

An annotated and updated checklist of the Iranian bryoflora

Hossein AKHANI^a* & Harald KÜRSCHNER^b

^a Tehran University, Faculty of Science, Department of Biology,
P.O. Box 14155-6455, Tehran, Iran

^b Institut für Biologie, Systematische Botanik und Pflanzengeographie,
Freie Universität Berlin, Altensteinstr. 6, D-14195, Berlin, Germany

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Abstracts – An annotated and updated checklist of the Iranian bryoflora is provided based on the published works and partly identification of collections available to the authors. A total of 437 taxa including 2 hornworts (Anthocerotopsida), 68 hepatics (Marchantiopsida and Jungermanniopsida) and 367 mosses (Bryopsida), within 149 genera and 57 families are known from Iran. This list includes 74 more taxa than the last checklist already published by Frey and Kürschner (1991). The most diverse genera of Iranian bryophytes are *Amblystegium* (9 taxa), *Brachythecium* (14 taxa), *Bryum* (28 taxa), *Eurhynchium* (12 taxa), *Fissidens* (14 taxa), *Grimmia* (13 taxa), *Hypnum* (9 taxa), *Orthotrichum* (11 taxa), *Philonotis* (15 taxa), *Riccia* (13 taxa), *Schistidium* (10 taxa), *Syntrichia* (15 taxa) and *Tortula* (15 taxa). The majority of species are known from humid provinces in the Northern parts of the country including Mazandaran with 246, Golestan with 143 and Gilan with 101 taxa, respectively. The bryological knowledge of different parts of Iran is not homogeneous. There are few bryological records or none for some provinces including Esfahan, Yazd, W Azerbaijan, Sistan va Baluchestan, Zanjan and Qazvin, Chaharmahal Bakhtiari and Kermanshah. Twelve new records for the country are added: *Brachythecium campestre* (Müll. Hal.) Schimp., *Brachythecium oxycladum* (Brid.) A. Jaeger, *Cynodontium tenellum* (Schimp.) Limpr., *Entosthodon fascicularis* (Hedw.) Müll. Hal., *Grimmia elatior* Bruch ex Bals.-Criv., *Grimmia longirostris* Hook., *Gyroweisia tenuis* (Hedw.) Schimp., *Riccia fluitans* L., *Schistidium atrofuscum* (Schimp.) Limpr., *Tortula brevissima* Schiffn., *Tortula canescens* Mont. and *Weissia brachycarpa* (Nees & Hornsch.) Jur. Nine species are excluded from the list of Iranian bryophytes, because of wrong records and *Timmiella grosseserrata* Schiffn. is considered as a synonym of *Timmia megapolitana* subsp. *bavarica* (Hessl.) Brassard .

Biodiversity / Bryophytes of Iran / Checklist / Hepatics / Mosses / New records

INTRODUCTION

Iran, with 1,648,000 km² surface area and a very diverse climate and vegetation, is an attractive country for bryological studies (Fig. 1). Although large parts of the country in the Central, Eastern and Southern parts with arid and semi-arid climate provide limited habitats for moisture requiring plants, the South Caspian forests along the Northern slopes of Alborz mountains and Zagros Oak

* Correspondence and reprints: akhani@khayam.ut.ac.ir

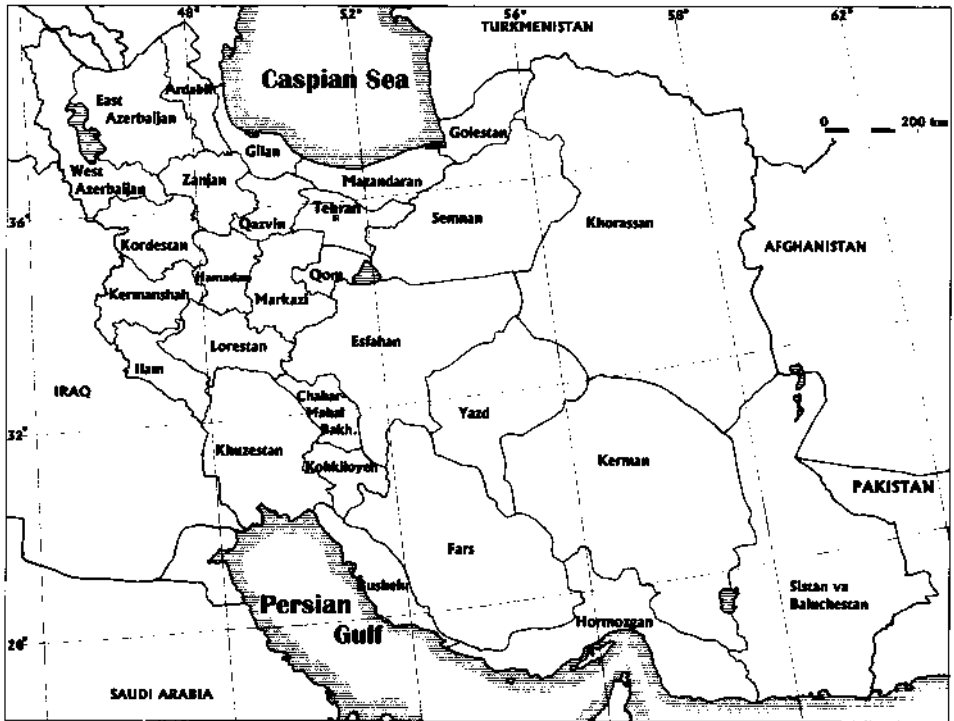


Fig. 1. Map of Iran, showing the boundaries of provincial division.

forests in the Western parts of Iran provide extensive and diverse biotopes for a wide range of bryophytes. Perhaps the rich vascular flora of Iran was the main reason that most of the western and local botanists concentrated their studies on this group. The bryophytes were collected only as a side activity of some botanists. Buhse & Boissier (1860), Juratzka & Milde (1870) and Fehlnér (1883, 1885) were the first to collect and describe some bryophytes from Iran during the nineteenth century. Among the vascular plant collectors of the 20th Century who devoted parts of their collections to bryophytes, Josef Bornmüller (1842-1948), Karl Heinz Rechinger (1906-1998) and Per Wendelbo (1927-1981) are to be mentioned. Bornmüller's collection was studied by Schiffner (1897, 1901, 1908, 1910, 1939), Rechinger's collection by Froehlich (1950, 1952-1953, 1959) and Wendelbo's collection by Størmér (1963) and Arnell (1963). A first checklist of the Iranian hepatics was provided by Frey (1974) including 33 species. During the seventies, Frey, Kürschner and Probst carried out several collection trips mostly concentrated on the collection and field studies of bryophytes and vegetation of Iran (Frey & Probst, 1973, 1974a,b; Frey & Kürschner, 1977, 1979, 1981, 1983a). Frey (1986) mentioned the occurrence in Iran of 32 genera and 56 species of hepatics, and 102 genera and 259 species of musci. In their "Conspectus Bryophytorum Orientalum et Arabicorum", Frey & Kürschner (1991) reported a total of 363 taxa including 1 hornwort, 65 liverworts and 297 mosses from Iran. A list of most publications on the bryological works on Iran and other SW Asian countries was given by Kürschner (1997). A synopsis of all hornworts and hepatics of the Near and

Middle East including their identification keys and some illustrations was published by Kürschner (2001). During the last 12 years several species were added to the Iranian bryophytic flora. These new findings resulted from the identification of existing collections in Europe (mostly studied by the second author) or new collections made by Iranian botanists (cf. Kürschner & al., 2000; Shirzadian, 1989; Shirzadian & Kumar, 1994; Shirzadian *et al.*, 2000). Therefore an updated new bryophyte checklist for Iran is necessary, not only to facilitate the growing interest of young Iranian botanists who have less access to old publications distributed in Europe, but also as a basis for a bryophyte flora for the country. We hope that the near completion of the "*Flora Iranica*" – the first comprehensive vascular flora of Iran – (Rechinger, 1963-2001), will be a good impetus for the study of the non-vascular plants, particularly the bryophytes, and for the production of a flora.

MATERIAL & METHODS

An attempt has been made to collect all references and papers which concern the Iranian bryophytes (see Kürschner, 1997). All the records on Iranian bryophytes were scanned and carefully extracted into a data base with complete localities and information on specimens. All reports in Frey & Kürschner (1991) were critically rechecked in order to avoid possible omissions and mistakes. The database was furtherly filtered and summarised into a table including provinces, number of records, references and any note on the ambiguity of records and their taxonomic status. These were transferred to the second author who critically checked all taxonomic and nomenclatural ambiguities and added data from non-accessible sources. The second author has checked many previous records during his long-term intensive studies on the SW Asian bryophytes. A third version resulted as a synoptic table (Table 1), including the name of each taxon, as far as possible according to the latest nomenclatural knowledge, distribution of taxa within known Iranian provinces, number of records, references and notes when necessary. We received constructive improving suggestions through Dr. M. Ros. The authors are abbreviated according to Brummitt & Powell (1992). The boundary of provinces and their capitals are given in Fig. 1. The number of bryophytes in each geographic unit and province is summarised in Table 4.

RESULTS AND DISCUSSION

Based on the data presented in Table 1 total of 437 taxa including 2 hornworts (Anthocerotopsida), 68 hepatics (Marchantiopsida and Jungermanniopsida) and 367 mosses (Bryopsida), within 149 genera and 57 families are known from Iran. The present checklist includes 74 more taxa since the last checklist already published by Frey and Kürschner (1991). Twelve records are added for the first time for Iran based on our latest collections and identification of Iranian bryophytes. Nine species are excluded from the list of Iranian bryophytes.

Table 1. Annotated checklist of the Iranian bryophytes.

Abbreviations: Formal provincial division (see Fig. 1, for boundaries): Aze^W = West Azerbaijan; Aze^E = East Azerbaijan (incl. Ardabil), Bal. = Sistan va Baluchestan, Buh. = Bushehr, Cha. = Chaharmahal Bakhtiari, Esf. = Esfahan, Far. = Fars, Gil. = Gilan, Gol. = Golestan, Ham. = Hamadan, Hor. = Hormozgan, Ila. = Ilam, Ker. = Kerman, Kes. = Kermanshah, Kho. = Khorasan, Khu. = Khuzestan, Koh. = Kohkiluyeh va Boyer-Ahmad, Kor. = Kordestan, Lor. = Lorestan, Mar. = Markazi (Arak & Qom), Maz. = Mazandaran, Sem. = Semnan, Teh. = Tehran, Yaz. = Yazd, Zan. = Zanjan (incl. Qazvin).

NR = Number of records. Those number of records which are indicated by an "asterisk" include unpublished collections by the first author.

Species	Distribution in Iran	NR	Reference(s)
ANTHOCEROTOPSIDA			
Anthocerotaceae			
<i>Anthoceros caucasicus</i> Steph.	Maz.	1	Kürschner, 1996: 262
<i>Phaeoceros laevis</i> (L.) Prosk.	Maz.	1	Frey, 1974: 49; Jovet-Ast, 1960: 181
MARCHANTHOPSIDA			
Aytoniaceae			
<i>Asterella gracilis</i> (F. Weber) Underw. [Syn.: <i>Fimbriaria silachorensis</i> Schiffn.]	Mar.	1	Schiffner, 1908: 229
<i>Asterella persica</i> (Steph.) Howe [Syn.: <i>Fimbriaria persica</i> Steph.]	Far.		Frey, 1974: 49; Stephani, 1894: 7
<i>Mannia androgyna</i> (L.) A. Evans	Far.	1	Kürschner, 1996: 263
<i>Plagiochasma rupestre</i> (J.R. Forst. & G. Forst.) Steph.	Far., Hor.	2	Frey & Kürschner, 1983a: 17
<i>Reboulia hemisphaerica</i> (L.) Raddi	Gil., Kes., Khu.	5	Arnell, 1963: 35; Bornmüller, 1908: 833; Frey, 1974: 49; Schiffner, 1908: 228
Conocephalaceae			
<i>Conocephalum conicum</i> (L.) Dumort.	Gil., Gol., Maz.	10	Arnell, 1963: 35; Ruhse & Boissier, 1860: 237; Ertter & Norris, 1999; Frey, 1974: 50; Frey & Kürschner, 1977: 145; Jovet-Ast, 1960: 181
Lunulariaceae			
<i>Lunularia cruciata</i> (L.) Lindb.	Far., Gil., Maz.	15*	Fehlner, 1885: 4; Frey, 1974: 50; Jovet-Ast, 1960: 181; Schiffner, 1897: 127; Schiffner, 1908: 229; Tregubov & Tregubov, 1969-1970: 4
Marchantiaceae			
<i>Dumortiera hirsuta</i> (Sw.) Nees	Maz.	1	Tregubov & Tregubov, 1969-1970: 4
<i>Marchantia paleacea</i> Bertol. [According to Bischler, 1989: 104, Iranian plants belong to subsp. <i>paleacea</i>]	Gol., Maz.	5	Frey, 1974: 50; Frey & Kürschner, 1977: 145; Jovet-Ast, 1960: 181; Schiffner, 1939: 533
<i>Marchantia polymorpha</i> L.	Gil., Gol., Ker., Mar., Maz., Teh.	15	Arnell, 1963: 35; Bischler, 1989: 81; Bornmüller, 1915; Frey, 1974: 50; Schiffner, 1897: 126; Tregubov & Tregubov, 1969-1970: 5

Species	Distribution in Iran	NR	Reference(s)
<i>Marchantia polymorpha</i> subsp. <i>montivagans</i> Bisch. & Botsselher [Syn.: <i>M. alpestris</i> (Nees) Burgeff; <i>M. polymorpha</i> fo. <i>alpestris</i> Nees; <i>M. polymorpha</i> var. <i>alpestris</i> Nees; <i>M. kablikiana</i> Corda]	Mar., Maz.	2	Froeblich, 1950: 38; Schiffner, 1908: 229
Ricciaceae			
<i>Riccia atomarginata</i> Levier	Hor.	2	Bischler & Jovet-Ast, 1986: 17; Frey & Kürschner, 1983a: 17
<i>Riccia bifurca</i> Hoffm.	Far., Hor.	3	Kürschner, 1996: 263
<i>Riccia cavernosa</i> Hoffm.	Bal.	1	Léonard, 1981: 26
<i>Riccia ciliata</i> Hoffm.	?	1	Bischler & Jovet-Ast, 1986: 17
<i>Riccia crozalsii</i> Levier	Far., Hor.	3	Kürschner, 1996: 263
<i>Riccia fluitans</i> L.	Gil.	2	First record
<i>Riccia frostii</i> Austin	Bal.	1	Léonard, 1981: 26
<i>Riccia glauca</i> L.	Cha.	1	Arnell, 1963: 35; Frey, 1974: 50
<i>Riccia gougetiana</i> Durieu & Mont.	?	? (1)	Bischler & Jovet-Ast, 1986: 17
<i>Riccia lamellosa</i> Raddi	Hor.	1	Frey & Kürschner, 1983a: 17
<i>Riccia sorocarpa</i> Bisch.	?	1	Bischler & Jovet-Ast, 1986: 17
<i>Riccia subbifurca</i> Warnst. ex Croz.	?	1	Bischler & Jovet-Ast, 1986: 17
<i>Riccia trichocarpa</i> Howe	Hor.	1	Frey & Kürschner, 1983a: 17
<i>Ricciocarpos natans</i> (L.) Corda	Gil., Col., Maz.	8*	Buhse & Boissier, 1860: 237; Frey, 1974: 50; Kürschner et al., 2000: 511
JUNGERMANNIOPSIDA			
Aneuraceae			
<i>Aneuracium</i>			
<i>Riccardia multifida</i> (L.) Gray	Maz.	1	Frey & Kürschner, 1983a: 19
<i>Riccardia palmata</i> (Hedw.) Carruth.	Maz.	2	Frey & Kürschner, 1979: 26; Frey & Kürschner, 1983a: 19
Calyptogeleaceae			
<i>Calyptogeia arguta</i> Nees & Mont.	Maz.	1	Tregubov & Tregubov, 1969-1970: 4
<i>Calyptogeia fissia</i> (L.) Raddi	Maz.	1	Frey, 1974: 51
Cephalozeliaceae			
<i>Cephalozia lunulifolia</i> (Dumort.) Dumort.	Maz.	2	Frey, 1974: 51; Jovet-Ast, 1960: 181
[Syn.: <i>Cephalozia media</i> Lindb.]			
<i>Cephalozia rubella</i> (Nees) Warnst. var. <i>sullivantii</i> (Austin) Müll.Frib.	Gol.	1	Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 26
Codontiaceae			
<i>Fossombronina caespitiformis</i> De Not. ex Rabenh.	Far., Lor.	2	Frey & Kürschner, 1983a: 17
Frullaniaceae			
<i>Frullania cesatiiana</i> De Not.	Gol.	2	Kürschner et al., 2000: 510

