachnoides* (Schleich. ex Schwägr.) Hook.: **Kam** [41, 97, 120].
- *tenuis* (Sm.) Schimp.: **Chb** [5, 97], **Kam** [97, 120, 180], **Kom** [54, 67, 97, 120].
- Tetraphis** Hedw. [Tetraphidaceae]
- *pellucida* Hedw.: **Chs** [5], **Mg** [17, 95, 120, 161], **Kh** [111, 120, 156], **Kam** [41, 95, 120].
- Tetraplodon** Bruch & Schimp. [Splachnaceae]
- *angustatus* (Hedw.) Bruch & Schimp.: **Chs** [5, 97, 120], **Mg** [97, 120, 160, 161, 178], **Kh** [17, 111, 120], **Kam** [41, 97, 120].
- *mnioides* (Hedw.) Bruch & Schimp.: **VI** [5, 97, 120], **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 120, 160, 161, 97], **Kkn** [28, 97], **Kh** [111, 120, 156], **Kks** [14, 41, 97], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].
- *pallidus* I. Hagen: **Chw** [5, 97, 120], **Chc** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97, 120].
- *paradoxus* (R. Br.) I. Hagen: **Chw** [5, 97, 120], **Chc** [5, 97, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120].
- *urceolatus* (Hedw.) Bruch & Schimp.: **VI** [5, 97, 120], **Chw** [5, 97], **Chs** [5, 97, 120], **Chb** [5, 97], **Mg** [97, 120, 161, 178], **Kam** [41, 97, 120].
- Tetrodontium** Schwägr. [Tetraphidaceae]
- *repandum* (Funck) Schwägr. **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- Thamnobryum** Nieuwl. [Neckeraceae]
- *coreanum* (Cardot) Nog. & Z. Iwats.: **Kam** [41, 96, 110, 120].
- *neckeroides* (Hook.) E. Lawton: **Kam** [41, 96, 110, 120].
- Thuidium** Bruch, Schimp. & W. Gumbel [127] [Leskeaceae]
- *assimile* (Mitt.) A. Jaeger: **VI** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161, 178], **Kam** [41, 120], **Kom** [67, 120].
- *recognitum* (Hedw.) Lindb.: **Chs** [5, 120], **Chb** [5, 120], **Kam** [41, 120].
- *thermophilum* Czernyadjeva: **Kks** [41], **Kam** [41, 45, 120].
- Timmia** Hedw. [Timmiaceae]
- *austriaca* Hedw.: **VI** [5, 95, 120], **Chw** [5, 95, 120], **Chc** [5, 95, 120], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [17, 95, 120, 161, 178], **Kam** [41, 95, 120], **Kom** [67, 95, 120].
- *bavarica* Hessel.: **VI** [5, 95], **Chc** [5], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [160, 196], **Kom** [67, 95, 120].
- *comata* Lindb. & Arnell: **VI** [5, 95, 120], **Chw** [5, 120], **Chc** [5], **Chs** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [95, 120, 161, 178], **Kam** [41, 95, 120, 161], **Kom** [67, 95, 120].
- *megapolitana* Hedw.: **Mg** [196], **Kam** [41, 95, 120].
- *norvegica* J.E. Zetterst.: **VI** [5, 95, 120], **Chb** [5, 95, 120], **Kom** [67, 95, 120].
- *sibirica* Lindb. & Arnell: **VI** [5, 95, 120], **Chb** [5, 95, 120], **Mg** [120, 161].
- Timmiella** (De Not.) Limpr. [119] [Timmiaceae]
- *corniculata* (Wahlenb.) Broth.: **Kam** [41, 95, 197] – (!).
- Tomentypnum** Loeske [Amblystegiaceae]
- *involutum* (Limpr.) Hedenäs & Ignatov [85]: **VI** [186, LE], **Chc** [186, LE], **Chs** [186, LE], **Chb** [186, LE], **Mg** [85, 186].
- *nitens* (Hedw.) Loeske: **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [28, 129], **Kh** [17, 111, 120], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- *vittii* Hedenäs & Ignatov [85]: **Chw** [186, LE], **Mg** [186, LE].

Tortella (Müll. Hal.) Limpr. [199] [Pottiaceae]

- *alpicola* Dixon: **Chb** [158], **Mg** [161], **Kam** [41, 120], **Kom** [54, 67, 120]
- *arctica* (Arnell) Crundw. & Nyholm: **VI** [5], **Chw** [5], **Chs** [5], **Chb** [5], **Mg** [161], **Kam** [41].
- *fragilis* (Hook. & Wilson) Limpr.: **VI** [5], **Chw** [5, 120], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 161], **Khn** [111], **Kam** [41, 120], **Kom** [67, 120].
- *spitsbergensis* (Bizot & Thér) O. Werner, Köckinger & Ros: **VI** [5, 120], **Chw** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120], **Khn** [111].
- *tortuosa* (Hedw.) Limpr.: **VI** [5, 120], **Chw** [5], **Chc** [5], **Chs** [5, 120], **Chb** [5, 120], **Mg** [160, 161], **Khn** [111, 120], **Kam** [41, 120], **Kom** [67, 120].

Tortula Hedw. [Pottiaceae]

- *acaulon* R.H. Zander: **Chc** [5, 120], **Chs** [5, 120].
- *cernua* (Huebener) Lindb.: **Chc** [5, 120], **Chs** [5, 120], **Kam** [41, 120], **Kom** [54, 67, 120].
- *edentula* Ignatova & Ignatov: **Kom** [54, 67, 120].
- *hoppeana* (Schultz) Ochyra: **VI** [5], **Chw** [5], **Chs** [5], **Chb** [5], **Mg** [17, 120, 161, 178], **Kkn** [129], **Khn** [111], **Kks** [41], **Kam** [41, 120], **Kom** [67, 120].
- *laureri* (Schultz) Lindb.: **VI** [5], **Chb** [5], **Mg** [120, 161].
- *leucostoma* (R.Br.) Hook. & Grev.: **VI** [5], **Chw** [5], **Chs** [5], **Chb** [5], **Kam** [41, 120].
- *mucronifolia* Schwägr.: **VI** [5], **Chw** [5], **Chc** [5], **Chs** [5], **Chb** [5, 120], **Mg** [17, 120, 161], **Kam** [41, 120], **Kom** [67, 120].
- *muralis* Hedw. var. *muralis*: **Kom** [67, 120].
- *muralis* Hedw. var. *aestiva* Hedw.: **Kam** [41, 120].
- *obtusifolia* (Schwägr.) Mathieu: **Chs** [164], **Kam** [41, 120], **Kom** [54, 67, 120].
- *syntilia* (Schimp.) Lindb.: **VI** [5], **Chw** [5], **Chs** [5], **Chb** [5], **Kam** [41, 120], **Kom** [67, 120].

Trachycystis Lindb. [Mniaceae]

- *flagellaris* (Sull. & Lesq.) Lindb.: **Mg** [17, 97, 120, 161], **Kam** [41, 97, 120], **Kom** [13, 67, 97, 120].
- *ussuriense* (Maack & Regel) T.J. Kop: **Chb** [5, 97, 164], **Khn** [111], **Kam** [97, 120].

Trematodon Michx. [Bruchiaceae]

- *ambiguus* (Hedw.) Hornsch.: **Mg** [120, 161], **Kam** [41, 120, 180], **Kom** [67, 120].
- *laetevirens* Hakelier & J.-P. Frahm: **Chw** [16], **Kam** [16].
- *longicollis* Michx.: **Kam** [16, 41] – (!).

Trichodon Schimp. [Ditrichaceae]

- *cylindricus* (Hedw.) Schimp.: **Chs** [5, 120], **Chb** [5], **Mg** [120, 160, 161], **Kks** [41], **Khn** [17], **Kam** [41, 120], **Kom** [67, 120].

Trichostomum Bruch [199] [Pottiaceae]

- *crispulum* Bruch : **Chw** [5], **Chs** [5], **Chb** [5], **Mg** [120], **Kks** [14], **Kom** [13, 54, 67, 120].

Ulota D. Mohr [Orthotrichaceae]

- *crispula* Bruch: **Kam** [41, 97, 120], **Kom** [97].
- *curvifolia* (Wahlenb.) Sw: **Chw** [5, 120], **Chs** [5, 97, 120], **Chb** [5, 97, 120], **Mg** [17, 97, 120, 160].
- *drummondii* (Hook. & Grev.) Brid.: **Kam** [41, 97, 120].
- *intermedia* Schimp.: **Kam** [97].
- *japonica* (Sull. & Lesq.) Mitt.: **Kam** [97].
- *rehmannii* Jur.: **Khn** [111, 120].

Voitlia Hornsch. [Splachnaceae]

- *hyperborea* Grev. & Arn.: **Chb** [5, 97, 120, 164].

Warnstorfia Loeske [Calliergonaceae] see also *Sarmentypnum*

- *fluitans* (Hedw.) Loeske: **VI** [5], **Chw** [5], **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [17, 120, 160, 161], **Kkn** [129, 132], **Khn** [17, 156], **Kks** [14, 41], **Kam** [41, 120].
- *pseudostraminea* (Müll. Hal.) Tuom. & T.J. Kop.: **Chc** [5, 120], **Chs** [5, 120], **Chb** [5, 120], **Mg** [120, 161], **Kkn** [133], **Khn** [111, 120, 156], **Kam** [41, 120], **Kom** [67, 120].

Weissia Hedw. [Pottiaceae]

- *controversa* Hedw.: **Chc** [5], **Kam** [cf. 41, 120], **Kom** [67].
- *edentula* Mitt.: cf. **Kam** [41, 120].

Zygodon Hook & Taylor [Orthotrichaceae]

- *sibiricus* Ignatov, Ignatova, Z. Iwats. & B.C. Tan: **Mg** [195], **Khn** [111], **Kam** [41, 97, 120].

Comments on species doubtful and erroneously reported from at least some regions or species, commented due to other reasons (species are given in the checklist with (!))

Andreaea alpina. Lectotype of *Andreaea alpina* designated by Price and Ellis [163] applies to the species previously known as *Andreaea obovata*.

Brachythecium salebrosus. The records of *Brachythecium salebrosus* for Chukotka [5] were probably mistaken, further study of doubtful specimens is needed.

Brideliella. Two species which were previously considered in the genus *Oncophorus*: *O. wahlenbergii* and recently described by Hedenäs [84] *O. demetrii* were transferred to the new genus *Brideliella* Fedosov, M. Stech & Ignatov [63]. Distribution of these species is reported based on the results of revision of herbarium collections carried out by Afonina (unpublished).

Bryoerythrophyllum albigenum is reported for **Chb** according to record by Müller [150] based on collection of A. & Ar. Krause. Brotherus also recorded this species for **Chb** and gives its description based on Chukchi specimen [24].

Bryoerythrophyllum rubrum is reported for **VI** according to Gorodkov [76], Abramova et al. [3] and Savicz-Lyubitskaya & Smirnova [169]; specimen however is absent in LE, were it is supposed to be kept [64].

Bryum pallescens. This species is cited for **Kam** on the basis of record by Bridel-Brideri, [22].

Calli cladium haldaneanum was recorded for **Chb** by Arnell [12].

Ceratodon heterophyllus was reported for **VI** by Afonina [5] basing on the record of Gorodkov [76].

Codiophorus mollis was reported for **Kam** by Bridel-Brideri [22].

Cratoneuron curvicaule was reported from many areas of North Far East, but partial revision of herbaria by Elena Ignatova in course of the 6th volume of the moss Flora of Russia preparation did not confirm most of the species' records. Since some specimens remain not revised, here we provide unconfirmed by the revision data with a question mark.

Cyrtomnium hymenophyllum is reported for **Kam** according to the literature data [159].

Dicranella schreberiana is reported for **Kam** according to the literature data [197, 22].

Dicranum muehlenbeckii and *D. spurium* are reported for **Khs** according to the literature data [136].

Ditrichum pallidum is a subatlantic species, according to the unpublished molecular data by Fedosov & Fedorova, specimens from the Volcano Krashenninnikova (provided with a reference to MW) are quite distinct from European and American plants. They are referable to a Japanese *D. divaricatum* Mitt, but further study is needed to check this.

Drepanocladus sendtneri and *D. sordidus* were reported from several areas of North Far East, but partial revision of herbaria by Elena Ignatova in the course of the 6th volume of the moss Flora of Russia preparation did not confirm most of the *D. sendtneri* records excepting the one from the Beringian Chukotka, and a record of *D. sordidus* from the Commander Islands [94]. Since some specimens remain not revised, here we provide unconfirmed by the revision data with a question mark.

Fissidens viridulus and related species – according to personal communication of Elena Malashkina and Michael Ignatov, small species of *Fissidens* with bordered leaves are in bad need of revision, especially in Asian Russia and this revision will bring extensive changes in the currently accepted species concepts.

Gymnostomum aeruginosum is reported for **Chb** basing on record by Arnell [12].

Isopterygiopsis catagonioides. According to [106], most North Asian plants previously referred to *Isopterygiopsis muelleriana* (Schimp.) Z. Iwats. should be considered as *I. catagonioides*.

Jochenia pallescens. Hedenäs, Schlesak, D. Quandt established the new genus *Jochenia* for *Hypnum pallescens* (*Stereodon pallescens* (Hedw.) Mitt.) [170]. In Russia it is represented by two species,

J. pallascens and *J. protuberans* [94]. However, although in Europe these species are rather easily recognizable, identification of Asian plants is sometimes problematic, so we consider them here within a single species.

Leptodictyum riparium. The specimen from Bering Island, referred to this species [67] actually represents a member of the genus *Drepanocladus*, so we excluded this species from **Kom**.

Loeskeobryum cavifolium. According to [95], this species is known from North Far East (Kamchatka Peninsula) only from literature data.

Loeskypnum wickesii. Müller described the new species *Hypnum inflatum* [150] from **Chb**, but later this species was referred to *Loeskypnum wickesii* by Hedenäs [80].

Oncophorus. According to Fedosov et al. [63] the genus *Oncophorus* includes two species: *O. virens* and recently described by Hedenäs *O. integerrimus* [83]. Distributions of these species are provided based on the revision of herbarium material carried out by Afonina (unpublished).

Orthothecium retroflexum – recently described species [95], widely distributed in Arctic and Subarctic, including North Far East.

Orthotrichum urnigerum. Müller [150] described *Orthotrichum imperfectum* from Chukotka Peninsula; the specimen, kept in LE was further studied by Abramova, who referred it to *O. schubartianum* Lorenz [2], which is currently considered as a synonym of *O. urnigerum* (Tropicos database).

Paraleucobryum longifolium is reported for **Chb** basing on records of Arnell [12].

Plagiomnium curvatulum is reported for **Kam** according to literature data [33].

Polytrichum swartzii is reported for **Kam** and **Kks** [41] according to the literature data only [128, 136].

Pseudoleskeella tectorum was considered as a rather widespread species in Chukotka. However, recent revision of Asian specimens of *Pseudoleskeella* by M.S. Ignatov and E.A. Ignatova [94] showed presence of other taxa with short costae in the region.

Pylaisia condensata. According to [115], *P. condensata* is close to North American *P. selwynii* Kindb., but the later species may be considered separately. Nevertheless, all Eurasian specimens, previously referred to *P. selwynii* represent *P. condensata*.

Pylaisia curviramea Dixon was reported for Magadan Province [115] and Kamchatka [41]; However, molecular phylogenetic study by [115] showed that the specimen from Kamchatka actually represents unusual morphotype of *P. coreana*. Subsequent revision of specimen from LE revealed additional *P. curviramea* like specimens actually identical with that, placed in *P. coreana* based on molecular data. Therefore we exclude *P. curviramea* from flora of Kamchatka and challenge identity of the specimen from Magadan Province.

Sarmentypnum procerum. This species is reported for **Chc** by Afonina [5] basing on the specimen collected by V.N. Vasil'ev and identified by Savicz-Lyubitskaya [LE].

Sphagnum divinum. Previously *Sphagnum magellanicum* has been considered as a widespread in Russia species. However, recent studies [77] revealed need of splitting *S. magellanicum* complex, thus Asian specimens were suggested to represent recently described *S. divinum*. At the same time, special revision is needed to clarify its distribution since it can be easily confused with *S. alaskense* widespread in Pacific Asia. However, according to [77], all records of *Sphagnum magellanicum* from Asian part of Russia are referable to *Sphagnum divinum*.

