

## CHECKLIST AND DISTRIBUTION OF MOSSES IN MONGOLIA

## СПИСОК И РАСПРОСТРАНЕНИЕ МХОВ В МОНГОЛИИ

TSOGIIN TSEGMEД<sup>1</sup>

ЦОГИЙН ЦЭГМЭД<sup>1</sup>

Abstract

In the territory of Mongolia 412 moss species and 32 varieties of 148 genera and 37 families are known. Their distribution is listed according to 16 floristical regions of the territory of Mongolia.

Резюме

На территории Монголии в настоящее время известно 412 вида и 32 разновидности мхов относящихся к 148 родам и 37 семействам. Приведен их список с указанием их распространения в 16 флористических районах.

The first data on mosses of Mongolia appeared in literature at the beginning of XX century (Fedchenko, 1902). The work published in 1932 by V.F. Brotherus and L. I. Savich-Lyubitskaya (1932) covered more than 70 species of mosses collected in the Prihubsugul region. This was the largest study done until the 1970s.

A joint Russian-Mongolian biological expedition began an extensive study of flora and vegetation in the 1970's, including the study of mosses in Mongolia. Mosses of the Khangai mountain region were studied at first. During these years, besides publications by the expedition participants, many articles have also been published by other specialists based on the materials they had collected earlier or at the same time (Abramova, Abramov, 1976, 1978; Schubert et al., 1977; Ochyra, Pacyna, 1980; Karczmarz, 1981; Karczmarz, Swies, 1981 and others).

In 1983, Abramova and Abramov published a book "Conspectus of Flora Mosses of the Mongolian National Republic" which included 381 species of hepatics and mosses. The book was written based on the bryological materials collected by N.S. Golubkova, U. Tsogt and E. Kukk, participants of the Russian-Mongolian joint expeditions during the period of 1970-1974. The book also used Mongolian moss collection kept in the herbarium of the Komarov Botanical In-

stitute (LE) and all literature data on mosses of Mongolia.

In the same year a regional work "Mosses of the Khangai Mountain Region" (Tsegmed, 1983) was also completed. It includes the data on 276 species of mosses.

During last years, researches on mosses in Mongolia were continued and concentrated in the regions of Khentei and the Mongol Altai Mountains (Abramova, Tsegmed, 1987, 1989, 1990, 1994; Tsegmed, 1986, 1987, 1989 and others). In these years there were other publications besides ours which have revealed many new species for Mongolia and many new regional records. My dissertational work "Bryoflora Mountain Ranges of Mongolia" was completed in 2000. It covered all known data on Altai, Khangai and Khentei, including publications of other authors who have revealed many new species for Mongolia.

Nowadays there are data about 412 species and 32 varieties of mosses, 148 genera and 37 families, in the territory of Mongolia. The distribution of species are given into 16 floristical regions by Grubov (1955), see Fig. 1. In the list of species the following marks are used: ● – species known from our collections; ○ – literature data.

Familiar and generic treatment is based principally on Brotherus (1924-1925) system, with some alternations.

<sup>1</sup> – Institute of Botany, Academy of Science of Mongolia, Ulaanbaatar 51, Mongolia

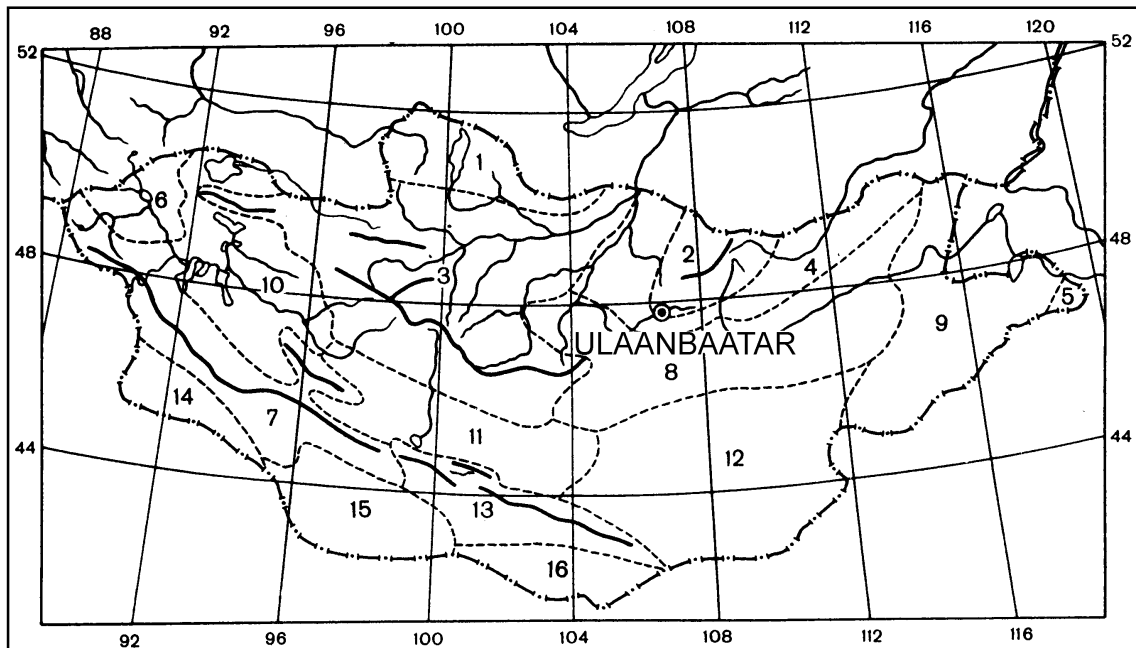


Fig. 1. Scheme-map of floristic regions of Mongolia (from Abramova & Abramov, 1983).

1. Прихубсугульский	PH	Prihubsugul
2. Хэнтэйский	Ht	Khentei
3. Хангайский	Hg	Khangai
4. Монгольско-Даурский	MD	Mongol Dauria
5. Прихинганский	Hn	Prihingan
6. Хобдоский	Hd	Khovd
7. Монгольско-Алтайский	MA	Mongol Altai
8. Среднехалхаский	MH	Middle Halha
9. Восточномонгольский	EM	East Mongol
10. Котловина Больших Озер	HL	Hollow Great Lake
11. Долина Озер	VL	Valley Lake
12. Восточногобийский	EG	East Gobi
13. Гобийско-Алтайский	GA	Gobi Altai
14. Джунгарская Гоби	Zh	Zhyngar Gobi
15. Заалтайская Гоби	ZG	Zaaltai Gobi
16. Алашаньская Гоби	AG	Alasha Gobi

#### SYSTEMATICAL ARRANGEMENT

##### ORDER SPHAGNALES

##### 1. Sphagnaceae Dum.

Sphagnum Hedw.

##### ORDER ANDREAEEALES

##### 2. Andreaeaceae Dum.

Andreaea Hedw.

##### ORDER TETRAPHIDALES

##### 3. Tetrphidaceae Schimp.

Tetrphis Hedw.

##### ORDER POLYTRICHALES

##### 4. Polytrichaceae Schwaegr.

Pogonatum P.Beauv.

Polytrichum Hedw.

##### ORDER DICRANALES

##### 5. Ditrachaceae Limpr.

Pleuridium Rabenh.

Ditrichum Hampe

Saelania Lindb.

Ceratodon Brid.

Distichium Bruch et Schimp.

##### 6. Dieranaceae Schimp.

Trematodon Michx.

Anisothecium Mitt.

Aongstroemia B. S. G.

Campylopus Brid.