Species	Distribution in Iran	NR	Reference(s)
<i>Frullania dilatata</i> (L.) Dumort.	Gil., Gol., Maz.	18	Arnell, 1963: 35; Bornmüller, 1908: 834; Frey, 1974: 52; Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 27; Nicholson, 1920: 91; Schiffner, 1908: 230; Schiffner, 1939: 533; Buhse & Boissier, 1860: 237; Frey, 1974: 52; Frey & Kürschner, 1979: 27
<i>Frullania tamarisci</i> (L.) Dumort. [Syn.: <i>Frullania nervosa</i> Mont.]	Maz.	3	
Jubulaceae			
<i>Jubula hutchinsiae</i> (Hook.) Dumort. subsp. <i>javanica</i> (Steph.) Verd.	Maz.	2	Frey & Kürschner, 1983a: 18
Jungermanniaceae			
<i>Jungermannia gracilima</i> Sm.	Maz.	2	Frey & Kürschner, 1983a: 17
<i>Jungermannia hyalina</i> Lyell	Maz.	1	Frey & Kürschner, 1983a: 17
<i>Jungermannia leiantha</i> Grolle [Syn.: <i>J. lanceolata</i> L.]	Maz.	2	Tregubov & Tregubov, 1969-1970: 4
<i>Jungermannia subulata</i> A. Evans	Maz.	1	Frey & Kürschner, 1983a: 18
Lejeuneaceae			
<i>Cololejeunea rossettiana</i> (C. Mass.) Schiffn.	Gol., Maz.	4	Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 27
<i>Lejeunea cavifolia</i> (Ehrh.) Lindb.	Gol., Maz.	7	Frey, 1974: 52; Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 27
<i>Lejeunea lamacerina</i> (Steph.) Schiffn.	Maz.	1	Frey & Kürschner, 1979: 41
Lophocoleaceae			
<i>Lophocolea bidentata</i> (L.) Dumort. [Syn.: <i>L. cuspidata</i> (Nees) Limpr.]	Maz.	1	Bischler & Jovet-Ast, 1986: 21; Frey & Kürschner, 1983a: 18
<i>Lophocolea heterophylla</i> (Schrad.) Dumort.	Maz.	6	Frey, 1974: 51; Frey & Kürschner, 1979: 27
<i>Lophocolea minor</i> Nees	Gol., Maz.	2	Frey, 1974: 51; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 27; Froehlich, 1950: 38
<i>Chiloscyphus pallidus</i> (Ehrh. ex Hoffn.) Dumort.	Maz.	1	Frey & Kürschner, 1983a: 18
Lophoziaaceae			
<i>Barbilophozia barbata</i> (Schmidel ex Schreb.) Loeske	Maz.	1	Frey & Kürschner, 1983a: 17
<i>Leiocolea badensis</i> (Gottsche) Jörg. [Syn.: <i>badensis</i> (Gottsche) Schiffn.]	Maz. Teh.	1	Bornmüller, 1908: 833; Frey & Kürschner, 1979: <i>Lophozia</i> 41; Schiffner, 1908: 230
<i>Leiocolea turbinata</i> (Raddi) H. Buch [Syn.: <i>Lophozia turbinata</i> (Raddi) Steph.]	Maz.	2	Frey, 1974: 51; Schiffner, 1939: 533
<i>Tritomania exsecta</i> (Schmidel) Schiffn. ex Loeske	Maz.	1	Tregubov & Tregubov, 1969-1970: 6
Metzgeriaceae			
<i>Metzgeria conjugata</i> Lindb.	Maz.	1	Frey, 1974: 51
<i>Metzgeria furcata</i> (L.) Dumort.	Gil., Gol., Maz.	22	Buhse & Boissier, 1860: 237; Frey, 1974: 50; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 26; Tregubov & Tregubov, 1969-1970: 5

Species	Distribution in Iran	NR	Reference(s)
Pellia			
<i>Pellia endivifolia</i> (Dicks.) Dumort. [Syn.: <i>P. fubbroniana</i> Radl.]	Far., Gol., Maz., Kbo.	14*	Frey, 1974: 51; Frey & Kürschner, 1977: 145; Froehlich, 1950: 38; Schiffner, 1939: 533
<i>Pellia epiphylla</i> (L.) Corda	Maz., Teh.	7	Arnell, 1963: 35; Ertter & Norris, 1999; Frey, 1974: 51
Plagiochilaceae			
<i>Pedinophyllum interruptum</i> (Nees) Kaal.	Maz.	1	Frey & Kürschner, 1983a: 18
<i>Plagiochila asplenoides</i> (L.) Dumort. var. <i>minor</i> Lindb.	Maz., Gil. Gol.	4	Frey & Kürschner, 1977: 145; Tregubov & Tregubov, 1969: 1970: 5
<i>Plagiochila porreloides</i> (Torrey ex Nees) Lindenb.	Maz.	5	Bischler & Jovet-Ast, 1986: 21; Frey, 1974: 51
Porellaceae			
<i>Porella arboris-vitae</i> (With.) Grollé [Syn.: <i>Madotheca laevigata</i> (Schrad.) Dumort.]	Maz.	3	Frey, 1974: 52; Frey & Kürschner, 1979: 28
<i>Porella cordacana</i> (Huebener) Moore	Maz.	1	Ertter & Norris, 1999
<i>Porella platyphylla</i> (L.) Pfeiff. [Syn.: <i>Madotheca platyphylla</i> (L.) Dumort.; <i>Porella platyphylloidea</i> (Schwein.) Lindb.]	Gil., Gol., Kho., Maz.	58*	Bornmüller, 1908: 834; Ertter & Norris, 1999; Frey, 1974: 52; Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 28, 41; Froehlich, 1950: 38; Schiffner, 1897: 126; Tregubov & Tregubov, 1969: 1970: 4
Radiulaceae			
<i>Radiula complanata</i> (L.) Dumort.	Gil., Gol., Maz.	21*	Frey, 1974: 52; Frey & Kürschner, 1977: 146; Frey & Kürschner, 1979: 28; Schiffner, 1908: 230
<i>Radiula lindenbergiana</i> Gottsche ex C. Hartm.	Gil., Maz.	2	Bornmüller, 1908: 834; Frey & Kürschner, 1979: 28; Schiffner, 1908: 230
Scapaniaceae			
<i>Scapania aspera</i> M. Bernet & Bernet	Gol.	1	Frey & Kürschner, 1977: 146
<i>Scapania nemorea</i> (L.) Grollé	Maz.	4	Frey & Kürschner, 1983a: 18; Tregubov & Tregubov, 1969: 1970: 5
Southbyaceae			
<i>Southbya nigrella</i> (De Not.) Henriq.	Far.	1	Frey & Kürschner, 1983a: 18
Targioniaceae			
<i>Targionia hypophylla</i> L.	Far.	3	Frey, 1974: 49; Schiffner, 1897: 126
<i>Targionia torbeeriana</i> Müll. Frib.	Far.	1	Kürschner, 1996: 263
BRYOPSIDA			
Amblystegiaceae			
<i>Amblystegium flavivittae</i> (Hedw.) Schimp. [Syn.: <i>Hypoaamblystegium flavivittae</i> (Hedw.) Loeske]	Far.	1	Kürschner, 1996: 270
<i>Amblystegium humile</i> (P. Beauv.) Crundw. [Syn.: <i>A. kochii</i> Schimp.; <i>Leptodictyum kochii</i> (Schimp.) Warnst.]	Gil.	1	Bornmüller, 1908: 917; Schiffner 1908: 348
<i>Amblystegium radiale</i> Schimp. nom. illeg. According to Index Muscorum it is an illegitimate name. It could either be <i>Anisothecium varium</i> (Hedw.) Mitt. or <i>Campylopus radiale</i> (P. Beauv.) Grouet (M. Ros, in litt.).	Gil.	1	Juratzka & Milde, 1870: 602

Species	Distribution in Iran	NR	Reference(s)
<i>Amblystegium riparium</i> (Hedw.) Schimp. [Syn.: <i>Leptodictyum riparium</i> (Hedw.) Warnst.]	Gol., Teh.	2	Kürschner et al., 2000: 513; Shirzadian & Kumar, 1994: 182
<i>Amblystegium serpens</i> (Hedw.) Schimp.	Gil., Gol., Maz., Teh.	12*	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 36-37; Froehlich, 1950: 41; Størmer, 1963: 23
<i>Amblystegium subtile</i> (Hedw.) Schimp. [Syn.: <i>Amblystegiella subtilis</i> (Hedw.) Loeske; <i>Platydictya subtilis</i> (Hedw.) H.A. Crum.]	Kor., Maz.	4	Frey & Kürschner, 1979: 36
<i>Amblystegium tenax</i> (Hedw.) C.E.O. Jensen [Syn.: <i>Hygroamblystegium tenax</i> (Hedw.) Jenn.; <i>H. irriguum</i> (Hook. & Wilson) Schimp.]	Gol., Maz., Teh.	3	Froehlich, 1950: 41; Kürschner et al., 2000: 513; Shirzadian & Kumar, 1994: 182
<i>Amblystegium tenax</i> var. <i>spinifolium</i> (Schimp.) Jenn.	Gol.	1	Froehlich, 1950: 41
<i>Amblystegium varium</i> (Hedw.) Lindb.	Gil., Gol., Kho., Maz.	9*	Buhse & Boissier, 1860: 237; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 37; Froehlich, 1950: 41; Nicholson, 1920: 91
<i>Calliergonella cuspidata</i> (Hedw.) Loeske [Syn.: <i>Acrocladium cuspidatum</i> (Hedw.) Lindb.; <i>Hypnum cuspidatum</i> Hedw.]	Gil., Mar., Maz.	6	Bornmüller, 1908: 917; Schiffner, 1897: 132; Schiffner, 1908: 349; Tregubov & Tregubov, 1969-1970: 19
<i>Calliergonella cuspidata</i> var. <i>pingens</i> (Schimp.) Latzel	Maz.	1	Tregubov & Tregubov, 1969-1970: 19
<i>Calliergon sarmentosum</i> (Wahlenb.) Kindb.	Maz.	1	Kürschner, 1996: 270
<i>Campylophyllum calcareum</i> (Grundw. & Nyholm) Hedenäs [Syn.: <i>Campyllum calcareum</i> Grundw. & Nyholm; <i>C. sommerfeltii</i> (Myrin) Lange; <i>C. hispidulum</i> (Brid.) Mitt.]	Kho., Maz.	2	Frey & Kürschner, 1979: 37; Kürschner, 1996: 270
<i>Drepanocladus aduncus</i> (Hedw.) Warnst.	Gol., Maz.	5*	Gilli, 1941: 283; Kürschner et al., 2000: 513; Størmer, 1963: 23
<i>Hygrohypnum luridum</i> (Hedw.) Jenn.	Gol.	1	Buhse & Boissier, 1860: 235
<i>Warnstorfia exannulata</i> (Schimp.) Loeske [Syn.: <i>Drepanocladus exannulatus</i> (Schimp.) Warnst.]	Maz.	1	Gilli, 1941: 283
Bartramieaceae			
<i>Bartramia halleriana</i> Hedw.	Maz.	1	Frey & Kürschner, 1983a: 16
<i>Philonotis caespitosa</i> Jur.	Ham.	1	Fehner, 1885: 6
<i>Philonotis calcarea</i> (Schimp.) Schimp.	Ker., Mar., Maz., Sem., Teh.	7	Bornmüller, 1908: 915; Buhse & Boissier, 1860: 236; Schiffner, 1897: 131; Schiffner, 1908: 342; Størmer, 1963: 19
<i>Philonotis calcarea</i> var. <i>seriatifolia</i> Schiffn.	Sem.	1	Froehlich, 1950: 41
<i>Philonotis capitata</i> Lindb.	Teh.	1	Shirzadian & Kumar, 1994: 181
<i>Philonotis fontana</i> (Hedw.) Brid.	Ham., Ker., Maz., Teh.	6	Froehlich, 1950: 41; Juratzka & Milde, 1870: 598; Størmer, 1963: 19; Schiffner, 1897: 131
<i>Philonotis fontana</i> var. <i>minor</i> Paris	Aze ^E .	1	Buhse & Boissier, 1860: 236
<i>Philonotis hastata</i> (Duby) Wijk & Margad.	Teh.	1	Shirzadian & Kumar, 1994: 182
<i>Philonotis laxitexta</i> J. Froehlich	Gol., Kho., Teh.	3	Froehlich, 1950: 40
<i>Philonotis marchica</i> (Hedw.) Brid.	Maz.	2	Baumgartner, 1939: 535; Jovet-Ast, 1960: 181
<i>Philonotis rigida</i> Brid.	Gil., Maz.	4	Baumgartner, 1939: 535; Townsend 1966: 133; Tregubov & Tregubov, 1969-1970: 12
<i>Philonotis rigida</i> f. <i>gracilis</i> Mönk.	Maz.	1	Tregubov & Tregubov, 1969-1970: 12