Sphagnum incundum. This species was recently described [135]; in LE some Chukchi specimens identified by Flatberg as cf. *Sphagnum incundum* are kept.

Sphagnum jensenii. This species is reported for **Kam** according to the literature data [166].

Sphagnum pulchrum. This species is reported for **Kam** according to the literature data [166].

Sphagnum steerei. According to [143], *Sphagnum steerei* is widespread in the north of Russian Far East, and all previous records of *S. imbricatum* from this region are actually referable the former species.

Splachnum luteum is reported for **Kam** based on record of Bridel-Brideri [22].

Splachnum melanocaulon is reported for **Kam** according to the literature data [197].

Splachnum rubrum is reported for **Kam** according to the literature data [22].

Splachnum sphaericum is reported for **Kkn** according to the literature data [28].

Symblepharis elongata. Recently created by Hedenäs [82, 83] combination *Oncophorus elongatus* was transferred to the genus *Symblepharis* based on molecular data [63]. Distribution of this species is reported based on the results of revision of herbarium collections carried out by Afonina (unpublished).

Timmiella corniculata is reported for **Kam** according to literature data [197].

Trematodon longicollis was erroneously recorded from Bering Island [67], later all specimens were referred to *T. ambiguus*.

List of excluded species (not included in the check-list)

Anomobryum julaceum (Schrad. ex P. Gaertn., B. Mey, Scherb.) Schimp. According to Czernyadjeva et al. [42], no specimens representing this species have been found from Russia. Since for a long time widespread in northern Asia *A. concinnatum* has been considered as infraspecific entity within *A. julaceum*, records of the latter in fact implied *A. concinnatum*.

Bartramia subulata Bruch & Schimp. The records of this species from northern regions of Russia are based on misinterpreted forms *B. illyphylla* without a peristome [97].

Blindiadelpus campylopodus (Kindb.) Fedosov & Ignatov (as *Seligeria campylopoda* Kindb.) was recorded for **Kom** in [67]. However, further integrative taxonomic revision of the genus *Seligeria* s.l. [62] showed that this species does not occur eastward Ural and all records of this species in Asian Russia base on misidentified *Blindiadelpus diversifolius* and *B. subimmersus*.

Brachytheciastrum velutinum (Hedw.) Ignatov & Huttunen. This species was reported from Kamchatka [41] on base to literature data [149], but according to [96], it absents in the northern part of Far East.

Bryoxiphium japonicum (Berggr.) E. Britton (*B. norvegicum* subsp. *japonicum* (Berggr.) A. Löve & D. Loeve). The records of this species for Kamchatka [41] are based on misidentified specimens which actually belong to *B. norvegicum* [58].

Bryum nitidulum Lindb. This species was reported from **VI** by Gorodkov [76], but later [169 and 97] does not report it for this region. In LE the specimen of this species from **VI** was not found.

Campylopus subulatus Schimp. According to preliminary results of molecular phylogenetic study by Fedosov, all specimens from northern part of Far East previously referred to this species actually represent *C. schimperi*.

Codriophorus acicularis (Hedw.) P. Beauv. The record of this species for **Mg** [17] was mistaken.

Cynodontium polycarpon (Hedw.) Schimp. The record of this species for **Kam** [41] bases on misidentification of *C. strumiferum*.

Dicbelyma capillaceum (Dicks.) Myrin. Records of this species from Chukotka [164] and Bering Island [67] actually base on misidentified *D. uncinatum* Mitt.

Didimodon acutus (Brid.) K. Saito. Records of this species from Chukotka [5] were based on misidentified specimens.

Encalypta microstoma Bals.-Criv. & De Not. This species was reported from **Kam** [41] based of misidentification, actually, the specimen represents atypical morphotype of *E. ciliata* [95]. *Encalypta microstoma* has predominantly European distribution and hardly might occur in northern part of Far East.

Encalypta vulgaris Hedw. This species was reported for **Chb** and **Kam**, however, revision of *E. rhamnocarpa* complex [57] yielded no specimens from the region. All epistomate specimens were referred to *E. pilifera* or *E. trachymitria*.

Hedwigia ciliata (Hedw.) Beauv. According to recent revision of the genus *Hedwigia* in Russia, this species occurs only in the northwest regions of European part, the records from Asian part actually belong to other species [114].

Homalothecium lutescens (Hedw.) H. Rob. This species was reported from **Kam** [41] on base to literature data [149, 197], according to M. Ignatov [96] it is absent in the Asian part of Russia.

Hypnum imponens Hedw. (*Calli cladium imponens* (Hedw.) Hedenäs, Schlesak, D. Quandt). This species was erroneously reported from **Mg** [17], all revisited specimens were referred to *Hypnum saitoi* Ando.

Isopterygiopsis muelleriana (Schimp.) Z. Iwats. This species reported from most areas of northern regions of Russian Far East, however, recent molecular phylogenetic study showed that this species sparsely distributed in Asian part of Russia and all localities are restricted to its southern part, while the proper name for the species widespread in northern part of Asian Russia is *I. cataganioides* [96].

Lewinskya laevigata (J.E. Zetterst.) F. Lara, Garilleti & Goffinet (*Orthotrichum laevigatum* J.E. Zetterst.). This species was reported from Chukotka Peninsula [5]. However, according to Ignatov et al. [97], records of this species from north Asia refer to *L. ivatsukii*.

Lewinskya speciosa (Nees) F. Lara, Garilleti & Goffinet (*Orthotrichum speciosum* Nees). This species was reported from many areas of North Far East. According to Ignatov et al. [97], this species does not occur in Asian Russia, all records for the northern part of Far East belong to *L. ivatsukii* aggr. and *L. elegans*.

Lescurea mutabilis (Brid.) Lindb. According to Ignatov et al. [88], all records of this species eastward Ural Range are doubtful.

Loeskeobryum brevirostre (Brid.) M. Fleisch. This species was reported from Kam [41] on base to literature data [149], according to Ignatov & Ignatova [96], this species does not occur in Asian Russia, and records likely refer to *L. cavifolium*.

Mnium spinulosum Bruch & Schimp. This species was reported from Kam [41] on base to literature data [131], there is no specimen in the herbarium, the identification is doubtful.

Neckera pennata Hedw. Most records of this species from North Asia and all records of saxicolous plants belong to *N. oligocarpa* [96].

Orthotrichum pallens Brid. – The specimen on basis of which this species reported for Chs [5] was reidentified as *O. hyperboreum* [61].

Oxyrrhynchium bians (Hedw.) Loeske. Records of this species from Kam [41] were based on misidentified specimens. According to Ignatov et al. [96], *Oxyrrhynchium bians* does not occur in the Russian Far East.

Palustriella commutata (Hedw.) Ochyra. This species is reported for Kam basing on record of Wahlenberg [197]; however, the circumscription on this species changed since *Palustriella falcata* was established as a separate species and we could not check what species Wahlenberg' reference should actually be referred to. According to Ignatov et al. [94], *P. commutata* occurs in Russia only in Caucasus, so we exclude it from the Flora of North Far East.

Philonotis caespitosa Jur. According to Koponen et al. [123], the specimens from North Asia represent slender forms of *P. fontana*.

Plagiothecium laetum Bruch et al. According to Ignatova et al. [106], this species occurs in Russia only in the Black Sea coastal area of Caucasus with a single locality in lowland European Russia (Kaluga Province). All records of *P. laetum* from the northern part of Far East belong to *P. svalbardense*.

Plagiothecium nemorale (Mitt.) A. Jaeger. The record of this species from Kamchatka [41] and Koryakia [133], however, according to Ignatov et al. [96], it is absent in the North of Far East.

Plagiothecium platyphyllum Mönk. This species was reported from Kamchatka [41] on base to literature data [159, 194], however, according to Ignatov et al. [96], it is absent in the Asian part of Russia.

Plagiothecium rossicum Ignatov & Ignatova. The record of this species from Kamchatka [106] is a literal error.

Polytrichum formosum Hedw. (*Polytrichastrum formosum* (Hedw.) G.L. Sm.). According to Ivanova et al. [121], in Russia distribution of this species has limited in its European part, while most Asian specimens actually represent closely related *P. densifolium*.

Pseudohygrohypnum subeugyrium. This species was reported for Magadan Province [38, 165] and Bering Island [67]. However, integrative taxonomic revision [68] showed that traditional circumscription of this species captures five well established species among which *P. subeugyrium* s.str. has subatlantic distribution, while the specimens from Magadan Province represent newly described species, *P. sibiricum*, while the specimen from Bering Island was referred to *Hygrohypnum luridum*.

Pylaisia subcircinata Cardot was reported for Kamchatka [41]; however, reexamination of specimen based on Ignatova et al. [115] showed that the specimen from Kamchatka actually represents other species.

Rectithecium piliferum (Sw.) Hedenäs & Huttunen (*Plagiothecium piliferum* (Sw.) Schimp.). According to Ukrainskaya [193], numerous records from Russia including the Russian Far East were based on the misidentifications, mostly of *Isopterygiopsis*.

Rhizomnium punctatum (Hedw.) T.J. Kop. This species was reported from Kam [41], however, according to [97], it is absent in Far East.

Schistidium apocarpum (Hedw.) Bruch & Schimp. For a long time this species was considered in a broad sense, however, recent molecular phylogenetic studies confirmed narrow concept of species in the genus *Schistidium* [104]. During consequent revision, all specimens from Russian Far East, previously referred to *S. apocarpum* were referred to other species [88, 95, 104].

Schistidium maritimum subsp. *piliferum* (I. Hagen) B. Bremer. This subspecies was reported from Kam [41], however, according to Ignatov et al. [95], this subspecies is a synonym of *S. maritimum*.

Schistidium strictum (Turner) Loeske ex Martensson. This species was excluded from the Moss flora of Russia [88, 95], specimens with papillose leaf cells, which for a long time have been referred to *S. strictum* in northern part of Far East represent *S. papillosum*, *S. boreale* and *S. frisvollianum*.

Scouleria aquatica Hook. According to recently study the records of this species from northern Russian Far East have to be referred to either to *S. pulcherrima* or to *S. schewinii* [112].

Sphagnum contortum Schultz. The specimens previously recorded from Asian Russia as *Sphagnum contortum* were mainly reidentified as *S. beringiense*, partly as *S. perfoliatum* and occasionally as *S. orientale* [144].

Sphagnum imbricatum Hornsch. ex Russow. Recently *S. imbricatum* s.l. was split into four species and all specimens from North of the Far East were found to belong to one of them, *S. steerei* [143].

Sphagnum magellanicum Brid. All records of this species for the Russian Far East (and likely whole Asian Russia) represent either *Sphagnum divinum* [77] or extremely close morphologically *S. alaskense*.

Symblepharis crispifolia (Mitt.) Fedosov, M. Stech & Ignatov (*Oncophorus crispifolius* (Mitt.) Lindb.). The records of this species for Kamchatka [41] is doubtful, revised specimens represent *S. elongata*; further study of specimens is needed.

Tomentypnum falcifolium (Renauld ex Nichols) Tuom. According to recent study of *Tomentypnum* in Eurasia [85], this species has strictly north American distribution. All records of *T. falcifolium* from Eurasia likely belong to *T. involutum* or *T. vittii*.

List of synonyms (synonyms are in *italic*, accepted names are in **bold italic**)

- Amblystegiella jungermannioides* (Brid.) Giacom. = ***Platydictya jungermannioides***
Amblystegium juratzkanum Schimp. = ***Amblystegium serpens*** var. ***juratzkanum***
Amblystegium longicuspis Lindb. & Arnell = ***Campylium longicuspis***
Amblystegium riparium (Hedw.) Schimp. = ***Leptodictyum riparium***
Amblystegium varium (Hedw.) Lindb. = ***Hygroamblystegium varium***
Andreaea obovata Thed. = ***Andreaea alpina***
Anisothecium crispum (Hedw.) C.E.O. Jensen = ***Dicranella crispa***
Anisothecium palustre (Dicks.) I. Hagen = ***Diobelonella palustris***
Anisothecium rufescens (Dicks.) Lindb. = ***Dicranella rufescens***
Anisothecium schreberianum (Hedw.) Dixon = ***Dicranella schreberiana***
Anisothecium varium (Hedw.) Mitt. = ***Dicranella varia***
Anomobryum filiforme var. *concinatum* (Spruce) Loeske = ***Anomobryum concinatum***
Anomobryum julaceum var. *concinatum* (Spruce) J.E. Zetterst. = ***Anomobryum concinatum***
Anomodon longifolius (Brid.) Hartm. = ***Anomodontella longifolia***
Anomodon rugelii (Müll. Hal.) Kiessl. = ***Anomodontopsis rugelii***
Barbula convoluta Hedw. = ***Streblotrichum convolutum***
Barbula reflexa (Brid.) Brid. = ***Didymodon ferrugineus***
Barbula rigidula (Hedw.) Milde = ***Didymodon rigidulus***
Barbula vinealis Brid. = ***Didymodon vinealis***
Barbula rigidula var. *valida* (Limpr.) Broth. = ***Didymodon validus***
Brachythecium capillaceum (W. Weber & D. Mohr) Giacom. = ***Brachythecium rotaeanum***
Brachythecium cornusum I. Hagen = ***Brachythecium tauriscorum***
Brachythecium curtum (Lindb.) Limpr. = ***Sciuro-hypnum curtum***
Brachythecium dovrense (Limpr.) J.J. Amann = ***Sciuro-hypnum dovrense***
Brachythecium glaciale Schimp. = ***Sciuro-hypnum glaciale***
Brachythecium groenlandicum Molendo & Lorentz = ***Brachythecium tauriscorum***
Brachythecium latifolium Kindb. = ***Sciuro-hypnum latifolium***
Brachythecium novae-angliae subsp. *hultenii* (E.B. Bartram) Huttunen = ***Brachythecium hultenii***
Brachythecium oedipodium (Mitt.) A. Jaeger = ***Sciuro-hypnum oedipodium***
Brachythecium plumosum (Hedw.) Schimp. = ***Sciuro-hypnum plu-***