Rhabdoweisia B. S. G.

Oreas Brid.

Cynodontium Bruch et Schimp.

Dicranoweisia Lindb. ex Milde

Dichodontium Schimp.

Oncophorus (Brid.) Brid.

Symblepharis Mont.

Orthodicranum (B. S. G.) Loeske

Dicranum Hedw.

Paraleucobryum (Lindb.) Loeske

Brothera C. Muell.

## ORDER FISSIDENTALES

**7. Fissidentaceae Schimp.**

Fissidens Hedw.

## ORDER ENCALYPTALES

**8. Encalyptaceae Schimp.**

Encalypta Hedw.

## ORDER POTTIALES

**9. Pottiaceae Schimp.**

Phascum Hedw.

Pottia (Reichenb.) Fuernr.

Stegonia Vent.

Aloina Kindb.

Crossidium Jur.

Pterygoneurum Jur.

Desmatodon Brid.

Hilpertia Zander

Tortula Hedw.

Leptodontium (C.Muell.) Hampe

Pleuroweisia Limpr.

Anoectangium Schwaegr.

Gymnostomum Nees et Hornsch.

Gyroweisia Schimp.

Hygrogonium (C.Muell.) Jaegr.

Molendoa Lindb.

Hymenostylium Brid.

Oxystegus (Limpr.) Hilp.

Tortella (Lindb.) Limpr.

Hymenostomum R.Brown.

Weisia Hedw.

Trichostomopsis Card.

Trichostomum Card.

Timmiella (De Not.) Limpr.

Barbula Hedw.

Didymodon Hedw.

Bryoerhytrophillum Chen

## ORDER GRIMMIALES

**10. Grimmiaceae Arnott**

Coscinodon Spreng.

Jaffueliobryum Ther.

Indusiella Broth. et C.Muell.

Schistidium Brid.

Grimmia Hedw.

Racomitrium Brid.

## ORDER FUNRIALES

**11. Funariaceae Schwaegr.**

Funaria Hedw.

Physcomitrium (Brid.) Brid.

**12. Voitiaceae Hornsch.**

Voitia Hornsch.

**13. Splachnaceae Grev. et Arnot**

Tayloria Hook.

Tetraplodon Bruch et Schimp.

Splachnum Hedw.

## ORDER BRYALES

**14. Bryaceae Schwaegr.**

Mielichhoferia Nees et Hornsch.

Leptobryum (Bruch et Schimp.) Wils.

Pohlia Hedw.

Mniobryum (Schimp.) Limpr.

Plagiobryum Lindb.

Anomobryum Schimp.

Bryum Hedw.

Rhodobryum (Schimp.) Hampe

**15. Mniaceae Schwaegr.**

Trachycystis Lindb.

Mnium Hedw.

Plagiomnium T. Kop.

Rhizomnium T. Kop.

Pseudobryum T. Kop.

Cinclidium Sw.

**16. Aulacomniaceae Schimp.**

Aulacomnium Schwaegr.

**17. Meesiaceae Schimp.**

Paludella Brid.

Meesia Hedw.

**18. Bartramiaceae Schwaegr.**

Plagiopus Brid.

Bartramia Hedw.

Philonotis Brid.

**19. Timmiaceae Schimp.**

Timmia Hedw.

**20. Orthotrichaceae Arnott**

Amphidium Schimp.

Zygodon Hook.

Ulota Mohr

Orthotrichum Hedw.

Stroemia Hag.

## ORDER LEUCODONTALES

**21. Fontinalaceae Schimp.**

Dichelyma Myr.

Fontinalis Hedw.

**22. Climaciaceae Kindb.**

Climacium Web. et Mohr

**23. Hedwigiaceae Schimp.**

Hedwigia P.Beauv.

**24. Leucontontaceae Schimp.**

Leucodon Schwaegr.

**25. Neckeraceae Schimp.**

Neckera Hedw.

Homalia Bruch et Schimp.

## ORDER HYPNALES

**26. Theliaceae (Broth.) Fleisch.**

Myurella Schimp.

**27. Fabroniaceae Schimp.**

Fabronia Raddi

Anacamptodon Brid.

Cephalocladium Lazar.

**28. Leskeaceae Schimp.**

Leskea Hedw.

Leskeella (Limpr.) Loeske

Pseudoleskeella Kindb.

Lescuraea Schimp.

**29. Thuidiaceae Schimp.**

Leptopterigynandrum C.Muell.

Heterocladium B.S.G.

Anomodon Hook. et Tayl.

Claopodium (Lesq. et Jams.) Ren. et Card.

Haplocladium C. Muell.

Thuidium Schimp.

Helodium Warnst.

**30. Cratoneuraceae Moenk.**

Cratoneurum (Sull.) Spruce

**31. Amblystegiaceae G.Roth**

Campylium (Sull.) Mitt.

Hygroamblystegium Loeske

Leptodyctium (Schimp.) Warnst.

Amblystegium Schimp.

Platydictia Berk.

Drepanocladus (C. Muell.) G. Roth

Hygrohypnum Lindb.

Calliergon (Sull.) Kindb.

Calliergonella Loeske

Scorpidium (Schimp.) Loeske

**32. Brachytheciaceae Schimp.**

Tomenthypnum Loeske

Brachythecium Schimp.

Cirriphyllum Grout

Myuroclada Besch.

Bryhnia Kaur.

Eurhynchium Schimp.

**33. Entodontaceae Kindb.**

Orthothecium Schimp.

Entodon C. Muell.

Pleurozium Mitt.

Pterigynandrum Hedw.

**34. Plagiotheciaceae (Broth.) Fleisch.**

Isopterygiopsis Iwats.

Isopterygium Mitt.

Plagiothecium Schimp.

**35. Hypnaceae Schimp.**

Platygyrium Schimp.

Pylaisiella Kindb.

Homomallium (Schimp.) Loeske

Hypnum Hedw.

Eurohypnum Ando

Ctenidium (Schimp.) Mitt.

Ptilium De Not.

**36. Rhytidiaceae Broth.**

Rhytidiadelphus (Lindb. ex

Limpr.) Warnst.

Rhytidium (Sull.) Kindb.

**37. Hylocomiaceae (Broth.)****Fleisch.**

Hylocomium Schimp.