Species	Distribution in Iran	NR	Reference(s)
<i>Philonotis seriata</i> Mitt.	Teh.	1	Kürschner, 1996: 268
<i>Philonotis seriata</i> var. <i>persica</i> Schiffn.	Mar.	1	Schiffner, 1908: 342
<i>Philonotis tomentella</i> Molendo	Aze ^E , Teh.	3	Schiffner, 1908: 342; Størmer, 1963: 19
<i>Philonotis uncinata</i> (Schwägr.) Brid.	Teh.	1	Shirzadian & Kumar, 1994: 182
<i>Plagiopus oederi</i> (Brid.) Limpin.	Gol.	1	Frey & Kürschner, 1977
Brachytheciaceae			
<i>Brachythecium acuminatum</i> (Hedw.) Austin	Teh.	1	Shirzadian & Kumar, 1994: 183
<i>Brachythecium albicans</i> (Hedw.) Schimp.	Maz.	2	Frey & Kürschner, 1979: 41; Tregubov & Tregubov, 1969-1970: 23
<i>Brachythecium campestre</i> (Müll.Hal.) Schimp.	? Maz.	1	First record
<i>Brachythecium colinum</i> (Müll.Hal.) Schimp.	Teh.	2	Størmer, 1963: 24
<i>Brachythecium gehrebii</i> Milde	Gol.	1	Frey & Kürschner, 1977
<i>Brachythecium oxycladum</i> (Brid.) A. Jaeger	Kho.	2	First record
<i>Brachythecium populium</i> (Hedw.) Schimp.	Gol., Maz.	3	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 37; Størmer, 1963: 24
<i>Brachythecium rivulare</i> Schimp. [Syn.: <i>B. rivulare</i> f. <i>nitidum</i> Podp.]	Gil., Gol., Maz., Teh.	15	Ertter & Norris, 1999; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 37; Froehlich, 1950: 41; Størmer, 1963: 24; Tregubov & Tregubov, 1969-1970: 23-24
<i>Brachythecium rutabulum</i> (Hedw.) Schimp.	Gil., Gol., Maz., Teh.	35*	Baumgartner, 1939: 536; Bornmüller, 1908: 916; Buhse & Boissier, 1860: 235; Fehliner, 1885: 6; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 37; Juratzka & Milde, 1870: 600; Schiffner 1897: 132; Schiffner, 1908: 346; Størmer, 1963: 24; Tregubov & Tregubov, 1969-1970: 24-25
<i>Brachythecium rutabulum</i> var. <i>meridionale</i> Schiffn.	Gil.	3	Bornmüller, 1908: 916; Schiffner, 1908: 347
<i>Brachythecium salebrosum</i> (F. Weber & D. Mohr) Schimp.	Gil., Gol., Kho., Maz.	9	Buhse & Boissier, 1860: 235; Ertter & Norris, 1999; Frey & Kürschner, 1979: 37; Kianmehr <i>et al.</i> , 2000: 55; Tregubov & Tregubov, 1969-1970: 25
<i>Brachythecium umbilicatum</i> Jur. & Milde.	Kor.	1	Juratzka & Milde, 1870: 600
<i>Brachythecium velutinum</i> (Hedw.) Schimp.	Gil., Gol., Kor., Maz.	8	Frey & Kürschner, 1977: 144; Juratzka & Milde, 1870: 600; Tregubov & Tregubov, 1969-1970: 25
<i>Brachythecium velutinum</i> var. <i>salicinum</i> (Schimp.) Mönk. 24	Lor. Teh.	3	Bornmüller, 1908: 916; Schiffner, 1908: 346; Størmer, 1963: 24
[Syn.: <i>B. olympicum</i> Jur.; <i>B. velutinum</i> var. <i>venustum</i> (De Not.) Arcang.]			
<i>Bryhnia novae-angliae</i> (Sull. & Lesq.) Grout	Teh.	1	Shirzadian & Kumar, 1994: 183
<i>Cirriphyllum crassitermium</i> (Taylor) Loeske & M. Fleisch.	Gil., Gol., Maz.	10*	Buhse & Boissier, 1860: 235; Frey & Kürschner, 1977: 144; 1979: 37; Tregubov & Tregubov, 1969-1970: 26
[Syn.: <i>Eurhynchium crassitermium</i> (Wilson) Schimp.]			
<i>Cirriphyllum piliferum</i> (Hedw.) Grout	Maz.	2	Frey & Kürschner, 1979: 38; Tregubov & Tregubov, 1969-1970: 27
<i>Eurhynchium flotowianum</i> (Sendt.) Kartt. [Syn.: <i>Cirriphyllum reichenbachianum</i> (Huebener) Wijk & Margad.; <i>C. velutinoides</i> (Schimp.) Loeske & Fleisch.; <i>Eurhynchium velutinoides</i> Schimp.]	Gil., Gol., Maz.	8	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 38; Juratzka & Milde, 1870: 601; Størmer, 1963: 24; Tregubov & Tregubov, 1969-1970: 27

Species	Distribution in Iran	NR	Reference(s)
<i>Eurhynchium hians</i> (Hedw.) Sande Lac. [Syn.: <i>E. swartzii</i> (Turner) Cum.; <i>Oxyrrhynchium swartzii</i> (Turner) Warmst.]	Gil., Gol., Maz., Teh.	21*	Bornmüller, 1908: 916; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 39; Schiffner, 1908: 374; Shirzadian & Kumar, 1994: 183; Størmer, 1963: 26; Tregubov & Tregubov, 1969-1970: 26; Størmer, 1963: 26
<i>Eurhynchium hians</i> var. <i>rigidum</i> (Boulay) J.-P. Frahm [Syn.: <i>E. swartzii</i> (Turner) Cum. var. <i>rigidum</i> (Boulay) Thér.]	Maz.	1	
<i>Eurhynchium meridionale</i> (Schimp.) De Not.	Gil.	1	Bornmüller, 1908: 917; Schiffner, 1908: 347
<i>Eurhynchium praelongum</i> (Hedw.) Bruch, Schimp. & W. Gümbel [Syn.: <i>Oxyrrhynchium praelongum</i> (Hedw.) Warmst.]	Gil., Gol.	5	Baumgartner, 1939: 536; Buhse & Boissier, 1860: 235; Frey & Kürschner, 1977: 145
<i>Eurhynchium praelongum</i> var. <i>stokesii</i> (Turner) Dixon [Syn.: <i>Eurhynchium stokesii</i> (Turner) Schimp.]	Gil., Kor.	3	Bornmüller, 1908: 916; Juratzka & Milde, 1870: 601
<i>Eurhynchium pulchellum</i> (Hedw.) Jeno.	Gol.	1	Frey & Kürschner, 1977: 145
<i>Eurhynchium pulchellum</i> var. <i>praecox</i> (Hedw.) Dixon [Syn.: <i>E. strigosum</i> (F. Weber & D. Mohr) Schimp.]	? Caspian forests	1	Buhse & Boissier, 1860: 235
<i>Eurhynchium schleicheri</i> (R. Hedwig) Milde [Syn.: <i>Oxyrrhynchium schleicheri</i> (Hedw.) Roell]	Gil., Maz.	3	Frey & Kürschner, 1979: 39; Frey & Kürschner, 1983a: 17
<i>Eurhynchium speciosum</i> (Brid.) Jur. [Syn.: <i>Oxyrrhynchium speciosum</i> (Brid.) Warmst.]	Gil., Gol., Maz.	4	Bornmüller, 1908: 917; Frey & Kürschner, 1977: 145; Schiffner, 1908: 347; Tregubov & Tregubov, 1969-1970: 25; Størmer, 1963: 25
<i>Eurhynchium speciosum</i> var. <i>angustifolium</i> Størmer	Teh.	1	
<i>Eurhynchium striatum</i> (Hedw.) Schimp.	Gol., Maz.	4	Størmer, 1963: 26; Tregubov & Tregubov, 1969-1970: 26
<i>Homalothecium lutescens</i> (Hedw.) H. Rob. [Syn.: <i>Camptothecium lutescens</i> (Hedw.) Schimp.]	Gil., Gol., Kho., Maz.	16*	Bornmüller, 1908: 916; Ertler & Norris, 1999; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 38; Schiffner, 1908: 346; Størmer, 1963: 23; Tregubov & Tregubov, 1969-1970: 20
<i>Homalothecium megapitulum</i> (Sull.) H. Rob. (A doubtful record, because it is previously known only from Canada and USA)	Maz.	1	Shirzadian & Kumar, 1994: 182
<i>Homalothecium nitens</i> (Hedw.) H. Rob. [Syn.: <i>Tomenthypnum nitens</i> (Hedw.) Loeske]	Gol.	1	Shirzadian & Kumar, 1994: 183
<i>Homalothecium philippense</i> (Spruce) Schimp.	Gil., Gol., Kho., Maz.	9*	Frey & Kürschner, 1977: 145; 1979: 38; Tregubov & Tregubov, 1969-1970: 20
<i>Homalothecium sericeum</i> (Hedw.) Schimp. [Syn.: <i>Leskea sericea</i> Hedw.]	Gil., Gol., Kor., Maz., Teh.	36*	Baumgartner, 1939: 536; Bornmüller, 1908: 916; Buhse & Boissier, 1860: 235; Ertler & Norris, 1999; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 38; Gilli, 1941: 283; Juratzka & Milde, 1870: 600; Schiffner, 1897: 131; Schiffner, 1908: 346; Størmer, 1963: 23; Tregubov & Tregubov, 1969-1970: 20
<i>Isothecium alopecuroides</i> (Lam. ex Dubois) Isoy. (Syn.: <i>Isothecium myurum</i> Brid. ex J. J. Amann)	Maz.	1	Frey & Kürschner, 1983a: 16
<i>Palamodiadum euchloron</i> (Müll. Hal.) Wijk & Margad. [Syn.: <i>Eurhynchium euchloron</i> (Müll. Hal.) Jur. et Milde.; <i>Pleuropus euchloron</i> (Müll. Hal.) Broth.]	Gil., Gol., Maz.	61*	Baumgartner, 1939: 536; Bornmüller, 1908: 916; Buhse & Boissier, 1860: 235; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 39; Joyet-Asst, 1960: 181; Juratzka & Milde, 1870: 601; Nicholson, 1920: 91; Schiffner, 1897: 132; Schiffner, 1908: 347; Størmer, 1963: 23; Townsend, 1966: 135; Tregubov & Tregubov, 1969-1970: 21-23

Species	Distribution in Iran	NR	Reference(s)
<i>Palanocladium leskeoides</i> (Hook.) E. Britton [Syn.: <i>Homalothecium nigtheriense</i> (Mont.) H. Rob.]	Gol.	1	Shirzadian & Kumar, 1994: 183
<i>Rhynchostegiella jacquinii</i> (Garov.) Limpr. var. <i>persica</i> Schiffn.	Gil., Gol., Maz.	10	Baumgartner, 1939: 536; Bornmüller, 1908: 917; Frey & Kürschner, 1979: 39; Schiffner, 1908: 348
<i>Rhynchostegiella menadensis</i> (Sande Lac.) E. B. Bartram	Gol.	1	Shirzadian & Kumar, 1994: 183
<i>Rhynchostegiella tenella</i> (Dicks.) Limpr. [Syn.: <i>Eurhynchium tenellum</i> (Dicks.) Milde]	Gil., Maz., near the Caspian	4	Frey & Kürschner, 1979: 40; Nicholson, 1920: 91; Shirzadian & Kumar, 1994: 183
<i>Rhynchostegium megapolitanum</i> (F. Weber & D. Mohr) Schimp.	Gil., Maz.	5	Bornmüller, 1908: 917; Frey & Kürschner, 1979: 41; Juratzka & Milde, 1870: 601; Schiffner, 1908: 348; Tregubov & Tregubov, 1969-1970: 26
<i>Rhynchostegium riparioides</i> (Hedw.) Cardot [Syn.: <i>Platyphrudium riparioides</i> (Hedw.) Dixon; <i>Rhynchostegium rusciforme</i> Schimp.; <i>Eurhynchium riparioides</i> (Hedw.) F.W. Richards; <i>Oxyrrhynchium riparioides</i> (Hedw.) Jenn.]	Gol., Lor., Maz. Teh.	5	Ertter & Norris, 1999; Frey & Kürschner, 1977: 145; Juratzka & Milde, 1870: 601; Shirzadian & Kumar, 1994: 183
<i>Scleropodium purum</i> (Hedw.) Limpr. [Syn.: <i>Brachythecium purum</i> (Hedw.) Dixon]	Gil., near the Caspian	2	Bornmüller, 1908: 916; Nicholson, 1920: 91; Schiffner, 1908: 347
<i>Scorpiurium circinatum</i> (Brid.) M. Fleisch. & Loeske var. <i>tenue</i> (Brizi) Latzel [Syn.: <i>Eurhynchium circinatum</i> (Brid) Schimp. var. <i>tenue</i> Brizi]	Gil.	1	Bornmüller, 1908: 916; Schiffner, 1908: 347
Bryaceae			
<i>Anomobryum auratum</i> (Mitt.) A. Jaeger	Gol.	1	Shirzadian, 1989: 18
<i>Anomobryum lanatum</i> (P. Beauv.) J.R. Spence & H.P. Ramsay [Syn.: <i>Bryum argenteum</i> Hedw. var. <i>lanatum</i> (B. Beauv.) Hampe]	Maz.	1	Kürschner, 1996: 268
<i>Brachymenium exile</i> (Dozy & Molk.) Bosch & Sande Lac.	Teh.	1	Shirzadian, 1989: 18
<i>Brachymenium nepalense</i> Hook.	Gil.	1	Shirzadian & Kumar, 1994: 181
<i>Bryum alpinum</i> With.	Gol., Mar., Maz.	3*	Froehlich, 1950: 40
<i>Bryum amblyodon</i> Müll. Hal. [Syn.: <i>B. inclinatum</i> (Brid.) Bland. nom. illeg.]	Ham.	1	Juratzka & Milde, 1870: 596
<i>Bryum argenteum</i> Hedw.	Gil., Gol., Maz. Teh.	11*	Ertter & Norris, 1999; Fehlnert, 1885: 4; Frey & Kürschner, 1977: 143; Jovet-Ast, 1960: 181; Juratzka & Milde, 1870: 596; Nicholson, 1920: 90; Schiffner, 1908: 316; Störmer, 1963: 17
<i>Bryum atrovirens</i> Vill. ex Brid.	Teh.	1	Shirzadian & Kumar, 1994: 181
<i>Bryum badium</i> (Brid.) Schimp. [Syn.: <i>B. caespiticium</i> var. <i>badium</i> Brid.]	Kho.	2	Shirzadian <i>et al.</i> , 2000
<i>Bryum caespiticium</i> Hedw.	Gol., Kho., Maz., Teh.	9	Bornmüller, 1908: 836; Ertter & Norris, 1999; Froehlich, 1950: 40; Frey & Kürschner, 1977: 143; 1979: 30; Kiammehr <i>et al.</i> 2000: 55; Schiffner, 1908: 317; Störmer, 1963: 17