mosum

Brachythecium populeum (Hedw.) Schimp. = **Sciuro-hypnum populeum**
Brachythecium reflexum (Hedw.) Schimp. = **Sciuro-hypnum reflexum**
Brachythecium starkei (Brid.) Schimp. = **Sciuro-hypnum starkei**
Brachythecium unicifolium Broth & Paris = **Sciuro-hypnum unicifolium**
Breidleria pratense (W.D.J. Koch ex Spruce) Loeske = **Stereodon pratensis**
Brachythecium thedenii Schimp. = **Brachythecium erythrorrhizon**
Bryhnia brachycladula Cardot = **Myuroclada longiramea**
Bryhnia hultenii E.B. Bartram = **Brachythecium hultenii**
Bryum angustirete Kindb. = **Bryum algovicum**
Bryum bicolor Dicks. = **Bryum dichotomum**
Bryum cernuum (Sw.) Lindb. = **Bryum uliginosum**
Bryum duvalii Voit = **Bryum weigelii**
Bryum imbricatum (Schwäger) Bruch & Schimp. = **Bryum amblyodon**
Bryum inclinatum (Sw. ex Brid.) Blandow = **Bryum amblyodon**
Bryum laevifolium Syed = **Bryum moravicum**
Bryum pseudocrispulum (Podp.) L.I. Savicz = **Bryum pseudotriquetrum**
Bryum ventricosum Relh. = **Bryum pseudotriquetrum**
Callialaria curvicaulis (Jur.) Ochyra = **Cratoneuron curvicaule**
Calliergon sarmentosum (Wahlenb.) Kindb. = **Sarmentypnum sarmentosum**
Calliergon stramineum (Dicks. ex Brid.) Kindb. = **Straminergon stramineum**
Calliergon trifarium (F. Weber & D. Mohr) Kindb. = **Pseudocalliergon trifarium**
Campylium hispidulum (Brid.) Ochyra = **Campylophyllopsis hispidula**
Campylium sommerfeltii (Myrin) Ochyra = **Campylophyllopsis sommerfeltii**
Campylium hispidulum (Brid.) Mitt. = **Campylophyllopsis hispidula**
Campylium hispidulum (Brid.) Ochyra = **Campylophyllopsis hispidula**
Campyliadelphus chrysophyllus (Brid.) Kanda = **Campylium chrysophyllum**
Campylium hispidulum (Brid.) Mitt. = **Campylophyllopsis hispidula**
Campylium polygamum (Schimp.) Lange & C.E.O. Jensen = **Drepanocladus polygamus**
Campylium sommerfeltii (Myrin) Lange = **Campylophyllopsis sommerfeltii**
Ceratodon purpureus (Hedw.) Brid. var. *rotundifolium* Berggr. = **Ceratodon heterophyllum**
Cirriophyllum cirrosium (Schwäger) Grout = **Brachythecium cirrosium**
Codriophorus brevisetus (Lindb.) Bedn.-Ochyra & Ochyra = **Dilutineuron brevisetum**
Codriophorus corrugatus Bedn.-Ochyra = **Dilutineuron corrugatum**
Codriophorus fascicularis (Hedw.) Bedn.-Ochyra & Ochyra = **Dilutineuron fasciculare**
Cratoneuron commutatum (Hedw.) G. Roth = **Palustriella commutata**
Desmatodon cernuus (Huebener) Bruch & Schimp. = **Tortula cernua**
Desmatodon latifolius (Hedw.) Brid. = **Tortula hoppeana**
Desmatodon laureri (Schultz) Bruch & Schimp. = **Tortula laureri**
Desmatodon leucostoma (R. Br.) Berggr. = **Tortula leucostoma**
Desmatodon systylius Schimp. = **Tortula systylia**
Dichodontium palustre Dicks. M. Stech = **Diobelonella palustris**
Dicranella palustris (Dicks.) Crundw. = **Diobelonella palustris**
Dicranoweisia crispula (Hedw.) Milde = **Hymenoloma crispulum**
Dicranoweisia intermedia J.J. Amann = **Hymenoloma mulabaceni**
Dicranum affine Funck = **Dicranum undulatum**
Dicranum bergeri Bland. ex Hoppe = **Dicranum undulatum**
Dicranum congestum Brid. = **Dicranum flexicaule**
Dicranum demetrii Renaud & Cardot = **Oncophorus demetrii**
Dicranum undulatum auct. non Schrad. ex Brid. = **Dicranum polysetum**
Distichium montanum (Lam.) Hagen = **Distichium capillaceum**
Ditrichum crispatisimum (Müll. Hal.) Paris = **Flexitrichum gracile**
Ditrichum cylindricum (Hedw.) Grout = **Trichodon cylindricum**
Ditrichum flexicaule (Schwäger) Hampe = **Flexitrichum flexicaule**
Ditrichum gracile (Mitt.) Kuntze = **Flexitrichum gracile**
Drepanium recurvatum (Lindb. & Arnell) G. Roth = **Drepanium fastigiatum**
Drepanocladus badius (Hartm.) G. Roth = **Loeskypnum badium**
Drepanocladus exannulatus (Schimp.) Warnst. = **Sarmentypnum exannulatum**
Drepanocladus fluitans (Hedw.) Warnst. = **Warnstorfia fluitans**
Drepanocladus intermedius (Lindb.) Warnst. = **Scorpidium cossonii**
Drepanocladus procerus (Renaud & Arnell) Warnst. = **Sarmentypnum procerum**
Drepanocladus revolvens (Sw. ex anon.) Warnst. = **Scorpidium revolvens**
Drepanocladus trichophyllum (Warnst.) Podp. = **Sarmentypnum trichophyllum**
Drepanocladus tundrae (Arnell) Loeske = **Sarmentypnum tundrae**
Drepanocladus uncinatus (Hedw.) Warnst. = **Sanionia uncinata**
Drepanocladus vernicosus (Mitt.) Warnst. = **Hamatocaulis vernicosus**
Eurhynchium eustegium (Besch.) Dixon = **Eurhynchia delphus eustegia**
Eurhynchium pulchellum (Hedw.) Jenn. = **Eurhynchiastrum pulchellum**
Fissidens cristatus Wilson ex Mitt. = **Fissidens dubius**

Fissidens strictulus Müll. Hall. = **Fissidens curvatus**
Grimmia affinis Hornsch. = **Grimmia longirostris**
Grimmia sessitana De Not. = **Grimmia reflexidens**
Habrodon leucotrichus (Mitt.) Perss. = **Iwatsukiella leucotricha**
Helodium lanatum (Stroem) Broth. = **Helodium blandowii**
Helodium sachalinense (Lindb.) Broth. = **Echinophyllum sachalinense**
Herzogiella adscendens (Lindb.) Z. Iwats. & W.B. Schofield = **Aquilonium adscendens**
Heterocladium dimorphum (Brid.) Schimp. = **Heteroclaediella dimorpha**
Heterocladium procurrens (Mitt.) A. Jaeger = **Heteroclaediella procurrens**
Heterophyllum baldanianum (Grev.) M. Fleisch. = **Callicladium baldanianum**
Hygrohypnella duriuscula (De Not.) Ignatov & Ignatova = **Platyhypnum duriusculum**
Hygrohypnum alpestre (Hedw.) Loeske = **Platyhypnum alpestre**
Hygrohypnum bestii (Renaud & Bryhn) Holz. ex Broth. = **Hygrohypnella bestii**
Hygrohypnum cochleariifolium (Venturi) Broth. = **Platyhypnum cochleariifolium**
Hygrohypnum dilatatum (Wilson) Loeske = **Platyhypnum duriusculum**
Hygrohypnum duriusculum (De Not.) D.W. Jamieson = **Platyhypnum duriusculum**
Hygrohypnum molle (Hedw.) Loeske = **Platyhypnum molle**
Hygrohypnum norvegicum (Schimp.) J.J. Amann = **Platyhypnum norvegicum**
Hygrohypnum ochraceum (Turner ex Wilson) Loeske = **Hygrohypnella ochracea**
Hygrohypnum polare (Lindb.) Loeske = **Hygrohypnella polaris**
Hygrohypnum subeugyrium (Renaud & Cardot) Broth. = **Pseudohygrohypnum subeugyrium**
Hylocomium pyrenaicum (Spruce) Lindb. = **Hylocomiastrum pyrenaicum**
Hylocomium umbratum (Hedw.) Schimp. = **Hylocomiastrum umbratum**
Hymenoloma intermedium (J.J. Amann) Ochyra = **Hymenoloma mulabaceni**
Hypnum bambergi Schimp. = **Campylium bambergi**
Hypnum callicroum Brid. = **Stereodon callicroum**
Hypnum fauriei Cardot = **Pseudohygrohypnum fauriei**
Hypnum holmenii Ando = **Stereodon holmenii**
Hypnum lindbergii Mitt. = **Calliergonella lindbergii**
Hypnum pallescens (Hedw.) P. Beauv. = **Jochenia pallescens**
Hypnum plicatum (Lindb.) A. Jaeger = **Aquilonium plicatum**
Hypnum plumiforme Wilson = **Calobryum plumiforme**
Hypnum pratense L.F. Koch ex Spruce = **Stereodon pratensis**
Hypnum recurvatum (Lindb. & Arnell) Kindb. = **Drepanium fastigiatum**
Hypnum revolutum (Mitt.) Lindb. = **Roaldia revoluta**
Hypnum subimponens Lesq. = **Stereodon subimponens**
Hypnum vaucheri Lesq. = **Buckia vaucheri**
Isopterygiopsis alpicola (Lindb. & Arnell) Hedenäs = **Isopterygiella alpicola**
Isopterygiopsis pulchella (Hedw.) Z. Iwats. = **Isopterygiella pulchella**
Isopterygium elegans (Brid.) Lindb. = **Pseudotaxiphyllum elegans**
Isopterygium pulchellum (Hedw.) A. Jaeger & Sauerb. = **Isopterygiella pulchella**
Kiaeria blyttii (Bruch. & Schimp.) Broth. = **Arctoa blyttii**
Kiaeria falcata (Hedw.) I. Hagen = **Pseudoblindia falcata**
Kiaeria glacialis (Berggr.) I. Hagen = **Arctoa glacialis**
Kiaeria starkei (F. Weber & D. Mohr) I. Hagen = **Arctoa starkei**
Leptodictyum kochii (Schimp.) Warnst. = **Hygroamblystegium humile**
Leptodictyum mizushimae (Sakurai) Kanda = **Limnophyllum mizushimae**
Leskeella nervosa (Brid.) Loeske = **Pseudoleskeella nervosa**
Limprichtia cossonii (Schimp.) L. E. Anderson et al. = **Scorpidium cossonii**
Limprichtia revolvens (Sw.) Loeske = **Scorpidium revolvens**
Meesia trifaria H.A. Crum, Steere & L.E. Anderson = **Meesia triquetra**
Mniobryum albicans (Wahlenb.) Limpr. = **Poblia wahlenbergii**
Mniobryum wahlenbergii (F. Weber & D. Mohr) Jenn. = **Poblia wahlenbergii**
Mnium acutum Lindb. = **Plagiomnium acutum**
Mnium ambiguum H. Müll. = **Mnium hypopodioides**
Mnium andrewsianum Steere = **Rhizomnium andrewsianum**
Mnium cinclidioides (Blytt) Hüben. = **Pseudobryum cinclidioides**
Mnium cuspidatum Hedw. = **Plagiomnium cuspidatum**
Mnium drummondii Bruch & Schimp. = **Plagiomnium drummondii**
Mnium ellipticum Brid. = **Plagiomnium ellipticum**
Mnium gracile (T.J. Kop.) H.A. Crum & L.E. Anderson = **Rhizomnium gracile**
Mnium immarginatum Broth. = **Trachycystis ussuriensis**
Mnium laevinerve Cardot = **Mnium hypopodioides**
Mnium magnifolium Horik. = **Rhizomnium magnifolium**
Mnium maximowiczii Lindb. = **Plagiomnium maximowiczii**
Mnium medium Bruch & Schimp. = **Plagiomnium medium**
Mnium micro-ovale Müll. Hal. = **Plagiomnium maximowiczii**

- Mnium nudum* Britt. & Williams = ***Rhizomnium nudum***
Mnium pseudopunctatum Bruch & Schimp. = ***Rhizomnium pseudopunctatum***
Mnium orthorhynchum Müll. Hal. = ***Mnium thomsonii***
Mnium rostratum Schrad. = ***Plagiomnium rostratum***
Mnium rugicum Laurer = ***Plagiomnium ellipticum***
Mnium striatulum Mitt. = ***Rhizomnium striatulum***
Mnium ussuriense Maack & Regel = ***Trachycystis ussuriensis***
Ochryaea alpestris (Hedw.) Ignatov & Ignatova = ***Platyhypnum alpestre***
Ochryaea cochlearifolia (Venturi) Ignatov & Ignatova = ***Platyhypnum cochlearifolium***
Ochryaea duriuscula (De Not.) Ignatov & Ignatova = ***Platyhypnum duriusculum***
Ochryaea mollis (Hedw.) Ignatov = ***Platyhypnum molle***
Ochryaea norvegica (Schimp.) Ignatov & Ignatova = ***Platyhypnum norvegicum***
Oncophorus compactus (Bruch & Schimp.) Kindb. = ***Brideliella wahlenbergii***
Oncophorus demetrii (Renauld & Cardot) Hedenäs = ***Brideliella demetrii***
Oncophorus virens var. *elongatus* Limpr. = ***Symblepharis elongata***
Oncophorus wahlenbergii var. *compactus* (Bruch & Schimp.) Braithw. = ***Brideliella wahlenbergii***
Orthodicranum flagellare (Hedw.) Loeske = ***Dicranum flagellare***
Orthodicranum montanum Hedw. = ***Dicranum montanum***
Orthotrichum imperfectum Müll. Hal. = ***Orthotrichum urnigerum***
Orthotrichum iwatsukii Ignatov = ***Lewinskya iwatsukii***
Orthotrichum obtusifolium Brid. = ***Nybolmiella obtusifolia***
Orthotrichum rupestre Schleich. ex Schwägr. = ***Lewinskya rupestris***
Orthotrichum schubartianum Lor. = ***Orthotrichum urnigerum***
Orthotrichum sordidum Sull. & Lesq. = ***Lewinskya sordida***
Oxystegus cylindricus (Bruch ex Brid.) Hilp. = ***Chionoloma tenuirostre***
Oxystegus tenuirostris (Hook. & Taylor) A.J.E. Sm. = ***Chionoloma tenuirostre***
Plagiothecium roeseanum Hampe ex Schimp. = ***Plagiothecium cavifolium***
Plagiothecium striatellum (Brid.) Lindb. = ***Herzogiella striatella***
Pogonatum capillare (Michx.) Brid. = ***Pogonatum dentatum***
Pogonatum grandifolium (Lindb.) A. Jaeger = ***Pogonatum japonicum***
Pogonatum laterale Brid. = ***Pogonatum contortum***
Poblia minor Schleich. ex Schwägr. = ***Poblia elongata*** var. *greenii*
Poblia viridis Lindb. & Arnell = ***Poblia elongata***
Polytrichastrum alpinum var. *fragile* (Bryhn) D.G. Long = ***Polytrichastrum fragile***
Polytrichastrum alpinum var. *septentrionale* (Sw. ex Brid.) G.L. Sm. = ***Polytrichastrum septentrionale***
Polytrichastrum formosum var. *densifolium* (Wilson ex Mitt.) Z. Iwats. & Nog. = ***Polytrichum densifolium***
Polytrichastrum longisetum (Sw. ex Brid.) G.L. Smith = ***Polytrichum longisetum***
Polytrichastrum norvegicum auct. non (Hedw.) Schljakov = ***Polytrichastrum septentrionale***
Polytrichastrum pallidisetum (Funck) G.L. Sm. = ***Polytrichum pallidisetum***
Polytrichum alpestre Hoppe = ***Polytrichum strictum***
Polytrichum alpinum Hedw. = ***Polytrichastrum alpinum***
Polytrichum decipiens Limpr. = ***Polytrichum pallidisetum***
Polytrichum gracile Dicks. = ***Polytrichum longisetum***
Polytrichum fragile Bryhn = ***Polytrichastrum fragile***
Polytrichum norvegicum Hedw. = ***Polytrichastrum sexangulare***
Polytrichum norvegicum (Hedw.) Schljakov = ***Polytrichastrum septentrionale***
Polytrichum ohioense auct. Fl. Extrmior. = ***Polytrichum pallidisetum***
Polytrichum septentrionale Brid. = ***Polytrichastrum septentrionale***
Polytrichum sexangulare Hedw. = ***Polytrichastrum sexangulare***
Polytrichum sphaerothericum (Besch.) Müll. Hal. = ***Polytrichastrum sphaerothericum***
Pseudocalliergon angustifolium Hedenäs = ***Drepanocladus angustifolius***
Pseudocalliergon brevifolium (Lindb.) Hedenäs = ***Drepanocladus brevifolius***
Pseudocalliergon lycopodioides (Brid.) Hedenäs = ***Drepanocladus lycopodioides***
Pseudocalliergon trifarium (F. Weber & D. Mohr) Loeske = ***Drepanocladus trifarium***
Pseudocalliergon turgescens (T. Jensen) Loeske = ***Drepanocladus turgescens***
Pseudoleskea incurvata (Hedw.) Loeske = ***Lescuraea incurvata***
Pseudoleskea patens (Lindb.) Kindb. = ***Lescuraea patens***
Pseudoleskea rudicosa (Mitt.) Macoun & Kindb. = ***Lescuraea rudicosa***
Pseudoleskea secunda (Arnell) Broth. = ***Lescuraea secunda***
Racomitrium afoninae Frisvoll = ***Bucklandiella afoninae***
Racomitrium barbuloides Cardot = ***Niphotrichum barbuloides***
Racomitrium brevisetum Lindb. = ***Dilutineuron brevisetum***
Racomitrium canescens (Hedw.) Brid. = ***Niphotrichum canescens***
Racomitrium canescens var. *ericoides* (Brid.) Hampe = ***Niphotrichum ericoides***
Racomitrium carinatum Cardot = ***Codriophorus corinatus***
Racomitrium elongatum Frisvoll = ***Niphotrichum elongatum***
Racomitrium ericoides (Brid.) Brid. = ***Niphotrichum ericoides***
Racomitrium fasciculare (Schrad. ex Hedw.) Brid. = ***Dilutineuron fasciculare***
Racomitrium laetum Besch. & Cardot = ***Bucklandiella laeta***
Racomitrium macounii subsp. *alpina* (E. Lawton) Frisvoll = ***Bucklandiella macounii*** subsp. *alpina*
Racomitrium microcarpon (Hedw.) Brid. = ***Bucklandiella microcarpa***
Racomitrium molle Cardot = ***Codriophorus mollis***
Racomitrium muticum (Kindb.) Frisvoll = ***Niphotrichum muticum***
Racomitrium nitidulum Cardot = ***Bucklandiella nitidula***
Racomitrium panschii (Müll. Hal.) Kindb. = ***Niphotrichum panschii***
Racomitrium sudeticum (Funck) Bruch & Schimp. = ***Bucklandiella sudetica***
Racomitrium vulcanicola Frisvoll & Deguchi = ***Bucklandiella vulcanicola***
Rhabdoweisia keuzenevae Broth. = ***Rhabdoweisia crispata***
Rhytidiadelphus calvescens (Wils.) Broth. = ***Rhytidiadelphus subpinnatus***
Rhytidiadelphus triquetrus (Hedw.) Warnst. = ***Hylocomiadelphus triquetrus***
Rigodiadelphus robustus (Lindb.) Nog. = ***Lescuraea robusta***
Schistidium alpicola (Hedw.) Limpr. var. *alpicola* = ***Schistidium platyphyllum***
Schistidium alpicola var. *rivulare* (Brid.) Limpr. = ***Schistidium rivulare***
Schistidium rivulare var. *latifolium* (J.E. Zetterst.) H.A. Crum & L.E. Anderson = ***Schistidium platyphyllum***
Scleropodium ornellanum (Molendo) Lorentz = ***Sciuro-hypnum ornellanum***
Seligeria diversifolia Lindb. = ***Blindiadelphus diversifolius***
Seligeria polaris Berggr. = ***Blindiadelphus polaris***
Sphagnum acutifolium Schrad. = ***Sphagnum capillifolium***
Sphagnum nemoreum Scop. = ***Sphagnum capillifolium***
Sphagnum capillifolium subsp. *rubellum* (Wilson) M.O. Hill = ***Sphagnum rubellum***
Splachnum ovatum Dicks. ex Hedw. = ***Splachnum sphaericum***
Stereodon bambergi (Schimp.) Lindb. = ***Campylium bambergi***
Stereodon fauriei (Cardot) Ignatov & Ignatova = ***Pseudohygrohypnum fauriei***
Stereodon pallescens (Hedw.) Mitt. = ***Jochenia pallescens***
Stereodon plicatulus Lindb. = ***Aquilonium plicatulum***
Stereodon procerum (Molendo) Bauer = ***Pseudostereodon procerum***
Stereodon recurvatum Lindb. & Arnell = ***Drepanium fastigiatum***
Stereodon revolutus Mitt. = ***Roaldia revoluta***
Stereodon vaucheri (Lesq.) Lindb. = ***Buckia vaucheri***
Stroemia obtusifolia (Brid.) I. Hagen = ***Nybolmiella obtusifolia***
Thuidium philibertii Limpr. = ***Thuidium assimile***
Thuidium pygmaeum Schimp. = ***Pelekium pygmaeum***
Tortula euryphylla R.H. Zander = ***Tortula hoppeana***
Tortula ruralis (Hedw.) P. Gaertn., B. Mey. & Scherb. = ***Syntrichia ruralis***
Trichostomum arcticum Kaal. = ***Tortella spitsbergensis***
Trichostomum cuspidatissimum Cardot & Ther. = ***Tortella spitsbergensis***
Ulota phyllantha Brid. = ***Plenogemma phyllantha***
Warnstorfia exannulata (Schimp.) Loeske = ***Sarmentypnum exannulatum***
Warnstorfia procerca (Renauld & Arnell) Hedenäs = ***Sarmentypnum procerum***
Warnstorfia pseudosarmentosa (Cardot & Ther.) Tuom & T.J. Kop. = ***Sarmentypnum pseudosarmentosum***
Warnstorfia sarmentosa (Wahlenb.) Hedenäs = ***Sarmentypnum sarmentosum***
Warnstorfia trichophylla (Warnst.) Tuom & T.J. Kop. = ***Sarmentypnum trichophyllum***
Warnstorfia tundrae (Arnell) Loeske = ***Sarmentypnum tundra***