	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<i>velutinum</i> (Hedw.) B.S.G.	•	•	○			•	•						•		
<b>Brothera</b> C. Muell.															
<i>leana</i> (Sull.) C. Muell.		•	•	•											
<b>Bryhnia</b> Kaur.															
<i>novae-angliae</i> (Sull. et Lesq.) Grout			○												
<b>Bryoerythrophyllum</b> Chen															
<i>alpigenum</i> (Vent.) Chen		•	•												
<i>recuvirostrum</i> (Hedw.) Chen	•	•	•	•		•	•	•		•			•	•	
var. <i>brevifolium</i> (Lindb. et Arn.) Podp.			•												
<b>Bryum</b> Hedw.															
<i>algovicum</i> Sendtn. ex C. Muell.	○		•			•									
var. <i>rutheanum</i> (Warnst.) Crundw.			○												
<i>archangelicum</i> B.S.G.			○												
<i>argenteum</i> Hedw.	○	•	•	•		•	•	•	•	•	•		•	•	
var. <i>lanatum</i> (P. Beauv.) Hampe			○												
<i>caespiticum</i> Hedw.	○	○	○												
<i>capillare</i> Hedw.		•	•			•	•								
<i>cirrhatum</i> Hoppe et Hornsch.	○	○	○											○	
<i>creberrimum</i> Tayl.				○											
<i>cryophilum</i> Maort.	•	•	•			•	•								
<i>cyclophyllum</i> (Schwaegr.) B.S.G.		○													
<i>elegans</i> Nees			○										○		
<i>intermedium</i> (Brid.) Bland.						•									
<i>pallens</i> Sw.			○												
<i>pallescens</i> Schleich. ex Schwaegr.		○													
<i>pseudotriquetrum</i> (Hedw.) Gaertn. et al.	•	•	•	•		•	•		•				•		
<i>schleicheri</i> Schwaegr.		○		○											
<i>subelegans</i> Kindb.		○													
<i>uliginosum</i> (Brid.) B. S. G.			○	○											
<b>Calliergon</b> (Sull.) Kindb.															
<i>cordifolium</i> (Hedw.) Kindb.		•	•	•											
<i>giganteum</i> (Schimp.) Kindb.			•	•		•	•								
<i>richardsonii</i> (Mitt.) Kindb.	○	•	•			•									
<i>sarmentosum</i> (Wahlenb.) Kindb.	○	•	•			•	•								
<i>stramineum</i> (Brid.) Kindb.		•	•			•							○		
<b>Calliergonella</b> Loeske															
<i>cuspidata</i> (Hedw.) Loeske		○													
<b>Campylium</b> (Sull.) Mitt.															
<i>chrysophyllum</i> (Brid.) J. Lange	○	•	•			•	•								
<i>hispidulum</i> (Brid.) Mitt.		•	•	•											
<i>polygamum</i> (B.S.G.) J. Lange	•	•	•			•	•								
<i>protensum</i> (Brid.) Kindb.	•	•	•	•		•									
<i>sommerfeltii</i> (Myr.) J. Lange	○	•	•	•		•									
<i>stellatum</i> (Hedw.) J.Lange et C. Jens	○	•	•			•									
<b>Campylopus</b> Brid.															
<i>fragilis</i> (Brid.) B.S.G.		•	•			•	•								
<i>pyriformis</i> (Schultz) Brid.						○	○								
<i>schimperi</i> Milde		○	○												
<i>schwarzii</i> Schimp.			○												
<i>subulatus</i> Schimp.			•												
<b>Cephalocladium</b> Lazar.															
<i>nerve</i> (Broth.) A. Abr. et I. Abr.		•	•	•											
<b>Ceratodon</b> Brid.															
<i>purpureus</i> (Hedw.) Brid.	•	•	•	•		•	•	•		○	○				



	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<i>polysetum</i> Sw.	•	•	•	•		•									
<i>scoparium</i> Hedw.	•	•	•	•		•									
<i>spadiceum</i> Zett.	•	•	•			•	•								
<b>Didymodon</b> Hedw.															
<i>acutus</i> (Brid.) Saito		•	•			•	•		○						
<i>anserinocapitatus</i> (X.-J. Li) Zander								•							
<i>asperifolius</i> (Mitt.) Crum et al.			•			•	•								
<i>cordatus</i> Jur.							•								
<i>gaochienii</i> B.C. Tan et Y. Jia		•	•	•											
<i>glauca</i> (Ryan.) Moell.			•												
<i>hedisariformis</i> T. N. Otn.		•	•												
<i>icmadophilus</i> (Schimp. ex C. Muell.) Saito	•	•	•	•		•	•						•		
<i>johanseni</i> (Williams) Crum		○													
<i>perobtusus</i> Broth.	○					•	•						○		
<i>rigidulus</i> Hedw.				•	•	•	•		○				○		
<i>trifarius</i> (Hedw.) Roehl.			○												
<i>validus</i> Limpr.		•	•												
<b>Distichium</b> B.S.G.															
<i>capillaceum</i> (Hedw.) B.S.G.	•	•	•	•		•	•	•	•				•	○	
<i>inclinatum</i> (Hedw.) B.S.G.	○	•	•			•	•						•		
<b>Ditrichum</b> Hampe															
<i>flexicaule</i> (Schwaegr.) Hampe	○	•	•			•	•								
<b>Drepanocladus</b> (C.Muell.) Roth															
<i>aduncus</i> (Hedw.) Warnst.		•	•	○		•	•		○				○	○	○
var. <i>kneifii</i> (B.S.G.) Moenk.		○				•	•								
var. <i>polycarpus</i> (Bland. ex Voit) Roth			○	○		○									
<i>badius</i> (Hartm.) Roth			○												
<i>exannulatus</i> (B.S.G.) Warnst.		•	•			•	•						○		
<i>fluitans</i> (Hedw.) Warnst.		•	•			•	•								
var. <i>falcatus</i> (Sanio ex C. Jens.) Roth			•												
<i>intermedius</i> (Lindb.) Warnst.	○	•	•			•									
<i>revolvens</i> (Sw.) Warnst.			•												
<i>sendtneri</i> (Schimp.) Warnst.	•	•	•	•		•	•	○							
<i>uncinatus</i> (Hedw.) Warnst.	•	•	•	•				○	○				○	○	
var. <i>subjulaceus</i> (B.S.G.) Warnst.			•												
<i>vernicosus</i> (Mitt.) Warnst.		•													
<b>Encalypta</b> Hedw.															
<i>alpina</i> Sm.	○					•	•						○		
<i>brevicollis</i> (B.S.G.) Aongstr.			•												
<i>ciliata</i> Hedw.		•	•	•		•	•								
<i>microstoma</i> Bals. et De Not.		•	•	•		•	•								
<i>rhaptocharpa</i> Schwaegr.	○	•	•	•		•	•		○				•		
var. <i>leptodon</i> Lindb.								○							
var. <i>trachymitria</i> (Rip.)Wijk et Marg.								○							
<i>sibirica</i> (Weinm.) Warnst.		○	○					○	○						
<i>vulgaris</i> Hedw.			•			○									
var. <i>mutica</i> Brid.			○												
<b>Entodon</b> C. Muell.															
<i>challengeri</i> (Par.) Card.			•	•											
<i>concinus</i> (De Not.) Par.	•	•	•	•		•	•	•					•		
<i>schleicheri</i> (Schimp.) Demeter			•	•											
<b>Eurhynchium</b> B.S.G.															
<i>pulchellum</i> (Hedw.) Jenn.		•	•	•		•	○								
<b>Eurohypnum</b> Ando															
<i>leptothallum</i> (C. Muell.) Ando	○	•	•	•					○						