Species	Distribution in Iran	NR	Reference(s)
<i>Bryum capillare</i> Hedw.	Gol., Lor., Teh.	11*	Bornmüller, 1908: 836; Buhse & Boissier, 1860: 236; Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 30; Froehlich, 1950: 40; Schiffner, 1908: 316
<i>Bryum capillare</i> var. <i>meridionale</i> Schimp.	Gil.	1	Bornmüller, 1908: 836; Schiffner, 1908: 317
<i>Bryum capillare</i> var. <i>rosulanum</i> Mitt.	Gol.	1	Froehlich, 1950: 40
<i>Bryum comense</i> Schimp.	Lor.	1	Kürschner, 1996: 268
<i>Bryum dichotomum</i> Hedw. [Syn.: <i>B. bicolor</i> Dick.; <i>B. atropurpureum</i> Bruch & Schimp.]	Bub. Maz.	4	Frey & Probst 1974a: 103; Nicholson, 1970: 90; Shirzadian, 2002: 47
<i>Bryum elwendicum</i> C. Fehner	Ham., Maz., Teh.	3	Bornmüller, 1908: 836; Fehner, 1883: 435; Fehner, 1885: 4; Schiffner, 1908: 317
<i>Bryum funckii</i> Schwägr.	Maz., Teh.	2	Bornmüller, 1908: 836; Frey & Probst, 1973: 414; Schiffner, 1908: 316
<i>Bryum laevifolium</i> Syd. [Syn.: <i>B. subelegans</i> auct. non Kindb.]	Gol., Maz.	6	Frey & Kürschner, 1979: 30; Kürschner <i>et al.</i> , 2000: 513; Størmø, 1963: 17
<i>Bryum muehlenbeckii</i> Schimp.	Kor.	1	Størmø, 1963: 17
<i>Bryum neodamense</i> Itzigs.	Maz.	1	Størmø, 1963: 18
<i>Bryum pallens</i> Sw.	Mar.	1	Schiffner, 1908: 317
<i>Bryum pallescens</i> Schleich. ex Schwägr. [Syn.: <i>Bryum cirrhanum</i> Hoppe & Hornsch.]	Gol., Maz., Teh.	3	Ercter & Norris, 1999; Frey & Kürschner, 1977: 143; Størmø, 1963: 18
<i>Bryum pallescens</i> var. <i>contextum</i> (Hoppe et Hornsch.) Fürnr. [Syn.: <i>B. dalachanicum</i> Jur. & Milde; <i>B. juratzkae</i> Milde]	Kor., Lor.	3	Juratzka & Milde, 1870: 596-597
<i>Bryum pseudotriquetrum</i> (Hedw.) P. Gaertn., B. Mey. & Scherb.	Gol., Maz., Teh.	4	Bornmüller, 1908: 836; Froehlich, 1950: 40; Schiffner, 1908: 317; Størmø, 1963: 18
<i>Bryum pseudotriquetrum</i> var. <i>bornmuelleri</i> Schiffn.	Ker.	1	Schiffner, 1897: 130
<i>Bryum schleicheri</i> Schwägr.	Ham., Maz., Teh.	3	Bornmüller, 1908: 836; Fehner, 1885: 4; Froehlich, 1950: 40; Schiffner, 1908: 317
<i>Bryum schleicheri</i> var. <i>laetifolium</i> (Schwägr.) Schimp.	Mar., Maz.	4	Baumgartner, 1939: 535; Froehlich, 1950: 40; Gili, 1941: 283; Schiffner, 1908: 317
<i>Bryum syriacum</i> Lorentz [Syn.: <i>Webera sinaitica</i> Lorentz]	Ham., Kho., Teh.	3	Baumgartner, 1939: 535; Froehlich, 1950: 40; Juratzka & Milde, 1870: 597
<i>Bryum torquescens</i> Bruch ex De Not. [Syn.: <i>B. capillare</i> Hedw. var. <i>torquescens</i> (Bruch ex De Not.) Hustn.]	Maz.	2	Størmø, 1963: 17; Tregubov & Tregubov, 1969-1970: 9
<i>Bryum turbinatum</i> (Hedw.) Turner	Ham., Kho., Maz., Sem.	4	Buhse & Boissier, 1860: 236; Juratzka & Milde, 1870: 597; Kianmehr <i>et al.</i> , 2000: 55; Størmø, 1963: 18
<i>Bryum uliginosum</i> (Brid.) Bruch & Schimp.	Kho., Teh.	2	Kianmehr <i>et al.</i> , 2000: 55; Shirzadian & Kumar, 1994: 181
<i>Bryum weigelii</i> Spreng.	Khu.	1	Shirzadian, 2002: 47
<i>Leptobryum pyriforme</i> (Hedw.) Wilson	Aze ^F .	1	Schiffner, 1908: 313
<i>Mielichhoferia mielichhoferiana</i> (Funck) Loeske [Syn.: <i>M. compacta</i> (Lindb.) Kindb. <i>nom. illeg. var. papillosula</i> J. Froehli.]	Teh.	1	Froehlich, 1950: 39

Species	Distribution in Iran	NR	Reference(s)
<i>Pohlia annotina</i> (Hedw.) Lindb.	Gol.	1	Shirzadian & Kumar, 1994: 180
<i>Pohlia cruda</i> (Hedw.) Lindb. [Syn.: <i>Webera cruda</i> (Hedw.) Fuernr.]	Aze ^E , Teh.	2	Bornmüller, 1908: 835; Schiffner, 1908: 313
<i>Pohlia flexuosa</i> Hook.	Teh.	1	Shirzadian & Kumar, 1994: 181
<i>Pohlia ludwigii</i> (Spreng. ex Schwägr.) Broth.	Gol.	1	Kürschner <i>et al.</i> , 2000: 511
<i>Pohlia nutans</i> (Hedw.) Lindb. [Syn.: <i>Webera nutans</i> Hedw.]	Mont. Elbus	1	Nicholson, 1920: 90
<i>Pohlia penstachya</i> Schiffn. [Syn.: <i>Webera penstachya</i> Schiffn.]	Mar.	1	Schiffner, 1908: 313
<i>Pohlia wahlenbergii</i> (F. Weber & D. Mohr) Andr. var. <i>calcareo</i> Aze ^E , Gol., Kho., Mar. (Wamst.) E.F. Warb. [Syn.: <i>Mniobryum wahlenbergii</i> (F. Weber & D. Mohr) Jenn., <i>M. albicans</i> (Wahlenb.) Limpr.]	Maz.	4	Frey & Kürschner, 1977: 143; Frey & Kürschner, 1991: 126; Froehlich, 1950: 40; Schiffner, 1908: 316
<i>Rhodobryum roseum</i> (Hedw.) Limpr.	Maz.	1	Frey & Kürschner, 1983a: 15
Cinclidoteaceae			
<i>Cinclidotea fontinaloides</i> (Hedw.) P.Beauv.	Lor.	1	Juratzka & Milde, 1870: 594
Cratoneuraceae			
<i>Cratoneuron filicinum</i> (Hedw.) Spruce [Syn.: <i>Hypnum filicinum</i> Hedw.]	Gol., Mar., Maz., Teh.	13*	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 36; Froehlich, 1950: 41; Schiffner, 1908: 348; Størmær, 1963: 22
<i>Cratoneuron filicinum</i> var. <i>fallax</i> (Brid.) G. Roth	Maz.	1	Størmær, 1963: 22
<i>Palustrisella commutata</i> (Brid.) Ochyra [Syn.: <i>Cratoneuron commutatum</i> (Hedw.) Roth.; <i>Hypnum commutatum</i> Hedw.]	Gol., Kor., Lor., Maz., Teh.	9*	Frey & Kürschner, 1977: 144; Froehlich, 1950: 41; Juratzka & Milde, 1870: 602; Størmær, 1963: 22
<i>Palustrisella commutata</i> var. <i>fluctuans</i> (Schimp.) Ochyra [Syn.: <i>Cratoneuron commutatum</i> var. <i>irrigatum</i> (J.E. Zetterst.) Mönk. nom. illeg.; <i>C. commutatum</i> var. <i>fluctuans</i> (Schimp.) Wijk & Margad.]	Maz.	1	Baumgartner, 1939: 536
<i>Palustrisella decipiens</i> (De Not.) Ochyra [Syn.: <i>Cratoneuron decipiens</i> (De Not.) Loeske]	Maz.	1	Bornmüller, 1908: 917; Schiffner, 1908: 348
<i>Palustrisella decipiens</i> var. <i>napeiformis</i> (Schiffn.) Ochyra [Syn.: <i>Cratoneuron decipiens</i> var. <i>napeiforme</i> (Schiffn.) Schiffn.; <i>Hypnum decipiens</i> var. <i>napeiforme</i> Schiffn.]	Gol., Ham., Ker., Kho., Kor., Maz., Sem., Teh.	12*	Bornmüller, 1908: 917; Frey & Kürschner, 1977: 144; Froehlich, 1950: 41; Juratzka & Milde, 1870: 602; Schiffner, 1897: 132; Schiffner, 1908: 349; Størmær, 1963: 22.
<i>Palustrisella falcata</i> (Brid.) Heidenia [Syn.: <i>P. commutata</i> var. <i>falcata</i> (Brid.) Ochyra; <i>Hypnum falcatum</i> Brid.; <i>Cratoneuron commutatum</i> (Hedw.) Roth. var. <i>falcatum</i> (Brid.) Mönk.]	Maz.	1	Størmær, 1963: 20
Cryphaeaceae			
<i>Cryphaea</i> cf. <i>heteromalla</i> (Hedw.) D. Mohr	Maz.	1	Størmær, 1963: 20
Dicranaceae			
<i>Cynodontium tenellum</i> (Schimp.) Limpr.	Maz.	1	First record
<i>Dicranella howei</i> Renaud & Cardot	Maz.	1	Crundwell & Nyholm, 1977: 37
<i>Dicranella varia</i> (Hedw.) Schimp. [Syn.: <i>Anisothecium rubrum</i> Lindb.]	? Far., Maz.	3	Baumgartner, 1939: 534; Ernter & Norris, 1999; Juratzka & Milde, 1870: 591

Species	Distribution in Iran	NR	Reference(s)
<i>Dicranum muehlenbeckii</i> Bruch & Schimp.	Maz.	1	Froehlich, 1959: 38
<i>Dicranum scoparium</i> Hedw.	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Oreas maritima</i> (Hoppe & Hornsch.) Brid.	Teh.	1	Shirzadian & Kumar, 1994: 180
Distichaceae			
<i>Distichum capillaceum</i> (Hedw.) Bruch & Schimp.	Kho., Maz., Teh.	4	Bornmüller, 1908: 834; Frey & Probst, 1973: 411; Kianmehr <i>et al.</i> , 2000: 52; Schiffner, 1908: 231
<i>Distichum inclinatum</i> (Hedw.) Bruch & Schimp.	Gol., Ker., Maz.	3	Frey & Kürschner, 1977: 142; Froehlich, 1950: 38; Schiffner, 1897: 127
Ditrichaceae			
<i>Ceratodon purpureus</i> (Hedw.) Brid.	Teh.	1	Froehlich, 1950: 38
<i>Cheilothea chloropus</i> (Brid.) Broth. [Syn.: <i>Ceratodon chloropus</i> (Brid.) Brid.]	Khu.	1	Størmer, 1963: 7
<i>Ditrichum flexicaule</i> (Schwägr.) Hampe	Gol., Sem.	2	Frey & Kürschner, 1977: 142; Froehlich, 1950: 38
<i>Garckea comosa</i> (Dozy & Molk.) Wijk & Margad. [Syn.: <i>G. phascoides</i> Müll. Hal.]	Teh.	1	Shirzadian & Kumar, 1994: 179
Encalyptaceae			
<i>Encalyptia ciliata</i> Hedw.	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Encalyptia intermedia</i> Jur.	Gol., Teh.	2	Froehlich, 1950: 38
<i>Encalyptia rhabdocarpa</i> Schwägr.	Kho., Kor., Maz.	3	Juratzka & Milde, 1870: 595; Townsend, 1966: 131
<i>Encalyptia streptocarpa</i> Hedw.	Gol.	3*	Frey & Kürschner, 1977: 142
<i>Encalyptia vulgaris</i> Hedw.	Far., Kho., Kor., Maz., Teh.	8	Frey & Probst, 1973: 414; Juratzka & Milde, 1870: 594; Kianmehr <i>et al.</i> , 2000: 52; Størmer, 1963: 8
Entodontaceae			
<i>Entodon concinnus</i> (De Not.) Paris [Syn.: <i>Entodon orthocarpus</i> (Brid.) Lindb.; <i>Cylindrothecium concinnum</i> (De Not.) Schimp.]	Gol., Maz., ? Teh.	3	Frey & Kürschner, 1979: 40; Froehlich, 1950: 41; Juratzka & Milde, 1870: 600; Størmer, 1963: 27
<i>Entodon schteicheri</i> (Schimp.) Demet.	Gol.	1	Frey & Kürschner, 1977: 145
<i>Pleurozium schreberi</i> (Brid.) Mitt.	Maz.	1	Tregubov & Tregubov, 1969-1970: 27
Fabroniaceae			
<i>Fabronia ciliaris</i> (Brid.) Brid. [Syn.: <i>F. octoblepharis</i> Schwägr. <i>nom. illeg.</i>]	Gil., Gol., Kor., Maz.	4	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 33; Juratzka & Milde, 1870: 599
Fissidentaceae			
<i>Fissidens hambergeri</i> Schimp.	Far.	1	Kürschner, 1996: 264
<i>Fissidens bryoides</i> Hedw.	Gol.	1	Frey & Kürschner, 1977: 142
<i>Fissidens crassipes</i> Wilson ex Bruch & Schimp. [Syn.: <i>F. mildeanus</i> Schimp.]	Gol.	1	Frey & Kürschner, 1977: 142
<i>Fissidens curvatus</i> Hornsch. [Syn.: <i>F. algarvicus</i> Solms]	Maz.	1	Kürschner, 1996: 264
<i>Fissidens dubius</i> P. Beauv. [Syn.: <i>F. cristatus</i> Wilson & Mitt.]	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Fissidens exiguus</i> Sull.	Maz.	1	Kürschner, 1996: 264