ACKNOWLEDGEMENTS

Authors are grateful to Elena Ignatova and Michael Ignatov for sharing results of the ongoing revision of specimens in course of the 6th volume of the Moss Flora of Russia preparation and two anonymous reviewers for their suggestions on the paper improvement. The study was supported by BIN RAS governmental contracts 122011900032-7 and 121021600184-6 for OA and IC, by RSF 18-14-00121-II, for OP, and VF. Laboratory studies were also supported as the part of biocollection development programs (AAAA-A17-117012610052-2 and USU 440537 for OP, AAAAA-A20-120031990012-4 for VF). We also acknowledge Ministry of Higher Education and Science of Russian Federation for the support the Center of Collective Use "Herbarium MBG RAS", grant 075-15-2021-678.

LITERATURE CITED

- ¹Abramova, A.L. 1956. Mosses of northeast Asia. *Trudy Botanicheskogo Instituta Akademii Nauk SSSR. 2. Sporovye rasteniya* 10:490–511 (in Russian). [Абрамова А.Л. 1956. Мхи северо-востока Азии // Труды БИН АН СССР. Серия 2. Споровые растения. Вып. 10. С. 490–511].
- ²Abramova, A.L. & I.I. Abramov 1980. Materies ad examinationem bryoflorae Czukotka. *Novosti sistematiki nizshikh rastenii* 17:179–200 (in Russian) [Абрамова А.Л., Абрамов И.И. 1980. Материалы к изучению бриофлоры Чукотки // Новости систематики низших растений. Т. 17. С. 179–200].
- ³Abramova, A.L., L.I. Savicz-Lyubitskaya & Z.N. Smirnova 1961. *Handbook of mosses of Arctic of the USSR*. Nauka, Moscow, Leningrad, 716 pp. (in Russian). [Абрамова А.Л., Л.И. Савич-Любичская, З.Н. Смирнова 1961. Определитель листостебельных мхов Арктики СССР. Москва; Ленинград: Наука. 716 с.].
- ⁴Afonina, O.M. 2004a. *Hypnum* sect. *Hamulosa* (Musci, Hypnaceae) in Russia. *Arctoa* 13:9–28 (in Russian with English summary). [Афонина О.М. 2004. Виды *Hypnum* секции *Hamulosa* (Musci, Hypnaceae) в России // *Arctoa*. Т. 13. С. 9–28].
- ⁵Afonina, O.M. 2004b. *Moss flora of Chukotka*. St. Petersburg, 260 pp. (in Russian) [Афонина О.М. 2004. Конспект флоры мхов Чукотки. С-Петербург. 260 с.]
- ⁶Afonina, O.M. 2004c. *Stereodon* (Brid.) Mitt. In: *Moss flora of Russia. Online version* (M.S. Ignatov, ed.), pp. 1–29 (in Russian). [Афонина О.М. 2004. *Stereodon* (Brid.) Mitt. // Флора мхов России. Электронная публикация, 29 с.]. Available from: <http://arctoa.ru/Flora/taxonomy-ru.php> (Last accessed 1.IX.2021).
- ⁷Afonina, O.M. & L.S. Blagodatskikh 2006. New moss records from Magadan Province. 1. *Arctoa* 15:268.
- ⁸Afonina, O.M., I. V. Czernyadjeva, E. A. Ignatova & J. Kučera 2010. Five species of *Didymodon* (Pottiaceae, Bryophyta) new to Russia. *Arctoa* 19:51–62.
- ⁹Afonina, O.M., E.A. Ignatova 2007. A new species of *Didymodon* (Pottiaceae, Musci) from Asian Russia. *Arctoa* 16:133–138.
- ¹⁰Afonina, O.M. & E.A. Ignatova 2007. East Asian species of *Stereodon* (Brid.) Mitt. (Pylaisiaceae, Musci) in Russia. *Arctoa* 16:7–20.
- ¹¹Alonso, M., J.A. Jiménez, S. Nylander, L. Hedenäs & M.J. Cano 2016. Disentangling generic limits in *Chionoloma*, *Oxystegus*, *Pachyneuropsis* and *Pseudosymblypharis* (Bryophyta: Pottiaceae): an inquiry into their phylogenetic relationships. *Taxon* 65:3–18.
- ¹²Arnell, H.W. 1818. Die Moose der Vega Expedition. *Arkiv for Botanik* 15(5):1–111.
- ¹³Bakalin, V.A. & V.Ya. Cherdantseva 2008. Bryophyte flora of Mednyj Island and bryogeography of the Aleutians (North Pacific). In: *Biodiversity conservation of Kamchatka and surrounding sea. Reports of VIII scientific. Conf. November 27–28, 2007* (V.F. Bugaev, ed.), pp. 36–56, Petropavlovsk-Kamchatskii (in Russian). [Бакалин В.А., Черданцева В.Я. 2008. Бриофлора острова Медный и бриогеография Алеут (Северная Пацифика). // Сохранение биоразнообразия Камчатки и прилегающих морей. Доклады VIII науч. конф. 27–28 ноября 2007 г. / под ред. В.Ф. Бугаева. Петропавловск-Камчатский. С. 36–56].
- ¹⁴Bakalin, V.A., V.Ya. Cherdantseva & T.A. Chibikiyak 2012. Bryophyte flora of Karaginsky Island (Eastern Kamchatka). *Vestnik Severo-Vostochnogo NC DVO RAN* 1:82–92 (in Russian). [Бакалин В.А., Черданцева В.Я., Чибиряк Т.О. 2012. Бриофлора о. Карагинский (Восточная Камчатка). // Вестник Северо-Восточного НЦ ДВО РАН. Т. 1. С. 82–92].
- ¹⁵Bednarek-Ochyra, H., J. Sawicki, R. Ochyra, M. Szczecińska & V. Plášek. 2015. Dilutineuron, a new moss genus of the subfamily Racomitrioideae (Grimmiaceae, Bryophyta). *Acta Musei Silesiae, Scientiae Naturales* 64(2):163–168.
- ¹⁶Belkina, O.A. & A.A. Vilnet 2019. *Trematodon laetevirens* Hakelner & J.-P. Frahm and *T. brevicollis* Hornsch. (Bruchiaceae, Bryophyta) in Russia. *Cryptogamie, Bryologie* 40(19):247–258.
- ¹⁷Blagodatskikh, L.S. 1984. *Mosses of Kolyma Upland*. Institut Biologicheskikh Problem Severa, Magadan, 47 pp. (in Russian) [Благодатских Л.С. 1984. Листостебельные мхи Колымского нагорья. Магадан: Институт биологических проблем Севера. 47 с.].
- ¹⁸Blagodatskikh, L.S., E.F. Kuznetsova & O.M. Afonina 2019. Addition to the moss flora of Magadan Region. *Botanicheskii Zhurnal*. 104(6):979–986. (in Russian) [Благодатских Л.С., Кузнецова Е.Ф., Афонина О.М. 2019. Дополнения к флоре мхов Магаданской области // Ботанический журнал. Т. 104, № 6. С. 979–986].
- ¹⁹Bobrov, E.G., M.M. P'in, V.L. Komarov, A.N. Krishtofovich, B.A. Fedchenko, A.V. Fomin & S.V. Iuzepchuk 1934. *Flora URSS. Vol.1.* (V.L. Komarov, ed.) Nauka, Leningrad, 302 pp. (in Russian). [Бобров Е.Г., Ильин М.М., Комаров В.Л., Криштофович, А.Н., Федченко Б.А., Фомин А.В., Юзепчук С.В. 1934. Флора СССР / под ред. В.Л. Комарова. Ленинград: Наука. Т. 1. 302 с.].
- ²⁰Boch, M.S. & E.O. Kuzmina 1991. About *Sphagnum* moss of Kamchatka Peninsula. *Briologiya v SSSR, ee dostizheniya i perspektivy. Konferentsiya, posvyashennaya 90–letiyu so dnya rozhdeniya A.S. Lazarenko (10–12 sentyabrya 1991 g.)*, (O.T. Demkiv, ed.), pp. 35–38, L'viv. (in Russian) [Боч М.С., Кузьмина Е.О. 1991. О сфагновых мхах полуострова Камчатка // Бриология в СССР, ее достижения и перспективы: Материалы конференции, посвященной 90-летию со дня рождения А.С. Лазаренко (10–12 сентября 1991 г.) / под ред. О.Т. Демкив. Львов: АН СССР. С. 35–38].
- ²¹Bonfim, S.M., V. Fedosov, T. Hartman, A. Fedorova, H. Siebel & M. Stech 2021. Phylogenetic inferences reveal deep polyphyly of Aongstroemiaceae and Dicranellaceae within the haplolepidaceae mosses (Dicranidae, Bryophyta). *Taxon* 70(2):246–262.
- ²²Bridel-Brideri, S.E. 1826. *Bryologia universa. Vol. 1.* Lipsiae. 746 pp.
- ²³Brotherus, V.F. 1914. Mosses (Andreaeales; Bryales part 1). In: *Flora of Asiatic Russia. Vol. 4* (B.A. Fedchenko, ed.), pp. 1–78, Pereselencheskoye upravleniye, Petrograd (in Russian). [Бротерус В. Ф. 1914. Мхи (Andreaeales; Bryales часть 1) // Флора Азиатской России / под ред. Б.А. Федченко. Петроград: Переселенческое управление. Вып. 4. С. 1–78].
- ²⁴Brotherus, V.F. 1918. Mosses (Bryales), part 2. In: *Flora of Asiatic Russia. Vol. 13* (B. A. Fedchenko, ed.), pp. 79–182, Pereselencheskoye upravleniye, Petrograd (in Russian). [Бротерус В.Ф. 1918. Мхи (Bryales) // Флора Азиатской России / под ред. Б.А. Федченко. Петроград, Переселенческое управление. Вып. 13. С. 79–182].
- ²⁵Brotherus V.F. 1925. Musci (Laubmoose). II. Spezieller Teil. 2. Hälfte In: *Die Natürlichen Pflanzenfamilien nebst ihren Gattungen und wichtigeren Arten insbesondere den Nutzpflanzen. Bd. 11* (A. Engler, ed.), pp. 1–542, Leipzig.
- ²⁶Brotherus, V.F. 1931. Mosses of Asian Russia (Bryales). Part 3. In: *Trudy botanicheskogo sada Akademii Nauk SSSR* 42(2):141–180 (in Russian). [Бротерус В.Ф. 1931. Мхи Азиатской России (Bryales) // Труды ботанического сада АН СССР. Т. 42, № 2. С. 141–180].
- ²⁷Câmara, P.E.A.S., M. Carvalho-Silva, D.K. Henriques, J. Guerra, M.T. Gallego, D.R. Poveda & M. Stech. 2018. Pylaisiaceae Schimp. (Bryophyta) revisited. *Journal of Bryology*. 40:251–264.
- ²⁸Cherdantseva, V.Ya. 1978. Materials to the bryoflora of Koryaksky National District. In: *Algae, fungi and mosses of Far East* (Z.M. Azbukina, ed.), pp. 113–123, Vladivostok (in Russian). [Черданцева В.Я. 1978. Материалы к бриофлоре Корьякского национального округа // Водоросли, грибы и мхи Дальнего Востока / под ред. З.М. Азбукиной. Владивосток. С.113–123].
- ²⁹Cherdantseva, V.Ya. 1989. Rare and interesting moss species in the Far East. *Novosti Sistematiki Nizshikh rastenii*