	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<b>Hygrogonium</b> (C. Muell.) Jaeg.															
<i>ehrenbergii</i> (Lor.) Jaeg.														○	
<b>Hygroamblystegium</b> Loeske															
<i>tenax</i> (Hedw.) Jenn.			○			●								○	
<b>Hygrohypnum</b> Lindb.															
<i>ehlei</i> (Arn.) Broth.		●	●												
<i>luridum</i> (Hedw.) Jenn.	○	●	●			●	●								
var. <i>subsphaericarpum</i>															
(Schleich.) B.S.G.			●			○									
<i>norvegicum</i> (B.S.G.) Amann.			●												
<i>ochraceum</i> (Turn. ex Wils.) Loeske		●	●							○					
<i>polare</i> (Lindb.) Loeske		●	●			●	●								
<b>Hylocomium</b> B.S.G.															
<i>pyrenaicum</i> (Spruce) Lindb.						●									
<i>splendens</i> (Hedw.) B.S.G.	●	●	●	●		●	●	○	○	○					
<b>Hymenostomum</b> R. Brown															
<i>microstomum</i> (Hedw.) R. Brown						●									
<i>tortile</i> (Schwaegr.) B. S.G.		●	●	●				○		○					
<b>Hymenostylium</b> Brid.															
<i>recurvirostre</i> (Hedw.) Dix.	●		●			●									
<b>Hypnum</b> Hedw.															
<i>callichroum</i> Funck ex Brid.						●									
<i>cupressiforme</i> Hedw.	○	●	●	●		●	●	○		○				○	
var. <i>lacunosum</i> Brid.		○												○	
<i>lindbergii</i> Mitt.	○	●	●	●		●								○	
<i>pallescens</i> (Hedw.) P. Beauv.		●													
<i>plicatulum</i> (Lindb.) Jaeg.	●	●	●	●											
<i>pratense</i> Koch		○													
<i>recurvatum</i> (Lindb. et Arn.) Kindb.	○														
<i>revolutum</i> (Mitt.) Lindb.	○	●	●			●	●			○			○	○	
var. <i>pygmaeum</i> (Mol.) L. Savich						○									
var. <i>subjulaceum</i> Bryhn						●									
<i>subimponens</i> Lesq.		●	●			●									
<i>vaucheri</i> Lesq.	○	●	●	●		●	●	○	○				●	○	
var. <i>gracile</i> Ando						●									
<b>Indusiella</b> Broth. et C. Muell.															
<i>thianschanica</i> Broth. et C. Muell.			●			●	●						●		
<b>Isopterygium</b> Mitt.															
<i>pulchellum</i> (Hedw.) Jaeg.		●	●	●		●	●								
var. <i>nitidum</i> (Wahlenb.) Roth	○	●	●												
<b>Isopterygiopsis</b> Iwats.															
<i>muellerana</i> (Schimp.) Iwats.		●													
<b>Jaffuelliobryum</b> Ther.															
<i>latifolium</i> (Lindb. et H. Arn.) Ther.	○	●	●			●	●	●		●	○		●	●	○
<b>Leptobryum</b> (B.S.G.) Wils.															
<i>pyriforme</i> (Hedw.) Wils.	●	●	●	●		●	●			●				●	
<b>Leptodictyum</b> (Schimp.) Warnst.															
<i>humile</i> (P. Beauv.) Ochyra		●	●												
<i>riparium</i> (Hedw.) Warnst.		●	●	●											
<b>Leptodontium</b> (C. Muell.) Hampe ex Lindb.															
<i>flexifolium</i> (With.) Hampe		●	●						○						
<i>styriacum</i> (Jur.) Limpr.		○													
<b>Leptopterigynandrum</b> C. Muell.															
<i>austro-alpinum</i> C. Muell.	○	●	●			●	●						●		

	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<b>Lescuraea</b> B. S. G.															
<i>radicosa</i> (Mitt.) Moenk.						•									
<b>Leskea</b> Hedw.															
<i>polycarpa</i> Hedw.			•	•	•								○		
<b>Leskeella</b> (Limpr.) Loeske															
<i>nervosa</i> (Brid.) Loeske			•	•		•	•						•		
var. <i>rigidula</i> (Kindb.) Podp.			•	•		•									
var. <i>rupestris</i> (Berggr.) Moell.													○		
<b>Leucodon</b> Swaegr.															
<i>sciuroides</i> (Hedw.) Swaegr.						•	•								
<b>Meesia</b> Hedw.															
<i>triquetra</i> (Richter) Aongstr.			○	•											
<i>uliginosa</i> Hedw.	○		○	•											
<b>Mielichhoferia</b> Nees et Hornsch.															
<i>mielichhoferiana</i> (Funk) Loeske						•									
<b>Mniobryum</b> (Schimp.) Limpr.															
<i>wahlenbergii</i> (Web. et Mohr) Jenn.	•		•	•										○	
<b>Mnium</b> Hedw.															
<i>marginatum</i> (With.) P. Beauv.	○	•	•	•		•	•							•	
<i>spinosum</i> (Voit) Swaegr.	○	•	•	•		•	•							•	
<i>stellare</i> Hedw.		•		•											
<i>thomsonii</i> Schimp.	○	•	•	•		•	•							•	
<b>Molendoa</b> Lindb.															
<i>sendtneriana</i> (B.S.G.) Limpr.			•	•											
<b>Myurella</b> B.S.G.															
<i>julacea</i> (Swaegr.) B.S.G.	○	•	•			•	•	○						•	
var. <i>scabrifolia</i> Lindb.	○														
<i>sibirica</i> (C. Muell.) Reim.			○												
<i>tenerrima</i> (Brid.) Lindb.		•	•												
<b>Myuroclada</b> Besch.															
<i>maximowiczii</i> (Borszcz.) Steere et Schof.		•	•	•											
<b>Neckera</b> Hedw.															
<i>oligocarpa</i> Bruch	○	•	•	•		•									
<i>pennata</i> Hedw.	○		•												
<b>Oncophorus</b> (Brid.) Brid.															
<i>compactus</i> (B.S.G.) Schljak.						•			•						
<i>virens</i> (Hedw.) Brid.	○	•	•			•	•								
<i>wahlenbergii</i> Brid.	○	•	•	•		•	•								
<b>Oreas</b> Brid.															
<i>martiana</i> (Hoppe et Hornsch.) Brid.						•			•						
<b>Orthodicranum</b> (B.S.G.) Loeske															
<i>flagellare</i> (Hedw.) Loeske		•	•	•											
<i>montanum</i> (Hedw.) Loeske	○	○		○											
<b>Orthothecium</b> B.S.G.															
<i>chryseum</i> (Swaegr.) B.S.G.						•			•						
<i>strictum</i> Lor.										•					
<b>Orthotrichum</b> Hedw.															
<i>anomalum</i> Hedw.	○	•	•	•		•	•							•	
var. <i>saxatile</i> Milde										○					
<i>killiasii</i> C. Muell.						•			•	•					
<i>pallens</i> Bruch ex Brid.										•					
<i>pumilum</i> Sw.						•	•								
<i>rupestre</i> Schleich. ex Swaegr.		•	•			•	•							○	
<i>schimperi</i> Hammar						○									
<i>speciosum</i> Nees	○	•	•	•		•	•			○					