Species	Distribution in Iran	NR	Reference(s)
<i>Fissidens exilis</i> Hedw.	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Fissidens gracilifolius</i> Brugg.-Nann. & Nyholm [Syn.: <i>F. minutus</i> Sull.]	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Fissidens incurvus</i> Starke ex Röhrl [Syn.: <i>F. bryoides</i> Hedw. subsp. <i>incurvus</i> (Roehl) Bertsch]	Gol.	1	Frey & Kürschner, 1977: 142
<i>Fissidens osmundioides</i> Hedw.	Maz.	1	Kürschner, 1996: 264
<i>Fissidens rivularis</i> (Spruce) Schimp.	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Fissidens taxifolius</i> Hedw.	Gil., Gol., Maz.	11*	Buhse & Boissier, 1860: 234; Frey & Kürschner, 1977: 142; 1979: 29; Juratzka & Milde, 1870: 591; Størmær, 1963: 7; Tregubov & Tregubov, 1969-1970: 7
<i>Fissidens taxifolius</i> subsp. <i>pallidicaulis</i> (Mitt.) P. de la Varde [Syn.: <i>Fissidens pallidicaulis</i> Mitt.]	Gol., Maz.	7	Tregubov & Tregubov, 1969-1970: 6-7
<i>Fissidens viridulus</i> (Sw.) Wahlentb. [Syn.: <i>F. bryoides</i> Hedw. subsp. <i>viridulus</i> (Sw.) Kindb.]	Gol., Maz.	3	Frey & Kürschner, 1979: 29; Kürschner <i>et al.</i> , 2000: 512; Tregubov & Tregubov, 1969-1970: 7
Fontinaliaceae			
<i>Fontinalis antipyretica</i> Hedw.	Teh.	1	Bornmüller, 1908: 915; Schiffner, 1897: 131
<i>Fontinalis hypnoides</i> Hartm. var. <i>duriaei</i> (Schimp.) Housn. [Syn.: <i>F. duriaei</i> Schimp.]	Gil., Maz.	2	Frey & Kürschner, 1983a: 16
Funariaceae			
<i>Entosthodon attenuatus</i> (Diels.) Bryhn	Far., Gil., Hor.	9	Kürschner, 1996: 267
<i>Entosthodon duriaei</i> Mont. [Syn.: <i>Entosthodon pallescens</i> Jur.]	Ham., Il., Lor., Maz.	5*	Fehlner, 1885: 4; Kürschner, 1996: 267
<i>Entosthodon fascicularis</i> (Hedw.) Müll. Hal.	Maz.	1	First record
<i>Entosthodon muhlenbergii</i> (Turner) Fite [Syn.: <i>Funaria muhlenbergii</i> Turner; <i>F. mediterranea</i> Lindb.]	Gil.	1	Baumgartner, 1939: 535
<i>Funaria anomata</i> Jur.	Far.	1	Juratzka & Milde, 1870: 595.
<i>Funaria hamdelii</i> Schiffn.	Kes.	1	Townsend, 1966: 132
<i>Funaria hygrometrica</i> Hedw. [Syn.: <i>F. campylopus</i> Brid.]	Gil., Kho., Maz., Teh.	12*	Bornmüller, 1908: 835; Buhse & Boissier, 1860: 237; Erüter & Norris, 1999; Frey & Kürschner, 1979: 29; Froehlich, 1950: 39; Kianmehr <i>et al.</i> , 2000: 55; Schiffner, 1908: 313; Størmær, 1963: 17; Townsend, 1966: 133; Tregubov & Tregubov, 1969-1970: 8
<i>Funaria microstoma</i> Bruch ex Schimp.	Maz.	1	Kürschner, 1996: 267
<i>Physcomitrium sphaericaum</i> (C. F. Ludw.) Füllr.	Gol.	1	Frey & Kürschner, 1991: 12
Grimmiaceae			
<i>Coscinodon cribrerosus</i> (Hedw.) Spruce	Teh.	2	Froehlich, 1950: 39; Størmær, 1963: 15
<i>Grimmia alpestris</i> (F. Weber & D. Mohr) Schleich.	Teh.	1	Frey & Probst, 1973: 414
<i>Grimmia anodon</i> Bruch & Schimp. [Syn.: <i>Schistidium anodon</i> (Bruch & Schimp.) Loeske]	Far., Kho., Sem., Teh.	7	Bornmüller, 1908: 835; Frey & Probst, 1973: 414; Froehlich, 1950: 39; Kianmehr <i>et al.</i> , 2000: 55; Schiffner, 1908: 312; Størmær, 1963: 15

Species	Distribution in Iran	NR	Reference(s)
<i>Grimmia caespiticia</i> (Brid.) Jur. var. <i>bornmuellerorum</i> Schiffn.	Teh.	1	Bornmüller, 1908: 835; Schiffner, 1908: 312
<i>Grimmia crassifolia</i> Lindb. ex Broth. [Syn.: ? <i>G. crassifolia</i> Lindb. ex Broth. var. <i>acutilata</i> Baumgartn.]. The correct name of this species is a matter of discrepancy. Muñoz (1999) considered <i>G. crassifolia</i> as a synonymous of <i>G. poecilostoma</i> Cardot & Sebille, but Greven (2003) accepted <i>G. crassifolia</i> as the correct name.	Kho., Teh.	3	Baumgartner, 1939: 534; Störmer, 1963: 16
<i>Grimmia elatior</i> Bruch ex Bals.-Criv. & De Not.	Maz.	1	First record
<i>Grimmia hartmannii</i> Schump.	Maz.	1	Ertter & Norris, 1999
<i>Grimmia laevigata</i> (Brid.) Brid. [Syn.: <i>G. campestris</i> Bruchell ex Hook.; <i>G. leucophaea</i> Grev.]	Far., Teh.	8	Baumgartner, 1939: 534; Froehlich, 1950: 39; Gülli, 1941: 283; Nicholson, 1920: 90; Schiffner, 1897: 130; Störmer, 1963: 16
<i>Grimmia longirostris</i> Hook. [Syn.: <i>G. affinis</i> Hornsch.]	Maz.	1	First record
<i>Grimmia olneyi</i> Sull.	Kho., Teh.	2	Kianmehr et al. 2000: 55; Shirzadian & Kumar, 1994: 180
<i>Grimmia orbicularis</i> Bruch ex Wilson [Syn.: <i>G. orbicularis</i> Bruch var. <i>persica</i> Schiffn. according to Muñoz (2000)]	Far., Gil., Gol. Kho., Kor., Teh.	20	Baumgartner, 1939: 535; Bornmüller, 1908: 835; Buhse & Boissier, 1860: 236; Frey & Kürschner, 1977: 143; Frey & Probst, 1973: 414; Froehlich, 1950: 39; Kianmehr et al., 2000: 55; Muñoz: 2000: 99; Schiffner, 1897: 129; Schiffner, 1908: 312; Störmer, 1963: 16; Townsend, 1966: 133
<i>Grimmia ovalis</i> (Hedw.) Lindb. [Syn.: <i>Grimmia commutata</i> Huebenet, nom. illeg.]	Gol., Kho., Kor., Sem., Teh.	15	Baumgartner, 1939: 534; Ertter & Norris, 1999; Frey & Probst, 1973: 414; Froehlich, 1950: 39; Juratzka & Milde, 1870: 594; Kürschner et al., 2000: 512; Störmer, 1963: 15
<i>Grimmia pulvinata</i> (Hedw.) Sm.	Gol., Maz.	2	Frey & Kürschner, 1977: 143; Störmer, 1963: 15
<i>Grimmia trichophylla</i> Grev.	Cha., Gol., Koh.	3	Kürschner, 1996: 266
<i>Racomitrium elongatum</i> Ehrh. ex Frisvoll	Maz.	1	Kürschner, 1996: 266
<i>Schistidium agassizii</i> Sull. & Lesq. [Syn.: <i>S. alpicola</i> (Hedw.) Limpr., <i>Grimmia alpicola</i> Hedw.]	Far., Gol., Kho.	5	Ertter & Norris, 1999; Kürschner, 1996: 267; Shirzadian et al., 2000
<i>Schistidium apocarpum</i> (Hedw.) Bruch & Schimp.	Far., Gol., Maz.	8*	Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 29; Störmer, 1963: 15
<i>Schistidium apocarpum</i> subsp. <i>gracile</i> (Röhl.) Meyl.	Gil.	1	Buhse & Boissier, 1860: 236
<i>Schistidium atrofuscum</i> (Schump.) Limpr.	Ila.	1	First record
<i>Schistidium brunneum</i> Limpr.	?Hor.	2	Kürschner, 1996: 267
<i>Schistidium confertum</i> (Funct.) Bruch & Schimp. [Syn.: <i>Grimmia conferta</i> Funck]	Gol.	1	Froehlich, 1950: 39
<i>Schistidium crassipidium</i> H. H. Blom	Gol.	1	Kürschner et al., 2000: 511
<i>Schistidium flaccidum</i> (De Not.) Onyhra [Syn.: <i>S. apocarpum</i> subsp. <i>pulsivatum</i> (Hedw.) Loeske]	Maz., Teh.	3	Störmer, 1963: 15
<i>Schistidium rivulare</i> (Brid.) Podp.	Maz.	1	Kürschner, 1996: 267
<i>Schistidium singarense</i> (Schiffn.) Laz.	Gol.	2	Kürschner et al., 2000: 512
Hedwigiaceae			
<i>Hedwigia ciliata</i> (Hedw.) P. Beauv.	Maz.	1	Störmer, 1963: 19

Species	Distribution in Iran	NR	Reference(s)
Hypnaceae			
<i>Ctenidium molluscum</i> (Hedw.) Mitt.	Gil., Gol., Maz.	20*	Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 40; Størmer, 1963: 28; Townsend, 1966: 135; Tregubov & Tregubov, 1969-1970: 29
<i>Ectropothecium cyperoides</i> (Hook.) A. Jaeger	Gil.	1	Shirzadian & Kumar, 1994: 184
<i>Hornomallium incurvatum</i> (Brid.) Loeske	Gol.	2	Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 40
<i>Hypnum cupressiforme</i> Hedw. [Syn.: <i>Hypnum cupressiforme</i> var. <i>filiforme</i> Brid.] (Smith 1997).	Gil., Gol., Kho., Maz.	38*	Baumgartner, 1939: 536; Bornmüller, 1908: 917; Bihse & Boissier, 1860: 235; Frey & Kürschner, 1977: 145; Frey & Kürschner, 1979: 40; Juratzka & Mildt, 1870: 602; Kianmehr <i>et al.</i> , 2000: 55; Nicholson, 1920: 91; Schiffner, 1897: 132; Schiffner, 1908: 349; Størmer, 1963: 27; Tregubov & Tregubov, 1969-1970: 28
<i>Hypnum cupressiforme</i> Hedw. var. <i>lacunosum</i> Brid. [Syn. <i>H. cupressiforme</i> var. <i>tectorum</i> Brid.]. According to Smith (1997) var. <i>tectorum</i> is not a synonym of var. <i>lacunosum</i> (M. Ros. in litt.).	Gil.	1	Bornmüller, 1908: 917; Schiffner, 1908: 349
<i>Hypnum imponens</i> Hedw. [Syn.: <i>H. cupressiforme</i> subsp. <i>imponens</i> (Hedw.) Boulay]	Teb.	1	Shirzadian, 1989: 18
<i>Hypnum julilandicum</i> Holmen & E. Warncke [Syn.: <i>H. cupressiforme</i> var. <i>ericetorum</i> Schimp.]	Maz.	2	Tregubov & Tregubov, 1969-1970: 28
<i>Hypnum macrogynum</i> Besch.	Maz.	1	Shirzadian & Kumar, 1994: 184
<i>Hypnum pallidum</i> (Hedw.) P. Beauv. [Syn.: <i>Hypnum reptile</i> Michx.]	Gil.	1	Juratzka & Mildt, 1870: 602
<i>Hypnum revolutum</i> (Mitt.) Lindb.	Maz., Sem.	3	Froehlich, 1950: 41; Størmer, 1963: 28
<i>Hypnum uncinulatum</i> Jur. [Syn.: <i>H. cupressiforme</i> var. <i>uncinulatum</i> (Jur.) Schimp.]	Maz.	1	Tregubov & Tregubov, 1969-1970: 28
<i>Hypnum vaucheri</i> Lesq.	Gol., Teh.	4	Bornmüller, 1908: 917; Frey & Probst, 1973: 414; Froehlich, 1950: 41; Schiffner, 1908: 349
<i>Platygyium repens</i> (Brid.) Schimp.	Gil.	1	Juratzka & Mildt, 1870: 600
<i>Pylaisia polyantha</i> (Hedw.) Schimp.	Gol., Maz.	3	Frey & Kürschner, 1979: 40; Kürschner <i>et al.</i> , 2000: 514
Leucodontaceae			
<i>Antitrichia</i> sp.	Maz.	1	Shirzadian, 1989: 18
<i>Leucodon immersus</i> Lindb. [Syn.: <i>L. caucasicus</i> Jur. & Mildt]	Gil., Gol., Kho., Maz.	27*	Baumgartner, 1939: 535; Bornmüller, 1908: 915; Juratzka & Mildt, 1870: 599; Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 31; Froehlich, 1950: 41; Nicholson, 1920: 91; Schiffner, 1897: 131; Schiffner, 1908: 343; Townsend, 1966: 134; Tregubov & Tregubov, 1969-1970: 13
<i>Leucodon sciurioides</i> (Hedw.) Schwägr.	Gol., Maz.	5	Ertter & Norris, 1999; Frey & Kürschner, 1979: 31; Tregubov & Tregubov, 1969-1970: 13
Leskeaceae			
<i>Leskea perstricta</i> Dixon	Maz.	1	Shirzadian, 1989: 18

Species	Distribution in Iran	NR	Reference(s)
<i>Leskea polycarpa</i> Hedw.	Gol., Maz.	3	Kürschner, 1996: 269; Kürschner <i>et al.</i> , 2000: 513
<i>Lescuraea patens</i> Lindb.	Gol.	2	Kürschner <i>et al.</i> , 2000: 511
<i>Pseudoleskea incurvata</i> (Hedw.) Loeske [Syn.: <i>Lescuraea incurvata</i> (Hedw.) E. Lawton]	Gol., Maz.	2	Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 33
<i>Pseudoleskeella catenulata</i> (Schrad.) Kindb.	Maz.	1	Kürschner, 1996: 270
<i>Pseudoleskeella laxiramea</i> (Schiffn.) Broth. [Syn.: <i>Leskea laxiramea</i> Schiffn.; <i>Leskea remotifolia</i> Müll. Hal., according to Townsend, 1966: 134]	Gil., Gol., Maz.	25*	Baumgartner, 1939: 536; Bornmüller, 1908: 916; Bornmüller 1915: 324; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 34; Froehlich, 1950: 41; Schiffner, 1908: 344; Schiffner 1910: 436; Townsend, 1966: 134; Tregubov & Tregubov, 1969-1970: 16-17
<i>Pseudoleskeella laxiramea</i> (Brid.) Nyholm [Syn. <i>Leskeella nervosa</i> (Brid.) Loeske]	Gil., Gol., Maz.	8	Frey & Kürschner, 1977: 144; Frey & Kürschner 1979: 33
<i>Pseudoleskeella tectorum</i> (Funck ex Brid.) Kindb. ex Broth. [Syn.: <i>Leskeella tectorum</i> (Funck ex Brid.) Hagen]	Gol., Kho., Maz.	4	Frey & Kürschner, 1979: 34; Størmer, 1963: 21
<i>Psychodium plicatum</i> (Schleich. ex F. Weber & D. Mohr) Schimp.	Gol.	1	Kürschner <i>et al.</i> , 2000: 511
Mesasiaceae			
<i>Amblyodon dealbatus</i> (Hedw.) Bruch & Schimp.	Maz.	3	Bornmüller, 1908: 836; Schiffner, 1908: 318; Størmer, 1963: 19
Mniaceae			
<i>Mnium immarginatum</i> Broth.	Maz.	1	Frey & Kürschner, 1979: 30
<i>Mnium marginatum</i> (With.) P. Beauv.	Maz.	4	Frey & Kürschner, 1983a: 16
<i>Mnium spinosum</i> (Voit) Schwägr.	Gol.	1	Frey & Kürschner, 1977: 143
<i>Mnium stellare</i> Hedw.	Maz., Teh.	4	Frey & Kürschner, 1983a: 16
<i>Mnium thomsonii</i> Schimp.	Gol.	1	Frey & Kürschner, 1977: 143
<i>Plagiomnium affine</i> (Blandow ex Funck) T.J. Kop. [Syn.: <i>Mnium affine</i> Blandow ex Funck]	Gil., Maz.	15	Baumgartner, 1939: 535; Bornmüller, 1908: 836; Buhse & Boissier, 1860: 236; Frey & Kürschner, 1979: 41; Schiffner, 1908: 318; Størmer, 1963: 18; Tregubov & Tregubov, 1969-1970: 9-10
<i>Plagiomnium cuspidatum</i> (Hedw.) T.J. Kop. [Syn.: <i>Mnium cuspidatum</i> Hedw.]	Gil., Gol., Maz.	24	Bornmüller, 1908: 836; Kürschner <i>et al.</i> , 2000: 513; Frey & Kürschner, 1979: 30; Schiffner, 1908: 318; Størmer, 1963: 19; Tregubov & Tregubov, 1969-1970: 10-11
<i>Plagiomnium elatum</i> (Bruch & Schimp.) T.J. Kop. [Syn.: <i>Mnium seligeri</i> Jur.]	Gil., Gol., Maz.	8	Bornmüller, 1908: 836; Frey & Kürschner, 1977: 143; Schiffner, 1897: 131; Tregubov & Tregubov, 1969-1970: 11
<i>Plagiomnium ellipticum</i> (Brid.) T.J. Kop. [Syn.: <i>Mnium rugicum</i> Lauret]	Maz.	1	Tregubov & Tregubov, 1969-1970: 11
<i>Plagiomnium rostratum</i> (Schrad.) T.J. Kop. [Syn.: <i>Mnium rostratum</i> Schrad.]	Gol., Kor., Maz.	10*	Ertter & Norris, 1999; Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 30; Juratzka & Milde, 1870: 597; Tregubov & Tregubov, 1969-1970: 11