- 26:157–159 (in Russian with English summary). [Черданцева В.Я. 1989. Редкие и интересные виды мхов Дальнего Востока // Новости систематики низших растений. Т. 26. С. 157–159].
- ³⁰Cherdantseva, V.Ya. 2003. Material to the moss flora of the Kronotsky Biospheric Reserve. In: *Plants in the monsoon climate. Proceedings of the III international conference*, pp. 169–173, Vladivostok (in Russian). [Черданцева В.Я. Материалы к бриофлоре Кроноцкого биосферного заповедника (Дальний Восток, Камчатка // Растения в муссонном климате. Материалы III международной конференции Владивосток. С. 169–173].
- ³¹Cherdantseva, V.Ya. 2010. Moss species new and rare to Russia from Medny Island (Commander Islands). *Botanicheskii Zhurnal* 95(1):85–92 (in Russian with English summary). [Черданцева В.Я. 2010. Новые и редкие для России виды мхов с острова Медный (Командорские острова) // Ботанический журнал Т. 95, № 1. С. 85–92].
- ³²Cherdantseva, V.Ya. & V.A. Bakalin 2011. New moss records from Magadan province. 1. *Arctoa* 20:263.
- ³³Cherdantseva, V.Ya. & S.V. Osipov 1998. On the moss (Musci) flora of Kamchatka Peninsula. *Botanicheskii Zhurnal* 83(7):85–92 (in Russian). [Черданцева В.Я., Осипов С.В. 1998. К флоре листостебельных мхов (Musci) п-ова Камчатка // Ботанический журнал. Т. 83, № 7. С. 85–92].
- ³⁴Czernyadjeva, I.V. 1995. *Philonotis yezoana* Besch. et Card. ex Card. (Bartramiaceae, Musci) in Russia. *Arctoa* 4: 15–16.
- ³⁵Czernyadjeva, I.V. 1995a. *Poblia cardotii* (Bryaceae, Musci) found in Eurasia (Russia, Kamchatka Peninsula). *Annales Botanici Fennici* 32:137–139.
- ³⁶Czernyadjeva, I.V. 1999. On the distribution of propagiferous species of *Poblia* (Bryaceae, Musci) in Russia. *Arctoa* 8:51–56.
- ³⁷Czernyadjeva, I.V. 2000. First certain record of *Hygrohypnum bestii* (Ren. & Bryhn) Holz. ex Broth. for Eurasia (Russian Far East, Kamchatka Peninsula). *Arctoa* 9:105–108.
- ³⁸Czernyadjeva, I.V. 2003. The genus *Hygrohypnum* (Amblystegiaceae, Musci) in Russia. *Arctoa* 12:25–58 (in Russian with English summary). [Чернядьева И.В. 2003. Род *Hygrohypnum* (Amblystegiaceae, Musci) в России // *Arctoa* Т. 12. С. 25–58].
- ³⁹Czernyadjeva, I.V. 2005b. On the record of the rare moss *Oligotrichum aligerum* (Polytrichaceae) on Kamchatka Peninsula. *Botanicheskii Zhurnal* 90(1):60–63 (in Russian with English summary). [Чернядьева И.В. 2005b. О находке редкого листостебельного мха *Oligotrichum aligerum* (Polytrichaceae) на полуострове Камчатка // Ботанический журнал. Т. 90, № 1. С. 60–63].
- ⁴⁰Czernyadjeva, I.V. 2007a. The genus *Anacamptodon* (Amblystegiaceae, Bryophyta) in Russia and Transcaucasia. *Arctoa* 16:1–6.
- ⁴¹Czernyadjeva, I.V. 2012. *Mosses of Kamchatka Peninsula*. Izdatel'stvo ETU LETI, St. Petersburg. 459 pp. (in Russian) [Чернядьева И.В. 2012. Мхи полуострова Камчатка. Санкт-Петербург: Изд-во СПбГЭТУ «ЛЭТИ». 459 с.].
- ⁴²Czernyadjeva, I.V., O.M. Afonina & E.A. Ignatova 2015. The genus *Anomobryum* (Bryaceae, Musci) in Russia. *Arctoa* 24:459–470.
- ⁴³Czernyadjeva, I.V. (ed.), O.M. Afonina, V.A. Boldyrev, G.Ya. Doroshina, V.E. Fedosov, G.N. Ganasevich, D.E. Himelbrant, S.S. Kholod, E.A. Kozyreva, S.A. Kutenkov, E.Yu. Kuzmina, E.F. Kuznetsova, P. Lamkowski, A.Yu. Lavrskiy, E.D. Lapshina, A.I. Maksimov, T.A. Maksimova, V.Yu. Neshataeva, O.Yu. Pisarenko, N.N. Popova, A.D. Potemkin & Yu.M. Sergeeva 2019. New cryptogamic records. 3. *Novosti sistematiki nizshikh rastenii* 53(1): 181–197.
- ⁴⁴Czernyadjeva, I.V. (ed.), O.M. Afonina, E.A. Davydov, G.Ya. Doroshina, O.D. Dugarova, A.S. Etylina, I.V. Filipov, G.L. Freydin, O.V. Galanina D.E. Himelbrant, M.S. Ignatov, E.A. Ignatova, V.M. Kotkova, G.M. Kukurichkin, N.S. Kuragina, E.Yu. Kuzmina, E.D. Lapshina, M.V. Lavrentiev, Ju.A. Makuha, E.L. Moroz, A.A. Notov, Yu.K. Novozhilov, S.Yu. Popov, N.N. Popova, A.D. Potemkin, I.S. Stepanchikova, Yu.V. Storozhenko, D.Ya. Tubanova, V.A. Vlasenko, L.S. Yakovchenko & M.V. Zyatnina. 2020. New cryptogamic records. 5. *Novosti sistematiki nizshikh rastenii* 54(1): 261–286.
- ⁴⁵Czernyadjeva, I.V., V.Ya. Cherdantseva, M.S. Ignatov & I.A. Milutina 2006. *Thuidium termophilum* (Thuidiaceae, Bryophyta), a new species from Kamchatka. *Arctoa* 15:195–202.
- ⁴⁶Czernyadjeva I.V., E.A. Davydov, A.A. Efimova, R.M. Gogorev, D.E. Himelbrant, V.M. Kotkova, E.Yu. Kuzmina, A.V. Leostrin, E.L. Moroz, V.Yu. Neshataeva, A.A. Notov, Yu.K. Novozhilov, A.G. Paukov, N.N. Popova, A.D. Potemkin, I.S. Stepanchikova, Yu.V. Storozhenko, L.S. Yakovchenko, M.I. Yurchak, L.F. Volosnova, M.P. Zhurbenko & M.V. Zyatnina. 2021. New cryptogamic records. 7. *Novosti Sistematiki Nizshikh rastenii* 55(1):249–277.
- ⁴⁷Czernyadjeva, I.V. & E.A. Ignatova 2004. *Poblia tundra* Shaw (Musci) in Russia. *Arctoa* 13:29–32.
- ⁴⁸Czernyadjeva, I.V. & M.S. Ignatov 2006. The first record of *Sciuro-hypnum unificolium* (Brachytheciaceae, Musci) in Russia. *Journal of the Hattori Botanical Laboratory* 99:271–274.
- ⁴⁹Czernyadjeva, I.V., O.I. Kuznetsova & M.S. Ignatov 2017. On *Poblia saprophila* (Mielichhoferiaceae, Bryophyta). *Arctoa* 26:181–186.
- ⁵⁰Drugova T.P. 2010. The genus *Aongsroemia* (Dicranaceae, Bryophyta) in Russia. *Arctoa* 19:247–252.
- ⁵¹Ellis, L.T. (ed.), C. Ah-Peng, G. Aslan, V.A. Bakalin, A. Bergamini, D.A. Callaghan, P. Campisi, F.M. Raimondo, S.S. Choi, J. Csiky, É. Csikyné Radnai, B. Cykowska-Marzencka, I.V. Czernyadjeva, Yu.M. Kalinina, O.M. Afonina, G. Domina, P. Drapela, V.E. Fedosov, E. Fuertes, R. Gabriel, M. Kubová, I. Soares Albergaria, G. Gospodinov, R. Natcheva, A. Graulich, C.W. Hyun, M. Kırmacı, U. Çatak, S. Kubešová, J. Kučera, C. La Farge, J. Larraín, P. Martín, B. Mufeed, C.N. Manju, K.P. Rajesh, C.S. Németh, J. Nagy, N. Norhazrina, N. Syazwana, S.V. O'Leary, S.J. Park, A.P. Peña-Retes, A. Rimac, A. Alegro, V. Segota, N. Kolečić, N. Vuković, S. Rosadziński, J.A. Rosselló, M.S. Sabovljević, A.D. Sabovljević, A. Schäfer-Verwimp, C. Sérgio, A.V. Shkurko, D. Shyriaieva, V.M. Virchenko, M. Smoczyk, D. Spitale, P. Srivastava, I. Omar, A.K. Asthana, M. Staniaszek-Kik, A. Cienkowska, M-M. Ștefănuț, S. Ștefănuț, G. Tamas, C-C. Birsan, G-R. Nicoară, M.C. Ion, T. Pócs, G. Kunev, E.I. Troeva, J. van Rooy, P. Wietrzyk-Pelka, M.H. Węgrzyn, G.J. Wolski, D. Bożyk & A. Cienkowska. 2021. New national and regional bryophyte records, 65. *Journal of Bryology* 43(1):67–91.
- ⁵²Ellis, L.T., M. Alataş, W.R. Álvaro Alba, A.M. Charry Giraldo, V. Amatov, N. Batan, D.A. Becerra Infante, M. Burghardt, I.V. Czernyadjeva, E.Yu. Kuzmina, G.Ya. Doroshina, H. Erata, R. Garilleti, S.R. Gradstein, I. Jukonienė, S. Karaman Erkul, A. Keskin, T. Ezer, F. Lara, I. Draper, A.I. Maksimov, A.V. Mammadova, R. Natcheva, Cs. Németh, J. Pantovic, M.S. Sabovljević, B. Papp, S. Poponessi, A. Cogoni, R.D. Porley, M.E. Reiner-Drehwald, A. Schäfer-Verwimp, A. Schmotzer, V. Segota, A. Alegro, A. Rimac, S. Ștefănuț, E. Szurdoki, E.F. Vilk, V.M. Virchenko, R.J. Bijlsma & D.A. Callaghan 2021. New national and regional bryophyte records, 67. *Journal of Bryology* 43(3): 301–311.
- ⁵³Evdokimov, G., O. Afonina, L. Konoreva, R. Obabko, Yu. Mamontov, S. Chesnokov & I. Frolov. 2022. Additions to the flora of lichens, mosses and liverworts of Wrangel Island. *Polish Polar Research*. In press.
- ⁵⁴Fedosov, V.E. 2010b. New moss records from Kamchatka Province. 5. *Arctoa* 19:279–280.
- ⁵⁵Fedosov, V.E. 2010a. The mosses of Kostin and Balkhach Mountains (Sredinnyj Kamchatsky Range, Russian Far East). *Arctoa* 19:253–258.
- ⁵⁶Fedosov, V.E. 2012a. New moss records from Magadan Province. 2. In: Sofronova E.V. (ed.) New bryophyte records. 1. *Arctoa* 21:295.
- ⁵⁷Fedosov, V.E. 2012b. *Encalypta* sect. *Rhabdotheca* in Russia. *Arctoa* 21: 101–112.

- ⁵⁸Fedosov, V.E., I.V. Czernyadjeva, E.A. Ignatova, O.I. Kuznetsova, A.V. Fedorova & M.S. Ignatov 2016. On the *Bryoxiphium norvegicum* and *B. japonicum* (Bryoxiphaceae, Bryopsida). *Arctoa* 25(1):52–68.
- ⁵⁹Fedosov, V.E., A.V. Fedorova, A.E. Fedosov & M.S. Ignatov 2016. Phylogenetic inference and peristome evolution in haplolepidaceous mosses, focusing on Pseudoditrichaceae and Ditrichaceae s. l. *Botanical Journal of the Linnean Society* 181:139–155.
- ⁶⁰Fedosov, V.E., A.V. Fedorova & E.A. Ignatova 2017. On the taxonomic position of the genera *Brachydontium* Fürnr. and *Campylostelium* Bruch & Schimp. (Bryophyta, Grimmiaceae). – *Journal of Bryology*, 39(2):161–170.
- ⁶¹Fedosov, V.E., A.V. Fedorova & E.A. Ignatova 2017. On the two poorly known *Orthotrichum* species from North Asia. *Arctoa* 26(2):144–153.
- ⁶²Fedosov, V.E., A.V. Fedorova, E.A. Ignatova & M.S. Ignatov 2017. A revision of the genus *Seligeria* (Seligeriaceae, Bryophyta) in Russia inferred from molecular data. *Phytotaxa* 323:27–50.
- ⁶³Fedosov, V.E., A.V. Fedorova, J. Larrain, M.B. Santos, M. Stech, J. Kučera, J.C. Brinda, D.Ja. Tubanova, M. von Konrat, E.A. Ignatova & M.S. Ignatov. 2021. Unity in diversity: phylogenetics and taxonomy of Rabdoweisiaceae (Dicranales, Bryophyta). *Botanical Journal of the Linnean Society*. 195(4):545–567.
- ⁶⁴Fedosov, V.E. & E.A. Ignatova 2008. The genus *Bryerythrophyllum* (Pottiaceae, Bryophyta) in Russia. *Arctoa* 17:19–38.
- ⁶⁵Fedosov, V.E. & E.A. Ignatova 2011. On *Orthotrichum pellucidum* and *O. hallii* (Orthotrichaceae, Bryophyta) in Russia. *Arctoa* 20:197–204.
- ⁶⁶Fedosov, V.E. & E.A. Ignatova 2012. New moss records from Kamchatsky Territory. 6. – In: Sofronova E.V. (ed.) New bryophyte records. 1. *Arctoa* 21:295–296.
- ⁶⁷Fedosov, V.E., E.A. Ignatova, M.S. Ignatov, A.I. Maksimov & V.I. Zolotov 2012. Moss flora of Bering Island (Commander Islands, North Pacific). *Arctoa* 21:113–164.
- ⁶⁸Fedosov, V.E., A.V. Shkurko, A.V. Fedorova, E.A. Ignatova, E.N. Solovyeva, J.C. Brinda, M.S. Ignatov & J. Kučera 2022. Need for split: integrative taxonomy reveals unnoticed diversity in subaquatic species of *Pseudohygrohypnum* (Pylaisiaceae, Bryophyta). *PeerJ* 10:e13260.
- ⁶⁹Flatberg, K.I. 2005. Taxonomy, geography and possible origin of *Sphagnum inexpectatum* (sect. *Subsecunda*) sp. nov. *Lindbergia* 30:59–78.
- ⁷⁰Flatberg, K.I. 2007. *Sphagnum tesorum* (Bryophyta), a new species in sect. *Acutifolia* from Beringian Region. *Lindbergia* 32 (3):99–110.
- ⁷¹Flatberg, K.I., O.M. Afonina, Yu.S. Mamontov, V.E. Fedosov & E.A. Ignatova 2016. On *Sphagnum mirum* (subgen. *Squarrosa*) and *S. olafii* (subgen. *Acutifolia*) (Sphagnaceae, Bryophyta) in Russia. *Arctoa* 25:96–101.
- ⁷²Frey, W & M. Stech 2009. Marchantiophyta, Bryophyta, Anthocerotophyta. In: *Syllabus of plant families. A. Engler's Syllabus der Pflanzenfamilien*, 13th edn, Part 3. Bryophytes and seedless vascular plants. (W. Frey, ed.), pp. 13–263, Gebr. Borntraeger Verlagsbuchhandlung, Stuttgart.
- ⁷³Frisvoll, A.A. 1988. *Racomitrium afoninae* sp. nov. from Chukotka peninsula. *Journal of Bryology*. 15:275–279.
- ⁷⁴Goffinet, B, W.R. Buck & A.J. Shaw 2009. Morphology, anatomy and classification of the Bryophyta. In: *Bryophyte Biology*, 2-nd edition, (B. Goffinet, A.J. Shaw, ed.), pp. 55–138, Cambridge University Press, Cambridge.
- ⁷⁵Gorodkov, B.N. 1939. Botanic-geographical outline of the Chukotka coast. *Uchenye zapiski Leningradskogo pedagogicheskogo instituta im. Gertsena* 21:99–175 (in Russian). [Городков Б.Н. 1939. Ботанико-географический очерк Чукотского побережья // Ученые записки Ленинградского педагогического ин-та им. Герцена. Вып. 21. С. 99–175].
- ⁷⁶Gorodkov, B.N. 1958. Soil and vegetation cover of the Wrangel Island. In: *Vegetation of the Far North and its exploitation*. Issue 3 (B.A. Tikhomirov, ed.), pp. 59–94, USSR Academy of Sciences, Moscow, Leningrad (in Russian). [Городков Б.Н. 1958. Почвенно-растительный покров острова Врангеля // Растительность Крайнего Севера и ее освоение / под ред. Б.А. Тихомирова. М.; Л. Вып. 3. С. 5–58].
- ⁷⁷Hassel, K, M.O. Kyrkjeeide, N. Yousefi, T. Prestø, H.K. Steenøien, J.A. Shaw & K.I. Flatberg. 2018. *Sphagnum divinum* (sp. nov.) and *S. medium* Limpr. and their relationship to *S. magellanicum* Brid. *Journal of Bryology* 40:197–222.
- ⁷⁸Hedenäs, L. 2006. Additional insights into the phylogeny of *Calliergon*, *Loeskygnum*, *Straminergon* and *Warnstorfia* (Bryophyta: Calliergonaceae). *Journal of the Hattori Botanical Laboratory* 100:125–134.
- ⁷⁹Hedenäs L. & Bakalin V.A. 2007. *Loeskygnum wickesii* - New national and regional bryophyte records, 16. *Journal of Bryology*, 29(3):200–201.
- ⁸⁰Hedenäs, L. 1993. A generic revision of the *Warnstorfia-Calliergon* group. *Journal of Bryology*, 17:447–479.
- ⁸¹Hedenäs, L. 1998. An overview of the *Drepanocladus sendtneri* complex. *Journal of Bryology* 20:83–102.
- ⁸²Hedenäs, L. 2005. *Oncophorus wahlenbergii* var. *elongatus* I. Hagen, an overlooked taxon in northern Europe. *Lindbergia* 30:32–38.
- ⁸³Hedenäs, L. 2017. Scandinavian *Oncophorus* (Bryopsida, Oncophoraceae): species, cryptic species, and intraspecific variation. *European Journal of Taxonomy* 315:1–34.
- ⁸⁴Hedenäs, L. 2018. *Oncophorus demetrii*, a fifth Scandinavian species of *Oncophorus* (Musc) possible to recognize by morphology. *Lindbergia*. 41:1–9.
- ⁸⁵Hedenäs, L., O.I. Kuznetsova, & M.S. Ignatov 2020. A revision of the genus *Tomentypnum* (Amblystegiaceae) in northern Eurasia. *The Bryologist*. 123(3):378–395.
- ⁸⁶Hodgetts, N.G., L. Söderström, T.L. Blockeel, S. Caspari, M.S. Ignatov, N.A. Konstantinova, N. Lockhart, B. Papp, C. Schröck, M. Sim-Sim, D. Bell, N.E. Bell, H.H. Blom, M.A. Bruggeman-Nannenga, M. Brugués, J. Enroth, K.I. Flatberg, R. Garilleti, L. Hedenäs, D.T. Holyoak, V. Hugonnot, I. Kariyawasam, H. Köckinger, J. Kučera, F. Lara & R.D. Porley 2020. An annotated checklist of bryophytes of Europe, Macaronesia and Cyprus. *Journal of Bryology* 42(1):1–116.
- ⁸⁷Hooker W.J. & G.A.W. Arnott 1841. *The Botany of captain Beechey's voyage*. London, 119–120 pp.
- ⁸⁸Ignatov, M.S., O.M. Afonina, E.A. Ignatova, A. Abolina, T.V. Akatova, E.Z. Baisheva, L.V. Bardunov, E.A. Baryakina, O.A. Belkina, A.G. Bezgodov, M.A. Boychuk, V.Ya. Cherdantseva, I.V. Czernyadjeva, G.Ya. Doroshina, A.P. Dyachenko, V.E. Fedosov, I.L. Goldberg, E.I. Ivanova, I. Jukoniene, L. Kannukene, S.G. Kazanovsky, Z.Kh. Kharzinov, L.E. Kurbatova, A.I. Maksimov, U.K. Mamatkulov, V.A. Manakyan, O.M. Maslovsky, M.G. Napreenko, T.N. Otnyukova, L.Ya. Partyka, O.Yu. Pisarenko, N.N. Popova, G.F. Rykovsky, D.Ya. Tubanova, G.V. Zheleznova & V.I. Zolotov 2006. Check-list of mosses of East Europe and North Asia. *Arctoa* 15:1–130.
- ⁸⁹Ignatov, M.S., O.M. Afonina, O.I. Kuznetsova & E.A. Ignatova 2012. The genus *Leptopterigynandrum* (Taxiphyllaceae, Bryophyta) in Russia. *Arctoa* 21: 207–220.
- ⁹⁰Ignatov, M.S., A.V. Fedorova & V.E. Fedosov 2019. On the taxonomy of Anomodontaceae and *Heterocladium* (Bryophyta). *Arctoa* 28:75–102.
- ⁹¹Ignatov, M.S. & S. Huttunen. 2002. Brachytheciaceae (Bryophyta) – A family of sibling genera. *Arctoa* 11: 245–296.
- ⁹²Ignatov, M.S., S. Huttunen, M. Li & Y-F Wang. 2015. How to know *Myuroclada longiramea* (Brachytheciaceae, Bryophyta). *Arctoa* 24:497–502.
- ⁹³Ignatov, M.S. & E.A. Ignatova. 2004. *Moss flora of the Middle European Russia. Vol. 2. Fontinalaceae – Amblystegiaceae* (M.S. Ignatov, ed.), pp. 609–944, KMK Press, Moscow (in Russian). [Игнатов М.С., Игнатова Е.А. 2004. Флора мхов средней части Европейской России / под ред. М.С. Игнатова. Москва: КМК. Т. 2. Fontinalaceae – Amblystegiaceae. С. 609–944].