	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<b>Oxystegus</b> (Limpr.) Hilp.															
<i>tenuirostris</i> (Hook. et Tayl.) A.J.E. Smith.		•	•	•				•							
<b>Paludella</b> Brid.															
<i>squarrosa</i> (Hedw.) Brid.	•	•	•					•							
<b>Paraleucobryum</b> (Lindb. ex Limpr.) Loeske															
<i>enerve</i> (Theod.) Loeske			○	•											
<i>longifolium</i> (Hedw.) Loeske			•	•											
<b>Phascum</b> Hedw.															
<i>cuspidatum</i> Hedw.			○	•	•			•	•						
var. <i>piliferum</i> (Hedw.) Hook. et Tayl.				○	○			•	○	○					
<b>Philonotis</b> Brid.															
<i>caespitosa</i> Jur.						○									
<i>fontana</i> (Hedw.) Brid.	•	•	•	•	○			•	•						
<i>tomentella</i> Mol.					○				•						
<b>Physcomitrium</b> (Brid.) Brid.															
<i>pyriforme</i> (Hedw.) Hampe						•									
<b>Plagiobryum</b> Lindb.															
<i>demissum</i> (Hook.) Lindb.						•			•						
<b>Plagiomnium</b> T. Kop.															
<i>acutum</i> (Lindb.) T.Kop.		•	•					•							
<i>affine</i> (Bland.) T. Kop.								○							
<i>confertidens</i> (Lindb. et Arn.) T. Kop.	•	•	•	•				•							
<i>cuspidatum</i> (Hedw.) T. Kop.	•	•	•	•											
<i>drummondii</i> (Bruch et Schimp.) T.Kop.						•									
<i>elatum</i> (B.S.G.) T. Kop.				○											
<i>ellipticum</i> (Brid.) T. Kop.	○	•	•	•				•	•						
<i>medium</i> (B.S.G.) T. Kop.		•	•					•	•						
<b>Plagiopus</b> Brid.															
<i>oederianus</i> (Sw.) Crum et Anderson						•		•	•						
<b>Plagiothecium</b> B.S.G.															
<i>cavifolium</i> (Brid.) Iwats.						•		•							
<i>denticulatum</i> (Hedw.) B.S.G.		•	•						•						
<i>laetum</i> B.S.G.		•	•	•				•							
<b>Platydictya</b> Berk.															
<i>jungermannioides</i> (Brid.) Crum		•	•					•							
<b>Platygyrium</b> B.S.G.															
<i>repens</i> (Brid.) B.S.G.	○	•	•	•											
<b>Pleuridium</b> Rabenh.															
<i>subulatum</i> (Hedw.) Rabenh.						•									
<b>Pleuroweisia</b> Limpr.															
<i>schliephackei</i> Limpr.						•									
<b>Pleurozium</b> Mitt.															
<i>schreberi</i> (Brid.) Mitt.	○	•	•	•				•							
<b>Pogonatum</b> P. Beauv.															
<i>dentatum</i> (Brid.) Brid.	○	•	•												
<i>urnigerum</i> (Hedw.) P. Beauv.		•	•	•				•							
<b>Pohlia</b> Hedw.															
<i>annotina</i> (Hedw.) Lindb.		•	•												
<i>camptotrachela</i> (Ren. et Card.)Broth.		•													
<i>cruda</i> (Hedw.) Lindb.	•	•	•	•				•	•					•	
<i>crudoides</i> (Sull. et Lesq.)Broth.		•						•							
<i>drummondii</i> (C. Muell.) Andrews	○								•						
<i>elongata</i> Hedw.		○	•												
<i>longicollis</i> (Hedw.) Lindb.		•	•					•	•						
<i>minor</i> Schleich. ex Schwaegr.		•	•					•							

	PH	Ht	Hg	MD	Hn	Hd	MAM	HEM	HL	VL	EG	GA	Zh	ZG	Ag
<i>nutans</i> (Hedw.) Lindb.	○	●	●	●											
<i>saprophila</i> (C. Muell.) Broth.		●	●			●	●								
<i>sphagnicola</i> (B.S.G.) Lindb. et H. Arn.		●	●												
<i>viridis</i> Lindb. et H. Arn.		●													
<b>Polytrichum</b> Hedw.															
<i>alpinum</i> Hedw.	○	●	●			●	●							○	
<i>commune</i> Hedw.	○	●	●												
var. <i>perigoniale</i> (Michx.) Hampe		●													
<i>formosum</i> Hedw.	●	●	●												
<i>jensenii</i> Hag.		●													
<i>juniperinum</i> Hedw.	○	●	●	●	●		●	●							
<i>longisetum</i> Sw. ex Brid.	●	●	●	●		●									
<i>piliferum</i> Hedw.	○	●	●	●		●	●								
<i>strictum</i> Menz. ex Brid.	○	●	●	●		●	●								
<i>swartzii</i> Hartm.	○														
<b>Pottia</b> (Rabenh.) Fuernr.															
<i>bryoides</i> (Diks.) Mitt.							●								
<i>lanceolata</i> (Hedw.) C. Muell.						●									
<i>intermedia</i> (Turn.) Fuernr.														●	
<b>Pseudobryum</b> T. Kop.															
<i>cinclidioides</i> (Hueb.) T. Kop.		●	●	●											
<b>Pseudoleskeella</b> Kindb.															
<i>catenulata</i> (Brid. ex Schrad.) Kindb.	○	○	●			●	○								
<i>tectorum</i> (Funck ex Brid.) Kindb.	○	●	●	●		●	●							○	
<b>Pterigynandrum</b> Hedw.															
<i>filiforme</i> Hedw.		●	●			●	●						○		
<b>Pterygoneurum</b> Jur.															
<i>kozlovii</i> Lazar.		●	●				●								
<i>ovatum</i> (Hedw.) Dix.							●								○
<i>subsessile</i> (Brid.) Jur.							●	○		○		○			
<b>Ptilium</b> De Not.															
<i>crista-castrensis</i> (Hedw.) De Not.	○	●	●	●		●									
<b>Pylaisiella</b> Kindb.															
<i>polyantha</i> (Hedw.) Grout	●	●	●	●		●	●	○	○						
<i>selwynii</i> (Kindb.) Crum & al.	○														
<b>Racomitrium</b> Brid.															
<i>affine</i> (Schleich. ex Web. et Mohr.) Lindb.		●													
<i>canescens</i> (Hedw.) Brid.	○	●	●			●									
var. <i>strictum</i> Schlieph.		●	●				○								
<i>lanuginosum</i> (Hedw.) Brid.	●	○													
<b>Rhabdoweisia</b> B.S.G.															
<i>kusenevae</i> Broth.		●	●												
<b>Rhizomnium</b> (Mitt. ex Broth.) T. Kop.															
<i>pseudopunctatum</i> (Bruch et Schimp.) T. Kop.	○														
<b>Rhodobryum</b> (Schimp.) Limpr.															
<i>ontariense</i> (Kindb.) Kindb.			○												
<i>roseum</i> (Hedw.) Limpr.	○	●	●	●											
<b>Rhytidiadelphus</b> (Lindb.) Warnst.															
<i>triquetrus</i> (Hedw.) Warnst.	○	●	●	●											
<b>Rhytidium</b> (Sull.) Kindb.															
<i>rugosum</i> (Hedw.) Kindb.	●	●	●	●		●	●	●	●						
<b>Saelania</b> Lindb.															
<i>glaucescens</i> (Hedw.) Broth.		●	●			●	●								
<b>Schistidium</b> Brid.															
<i>agassizii</i> Sull. et Lesq.		●	●	●		●	●						○		