Species	Distribution in Iran	NR	Reference(s)
<i>Plagiomnium undulatum</i> (Hedw.) T.J. Kop. [Syn.: <i>Mnium undulatum</i> Hedw.]	Gil., Gol., Maz.	34	Baumgartner, 1939: 535; Bornmüller, 1908: 836; Buhse & Boissier, 1860: 236; Ertter & Norris, 1999; Jovet-Ast, 1960: 181; Kürschner <i>et al.</i> , 2000; Schiffner, 1897: 131; Schiffner, 1908: 318; Shirzadian & Kumar, 1994: 181; Størmær, 1963: 19; Townsends, 1966: 133; Tregubov & Tregubov, 1969-1970: 11-12 Frey & Kürschner, 1983a: 16
<i>Rhizomnium punctatum</i> (Hedw.) T.J. Kop. [Syn.: <i>Mnium punctatum</i> Hedw.]	Gil.	1	Frey & Kürschner, 1983a: 16
<i>Trachycystis ussuriensis</i> (Maack & Regel) T.J. Kop.	Maz.	1	Frey & Kürschner, 1983a: 15
Neckeraceae			
<i>Homalia besseri</i> Lobarz. [Syn.: <i>Neckera besseri</i> (Lobarz) Jur.]	Gil., Gol., Maz.	23*	Bornmüller, 1908: 916; Frey & Kürschner, 1977: 143; Jovet-Ast, 1960: 181; Juratzka & Milde, 1870: 598; Frey & Kürschner, 1979: 32; Schiffner, 1908: 343; Størmær, 1963: 21; Tregubov & Tregubov, 1969-1970: 14
<i>Homalia trichomanoides</i> (Hedw.) Schimp.	Maz.	1	Ertter & Norris, 1999
<i>Neckera complanata</i> (Hedw.) Huebener	Gil., Gol., Maz.	19*	Bornmüller, 1908: 915; Buhse & Boissier, 1860: 235; Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 32; Froehlich, 1980: 41; Juratzka & Milde, 1870: 598; Schiffner, 1908: 343; Tregubov & Tregubov, 1969-1970: 14
<i>Neckera complanata</i> var. <i>tenella</i> Schimp.	Maz.	1	Størmær, 1963: 21
<i>Neckera crispa</i> Hedw.	Gol., Maz.	4	Baumgartner, 1939: 535; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 32; Tregubov & Tregubov, 1969-1970: 14
<i>Neckera pennata</i> Hedw.	Maz.	4	Frey & Kürschner, 1979: 41; Tregubov & Tregubov, 1969-1970: 14-15
Orthotrichaceae			
<i>Orthotrichum affine</i> Schrad. ex Brid.	Gol.	1	Ertter & Norris, 1999
<i>Orthotrichum alpestre</i> Hornsch. in Bruch, Schimp. & W. Gümbel	Gil.	1	Shirzadian & Kumar, 1994: 182
<i>Orthotrichum anomalum</i> Hedw.	Gol., Maz.	5*	Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 30; Størmær, 1963: 20
<i>Orthotrichum anomalum</i> Hedw. subsp. <i>saxatile</i> (Milde) Boulay	Kho.	2	Frey & Kürschner, 1983a: 16
<i>Orthotrichum cupulatum</i> Brid.	Gol., Kho., Kor., Teh.	11*	Ertter & Norris, 1999; Frey & Kürschner, 1977: 143; Frey & Probst, 1973: 414; Juratzka & Milde, 1870: 594; Kianmehr <i>et al.</i> , 2000: 55; Størmær, 1963: 20
<i>Orthotrichum microcarpum</i> De Not.	Maz.	2	Frey & Kürschner, 1979: 41; Jovet-Ast, 1960: 181
<i>Orthotrichum obtusifolium</i> Brid.	Far., Kho.	2	Frey & Kürschner, 1979: 30; Frey & Kürschner, 1983a
<i>Orthotrichum pallens</i> Bruch ex Brid.	Gol.	1	Kürschner <i>et al.</i> , 2000: 511
<i>Orthotrichum pumilum</i> Sw. [Syn.: <i>Orthotrichum schimperii</i> Hammer]	Gol., Kho.	2	Frey & Kürschner, 1977: 143; Frey & Kürschner, 1979: 30; Shirzadian <i>et al.</i> , 2000

Species	Distribution in Iran	NR	Reference(s)
<i>Orthotrichum pumilum</i> subsp. <i>fallax</i> (Bruch ex Brid.) Bertsch	Gol., Maz.	2	Frey & Kürschner, 1977: 143; 1979: 30
<i>Orthotrichum rupestre</i> Schleich, ex Schwägr.	Maz.	2	Kürschner, 1996: 269
Plagiothecaceae			
<i>Herzogella seligeri</i> (Brid.) Z. Iwats.	Gol.	2	Kürschner et al., 2000: 514; Tregubov & Tregubov, 1969-1970: 28
<i>Plagiothecium denticulatum</i> (Hedw.) Schimp.	Maz.	1	Frey & Kürschner, 1979: 40
<i>Plagiothecium denticulatum</i> var. <i>obusifolium</i> (Turner) Moore	Maz.	1	Tregubov & Tregubov, 1969-1970: 27
<i>Plagiothecium laetum</i> Schimp.	Gol., Maz.	5	Frey & Kürschner, 1979: 41; Tregubov & Tregubov, 1969-1970: 27
<i>Plagiothecium platyphyllum</i> Mönk.	Gol.	1	Frey & Kürschner, 1977: 145
<i>Plagiothecium succulentum</i> (Wilson) Lindb. [Syn.: <i>P. nemorale</i> (Mitt.) A. Jaeger, <i>P. neglectum</i> Mönk.; <i>P. sylvaticum</i> auct. non Brid.]. According to Hedenäs (1992) this group of species is formed by two species, <i>P. succulentum</i> and <i>P. nemorale</i> (M. Ros. in litt.). As we have not access to all cited material, we prefer to follow cited references.	Gol., Maz.	6	Buhse & Boissier, 1860: 235; Kürschner, 1996: 270; Størrmer, 1963: 27; Tregubov & Tregubov, 1969-1970: 27
<i>Plagiothecium undulatum</i> (Hedw.) Schimp.	Gil., Maz.	4	Tregubov & Tregubov, 1969-1970: 28
<i>Stereophyllum wightii</i> (Mitt.) A. Jaeger	Maz.	1	Shirzadian, 1989: 18
Polytrichaceae			
<i>Atrichum angustatum</i> (Brid.) Bruch & Schimp.	Gil., Maz.	6	Baumgartner, 1939: 536; Tregubov & Tregubov, 1969-1970: 6
<i>Atrichum undulatum</i> (Hedw.) P. Beauv.	Gil., Maz.	3	Juratzka & Mildt, 1870: 598; Tregubov & Tregubov, 1969-1970: 6
<i>Pogonatum aloides</i> (Hedw.) P. Beauv.	Maz.	1	Frey & Kürschner, 1983a: 15
<i>Pogonatum urnigerum</i> (Hedw.) P. Beauv.	Gil.	3	Juratzka & Mildt, 1870: 598; Tregubov & Tregubov, 1969-1970: 6
Pottiaceae			
<i>Aloina ambigua</i> (Bruch & Schimp.) Limpr.	Kho, Koh., Maz.	3	Ertter & Norris, 1999; Kürschner, 1996: 264
<i>Anoetangium handelii</i> Schiffn.	Cha., Far., Kor.	3	Størrmer, 1963: 8
<i>Barbula convoluta</i> Hedw.	Gil., Maz.	3	Bornmüller, 1908: 834; Nicholson, 1920: 90; Schiffner, 1908: 304; Størrmer, 1963: 11
<i>Barbula unguiculata</i> Hedw.	Gil., Maz.	15	Baumgartner, 1939: 534; Bornmüller, 1908: 834; Buhse & Boissier, 1860: 237; Fehliner, 1885: 6; Schiffner, 1897: 127; Schiffner, 1908: 305; Størrmer, 1963: 11; Townsend, 1966: 131; Tregubov & Tregubov, 1969-1970: 8
<i>Bryoerhynchium recurvirostre</i> (Hedw.) P.C. Chen. [Syn.: <i>Barbula recurvirostris</i> (Hedw.) Dixon; <i>Didymodon rubellus</i> (Hoffm.) Bruch & Schimp.]	Kho., Teh.	4	Bornmüller, 1908: 834; Froehlich, 1950: 38; Schiffner, 1908: 231; Størrmer, 1963: 11
<i>Crossidium crassinerve</i> (De Not.) Jur.	Far., Gol.	3	Kürschner, 1996: 264-265
<i>Crossidium squamiferum</i> (Viv.) Jur.	Far., Gol., Teh.	5	Frey & Kürschner, 1977: 142; Frey & Probst, 1973: 414; Kürschner, 1996: 265; Nicholson, 1920: 90
<i>Crossidium squamiferum</i> var. <i>potitioideum</i> (De Not.) Mönk. [Syn.: <i>C. griseum</i> (Jur.) Jur.]	Far., Kho., Maz.	4	Froehlich, 1950: 39; Schiffner, 1897: 129; Størrmer, 1963: 11

Species	Distribution in Iran	NR	Reference(s)
<i>Didymodon icmadophilus</i> (Schimp.) K. Saito [Syn.: <i>Barbula icmadophila</i> Schimp. ex Müll. Hal.]	Sem.	1	Froehlich, 1950: 39
<i>Didymodon luridus</i> Hornsch. [Syn.: <i>Barbula trifaria</i> (Hedw.) Mitt.]	Far.	1	Juratzka & Milde, 1870: 592
<i>Didymodon planotophaceus</i> J. Froehl. [Syn.: <i>Didymodon pianifolius</i> J. Froehl. nom. illeg.]	Lor.	1	Froehlich, 1950: 38
<i>Didymodon spadiceus</i> (Mitt.) Limpr. [Syn.: <i>Barbula spadicea</i> (Mitt.) Braithw.]	Maz.	2*	Baumgartner, 1939: 534
<i>Didymodon tophaceus</i> (Brid.) Lisa [Syn.: <i>Barbula tophacea</i> (Brid.) Mitt. <i>Trichostomum tophaceum</i> Brid.]	Gil., Maz.	3	Baumgartner, 1939: 534; Fehlner, 1885: 6; Størtmer, 1963: 11
<i>Didymodon tophaceus</i> (Brid.) Lisa var. <i>excurrens</i> (Broth.) Wijk & Margad. [Syn.: <i>Barbula tophacea</i> (Brid.) Mitt. var. <i>excurrens</i> (Broth.) Podp.]	Mont. Elburs	1	Nicholson, 1920: 90
<i>Didymodon vinealis</i> (Brid.) R. H. Zander [Syn.: <i>Barbula vinealis</i> Brid.]	Far., Khu., Kor., Maz.	6	Juratzka & Milde, 1870: 593; Størtmer, 1963: 11
<i>Eucladium verticillatum</i> (Brid.) Bruch & Schimp.	Gol., Ham., Kho. Kes., Kor., Lor., Maz.	8*	Baumgartner, 1939: 534; Frey & Kürschner, 1977: 142; Froehlich, 1950: 38; Froehlich, 1959: 31; Juratzka & Milde,
<i>Gyrowesia tenuis</i> (Hedw.) Schimp.	Ker., ? Maz.	2	1870: 592; Shirzadian & Gholami 2001: 62; Størtmer, 1963: 9
<i>Gymnostomum calcareum</i> Nees & Hornsch.	Gil., Gol., Maz.	5*	First record Baumgartner, 1939: 534; Bornmüller, 1908: 834; Frey & Kürschner, 1977: 142; Schiffner, 1908: 230; Størtmer, 1963: 8
<i>Gymnostomum calcareum</i> var. <i>muticum</i> Boulay	Far.	2	Størtmer, 1963: 8
<i>Gymnostomum moxios</i> (Lorenz) Jhr. & Milde	Far.	2	Froehlich, 1950: 38; Størtmer, 1963: 8
<i>Gymnostomum rupestre</i> Schleich.	Maz., Teh.	2	Froehlich, 1950: 38
<i>Hydrogonium ehrenbergii</i> (Lorenz) A. Jaeger	Ker.	1	Schiffner, 1901: 158
<i>Hymenostylium recurvirostre</i> (Hedw.) Dixon	Teh.	1	Bornmüller, 1908: 834; Schiffner, 1908: 230
<i>Hymenostylium recurvirostre</i> var. <i>latifolium</i> (J. E. Zetterst.) Wijk & Margad. [Syn.: <i>H. recurvirostre</i> var. <i>scabrum</i> (Lindb.) Podp.]	Kho., Sem.	2	Froehlich, 1950: 38
<i>Microbryum davallianum</i> (Sm.) R. H. Zander [Syn.: <i>Pottia davalliana</i> (Sm.) C. E. O. Jensen; <i>Pottia communiata</i> Limpr.] (Zander 1993, Wermer et al., 2002).	Far., Khu.	3	Kürschner, 1996: 265; Størtmer, 1963: 11
<i>Pottia cincta</i> Wilson ex Bruch & Schimp.	Far., Hor.	2	Frey & Kürschner, 1991: 12, 77. The occurrence of this species from Fars and Hormozgan are added here by the second author, and not from given reference.
<i>Pottia lanceolata</i> (Hedw.) Müll. Hal.	Kho.	3	Shirzadian et al., 2000: 7
<i>Pleurochaete squarrosa</i> (Brid.) Lindb. [Syn.: <i>Tortella squarrosa</i> (Brid.) Limpr.]	Gil., Khu., Maz.	18	Baumgartner, 1939: 534; Bornmüller, 1908: 834; Buhse & Boissier, 1860: 237; Frey & Kürschner, 1979: 29;