- ⁹⁴Ignatov, M.S., E.A. Ignatova, V.E. Fedosov, O.M. Afonina, I.V. Czernyadjeva, L. Hedenäs & V.Ya. Cherdantseva. 2022. *Moss flora of Russia. Vol.6: Hypnales (Calliergonaceae – Amblystegiaceae)* (M.S. Ignatov, ed.). KMK Scientific Press Ltd, Moscow, 472 pp.
- ⁹⁵Ignatov, M.S., E.A. Ignatova, V.E. Fedosov, E.I. Ivanova, H.H. Blom, J. Muñoz, H. Bedharek-Ochyra, O.M. Afonina, L.E. Kurbatova, I.V. Czernyadjeva & V.Ya. Cherdantseva. 2017. *Moss flora of Russia. Vol. 2: Oedipodiales – Grimmiales*. (M.S. Ignatov, ed.). KMK Scientific Press Ltd, Moscow. 560 pp.
- ⁹⁶Ignatov, M.S., E.A. Ignatova, V.E. Fedosov, I.V. Czernyadjeva, O.M. Afonina, A.I. Maksimov, J. Kučera, T.V. Akatova & G.Ya. Doroshina. 2020. *Moss flora of Russia. Vol. 5: Hypopterygiales – Hypnales (Plagiotheciaceae – Brachytheciaceae)* (M.S. Ignatov, ed.). KMK Scientific Press Ltd, Moscow. 600 pp.
- ⁹⁷Ignatov, M.S., E.A. Ignatova, V.E. Fedosov, V.I. Zolotov, T. Koponen, I.V. Czernyadjeva, G.Ya. Doroshina, D.Ya. Tubanova & N.T. Bell. 2018. *Moss flora of Russia. Vol. 4: Bartramiales – Aulacomniales* (M.S. Ignatov, ed.). KMK Scientific Press Ltd, Moscow. 543 pp.
- ⁹⁸Ignatov M.S., E.A. Ignatova, O.I. Kuznetsova & V.E. Fedosov 2019. On moss genera *Hylocomiadelphus* Ochyra & Stebel and *Rhytidadelphus* (Limpert.) Warnst. *Acta Musei Silesiae, Scientiae Naturales* 68:113–124.
- ⁹⁹Ignatov, M.S., O.I. Kuznetsova & I.V. Czernyadjeva 2014. On the systematic position of *Leptodictium mizushimae* (Bryophyta). *Arctoa* 23:185–193.
- ¹⁰⁰Ignatov, M.S. & A.I. Milutina 2010. The genus *Brachythecium* (Brachytheciaceae, Musci) in Russia: comments on species and key for identification. *Arctoa* 19:1–30.
- ¹⁰¹Ignatov, M.S. & I.A. Milyutina 2007a. A revision of the genus *Sciuro-hypnum* in Russia (Brachytheciaceae, Bryophyta). *Arctoa* 16:63–86.
- ¹⁰²Ignatov, M.S., I.A. Milyutina & V.K. Bobrova 2008. Problematic groups of *Brachythecium* and *Eurhynchiastrum* (Brachytheciaceae, Bryophyta) and taxonomic solutions suggested by *mtl*TS sequences. *Arctoa* 17:113–138.
- ¹⁰³Ignatova, E., H. Bednarek-Ochyra, O. Afonina & J. Muñoz 2003. A new species of *Grimmia* (Grimmiaceae, Musci) from North-East Asia and Alaska (Grimmiaceae, Musci). *Arctoa* 12:1–8.
- ¹⁰⁴Ignatova, E.A., H.H. Blom, D.V. Goryunov & I.A. Milyutina 2010. On the genus *Schistidium* (Grimmiaceae, Musci) in Russia. *Arctoa* 19:195–233.
- ¹⁰⁵Ignatova, E.A., I.V. Czernyadjeva, A.V. Fedorova & M.S. Ignatov 2021. A morphological and molecular phylogenetic study of the genus *Calliergon* (Calliergonaceae, Bryophyta) in Russia. *Arctoa* 30(1):8–24.
- ¹⁰⁶Ignatova, E.A., A.V. Fedorova, O.I. Kuznetsova & M.S. Ignatov 2019. Taxonomy of the *Plagiothecium laetum* complex (Plagiotheciaceae, Bryophyta) in Russia. *Arctoa* 28:28–45.
- ¹⁰⁷Ignatova, E.A., A.V. Fedorova & M.S. Ignatov. 2020. On the genera *Isopterygiopsis* and *Isopterygiella*, gen. nov. (Plagiotheciaceae) in Russia. *Arctoa* 29(1):49–62.
- ¹⁰⁸Ignatova, E.A. & V.E. Fedosov 2008. *Dicranum* with fragile leaves in Russia. *Arctoa* 17:63–83.
- ¹⁰⁹Ignatova, E.A. & V.E. Fedosov 2012. *Ditrichum zonatum* var. *scabrifolium* Dixon in Russia. *Arctoa* 21:165–168.
- ¹¹⁰Ignatova, E.A. & M.S. Ignatov 2011. The genus *Thamnobryum* (Neckeraceae, Bryophyta) in Russia. *Arctoa* 20:137–151.
- ¹¹¹Ignatova E.A., M.S. Ignatov, K.G. Klimova & V.A. Bakalin 2021. Contribution to the moss flora of Ayan (West coast of the sea of Okhotsk, the Russian Far East). *Arctoa* 30(1):79–90.
- ¹¹²Ignatova, E.A., L.E. Kurbatova, O.I. Kuznetsova, O.V. Ivanov, J.R. Shevock, B. Carter & M.S. Ignatov 2015. The genus *Scouleria* (Bryophyta) in Russia revisited. *Arctoa* 24(1):47–66.
- ¹¹³Ignatova, E.A., O.I. Kuznetsova & M.S. Ignatov 2016. *Grimmia beringiensis* sp.nova (Grimmiaceae, Bryophyta). *Arctoa* 25:69–79.
- ¹¹⁴Ignatova, E.A., O.I. Kuznetsova, V.E. Fedosov & M.S. Ignatov 2016. On the genus *Hedwigia* (Hedwigiaceae, Bryophyta) in Russia. *Arctoa* 25(2):241–277.
- ¹¹⁵Ignatova, E.A., O.I. Kuznetsova, N.R. Shafigullina, V.E. Fedosov & M.S. Ignatov 2020. The genus *Pylaisia* (Pylaisiaceae, Bryophyta) in Russia. *Arctoa* 29(1):135–178.
- ¹¹⁶Ignatova, E.A. & J.T. Muñoz 2004. The genus *Grimmia* Hedw. (Grimmiaceae, Musci) in Russia. *Arctoa* 13:101–182.
- ¹¹⁷Ignatova, E.A. & T.Yu. Samkova 2006. *Campylopus umbellatus* (Arn.) Paris (Leucobryaceae, Musci) – a new species for Russia. *Arctoa* 15:215–218.
- ¹¹⁸Ignatova, E.A., D.Ya. Tubanova, O.D. Tumurova, D.V. Goryunov, O.I. Kuznetsova 2015. When the plant size matters a new semi-cryptic species of *Dicranum* from Russia. *Arctoa* 24:471–488.
- ¹¹⁹Inoue, Y. & H. Tsubota. 2014. On the systematic position of the genus *Timmia* (Dicranidae, Bryopsida) and its allied genera, with the description of a new family Timmiellaceae. *Phytotaxa* 181(3):151–162.
- ¹²⁰Ivanov, O.V., M.A. Kolesnikova, O.M. Afonina, T.V. Akatova, E.Z. Baisheva, O.A. Belkina, A.G. Bezgodov, I.V. Czernyadjeva, S.V. Dudov, V.E. Fedosov, E.A. Ignatova, E.I. Ivanova, M.N. Kozhin, E.D. Lapshina, A.A. Notov, O.Yu. Pisarenko, N.N. Popova, A.N. Savchenko, V.V. Teleganova, G.Ya. Ukrainskaya & M.S. Ignatov 2017. The database of the moss flora of Russia. *Arctoa* 26(1):1–10.
- ¹²¹Ivanova E.I., N.E. Bell., O.I. Kuznetsova, E.A. Ignatova & M.S. Ignatov 2015. The genus *Polytrichum* sect. *Aporotheca* (Polytrichaceae) in Russia. *Arctoa* 24:67–78.
- ¹²²Koponen, T. & I.V. Czernyadjeva 2006. *Rhizomnium tumikoskii* (Mniaceae, Musci) on the Kamchatka Peninsula, Russian Far East. *Arctoa* 15:183–186.
- ¹²³Koponen T., E.A. Ignatova, O.I. Kuznetsova & M.S. Ignatov. 2012. *Philonotis* (Bartramiaceae, Bryophyta) in Russia. *Arctoa* 21:21–62.
- ¹²⁴Kotkova, V.M., O.M. Afonina, T. Dejidmaa, G.Ya. Doroshina, O.V. Erokhina, Kh.Yu. Guziev, T.G. Ivchenko, E.Yu. Kuzmina, O.V. Lavrinenko, M.A. Makarova, A.I. Mingalimova, E.L. Moroz, V.Yu. Neshataeva, Yu.K. Novozhilov, A.D. Potemkin, S.N. Shadrina, A.V. Vlasenko & V.A. Vlasenko 2021. New cryptogamic records 8. *Novosti sistematiki nizshikh rastenii* 55(2):495–516.
- ¹²⁵Kučera, J. & L. Hedenäs. 2020. Revisiting the genus *Campyliadelphus* (Amblystegiaceae, Bryophyta). *Nova Hedwigia* 150:165–178.
- ¹²⁶Kučera, J., E.A. Ignatova, O.M. Afonina 2012. *Didymodon giganteus* (Pottiaceae, Bryophyta) in Chukotka. *Novosti sistematiki nizshikh rastenii* 46:274–278.
- ¹²⁷Kučera J., E.A. Ignatova, M.S. Ignatov, A.V. Fedorova, O.I. Kuznetsova & V.E. Fedosov 2021. *Raniella thuidioides*, sp. nov. (Leskeaceae, Bryophyta), a new species from the Russian Far East. *Arctoa* 30(2):425–433.
- ¹²⁸Kučera, J., O.I. Kuznetsova, A. Manukjanová & M.S. Ignatov. 2019. A phylogenetic revision of the genus *Hypnum*: towards completion. *Taxon* 68(4):628–660.
- ¹²⁹Kuzmina, E.Yu. 2000. Mosses of the upper reaches of the Long River (Koryak Upland). *Novosti Sistematiki Nizshikh rastenii* 34:226–235 (in Russian). [Кузьмина Е.Ю. 2000. Листостебельные мхи верхнего течения р. Длинной (Корякское нагорье) // Новости систематики низших растений. Т. 34. С. 226–235].
- ¹³⁰Kuzmina, E.Yu. 2010. To moss flora of Uzon Caldera (Kronotsky State Biospheric Reserve, Eastern Kamchatka). In: *Bryology: traditions and state-of-the-art. Proceedings of the international bryological conference devoted to the 110-th birthdays of Z.N. Smirnova and C.I. Ladyzhenskaja*, pp. 84–89, St. Petersburg [Кузьмина Е.Ю. 2010. К флоре мхов кальдеры Узон (Кроноцкий биосферный государственный заповедник, Восточная Камчатка) // Бриология: традиции и современность: Сб. статей по материалам междунар. конф., посвящ. 110-летию со дня рождения З.Н. Смирновой и К.И. Ладыженской. СПб. С. 84–89].
- ¹³¹Kuzmina, E.Yu. 2011. Moss cenoflora of spruce forests from *Picea ajanensis* (Lindl. ex Gord.) Fisch. ex Carr. Kro-