## SYNONYMS AND EXCLUDED TAXA

- Abietinella abietinina* (Hedw.) Fleisch. = *Thuidium abietinum* (Hedw.) B.S.G.  
 – *hystricosa* (Mitt.) Broth. = *Thuidium hystricosum* Mitt.  
*Amblystegiella sprucei* (Bruch) Loeske = *Platydictya jungermannioides* (Brid.) Crum  
*Amblystegium serpens* var. *juratzkanum* (Schimp.) Rau et Herv. = *A. juratzkanum* Schimp.  
 – *riparium* (Hedw.) B.S.G. = *Leptodictyum riparium* (Hedw.) Warnst.  
*Andreaea petrophilla* Ehrh. = *A. rupestris* Hedw.  
*Anomobryum concinnatum* (Spruce) Lindb. = *A. julaceum* (Gaertn.) Schimp.  
 – *filiforme* (Dicks.) Husn. = *A. julaceum* (Gaertn.) Schimp.  
*Aongstroemia fuji-alpina* (Tak.) Iwats. = *A. julacea* (Hook.) Mitt.  
*Barbula acuta* (Brid.) Brid. = *Didymodon acutus* (Hedw.) Saito  
 – *asperifolia* Mitt. = *Didymodon asperifolius* (Mitt.) Crum et al.  
 – *cordata* (Jur.) Loeske = *Didymodon cordatus* Jur.  
 – *glauca* (Ryan) Moell. = *Didymodon glaucus* Ryan  
 – *icmadophila* Schimp. = *Didymodon icmadophilus* (Schimp.) Saito  
 – *johansenii* Williams = *Didymodon johansenii* (Williams) Crum  
 – *perobtusa* (Broth.) Chen = *Didymodon perobtus* Broth.  
 – *rigidula* (Hedw.) Milde = *Didymodon rigidulus* Hedw.  
 – *rigidulus* var. *valida* (Limpr.) Broth. = *Didymodon validus* Limpr.  
 – *trifaria* (Hedw.) Mitt. = *Didymodon trifarius* (Hedw.) Roehl  
*Brachythecium fendleri* (Sull.) Jaegr. = *B. collinum* (C. Muell.) B.S.G.  
*Bryoerythrophyllum rubellum* (Hedw.) Chen = *B. recurvirostrum* (Hedw.) Chen  
*Bryum affine* Lindb. et Arn. = *B. creberrimum* Tayl.  
 – *angustirete* Kindb. = *B. algovicum* Sendtn.  
 – *capillare* Hedw. var. *flaccidum* (Brid.) B.S.G. = *B. subelegans* Kindb.  
 – *cernuum* (Hedw.) B.S.G. = *B. uliginosum* (Brid.) B.S.G.  
 – *crispulum* Hampe = *B. pseudotriquetrum* (Hedw.) Gaertn.  
 – *cuspidatum* Schimp. = *B. creberrimum* Tayl.  
 – *lonchocaulon* C. Muell. = *B. cirrhatum* Hoppe et Hornsch.  
 – *obtusifolium* Lindb. = *B. cryophilum* Mart.  
 – *pendulum* (Hornsch.) Schimp. = *B. algovicum* Sendtn.  
 – *tortifolium* Brid. = *B. cryophilum* Mart.  
 – *tortifolium* Funck = *B. cyclophyllum* (Schwaegr.) B.S.G.  
 – *ventricosum* Relh. = *B. pseudotriquetrum* (Hedw.) Gaertn.  
*Calliergon cuspidatum* (Hedw.) Kindb. = *Calliergonella cuspidata* (Hedw.) Loeske  
*Campyliadelphus stellatum* (Hedw.) Kanda = *Campylium stellatum* (Hedw.) J. Lange  
*Campylium stellatum* var. *protensum* (Brid.) Bryhn = *C. protensum* (Brid.) Kindb.  
*Campylopus fragilis* var. *pyriformis* (Schultz) Aust. = *C. pyriformis* (Schultz) Brid.  
*Cephalocladium zerovii* Lazar. = *C. enerve* (Broth.) A.Abr. et I. Abr.  
*Crossidium squamigerum* var. *pottioideum* (De Not.) Moenk. = *C. griseum* (Jur.) Jur.  
*Dicranum affine* Funk = *D. bergeri* Bland.  
 – *bonjeanii* var. *leioneuron* Kindb. = *D. leioneuron* Kindb.  
*Didymodon alpigenus* Vent. = *Bryoerythrophyllum alpigenum* (Vent.) Chen  
 – *aaronis* (Lor.) Guerra = *Trichostomopsis aaronis* (Lor.) Agnew et Townsend  
 – *fallax* var. *reflexus* (Brid.) Zander = *Barbula reflexa* (Brid.) Brid.  
 – *rigidulus* var. *glauca* Wijk et Marg. = *D. glaucus* (Ryan) Moell.  
 – *vaginatus* Hook. = *Symblepharis vaginata* (Hook.) Wijk. et Marg.  
*Distichium montanum* (Lam.) Hag. = *D. capillaceum* (Hedw.) B.S.G.  
*Encalypta ciliata* var. *microstoma* (Bals. et De Not.) Schimp. = *E. micristoma* Bals. et De Not.  
 – *ciliata* var. *sibirica* Weinm. = *E. sibirica* (Weinm.) Warnst.  
*Entodon compressus* (Hedw.) C. Muell. = *E. challengerii* (Par.) Card.  
 – *orthocarpus* (Brid.) Lindb. = *E. concinnus* (De Not.) Par.  
*Fabronia octoblepharis* (Schleich.) Schwaegr. = *F. ciliaris* (Brid.) Brid.  
*Fontinalis nitida* Lindb. et Arn. = *F. hypnoides* Hartm. var. *duriaei* (Schimp.) Husn.  
*Grimmia campestris* Hook. = *G. laevigata* (Brid.) Brid.  
 – *commutata* Hueb. = *G. ovalis* (Hedw.) Lindb.  
*Gyroweisia aaronis* Par. = *Trichostomopsis aaronis* (Lor.) Agnew et Townsend  
*Hygroamblystegium irrigium* (Hook. et Wils.) Loeske = *H. tenax* (Hedw.) Jenn.  
*Hygrohypnum palustre* (Hedw.) Loeske = *H. luridum* (Hedw.) Jenn.  
*Hypnum arcuatum* Lindb. = *H. lindbergii* Mitt.  
 – *leptothallum* (C. Muell.) Par. = *Eurohypnum leptothallum* (C. Muell.) Ando  
 – *subplicatile* (Lindb.) Limpr. = *H. plicatulum* (Lindb.) Jaeg.  
*Leptodictyum riparium* (Hedw.) Warnst. = *L. humile* (P.Beauv.) Ochyra