Species	Distribution in Iran	NR	Reference(s)
<i>Pseudocrossidium revolutum</i> (Brid.) R. H. Zander [Syn.: <i>Barbula revoluta</i> Brid.]	Far., Maz.	2	Nicholson, 1920: 90; Schiffner, 1897: 127; Schiffner, 1908: 305; Størmer, 1963: 10; Townsend, 1966: 132
<i>Pterygoneurum ovatum</i> (Hedw.) Dixon [Syn.: <i>P. cavifolium</i> Jur.; <i>P. medium</i> (E. S. Salmon) Broth.? <i>P. cavifolium</i> var. <i>incanum</i> (Nees & Hornsch.) Jur.] According to M. Ros (in lit.), <i>P. cavifolium</i> var. <i>incanum</i> is not synonymous of <i>P. ovatum</i> .	Kho., Maz., Teh.	7	Bornmüller, 1908: 834; Ertter & Norris, 1999; Frey & Probst, 1973: 411; Kianmehr et al., 2000: 53; Schiffner, 1897: 127
<i>Stegonia latifolia</i> (Schwägr.) Venturi ex Broth. [Syn.: <i>Potzia latifolia</i> (Schwägr.) Müll. Hal.]	Teh.	1	Bornmüller, 1908: 834; Schiffner, 1908: 231
<i>Syntrichia calcicola</i> J.J. Aman [Syn.: <i>Tortula calcicolens</i> W.A. Kramer]	Far., Koh.	2	Kürschner, 1996: 266
<i>Syntrichia caninervis</i> Mitt. var. <i>caninervis</i> [Syn.: <i>Tortula caninervis</i> (Mitt.) Broth.; <i>Syntrichia desertorum</i> (Broth.) J. J. Aman; <i>Tortula bornmuelleri</i> Schiffn.]	Far., Gil., Gol., Kho., Koh., Kor., Maz., Teh.	34	Bornmüller, 1908: 835; Ertter & Norris, 1999; Frey & Kürschner, 1977: 142; Froehlich, 1950: 39; Kramer, 1980: 105; Nicholson, 1920: 90; Schiffner, 1897: 219; Størmer, 1963: 13; Townsend, 1966: 131; Kramer, 1980: 107
<i>Syntrichia caninervis</i> var. <i>gypsophila</i> (J.J. Aman ex G. Roth) Ochrya [Syn.: <i>Tortula caninervis</i> subsp. <i>spuria</i> (J.J. Aman) Kramer var. <i>gypsophila</i> (Roth) Kramer.]	Gil., Ila., Zan.	3*	
<i>Syntrichia caninervis</i> var. <i>pseudodesertorum</i> (Vondr.) M.T. Gallego [Syn.: <i>S. handelii</i> var. <i>pseudodesertorum</i> Vondr.; <i>Tortula pseudohandelii</i> J. Froehl., <i>Syntrichia pseudohandelii</i> (J. Froehl.) S. Agnew & Vondr.]	Aze ^E , Far., Gil., Gol., Kho., Kor., Maz., Teh.	35	Frey & Kürschner, 1977: 142; Gallego et al., 2002a: 649; Kramer, 1980: 112-113;
<i>Syntrichia fragilis</i> (Taylor) Ochrya [Syn.: <i>Tortula fragilis</i> Taylor]	Aze ^E , Gol.	2	Frey & Kürschner, 1977: 142, 1979: 29; Kramer, 1980: 82
<i>Syntrichia handelii</i> (Schiffn.) S. Agnew & Vondr. [Syn.: <i>Tortula handelii</i> Schiffn.]	Far., Kho., Kor., Maz., Teh.	10	Kramer, 1980: 110; Frey & Probst, 1973: 414
<i>Syntrichia minor</i> (Bizat) M.T. Gallego, J. Guerra, M.J. Cano, Ros & Sánchez-Moya [Syn.: <i>Syntrichia virescens</i> var. <i>bizotiana</i> (W.A. Kramer) R.H. Zander nom. illeg.]; <i>Tortula virescens</i> subsp. <i>bizotii</i> (Laz.) W. Kramer nom. inv. cf. Gallego et al., 2000]	Teh.	1	Kramer, 1980: 103
<i>Syntrichia montana</i> Nees [Syn.: <i>S. intermedia</i> Brid.; <i>Tortula montana</i> (Nees) Lindb.]	Far., Gil., Maz.	3	Kramer, 1980: 97; Schiffner, 1897: 128; Størmer, 1963: 13
<i>Syntrichia princeps</i> (De Not.) Mitt. [Syn.: <i>Tortula princeps</i> De Not. subsp. <i>princeps</i>]	Gol., Teh.	3	Ertter & Norris, 1999; Froehlich, 1950: 39; Kramer, 1980: 86
<i>Syntrichia princeps</i> subsp. <i>parmassica</i> (Schiffn.) Podp. [Syn.: <i>Tortula princeps</i> subsp. <i>parmassica</i> (Schiffn.) W.A. Kramer]	Cha., Far., Kho., Teh.	5	Kramer, 1980: 88-89
<i>Syntrichia ruralis</i> (Hedw.) F. Weber & D. Mohr [Syn.: <i>Tortula ruralis</i> (Hedw.) F. Gaertn., B. Mey. & Schreb.]	Far., Gil., Gol., Kho., Kor., Maz., Sem., Teh.	25*	Baumgartner, 1939: 534; Ertter & Norris, 1999; Frey & Kürschner, 1977: 142; Frey & Kürschner, 1979: 29; Frey & Probst, 1973: 414; Frey & Probst 1974: 103; Gallego et al., 2002b: 219; Juratzka & Milde, 1870: 594; Kianmehr et al., 2000: 53; Størmer, 1963: 13

Species	Distribution in Iran	NR	Reference(s)
<i>Syntrichia ruralis</i> var. <i>ruraliformis</i> (Besch.) Delogne [Syn.: <i>Syntrichia ruraliformis</i> (Besch.) Mans., <i>Tortula ruraliformis</i> (Besch.) Groux; cf. Gallego <i>et al.</i> , 2002b]	Gil., Gol., Maz., Teh.	14*	Bormüller, 1908: 835; Frey & Kürschner, 1977: 142; Gallego <i>et al.</i> , 2002b: 220; Kramer, 1980: 120; Schiffner, 1908: 307
<i>Syntrichia papillosissima</i> (Copp.) Loeske [Syn.: <i>Tortula papillosissima</i> (Copp.) Broth.; <i>Tortula ruralis</i> subsp. <i>hirsuta</i> (Venturi) W.A. Kramer]	Kho., Maz., Teh., Zan.	6	Frey & Probst, 1973: 414; Kramer, 1980: 127
<i>Syntrichia virescens</i> (De Not.) Ochyra [Syn.: <i>Tortula virescens</i> (De Not.) De Not.; <i>Tortula ruralis</i> subsp. <i>ruralis</i> var. <i>substeroidosa</i> W. Kramer (? <i>nom. illeg.</i>)	Maz., Gol.	6	Frey & Kürschner, 1977: 142; Frey & Kürschner, 1979: 29; Gallego <i>et al.</i> , 2002b: 223; Kramer, 1980: 101, 125
<i>Syntrichia virescens</i> var. <i>iranica</i> (W.A. Kramer) R. H. Zander [Syn.: <i>Tortula virescens</i> (De Not.) De Not. subsp. <i>virescens</i> var. <i>iranica</i> W.A. Kramer]	Far.	1	Kramer, 1980: 102
<i>Timmiella anomala</i> (Bruch & Schimp.) Limpr.	Far.	1	Kürschner, 1996: 265
<i>Timmiella barbulooides</i> (Brid.) Mönk.	Ila., Far., Khu.	5*	Juratzka & Milde, 1870: 593; Størrmer, 1963: 10
<i>Tortella humilis</i> (Hedw.) Jenn.	Maz.	2	Frey & Kürschner, 1983a: 15; Frey & Probst, 1974a: 103
<i>Tortella inclinata</i> (R. Hedw.) Limpr.	Gil., Lor., Maz., Teh.	7	Bormüller, 1908: 835; Schiffner, 1908: 305; Tregubov & Tregubov, 1969-1970: 8
<i>Tortella inflexa</i> (Bruch) Broth.	Gol.	2	Kürschner <i>et al.</i> , 2000: 510
<i>Tortella nitida</i> (Lindb.) Broth.	Gol.	1	Kürschner <i>et al.</i> , 2000: 510
<i>Tortella tortuosa</i> (Hedw.) Limpr.	Gil., Gol., Maz	6*	Frey & Kürschner, 1977: 142; Frey & Kürschner, 1979: 29; Juratzka & Milde, 1870: 593; Størrmer, 1963: 9; Tregubov & Tregubov, 1969-1970: 8
<i>Tortula astoma</i> Schiffn.	Aze ^E .	1	Schiffner, 1908: 307
<i>Tortula atroviensis</i> (Sm.) Lindb. [Syn.: <i>Desmatodon convolutus</i> (Brid.) Groux].	Gil.	1	Jovet-Ast, 1960: 181
<i>Tortula brevissima</i> Schiffn.	Ila.	1	First record
<i>Tortula canescens</i> Mont.	Kho.	1	First record
<i>Tortula demawendica</i> Schiffn.	Aze ^W , Teh.	2	Bormüller, 1908: 835; Schiffner, 1908: 305
<i>Tortula eucalyptata</i> Lindb. [Syn.: <i>T. latifolia</i> (Hedw.) Lindb. <i>nom. illeg.</i> ; <i>Desmatodon latifolius</i> (Hedw.) Brid. <i>nom. illeg.</i> ; see Cano & Gallego 2003]	Maz., Teh.	2	Baumgartner, 1939: 534; Bormüller, 1908: 835; Schiffner, 1908: 305
<i>Tortula inermis</i> (Brid.) Mont. [Syn.: <i>Barbula inermis</i> Brid.; <i>Syntrichia inermis</i> (Brid.) Bruch]. See Werner <i>et al.</i> (2003) on the generic position of this species.	Far., Gol., Ham., Kes., Kho., Kor., Maz., Teh.	20*	Ertter & Norris, 1999; Frey & Kürschner, 1977: 142; Frey & Probst, 1973: 414; Froehlich, 1950: 39; Juratzka & Milde, 1870: 593; Kianmehr <i>et al.</i> , 2000: 55; Schiffner, 1897: 127; Størrmer, 1963: 13; Townsend, 1966: 131
<i>Tortula mucronifolia</i> Schwägr.	Gol., Kho.	3	Frey & Kürschner, 1977: 142; Kianmehr <i>et al.</i> , 2000: 55; Townsend, 1966: 131
<i>Tortula muralis</i> Hedw.	Far., Gil., Gol., Maz	8*	Bormüller, 1908: 835; Buhse & Boissier, 1860: 237; Ertter & Norris, 1999; Frey & Kürschner, 1977: 142; Størrmer, 1963: 13; Schiffner, 1908: 306
<i>Tortula muralis</i> var. <i>aestiva</i> Brid. ex Hedw.	Gil., Kho.	2	Kianmehr <i>et al.</i> , 2000: 53; Kürschner, 1996: 266
<i>Tortula obtusifolia</i> (Schwägr.) Mathieu	Far.	1	Kürschner, 1996: 266

Species	Distribution in Iran	NR	Reference(s)
<i>Tortula revolvens</i> (Schimp.) G. Roth var. <i>obtusata</i> Reim. [Syn.: <i>Barbula revolvens</i> Schimp.; <i>T. fiorii</i> (Venturi) G. Roth]	Kob.	1	Frey & Kürschner, 1991: 88
<i>Tortula subulata</i> Hedw. [Syn.: <i>Syntrichia subulata</i> (Hedw.) F. Weber & D. Mohr]	Gil., Gol., Maz., Teh.	6	Frey & Kürschner, 1979: 29; Kürschner <i>et al.</i> , 2000: 512; Schiffner, 1908: 307; Størmer, 1963: 15
<i>Tortula subulata</i> var. <i>graeffii</i> (Warnst.) J. J. Amann	Teh.	1	Størmer, 1963: 15
<i>Tortula systyla</i> (Schimp.) Lindb. [Syn.: <i>Desmatodon systylus</i> Schimp.]	Teh.	1	Størmer, 1963: 12
<i>Trichostomopsis haussknechtii</i> (Jur. & Milde) S. Agnew & C. C. Towns [Syn.: <i>Barbula haussknechtii</i> Jur. & Milde]	Far., Il., Lor.	3*	Juratzka & Milde, 1870: 593
<i>Trichostomum brachydontium</i> Bruch	Maz.	1	Størmer, 1963: 10
<i>Trichostomum crispulum</i> Bruch	Gol., Maz.	4	Baumgartner, 1939: 534; Frey & Kürschner, 1977: 142; Frey & Kürschner, 1979: 29; Størmer, 1963: 10
<i>Trichostomum mildenum</i> Jur.	Gil.	1	Juratzka & Milde, 1870: 592
<i>Trichostomum tenuirostre</i> (Hook. & Taylor) Lindb. [Syn.: <i>Oxystegus cylindricus</i> (Brid.) Hüll.; <i>O. tenuirostris</i> (Hook. & Taylor) A. J. E. Smith; <i>Didymodon cylindricus</i> (Brid.) Bruch & Schimp. <i>nom. illeg.</i>]	Far.	1	Juratzka & Milde, 1870: 592
<i>Weissia brachycarpa</i> (Nees & Hornsch.) Jur.	Maz.	1	Shirzadian, 1989: 18; Tregubov & Tregubov 1969-1970: 8
<i>Weissia condensa</i> (Vot.) Lindb. [Syn.: <i>W. tortilis</i> (Schwägr.) Müll. Hal.; <i>Hymenostomum tortile</i> (Schwägr.) Bruch & Schimp.]	Kho. Maz., Teh.	7	
<i>Weissia controversa</i> Hedw.		1	First record
		3	Størmer, 1963: 10
		3	Bornmüller, 1908: 854; Schiffner, 1908: 231; Størmer, 1963: 10; Townsend, 1966: 132
<i>Weissia squarrosa</i> (Nees & Hornsch.) Müll. Hal.	Gil., Maz.	1	Juratzka & Milde, 1870: 593
<i>Weissia triumphans</i> (De Not.) M. O. Hill [Syn.: <i>Trichostomum triumphans</i> De Not.]	Gol.	1	Frey & Kürschner, 1977: 142
Rhytidiaceae			
<i>Rhytidium rugosum</i> (Hedw.) Kindb.	Maz.	1	Frey & Kürschner, 1983a: 17
<i>Rhytidialephus triquetrus</i> (Hedw.) Warnst.	Maz.	2	Frey & Kürschner, 1983a: 17
Sematophyllaceae			
<i>Brotherella harveyana</i> (Mitt.) Dixon	Gil.	1	Shirzadian & Kumar, 1994: 184
<i>Clastobryum capillaceum</i> (Griff.) Broth.	Gil.	1	Shirzadian, 1989: 18
Thamniaceae			
<i>Thamnum alopecurum</i> (Hedw.) Schimp. [Syn.: <i>Thamnobryum alopecurum</i> (Hedw.) Nieuwl.] In recent biological literatures the genus <i>Thamnum</i> is considered as a synonym of the genus <i>Thamnobryum</i> . Because of lacking valid combinations for the subspecies <i>caucasicum</i> Kindb. and variety <i>corticola</i> Schiffn., we consider provisionally all taxa under <i>Thamnum</i> .	Gil., Gol., Maz.	39*	Bornmüller, 1908: 917; Buitse & Boissier, 1860: 235; Ertter & Norris, 1999; Frey & Kürschner, 1977: 144; Frey & Kürschner 1979: 33; Jovet-Ast, 1960: 181; Juratzka & Milde, 1870: 602; Schiffner, 1908: 132; Shirzadian, 1989: 18; Størmer, 1963: 21; Tregubov & Tregubov, 1969-1970: 16