- notsky Nature Reserve, Lazovsky forestry). In: *Russian geobotany: the main milestones and prospects. Materials of the Russian Scientific Conference with International Participation (St. Petersburg, September 20–24, 2011)*, pp. 129–132. St. Petersburg (in Russian). [Кузьмина Е.Ю. 2011. Ценофлора мхов сальников из *Picea ajanensis* (Lindl. ex Gord.) Fisch. ex Carr. Кроноцкий заповедник, Лазовское лесничество) // Отечественная геоботаника: основные вехи и перспективы. Материалы всероссийской научной конференции с международным участием (Санкт-Петербург, 20–24 сентября 2011 г.). СПб. Т. 1. С. 129–132].
- ¹³²Kuzmina, E.Yu., V.Yu. Neshataev, V.Yu. Neshataeva, A.P. Korablev 2012. To bryoflora of the Southwest extremity of Koryak Upland (Kamchatka Territory, Penzhinsky District). *Novosti sistematiki nizshikh rastenii* 46: 256–268 (in Russian). [Кузьмина Е.Ю., Нешатаев В.Ю., Нешатаева В.Ю., Короблев А.П. 2012. К бриофлоре юго-западной оконечности Корякского нагорья (Камчатский край, Пенжинский район) // Новости систематики низших растений Т. 46. С. 256–268].
- ¹³³Kuzmina, E.Yu., A.D. Potemkin & V.Yu. Neshataeva 2020. Bryophytes (Bryophyta, Marchantiophyta) of thermal habitats of the Lagoon Tintikun, Northern Koryakia, Kamchatka Territory. *Novosti sistematiki nizshikh rastenii* 54(1):189–209 (in Russian). [Кузьмина Е.Ю., Потемкин А.Д., Нешатаева В.Ю. 2020. Мохообразные (Bryophyta, Marchantiophyta) термальных местообитаний лагуны Тинтикун (Северная Корякия, Камчатский край) // Новости систематики низших растений. Т. 54, № 1. С. 189–209].
- ¹³⁴Kyrkjeeide, M.O., K. Hassel, B. Agüero, E.M. Temsch, O.M. Afonina, A.J. Shaw, Y.K. Stenöien & K.I. Flatberg 2019. *Sphagnum* × *hydiae*, the first allotriploid peatmoss in the northern hemisphere. *The Bryologist* 122(1):38–61.
- ¹³⁵Kyrkjeeide, M.O., K. Hassel, B. Shaw, A.J. Shaw, E.M. Temsch & K.I. Flatberg 2018. *Sphagnum incundum* a new species in *Sphagnum* subg. *Acutifolia* (Sphagnaceae) from boreal and arctic regions of North America. *Phytotaxa* 333(1):1–21.
- ¹³⁶Lazarenko, A.S. 1940. Leafy mosses of the Soviet Far East. I (Acrocarpae: Andreaeales–Schistostegiales). *Botanicheskii Zhurnal Akademii Nauk Ukrainskoi RSR* 1(3–4):239–243 (in Ukrainian). [Лазаренко А.С. 1940. Листяні мохи Радянського Далекого Сходу I. Верхопладні мохи (Acrocarpae: Andreaeales–Schistostegiales) // Ботанический журнал АН УРСР. Т. 1, № 3–4. С. 239–243].
- ¹³⁷Lazarenko, A.S. 1941a. Leafy mosses of the Soviet Far East. II. Acrocarpae: Orthotrichales–Eubryales; Pleurocarpae: Isobryales–Hypnobryales (Theliaceae–Leskeaceae) *Botanicheskii Zhurnal Akademii Nauk Ukrainskoi RSR* 2(1):51–95 (in Ukrainian). [Лазаренко А.С. 1941. Листяні мохи Радянського Далекого Сходу II. Асроскарпае: Orthotrichales–Eubryales; Pleurocarpae: Isobryales–Hypnobryales (Theliaceae–Leskeaceae) // Ботанический журнал АН УРСР. Т. 2, № 1. С. 51–95].
- ¹³⁸Lazarenko, A.S. 1941b. Leafy mosses of the Soviet Far East. III. Thuidiaceae–Brachytheciaceae. *Botanicheskii Zhurnal Akademii Nauk Ukrainskoi RSR* 2(2):271–308 (in Ukrainian). [Лазаренко А.С. 1941. Листяні мохи Радянського Далекого Сходу III. Thuidiaceae–Brachytheciaceae // Ботанический журнал. АН УРСР. Т. 2, № 2. С. 271–308].
- ¹³⁹Lazarenko, A.S. 1945. Leafy mosses of the Soviet Far East. IV. Entodontaceae–Hypnaceae. *Botanicheskii Zhurnal Akademii Nauk Ukrainskoi RSR* 2(3–4):185–216 (in Ukrainian). [Лазаренко А.С. 1945. Листяні мохи Радянського Далекого Сходу IV. Entodontaceae–Hypnaceae // Ботанический журнал. АН УРСР. Т. 2, № 3–4. С. 185–216].
- ¹⁴⁰Lazarenko, A.S. 1946. Bryological notes. *Botanicheskii Zhurnal Akademii Nauk Ukrainskoi RSR* 3(3–4):61–63 (in Ukrainian). [Лазаренко А.С. 1946. Бриологічні нотатки // Ботанический журнал АН УРСР. Т. 3, № 3–4. С. 61–63].
- ¹⁴¹Lozhkin, A.V. 1997. Environmental history of Beringia during the late Pleistocene and Holocene: Some results of joint Russian–American research. In: *Late Pleistocene and Holocene of Beringia* (M.Kh. Gagiev, ed.), pp. 5–22, SVKNI DVO RAN, Magadan (in Russian). [Ложкин А.В. 1997. Эволюция природной среды Берингии в позднеплейстоцене и голоцене: некоторые итоги совместных российско-американских исследований // Поздний плейстоцен голоцен Берингии / под ред. М.Х. Гагиева. Магадан:СВКНИ ДВО РАН. С. 5–22].
- ¹⁴²Lupinovich, I.S. 1947. Description of zones and provinces by natural historical countries. In: *Natural historical zoning of the USSR* (D.G. Vilenskii, ed.), pp. 88–308, Nauka, Moscow, Leningrad (in Russian). [Лушинович И.С. 1947. Описание зон и провинций по естественно-историческим странам // Естественно-историческое районирование СССР / под ред. Д.Г. Виленского. Москва; Ленинград: Наука. С. 88–308].
- ¹⁴³Maksimov, A.I. 2007. *Sphagnum imbricatum* complex (Sphagnaceae, Bryophyta) in Russia. *Arctoa* 16:25–34.
- ¹⁴⁴Maksimov, A.I. 2016. Review of *Sphagnum* species (Sphagnaceae, Bryophyta) from Asian Russia. I. Subgenus *Subsecunda*. In: *Proceedings of the VI International Meeting on the Biology of Sphagnum, July 28–August 11, 2016* (E.D. Lapshina, O.V. Galanina, eds), pp. 41–44, Izdatel'skii dom Tomskogo gosudarstvennogo universiteta.
- ¹⁴⁵Maksimov, A.I., V.E. Fedosov & E.A. Ignatova 2016. *Sphagnum beringiense* (Sphagnaceae, Bryophyta) in Russia. *Arctoa* 25:102–106.
- ¹⁴⁶Maksimov, A.I. & E.A. Ignatova 2008. *Sphagnum alaskense* (Sphagnaceae, Bryophyta), a new species for Russia. *Arctoa* 17:109–112.
- ¹⁴⁷Malashkina, E.V. 2012. New moss records from Magadan Province. 3. In: Sofronova E.V. (ed.) *New bryophyte records*. 1. *Arctoa* 21:295.
- ¹⁴⁸Melin, E. 1924. Some information to the *Sphagnum*-flora of Kamtschatka. *Bryologist* 17:88–90.
- ¹⁴⁹Möller, H. 1927. Die Laubmoose Kamtschatkas. *Hedwigia* 67:86–98.
- ¹⁵⁰Müller, C. 1883. Musci Tschutschici. *Botanisches Zentralblatt* 16(2–4):57–63; 91–95; 121–127.
- ¹⁵¹Neshataeva, V.Yu., V.Yu. Neshataev, E.Yu. Kuzmina 2013. On the record of *Splachnum luteum* (Splachnaceae). in Parapolsky Dol valley (Kamchatsky Krai). *Novosti sistematiki nizshikh rastenii* 47:327–333 (in Russian). [Нешатаева В.Ю., Нешатаев В.Ю., Кузьмина Е.Ю. 2013. О находке *Splachnum luteum* (Splachnaceae) на Паропольском Доле (Камчатский Край) // Новости систематики низших растений. Т. 47. С. 327–333].
- ¹⁵²O'Brien, T.J. & D. Horton 2000. *Bryobenea* (Musci; Thuidiaceae) is *Cyrtobryum* (Thuidiaceae), but *B. sachalinensis* is *Echinophyllum* (Thuidiaceae), a new genus from the Pacific Rim. *The Bryologist*. 103(30):509–517.
- ¹⁵³Ochyra, R., J. Żarnowiec & H. Bednarek-Ochyra 2003. Census catalogue of Polish mosses. *Biodiversity of Poland* 3:1–372.
- ¹⁵⁴Ochyra, R. 2013. The new generic name *Torrentaria*, a nomenclatural consequence of the legitimacy of *Platyhypnum* and the illegitimacy of *Platyhypnidium* (Bryophyta). *Nova Hedwigia* 96:205–212.
- ¹⁵⁵Ochyra, R. & O. Afonina 2010. *Schistidium frabmianum* (Bryopsida, Grimmiaceae), a new arctic species from Beringia. *Tropical Bryology* 31:139–143.
- ¹⁵⁶Omelko, A.M., V.V. Yakubov, V.A. Bakalin, A.V. Velikanov, V.Ya. Cherdantseva, I.F. Skirina, A.N. Yakovleva & P.V. Krestov 2010. Plant cover of the Mountains Lanchinskiye Gory (Okhotia). *Komarovskie Chteniya* 57:103–163 (in Russian with English summary) [Омелько А.М., Якубов В.В., Бакалин В.А., Великанов А.В., Черданцева В.Я., Скирина И.Ф., Яковлева А.Н., Крестов П.В. 2010. Растительный покров Ланжинских гор (Охотия) // Комаровские чтения. Т. 57. С. 103–163].
- ¹⁵⁷Otnyukova, T.N. 2002. A study of the *Didymodon* species (*Pottiaceae*, Musci in Russia. I. Species with caducous leaf apices. *Arctoa* 11:333–336.
- ¹⁵⁸Otnyukova, T.N., E.A. Ignatova, M.S. Ignatov, V.E. Fedosov 2004. New records of *Tortella alpicola* Dix. in Russia. *Arctoa* 13:197–201.
- ¹⁵⁹Persson, H. 1970. Contribution to the bryoflora of Kamt-