- Leptodontium pergemascens* Broth. = *L. flexifolium* (Witn.) Hampe  
*Meesia trifaria* Crum et al. = *M. triquetra* (Richter) Aongstr.  
 – *trichodes* Spruce = *M. uliginosa* Hedw.  
*Mnium acutum* Lindb. = *Plagiomnium acutum* (Lindb.) T. Kop.  
 – *affine* Bland. = *Plagiomnium affine* (Bland.) T. Kop.  
 – *cinclidioides* Hueb. = *Pseudobryum cinclidioides* (Hueb.) T. Kop.  
 – *confertidens* (Lindb. et Arn.) Kindb. = *Plagiomnium confertidens* (Lindb. et Arn.) T. Kop.  
 – *cuspidatum* Hedw. = *Plagiomnium cuspidatum* (Hedw.) T. Kop.  
 – *drummondii* Bruch et Schimp. = *Plagiomnium drummondii* (Bruch et Schimp.) T. Kop.  
 – *ellipticum* Brid. = *Plagiomnium ellipticum* (Brid.) T. Kop.  
 – *immarginatum* Broth. = *Trachycystis ussuriensis* (Maack et Regel) T. Kop.  
 – *medium* B.S.G. = *Plagiomnium medium* (B.S.G.) T. Kop.  
 – *orthorrhynchum* C. Muell. = *M. thomsonii* Schimp.  
 – *rugicum* Laur. = *Plagiomnium ellipticum* (Brid.) T. Kop.  
 – *pseudopunctatum* Bruch et Schimp. = *Rhizomnium pseudopunctatum* (Bruch et Schimp.) T. Kop.  
 – *trichomanes* Mitt. = *Plagiomnium acutum* (Lindb.) T. Kop.  
*Myurella apiculata* (Jur.) B.S.G. = *M. tenerrima* (Brid.) Lindb.  
*Orthotrichum speciosum* var. *killiasii* Schimp. = *O. killiasii* C. Muell.  
 – *obtusifolium* Brid. = *Stroemia obtusifolia* (Brid.) Hag.  
*Oxystegus cylindricus* (Brid.) Hilp. = *O. teniostrius* (Hook. et Tayl.) E. Smith.  
*Plagiothecium roseanum* (Hedw.) B.S.G. = *P. cavifolium* (Brid.) Iwats.  
*Pogonatum capillare* (Michx.) Brid. = *P. dentatum* (Brid.) Brid.  
*Polytrichum alpestre* Hoppe = *P. strictum* Sm.  
 – *gracile* Sm. = *P. longisetum* Brid.  
*Pohlia acuminata* Hoppe et Hornsch. = *P. minor* Schleich.  
 – *elongata* var. *greenii* (Brid.) Shaw. = *P. minor* Schleich.  
*Pottia heimii* (Hedw.) Fuernr. = *Desmatodon heimii* (Hedw.) Mitt.  
*Pseudostereodon procerrimum* (Mol.) Fleisch. = *Ctenidium procerrimum* (Mol.) Lindb.  
*Pylaisiella schimperii* Card. = *P. selwynii* (Kindb.) Crum et al.  
*Racomitrium heterostichum* var. *alopecurum* Nueb. = *R. affine* (Web. et Mohr) Lindb.  
*Rhodobryum spathulatum* (Hornsch.) Pocs = *R. ontariense* (Kindb.) Kindb.  
*Schistidium alpicola* (Hedw.) Limpr. = *S. agassizii* Sull. et Lesq.  
 – *apocarpum* var. *pulvinatum* (Hedw.) C. Jens. = *S. flaccidum* (De Not.) Lindb.  
 – *gracile* (Roehl.) Limpr. = *S. stricum* (Turn.) Mart.  
*Sphagnum apiculatum* Lindb. = *S. fallax* (Klinggr.) Klinggr.  
*Splachnum ovatum* Hedw. = *S. sphaericum* Hedw.  
*Streblotrichum convolutum* (Hedw.) P. Beauv. = *Barbula convoluta* Hedw.  
*Syntrichia mongolica* Boros = *Tortula submontana* Broth.  
 – *ruralis* (Hedw.) Web. et Mohr = *Tortula ruralis* (Hedw.) Crome  
*Symblypharis helicophylla* Mont. = *S. vaginata* (Hook.) Wijk. et Marg.  
*Tayloria splachnoides* var. *acuminata* Hueb. = *T. acuminata* Hornsch.  
*Tortula alpina* (B.S.G.) Broth. = *T. sinensis* (C. Muell.) Broth.  
 – *convoluta* (Brid.) Pil. = *T. atrovirens* Lindb.  
 – *desertorum* Broth. = *T. caninervis* (Mitt.) Broth.  
 – *mongolica* (Boros) Ochyra = *T. submontana* Broth.  
 – *papillosissima* (Copp.) Broth. = *T. hirsuta* (Vent.) Lazar.  
 – *ruralis* var. *calcicola* (Greve) Moenk. = *T. calcicolens* W. Kramer  
 – *ruralis* var. *hirsuta* (Vent.) Par. = *T. hirsuta* (Vent.) Lazar.  
 – *velenovskii* Schiffn. (Dicks.) Turn. = *Hilpertia velenovskii* (Schiffn.) Zand.  
*Trichostomum aaronis* Lor. = *Trichostomopsis aaronis* (Lor.) Agnew et Townsend  
 – *cuspidatissimum* Card. et Ther. = *T. arcticum* Kaal.  
*Weissia planifolia* Broth. = *W. platyphyla* Broth. (fide Bai Xui-Liang 1987)  
 – *tortilis* (Schwaegr.) C. Muell. = *Hymenostomum tortile* (Schwaegr.) C. Muell.  
 – *viridula* Hedw. = *W. controversa* Hedw.

#### BIBLIOGRAPHY ON MOSSES OF THE MONGOLIA

- [ABRAMOV, I. I. & A. L. ABRAMOVA] АБРАМОВ И. И., А. Л. АБРАМОВА 1983. Конспект флоры мхов Монгольской Народной Республики. – [Conspect of moss flora of Mongolian People Republic] *Л., Наука [Leningrad, Nauka]*, 222 pp.  
 [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1956. *Mnium immarginatum* (Lindb.) Broth. из Монголии. – [*Mnium immarginatum* (Lindb.) Broth. from Mongolia] *Бот. журн. [Bot. Zhurn.]* **41**(1): 89-91.  
 [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1976. Материалы к флоре мхов Монголии. – [On the moss flora of Mongolia] *Новосту сущ. нuzu. паст. [Novosti sist. nizsh. rast.]* **13**: 193-208.