- chatka. *Revue bryologique et lichenologique* 37(2):209–221.
- ¹⁶⁰Pisarenko, O.Yu. 2015. Mosses of the Bolshoi Annachag Range (Magadan Province, Russian Far East). *Arctoa* 24(1):187–193.
- ¹⁶¹Pisarenko, O.Yu. & V.A. Bakalin 2018. Bryophyte flora of the Magadan Province (Russia) I. Introduction and the checklist mosses. *Botanica Pacifica* 7(2):105–125.
- ¹⁶²Plášek, V., J. Sawicki, R. Ochrya, M. Szczecińska & T. Kulik. 2015. New taxonomical arrangement of the traditionally conceived genera *Orthotrichum* and *Ulota* (Orthotrichaceae, Bryophyta). *Acta Musei Silesiae, Scientiae Naturales* 64:169–174.
- ¹⁶³Price, M.J., L.E. Ellis 2018. The disentanglement of *Andreaea alpina* Hedw. (Andreaeaceae): typifications and nomenclatural changes. *Taxon* 67:989–995.
- ¹⁶⁴Red Data Book of the Chukchi Autonomous District. Vol. 2. Plants. 2008. Magadan. 217 pp. (In Russian) [Красная книга Чукотского Автономного округа. Том 2. Растения. 2008. Магадан. 217 с.].
- ¹⁶⁵Red Data Book of the Magadan Oblast. Rare and endangered species of animals, plants and fungi. 2019. Okhotnik, Magadan, 217 pp. (in Russian). [Красная книга Магаданской области. Редкие и находящиеся под угрозой исчезновения виды животных, растений и грибов. 2019. Магадан: Охотник. 217 с.].
- ¹⁶⁶Savicz, L.I. 1932. Flora of peat mosses of Kamchatka. *Izvestiya Botanicheskogo Sada AN SSSR*. 30(3–4):415–480 (in Russian) [Савич Л.И. 1932. Флора торфяных мхов Камчатки // Известия Ботанического сада АН СССР. Т. 30, вып. 3–4. С. 415–480].
- ¹⁶⁷Savicz, L.I. 1934. On moss flora of Kamchatka. *Trudy BIN AN SSSR. Seria II. Sporovye rasteniya* 2:257–296 (in Russian). [Савич Л.И. 1934. К флоре мхов Камчатки // Тр. БИН АН СССР. Сер. II. Споровые растения. Вып. 2. С. 257–296].
- ¹⁶⁸Savicz, L.I. 1936. *Sphagnum* mosses of basins of Anadyr and Penzhinskaya Guba. *Vestnik DVF AN SSR* 16:101–107 (in Russian). [Савич Л.И. 1936. Сфагновые мхи бассейнов Анадыря и Пенжинской губы // Вестник ДВФ АН СССР. Вып. 6. С. 101–107].
- ¹⁶⁹Savicz-Lyubitskaya, L.I. & Z.N. Smirnova 1970. *Handbook of mosses of the USSR. The acrocarpous mosses*. Nauka, Leningrad, 822 pp. (in Russian). [Савич Л.И., Смирнова З.Н. 1970. Определитель листостебельных мхов СССР. Верхоплодные мхи. Л.: Наука. 822 с.].
- ¹⁷⁰Schlesak, S., L. Hedenäs, M. Nebel & D. Quandt 2018. Cleaning a taxonomic dustbin: placing the European *Hypnum* species in a phylogenetic context! *Bryophyte Diversity and Evolution* 40:37–54.
- ¹⁷¹Schultze-Motel, W. 1968. Übereinige *Andreaea*-Arten von der Tschuktschen-Halbinsel und aus Alaska. *Wildenowia* 5:23–27.
- ¹⁷²Sheinkman, V.S., V.P. Melnikov, S.N. Sedov & V.P. Parnachev 2017. New evidence of the nonglaciated development of the northern part of the Western Siberian lowland in the Quaternary period. *Doklady Earth Sciences* 477:1430–1433.
- ¹⁷³Shilo, N.A. (ed.) 1970. *The North of the Far East*. Nauka, Moscow, 488 pp. (in Russian). [Север Дальнего Востока. 1970 / под ред. Н.А. Шило. Москва: Наука. 488 с.].
- ¹⁷⁴Smirnova, Z.N. 1959. On the bryoflora of the Arctic regions of Yakutia and Far East. *Trudy Botanicheskogo Instituta Akademii Nauk SSSR. 2. Sporovye rasteniya* 12:274–300 (in Russian). [Смирнова З.Н. 1959. К бриофлоре арктических районов Якутии и Дальнего Востока // Тр. БИН АН СССР. Сер. 2. Споровые растения. Вып. 12. С. 274–300].
- ¹⁷⁵Sochava, V.B. 1962. The practice of dividing the Far East into physical-geographical regions and provinces. *Doklady instituta geografii Sibiri i Dal'nego Vostoka* 1:23–33 (in Russian). [Сочева В.Б. 1962. Опыт деления Дальнего Востока на физико-географические области и провинции // Доклады института географии Сибири и Дальнего Востока. № 1. С.23–33].
- ¹⁷⁶Soczawa, V. 1930. Das Anadyr gebiet. Botanisch-geographisch Beobachtungenimanss ersten Nordosten Asiens. *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 7–8:241–263.
- ¹⁷⁷Sofronova, E.V. (ed.), A.S. Abakarova, O.M. Afonina, T.V. Akatova, E.Z. Baisheva, X.-L. Bai, A.G. Bezgodov, V.D. Bochkin, E.A. Borovichev, I.V. Czernyadjeva, V.G. Dirksen, G.Ya. Doroshina, M.V. Dulin, A.P. Dyachenko, E. Enkhjargal, V.E. Fedosov, V.R. Filin, M.S. Ignatov, E.A. Ignatova, T.G. Ivchenko, T.I. Koroteeva, E.S. Koryagina, V.M. Kotkova, E.Yu. Kuzmina, A.I. Maksimov, Yu.S. Mamontov, A. Mežaka, I.A. Nikolajev, A.A. Notov, D.A. Philippov, O.Yu. Pisarenko, A.D. Potemkin, V.A. Sereda, V.V. Teleganova, Ts. Tsegmed, I.I. Urbanavichene, U.P. Urbanavichus, G.V. Zheleznova. 2013. New bryophyte records. 2. *Arctoa* 22:275–298.
- ¹⁷⁸Sofronova, E.V. (ed.), O.M. Afonina, T.V. Akatova, E.N. Andrejeva, E.Z. Baisheva, A.G. Bezgodov, I.V. Blagovetshenskiy, E.A. Borovichev, E.V. Chemeris, A.M. Chernova, I.V. Czernyadjeva, G.Ya. Doroshina, N.V. Dudareva, S.V. Dudov, M.V. Dulin, V.E. Fedosov, S.M. Gabitova, M.S. Ignatov, E.A. Ignatova, O.A. Kapitonova, S.G. Kazanovsky, V.M. Kotkova, O.V. Lavrinenko, Yu.S. Mamontov, A. Mežaka, O.A. Mochalova, I.A. Nikolajev, E.Yu. Noskova, A.A. Notov, D.A. Philippov, O.Yu. Pisarenko, N.N. Popova, A.D. Potemkin, E.I. Rozantseva, V.V. Teleganova, Ts. Tsegmed, V.I. Zolotov. 2015. New bryophyte records. 4. *Arctoa* 24(1):224–264.
- ¹⁷⁹Sofronova, E.V. (ed.), O.M. Afonina, E.N. Andrejeva, L.N. Beldiman, A.G. Bezgodov, E.A. Borovichev, M.A. Boychuk, V.V. Chepinoga, I.V. Czernyadjeva, G.Ya. Doroshina, M.V. Dulin, V.E. Fedosov, K.I. Flatberg, O.V. Galanina, E.G. Ginzburg, O.G. Grishutkin, G.A. Grishutkina, M.S. Ignatov, E.A. Ignatova, D.E. Koltysheva, N.A. Konstantinova, T.I. Koroteeva, V.N. Korotkov, L.V. Krivobokov, J. Kučera, I.B. Kucherov, G.M. Kukurichkin, E.V. Kushnevskaia, E.Yu. Kuzmina, E.D. Lapschina, A.I. Maksimov, T.A. Maksimova, Yu.S. Mamontov, I.A. Nikolajev, M.G. Noskova, A.A. Notov, D.A. Philippov, N.N. Popova, A.D. Potemkin, A.N. Savchenko, V.A. Smagin, V.V. Teleganova, D.Ya. Tubanova. 2016a. New bryophyte records. 6. *Arctoa* 25(1):183–228.
- ¹⁸⁰Sofronova, E.V. (ed.), O.M. Afonina, V.A. Bakalin, I.V. Czernyadjeva, L.Kh. Dorzhieva, S.V. Dudov, M.V. Dulin, V.E. Fedosov, M.S. Ignatov, E.A. Ignatova, K.G. Klimova, T.I. Koroteeva, M.N. Kozhin, E.Yu. Kuzmina, O.V. Lavrinenko, Yu.S. Mamontov, A.A. Notov, O.Yu. Pisarenko, S.Yu. Popov, N.N. Popova, D.Ya. Tubanova, O.D. Tumurova. 2016b. New bryophyte records. 7. *Arctoa* 25(2):429–453.
- ¹⁸¹Sofronova, E.V. (ed.), E.N. Andreeva, V.K. Antipin, O.A. Belkina, E.A. Borovichev, M.A. Boychuk, Yu.V. Danilevsky, G.Ya. Doroshina, A.N. Efremov, V.E. Fedosov, O.V. Galanina, M.S. Ignatov, E.A. Ignatova, O.A. Kapitonova, G.Yu. Konechnaya, N.A. Konstantinova, V.M. Kotkova, M.N. Kozhin, G.M. Kukurichkin, E.Yu. Kuzmina, P. Lamkowski, E.D. Lapschina, V.Yu. Neshataeva, E.V. Pechenyuk, D.A. Philippov, O.Yu. Pisarenko, N.N. Popova, A.D. Potemkin, A.N. Savchenko, Yu.M. Sergeeva, V.A. Smagin, E.A. Starodubtseva, E.G. Suslova, B.F. Sviridenko, D.Ya. Tubanova, V.N. Tyurin & T.V. Voronkova. 2018. New bryophyte records. 11. *Arctoa* 27(2):208–225.
- ¹⁸²Sofronova, E.V. (ed.), A.G. Bezgodov, R.Yu. Biryukov, M.A. Boychuk, T.Yu. Braslavskaya, E.Yu. Churakova, I.V. Czernyadjeva, G.Ya. Doroshina, A.P. Dyachenko, K.A. Ermokhina, V.E. Fedosov, O.G. Grishutkin, M.S. Ignatov, E.A. Ignatova, S.S. Kholod, M.A. Kolesnikova, N.A. Konstantinova, M.N. Kozhin, E.V. Kudr, E.Yu. Kuzmina, A.Yu. Lavrskiy, L.M. Morozova, D.S. Moseev, V.Yu. Neshataeva, A.E. Nozhinkov, R.P. Obabko, D.A. Philippov, N.N. Popova, Yu.M. Sergeeva, M.Yu. Telyatnikov, E.I. Troeva, D.Ya. Tubanova, L.F. Volosnova, A.G. Zakharova, Kh.Kh. Zhalov, D.V. Zolotov. 2019a. New bryophyte records. 12. *Arctoa* 28(1):116–142.
- ¹⁸³Sofronova, E.V. (ed.), O.M. Afonina, V.K. Antipin, O.A. Belkina, M.A. Boychuk, I.V. Czernyadjeva, G.Ya. Doroshina, A.P. Dyachenko, V.E. Fedosov, M.S. Ignatov,

- E.A. Ignatova, S.S. Kholod, M.A. Kolesnikova, D.E. Koltysheva, A.S. Komarova, N.A. Konstantinova, N.E. Koroleva, T.I. Koroteeva, M.N. Kozhin, E.V. Kudr, E.Yu. Kuzmina, M.V. Lavrentiev, Yu.S. Mamontov, V.Yu. Neshataeva, D.A. Philippov, S.Yu. Popov, N.N. Popova, Yu.M. Sergeeva, N.E. Shevchenko, V.A. Smagin, G.S. Taran, V.V. Teleganova, K.U. Teplov, N.P. Tikhomirov, T.V. Voronkova & A.G. Zakharova. 2019b. New bryophyte records. 13. *Arctoa* 28(2):231–250.
- ¹⁸⁴Sofronova, E.V. (ed.), O.M. Afonina, E.Z. Baisheva, A.N. Bersanova, A.G. Bezgodov, M.A. Boychuk, N.I. Degtyarev, G.Ya. Doroshina, M.V. Dulin, V.E. Fedosov, I.A. Gairutdinov, O.G. Grishutkin, M.S. Ignatov, E.A. Ignatova, V.N. Khrantsov, N.E. Koroleva, M.N. Kozhin, E.Yu. Kuzmina, M.V. Lavrentiev, D.A. Philippov, S.Yu. Popov, N.N. Popova, A.A. Prokin, V.V. Rukavishnikova, N.E. Shevchenko, A.V. Shkurko, V.A. Smagin, N.I. Zolotukhin. 2020a. New bryophyte records. 14. *Arctoa* 29(1):75–97.
- ¹⁸⁵Sofronova, E.V. (ed.), O.M. Afonina, M.A. Boychuk, G.Ya. Doroshina, V.E. Fedosov, G.N. Ganasevich, M.V. Kazakova, E.Yu. Kuzmina, E.D. Lapshina, N.S. Liksakova, N.N. Popova, D.S. Shilnikov, V.A. Smagin, E.F. Vil'k. 2020b. New bryophyte records. 15. *Arctoa* 29(2):219–239.
- ¹⁸⁶Sofronova, E.V. (ed.), Z.I. Abdurakhmanova, O.M. Afonina, E.A. Borovich, M.A. Boychuk, O.V. Cherednichenko, I.V. Czernyadjeva, G.Ya. Doroshina, M.V. Dulin, I.G. Esina, V.E. Fedosov, G.L. Freydin, M.G. Gadzhiaev, O.G. Grishutkin, M.S. Ignatov, E.A. Ignatova, D.S. Kessel, A.A. Khapugin, M.N. Kozhin, E.V. Kushnevskaya, E.Yu. Kuzmina, N.S. Liksakova, A.I. Maksimov, S.A. Moshkovskii, N.N. Popova, A.D. Potemkin, N.A. Semenova, K.V. Shchukina, A.D. Sinichkina, E.V. Smirnova, E.G. Suslova, D.Ya. Tubanova & G.V. Zheleznova 2021b. New bryophyte records. 17. *Arctoa* 30(2):465–477.
- ¹⁸⁷Sofronova, E.V. (ed.), O.M. Afonina, E.A. Belyakov, A.G. Bezgodov, O.V. Birykova, M.A. Boychuk, I.V. Czernyadjeva, G.Ya. Doroshina, M.V. Dulin, V.E. Fedosov, G.L. Freydin, Kh.Yu. Guziev, M.S. Ignatov, Yu.S. Ishchenko, K.A. Ivanova, O.A. Kapitonova, G.M. Kukurichkin, E.Yu. Kuzmina, M.V. Lavrentiev, A.I. Maksimov, D.A. Philippov, N.N. Popova, A.A. Shestakova, D.S. Shilnikov, K.Yu. Teplov, V.N. Tyurin, E.F. Vil'k, E.L. Zheleznoya. 2021a. New bryophyte records. 16. *Arctoa* 30(1):93–110.
- ¹⁸⁸Stebel, A., R. Ochyra & G. Vončina 2010. *Masses of the Pieniny Range (Polish Western Carpathians)*. Wydawnictwo Sorus, Poznań, pp. 112.
- ¹⁸⁹Tubanova, D.Ya., D.V. Goryunov, E.A. Ignatova & M.S. Ignatov 2010. On the taxonomy of *Dicranum acutifolium* and *D. fuscens* complexes (Dicranaceae, Bryophyta) in Russia. *Arctoa* 19:151–164.
- ¹⁹⁰Tubanova, D.Ya. & E.A. Ignatova 2011. A new species of *Dicranum* (Dicranaceae, Bryophyta) from Asiatic Russia. *Arctoa* 20:183–190.
- ¹⁹¹Tubanova, D.Ja., O.D. Tumurova & E.A. Ignatova 2016. On *Dicranum elongatum* and *D. groenlandicum* in Russia. *Arctoa* 25:285–300.
- ¹⁹²Tyulina, L.N. 1936. On the forest vegetation of the Anadyr region and its relationship with the tundra. *Trudy Arkticheskogo instituta* 40:1–212 (in Russian). [Тюлина Л.Н. 1936. О лесной растительности Анадырского края и ее взаимоотношениях с тундрой // Труды Арктического института. Т. 40. С. 1–212].
- ¹⁹³Ukrainskaya, G.Ya. 1996. On similarity and differences of *Plagiothecium piliferum* (Sw.) B.S.G. and *Isopterygiopsis muelleriana* (Schimp.) Iwats. *Novosti sistematiki nizshikh rastenii* 31:185–191 (in Russian). [Украинская Г.Я. 1996. О сходстве и различиях *Plagiothecium piliferum* (Sw.) B.S.G. и *Isopterygiopsis muelleriana* (Schimp.) Iwats. // Новости систематики низших растений. Т. 31. С. 185–191].
- ¹⁹⁴Vyunova, G.V. 1991. Material to the moss flora of Kamchatka. In: *Briologiya v SSSR, ee dostizheniya i perspektivy. Konferentsiya, posviashchennaya 90-letiyu so dnya rozhdeniya A.S. Lazarenko (10–12 sentyabrya 1991 g.)* (O.T. Demkiv, ed.), pp. 47–51, L'vov (in Russian). [Вьюнова Г.В. 1991. Материалы к бриофлоре Камчатки (зеленые мхи) // Бриология в СССР, ее достижения и перспективы: Материалы конференции, посвященной 90-летию со дня рождения А.С. Лазаренко (10–12 сентября 1991 г.) / под ред. О.Т. Демкив. Львов: АН СССР. С. 47–51].
- ¹⁹⁵Vilk, E.F. & O.M. Afonina 2020. New records of mosses from Magadan Region. *Turczaninovia* 23(2):33–38 (in Russian). [Вильк Е.Ф., Афонина О.М. 2020. Новые находки мхов в Магаданской области // Turczaninovia. Т. 23, № 2. С. 33–38].
- ¹⁹⁶Vilk, E.F. & O.M. Afonina 2021 New and rare moss species for Magadan region. *Botanicheskii Zhurnal* 106(5):514–520 (in Russian with English summary). [Вильк Е.Ф., Афонина О.М. 2021. Новые и редкие виды мхов для Магаданской области // Ботанический журнал. Т. 106, № 5. С. 514–520].
- ¹⁹⁷Wahlenberg, G. 1811. Kamtschadalische Laub- und Lebermoose, gesammelt auf der russischen Entdeckungsreise von dem Herrn Hofrath Tilesius. *Magazin Fur Die Neuesten Entdeckungen in Der Gesammten Naturkunde* 5:289–297.
- ¹⁹⁸Weinmann, J.A. 1845. Syllabus muscorum frondosorum. *Bulletin de la Société des naturalistes de Moscou* 18:1–149.
- ¹⁹⁹Werner, O., H. Köckinger, M. Magdy & R.M. Ros. 2014. On the systematic position of *Tortella arctica* and *Trichostomum arcticum* (Bryophyta, Pottiaceae). *Nova Hedwigia* 98(3–4):273–293.
- ²⁰⁰Zerov, D.K. & A.S. Lazarenko 1931. On the bryoflora of the Okhotsk coast. *Zhurnal bio-botanichnogo tsiklu VUAN* 1(1–2):89–94 (in Ukrainian). [Зеров Д.К., Лазаренко А.С. 1931. До бриофлори Охотского побережья // Журнал био-ботаничного циклу ВУАН. Вып. 1, № 1–2. С. 89–94].
- ²⁰¹Tolmachev, A.I. 1958. The question of the origin and development of the Arctic flora. In: *Abstracts of the reports of the WBO Delegates' Congress, Flora and Vegetation Section*. 1(3):47–55 (in Russian). [Толмачев А.И. 1958. Проблема происхождения арктической флоры и ее развития // Тезисы докладов делегатского съезда ВБО, секция флоры и растительности. Т.1, Вып. 3. С. 47–55].
- ²⁰²Tolmachev, A.I. & B.A. Yurtsev 1970. The history of the Arctic flora in its connection with the history of the Arctic Ocean. In: *The Arctic Ocean and its coast in the Cenozoic*. (A.I. Tolmachev, ed.), pp. 87–100, Gidrometeoizdat, Leningrad (in Russian). [Толмачев А.И., Юрцев Б.А. 1970. История арктической флоры в ее связи с историей Северного Ледовитого океана // Северный Ледовитый океан и его побережье в кайнозое / под ред. А.И. Толмачева. Ленинград: Гидрометеоиздат. С. 87–100].
- ²⁰³Yurtsev, B.A. 1981. *Relict steppe complexes of Northeast Asia*. Nauka, Novosibirsk, 168 p. (in Russian). [Юрцев Б.А. 1981. Реликтовые степные комплексы северо-восточной Азии. Новосибирск: Наука. 168 с.].
- ²⁰⁴Yurtsev, B.A. 1986. Megaberingia and cryoxeric stages of the history of its vegetation cover. *Komarovskije Chteniya* 33:3–53 (in Russian). [Юрцев Б.А. 1986. Мераберингия и криоксерические этапы истории ее растительного покрова // Комаровские чтения. Вып. 33. С. 3–53].