- [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1978. Материалы к флоре мхов Монголии. II. – [On the moss flora of Mongolia. II] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **15**: 194-207.
- [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1981. Об эндемичных листостебельных мхах СССР – *Cephalocladium zerovii* Lazar. – [The endemic moss species of USSR – *Cephalocladium zerovii* Lazar.] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **18**: 179-187.
- [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1983. Род *Leptopterigynandrum* C. Muell., новый для бриофлоры СССР. – [Genus *Leptopterigynandrum* C. Muell., new for bryoflora of USSR] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **20**: 161-168.
- [ABRAMOVA, A. L. & I. I. ABRAMOV] АБРАМОВА А. Л., И. И. АБРАМОВ 1985. О мхах из сборов Г. Н. Потанина в Монголии. – [The mosses, collected by G. N. Potanin in Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **22**: 201-206.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1975. Интересные виды мхов западной Монголии. – [The interesting moss species of West Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **12**: 290-292.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1977а. Интересные виды мхов Монголии. – [The interesting moss species of Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **14**: 219-223.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1977. В бриофлоре хребта Турган (Монголия). – [The Bryoflora on renges Tyrgen (Mongolia)] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **14**: 223-229.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1979. Редкие и интересные виды мхов Монголии. – [The rare and interesting moss species of Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **16**: 169-175.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1982. К бриофлоре горы Отгонтэнгэр (МНР). – [On the bryoflora of mountain Otgontenger (Mongolia)] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **19**: 175-183.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1983. Редкие и интересные виды мхов Монголии. – [The rare and interesting moss species of Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **20**: 173-179.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1987. Дополнение к флоре мхов Монгольской Народной Республики. – [Additions to the moss flora of Mongolian Narodnoi Republic] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **24**: 88-91.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1989. К бриофлоре Монгольского Алтая [On the bryoflora of Mongolian Altai] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **26**: 136-147.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1993. Новые роды и виды для флоры мхов Монголии. – [The new and rare moss species of Mongolia] *Новости сист. низш. раст.* [Novosti sist. nizsh. rast.] **29**: 128-132.
- [ABRAMOVA, A. L. & TS. TSEGMEД] АБРАМОВА А. Л., Ц. ЦЭГМЭД 1994. Новые и редкие для флоры мхов Монголии. – [The new genera and species of the moss flora of Mongolia] *Бот. журн.* [Bot. Zhurn.] **79**(10): 138-143.
- BAI XUI-LIANG 1987. Preliminary Report of the Mosses on Inner Mongolia, China. – *Acta Sciens. Natur. Innermongolicae* **18**(2): 311-350.
- BOROS, A. 1970. *Syntrichia mongolica* sp. nov. – *Trans. Brit. Bryol. Soc.* **6**(1): 69-71.
- [BROTHERUS, V. F. & L. I. SAVICH] БРОТЕРУС, В. Ф., Л. И. САВИЧ 1932. Список мхов, собранных А. А. Еланкиным в 1902 году в Саянских горах и в Монголии [List of mosses, collected by A. A. Elenkin in the 1902s in Sayan mountains and in Mongolia] *Изв. бот. сада АН СССР* [Izv. bot. sada AN SSSR] **30**(1-2): 81-96.
- [DAVAJAMTS, TS. & TS. TSOГТ] ДАВАЖАМЦ Ц., У. ЦОГТ Обзор изучения мхов Монголии. – [Review of investigations of mosses of Mongolia] *Изв. АН МНР* [Izv. Akad. Nauk Mongolskoi Narodnoi Resp.] **2**: 68-73.
- [FEDCHENKO, B. A.] ФЕДЧЕНКО, Б. А. 1902. Материал для флоры вершины г. Мунк-Сарьдык и берегов оз. Косогол. – [Materials for flora on the peak Munk-Cardik mountains and coasts Hubsugul Lake] *Прилож. к проток. засед. Общ. естествоиспыт. при Казанс. ун-та. Казань* [Prilozhenie k protokolu zasedaniya Obshch. estestvoispyt. pri Kazanskom Univiveriteti, Kazan] **201**: 17-19.
- GROLLE, R., L. MEINUNGER, W. HILBIG & S. HUNECK 1983. Beitrag zur Kenntnis der Moosflora der Mongolischen Volksrepublik. – *Fedd. Rep.* **94**(1-2): 107-127.
- GROLLE, R., L. MEINUNGER, W. HILBIG & S. HUNECK 1986. Beitrag zur Kenntnis der Moosflora der Mongolei II. – *Fedd. Rep.* **97**(7-8): 521-526.
- HASTINGS, R. I. & H. DEGUCHI 1997. Taxonomy of *Coscinodon arctolimnius* (Bryopsida, Grimmiaceae) Including a New Subspecies from Asia. – *Bryologist* **100**: 50-55.
- KARCZMARZ, K. 1981. New and rare Bryophytes in the flora of Mongolia. – *Bryologist* **84**(3): 339-343.
- KARCZMARZ K., F. SWIES 1981. Beitrag zur Bryoflora der Mongolei. – *Fedd. Rep.*, **92**(9-10): 695-711.
- MEINUNGER, L., R. GROLLE, S. HATTORI, W. HILBIG & S. HUNECK 1991. Beitrag zur Kenntnis der Moosflora der Mongolei. III. – *Fedd. Rep.* **102**(7-8): 657-660.
- OCHYRA R. & A. PACYNA 1980. A Contribution to the Moss Flora of Mongolia. – *Frag. Florist. Geobot.* **24**(1): 71-79.
- [POBEDIMOVA, E. G.] ПОБЕДИМОВА, Е. Г. 1935. Растительность центральной части Монгольского Алтая [The vegetations of central part of Mongolian Altai] *Труды Монг. комиссии АН СССР* [Trudy Mongolsk. Komissii AN SSSR] **19**, 61 pp.
- [POLYNOV, I. V. & I. M. KRASHENINNIKOV] ПОЛЫ-

- НОВ, И. В., И. М. КРАШЕНИННИКОВ 1926. Физико-географические и почвенноботанические исследования в области бассейна р. Убур-Джаргаланта и верховье р. Ара-Джаргаланта. – [Physiographical and soil and geobotanical investigations in basin of Ubur-Zhargalant River and upper course of Ar-Zhargalant River] *Северная Монголия. Л.* [Severnaya Mongolia, Leningrad]: 85-160.
- SCHUBERT R., W. SCHUBERT & M. KOPRESKI 1977. Beitrag zur Moosflora der Mongolischen Volkrepublik. – Fedd. Rep. **88**(1-2).
- STEFUREAC, T. J. 1974. Deux splanchnacees trouvees dans les montagnes de la Mongolie du Nord. – *Rev. bryol. lichenol.* **40**(2): 167-170.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1976. Некоторые итоги изучения бриофлоры Хангая. – [Some results of study of Khangai bryoflora] *Тр. ин-та Ботаники АН МНР* [Trudy Inst. Bot Akad. Nauk Mongolskoi Narodnoi Resp.] **2**: 64-72.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1979. К бриофлоре горы Богд-Ула [On the bryoflora of Bogdo-Ula mountain]. – *Тр. ин-та Ботаники АН МНР* [Trudy Inst. Bot Akad. Nauk Mongolskoi Narodnoi Resp.] **5**: 172-189.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1981. Листостебельные мхи высокогорного пояса Хангайского горного массива. – [The mosses of highmountain belt Khangai mountain] *Бриолихенологические исследования высокогорных районов и Севера СССР. Апатиты* [Bryolichonological investigations of mountain regions and of North USSR. Apatity]: 58-61.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1983. Листостебельные мхи. – [Mosses] *Флора Восточного Хангая. М.* [The Flora of East Khangai, Moscow]: 89-102.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1983. Листостебельные мхи Хангайского горного массива. – [The mosses of Khangai mountain] *Автореф. дис. канд. биол. наук. Л.* [Abstract of Ph. D. Thesis, Leningrad], 19 pp.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1986. Бриолихенологические исследования в МНР. – [The bryological studies in MPR] *Природные условия в биологические ресурсы Монгольской Народной Республики (тез. докл. Международной конференции).* М. [Prirodnie uslovie and biological resursi of Mongolian Narodnoi Republic (Abstr. of International Conference, Moscow)], 113-114.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1987. Виды рода Mnium во флоре мхов Монголии [The species of genera Mnium in moss flora of Mongolia] *Тр. ин-та Ботаники АН МНР* [Trudy Inst. Bot Akad. Nauk Mongolskoi Narodnoi Resp.] **13**: 50-60.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1988. Мхи ботанико-географических округов Хэнтэя и Монгольской Даурии [The mosses of botanico-geographic regions Khentei and Mongolian Dauria] *Известия АН МНР* [Izv. Akad. Nauk Mongolskoi Narodnoi Resp.] **2**: 40-44.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1989. Некоторые итоги изучения микроклимата и влажности почвы микрогруппировок мохово-бруснично-рододендрового лишайничника Восточного Хэнтэя. – [The some results of studies on microclimate and soil humidity of microassociations in mossy Larex forest of East Khentei] *Тез. докл. научной конференции посвященные вопросам возобновления и ресурсам леса МНР. Улан-Батор* [Tesisy docl. nauchnoi konferentsii, posveshennie voprosam vozobnovleniya and resursi lesa MNR, Ulaanbaatar]: 170-176.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1991a. Распределение листостебельных мхов по поясам и типам растительности в горных системах Хархира и Тургэн (МНР). – [The distribution of mosses by altitudinal belts and type vegetation in mountain system Naehira and Tyrgen] *Бот. журн.* [Bot. Zhurn.] **76**(3): 104-107.
- [TSEGMEД, TS.] ЦЭГМЭД, Ц. 1991b. Географический анализ флоры листостебельных мхов Хангайского горного массива (МНР). – [The geographical analysis of moss flora of Khangai mountains] *Бот. журн.* [Bot. Zhurn.] **76**(2): 121-126.
- [TSEGMEД, TS. & D. BANZRAGCH] ЦЭГМЭД, Ц., Д. БАНЗРАГЧ 1975. Бриофлора некоторые горных систем МНР [The bryoflora of some mountain system MNR] *Тр. ин-та Ботаники АН МНР* [Trudy Inst. Bot Akad. Nauk Mongolskoi Narodnoi Resp.] **1**: 249-258.