Species	Distribution in Iran	NR	Reference(s)
<i>Thamnum alopecurum</i> var. <i>caucasicum</i> Kindb.	Gil., Maz.	3	Tregubov & Tregubov, 1969-1970: 16
<i>Thamnum alopecurum</i> var. <i>corticola</i> Schiffn.	Gil., Maz.	4	Bornmüller, 1908: 917; Tregubov & Tregubov, 1969-1970: 16
Timmiaceae			
<i>Timmia megapolitana</i> Hedw. subsp. <i>bavarica</i> (Hessl.) Brassard [Syn.: <i>Timmiella grosseserrata</i> Schiffn., syn. nov.]	Gol., Kho., Sem., Teh.	6*	Bornmüller, 1908: 835; Frey & Kürschner, 1977: 143; 1979: 30; Froehlich, 1950: 41; Kianmehr et al., 2000: 55; Schiffner, 1908: 309; Størmmer, 1963: 19
<i>Timmia norvegica</i> J.E. Zetterst.	Maz.	1	Kürschner, 1996: 268
Thuidiaceae			
<i>Anomodon acutifolius</i> Mitt.	Maz.	1	Shirzadian & Kumar, 1994: 182
<i>Anomodon attenuatus</i> (Hedw.) Huebener [Syn.: <i>Leskea</i> <i>attenuata</i> Hedw.]	Gil., Gol., Maz.	17	Bornmüller, 1908: 916; Buhse & Boissier, 1860: 235; Frey & Kürschner, 1979: 35; Schiffner, 1908: 345; 1963: 21; Townsend, 1966: 135; Tregubov & Tregubov, 1969-1970: 17
<i>Anomodon longifolius</i> (Schleich. ex Brid.) Hartn.	Maz.	4	Frey & Kürschner, 1979: 35; Frey & Kürschner, 1983a: 16
<i>Anomodon rostratus</i> (Hedw.) Schimp.	Maz.	1	Frey & Kürschner, 1983a: 16
<i>Anomodon rugelii</i> (Müll. Hal.) Keissl.	Maz.	5	Ertter & Norris, 1999; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 35
<i>Anomodon viticulosus</i> (Hedw.) Hook. & Taylor	Gil., Gol., Maz.	30*	Bornmüller, 1908: 916; Buhse & Boissier, 1860: 236; Frey & Kürschner, 1977: 144; Frey & Kürschner, 1979: 36; Schiffner, 1908: 345; Størmmer, 1963: 21; Townsend, 1966: 135; Tregubov & Tregubov, 1969-1970: 18;
<i>Thuidium abietinum</i> (Hedw.) Schimp. [Syn.: <i>Abietinella</i> <i>abietina</i> (Hedw.) M. Fleisch.]	Gol., Maz.	3	Frey & Kürschner, 1977: 144; Froehlich, 1950: 41; Størmmer, 1963: 22
<i>Thuidium delicatulum</i> (Hedw.) M. Fleisch.	Gil., Maz.	5	Juratzka & Milde, 1870: 599; Townsend, 1966: 135
<i>Thuidium philibertii</i> Limpr.	Maz.	5	Størmmer, 1963: 22; Tregubov & Tregubov, 1969-1970: 19;
<i>Thuidium recognitum</i> (Hedw.) Lindb.	Maz.	2	Tregubov & Tregubov, 1969-1970: 19

Enumeration of new records

MARCHANTIOPSIDA

Ricciaceae

Riccia fluitans L.

GILAN: 20 km NW of Rezwan-Shahr towards Astara, Gisoum Forest Park, 3 km S of the road, 37°40'N, 48°60'E, ca 50 m, swampy forest, 22.11.2000, *H. Akhani* 14397 (Hb. Akhani, Hb. Kürschner). This specimen was collected from a small pool associated with *Callitriche* sp. and *Lemna minor*.

BRYOPSIDA

Brachytheciaceae

Brachythecium campestre (Müll. Hal.) Schimp.

MAZANDARAN/GOLESTAN: Ab Madan, 500 m, forêt humid, 11.10.1956, *F. Schmid* 11072 (G).

Brachythecium oxycladum (Brid.) A. Jaeger

KHORASSAN: 15 km west of Bojnurd, 1400 m, on calcareous rock, 15.8.1975, *W. Frey & H. Kürschner* (75-81) (Hb. Kürschner).

MAZANDARAN: 36 km west of Shirvan, 1000 m, on calcareous rock, 15.8.1975, *W. Frey & H. Kürschner* (75-81) (Hb. Kürschner).

Dicranaceae

Cynodontium tenellum (Schimp.) Limpr.

MAZANDARAN: Elburs Mts., Gajareh valley, 2800m, on rock, 8.8.1975, *W. Frey & H. Kürschner* (75-38) (Hb. Kürschner).

Funariaceae

Entosthodon fascicularis (Hedw.) Müll.Hal.

MAZANDARAN: ca 25 km NWN of Sari, Petrud village, wet soils near the stream running into the village, 36°42'41"N, 52°52'24"E, ca 20 m, 20.3.2001, *H. Akhani* 14555 (Hb. Akhani, Hb. Kürschner). (Mixed with *Funaria hygrometrica* Hedw. and *Lunularia cruciata* (L.) Lindb.).

Grimmiaceae

Grimmia elatior Bruch ex Bals.-Criv.

MAZANDARAN: Elburs Mts., Alam Kuh, Sardabrud, 2300 m, on rock, 22.6.1977, *W. Frey & H. Kürschner* (77-254a) (Hb. Kürschner).

Grimmia longirostris Hook.

MAZANDARAN: Elburs Mts., Alam Kuh, Sardabrud, 2300 m, on rock, 22.6.1977, *W. Frey & H. Kürschner* (77-254) (Hb. Kürschner).

Schistidium atrofuscum (Schimp.) Limpr.

ILAM: c. 50 km SE Ilam, Kabir-Kuh, near Ganjeh, 1350-1650 m, 2.5.1992, *H. Akhani* 8280 (Hb. Akhani, Hb. Kürschner).

Pottiaceae

Gyroweisia tenuis (Hedw.) Schimp.

KERMAN: Baft, Gugher, 3050 m, in rock fissures, 7.6.1996, *Mirtajadini* 75902 (Hb. Kürschner).

MAZANDARAN/GOLESTAN: Ab Madan, 500 m, forêt humide, 11.10.1956, *F. Schmid* (G).

***Tortula brevissima* Schiffn.**

ILAM: 18 km SW of Salehabad, 17 km after Konjanham towards Shoorshirin, gypsum hills along Iran/Iraq frontier, 500-550 m, *H. Akhani* 8187 (Hb. Akhani; Hb. Kürschner). Mixed with *Syntrichia caninervis* Mitt. var. *gypsophila* (J. J. Amann ex G. Roth) Ochyra, *Tortula muralis* Hedw. & *Trichostomopsis haussknechtii* (Jur. & Milde) S. Agnew & C.C. Towns.

***Tortula canescens* Mont.**

KHORASSAN: Bojnurd, 5 km West of Havar, 1100 m, on rock, 18.8.1975, *W. Frey* & *H. Kürschner* (75-131) (Hb. Kürschner).

***Weissia brachycarpa* (Nees & Hornsch.) Jur.**

KHORASSAN: Between Zard and Kastan, 1500 m, on rock, 18.8.1975, *W. Frey* & *H. Kürschner* (75-135) (Hb. Kürschner).

BRYODIVERSITY

Currently known bryophyte flora of Iran comprises of 437 taxa (Table 1), that include 2 hornworts (Anthocerotopsida), 68 hepatics (Marchantiopsida and Jungermanniopsida) and 367 mosses (Bryopsida) distributed in 149 genera and 57 families are known from Iran. This list includes 74 taxa more than the last checklist published by Frey and Kürschner (1991). The largest families are Pottiaceae with 79 taxa, Brachytheciaceae with 44, Bryaceae with 42 and Grimmiaceae with 25 taxa. They represent together 43% of the Iranian Bryoflora. Pottiaceae and Grimmiaceae, which harbour a large number of xerophytic species, are mainly distributed in areas phytogeographically known as Irano-Turanian and Saharo-Sindian regions. Pottiaceae and Brachytheciaceae are also the two richest families in generic number (Table 2). As shown in Table 3, the most diverse genera are *Amblystegium* (9 taxa), *Brachythecium* (14 taxa), *Bryum* (28 taxa), *Eurhynchium* (12 taxa), *Fissidens* (14 taxa), *Grimmia* (13 taxa), *Hypnum* (9 taxa), *Orthotrichum* (11 taxa), *Philonotis* (15 taxa), *Riccia* (13 taxa), *Schistidium* (10 taxa), *Syntrichia* (15 taxa) and *Tortula* (15 taxa).

As for the geographical distribution of the records (Table 4), the majority of species are known from humid provinces in the northern parts of the country, including Mazandaran with 246 taxa, Golestan with 143 and Gilan with 101. Other better known provinces are Tehran with 89 taxa, Khorassan with 52 and Fars with 49. Very few data are available on other provinces. For some of them like Esfahan and Yazd there is no bryological record, whereas the records of the remaining provinces vary from one to 24 records (Table 4). We expect low species numbers in dry provinces located in the central and Eastern parts of Iran like Yazd, Kerman, Esfahan, Sistan va Baluchestan. Even in such areas there are habitats for growing of bryophytes, particularly in the mountain regions, around rivers, waterfalls, springs etc.

A total of 1934 bryophyte records have been published in the scanned literature together with a few unpublished own records. It gives a mean of 4.4 records for each species. 44.9% (196 taxa) were known only based on one record, 26.3% (115 taxa) only based on 2-3 records, 18.5% (81 taxa) based on 4-9 records, and 10.7% (47 taxa) based on 10 or more records, respectively. Species which are known based on more than 20 records are: *Anomodon viticulosus*, *Brachythecium rutabulum*, *Homalia besseri*, *Homalothecium sericeum*, *Hypnum cupressiforme*,

Table 2. Iranian bryophyte families with their numbers of genera, species and infraspecific taxa.

<i>Family</i>	<i>Genus</i>	<i>Species</i>	<i>Sub./var.</i>	<i>Family</i>	<i>Genus</i>	<i>Species</i>	<i>Sub./var.</i>
Anthocerotopsida				Bryaceae	7	38	4
Anthocerotaceae	2	2	0	Cinclidotaceae	1	1	0
Marchantiopsida				Cratoneuraceae	2	4	3
Aytoniaceae	4	5	0	Cryphaeaceae	1	1	0
Conocephalaceae	1	1	0	Dicranaceae	4	6	0
Lunulariaceae	1	1	0	Distichaceae	1	2	0
Marchantiaceae	2	3	1	Ditrichaceae	4	4	0
Ricciaceae	2	14	0	Encalyptaceae	1	5	0
Jungermanniopsida				Entodontaceae	2	3	0
Aneuraceae	1	2	0	Fabroniaceae	1	1	0
Calypogeiaceae	1	2	0	Fissidentaceae	1	13	1
Cephaloziellaceae	2	2	0	Fontinalaceae	1	2	0
Codoniaceae	1	1	0	Funariaceae	3	9	0
Frullaniaceae	1	3	0	Grimmiaceae	4	24	1
Jubulaceae	1	1	0	Hedwigiaceae	1	1	0
Jungermanniaceae	1	4	0	Hypnaceae	6	13	1
Lejeuneaceae	2	3	0	Leucodontaceae	2	3	0
Lophocoleaceae	2	4	0	Leskeaceae	5	9	0
Lophoziaceae	3	4	0	Meesiaceae	1	1	0
Metzgeriaceae	1	2	0	Mniaceae	4	13	0
Pelliaceae	1	2	0	Neckeraceae	2	5	1
Plagiochilaceae	2	3	0	Orthotrichaceae	1	9	2
Porellaceae	1	3	0	Plagiotheciaceae	3	7	1
Radulaceae	1	2	0	Polytrichaceae	2	4	0
Scapaniaceae	1	2	0	Pottiaceae	24	68	11
Southbyaceae	1	1	0	Rhytidiaceae	2	2	0
Targioniaceae	1	2	0	Sematophyllaceae	2	2	0
Bryopsida				Thamniaceae	1	1	2
Amblystegiaceae	7	14	2	Timmiaceae	1	2	0
Bartramiaceae	3	13	4	Thuidiaceae	2	10	0
Brachytheciaceae	11	38	6	Total 57	149	397	40

Total number of 57 families; total number of genera 149, total number of species 397, total number of sub-specific taxa 40 and total number of taxa 437

Table 3. Larger Iranian bryophyte genera with 5 or more species.

<i>Genus</i>	<i>Species + subsp. or var.</i>	<i>Genus</i>	<i>Species + subsp. or var.</i>	<i>Genus</i>	<i>Species + subsp. or var.</i>
<i>Anomodon</i>	6	<i>Grimmia</i>	13	<i>Pohlia</i>	7
<i>Amblystegium</i>	8 + 1	<i>Homalothecium</i>	5	<i>Riccia</i>	13
<i>Brachythecium</i>	12 + 2	<i>Hypnum</i>	8 + 1	<i>Schistidium</i>	9 + 1
<i>Bryum</i>	23 + 5	<i>Mnium</i>	5	<i>Syntrichia</i>	10 + 5
<i>Didymodon</i>	6 + 1	<i>Orthotrichum</i>	9 + 2	<i>Tortella</i>	5
<i>Encalypta</i>	5	<i>Philonotis</i>	11 + 4	<i>Tortula</i>	13 + 2
<i>Eurhynchium</i>	8 + 4	<i>Plagiomnium</i>	6	<i>Trichostomum</i>	5
<i>Fissidens</i>	13 + 1	<i>Plagiothecium</i>	5 + 1	<i>Weissia</i>	5

Table 4. Iranian provinces with the corresponding number of bryophyte records.

Province (Acronym)	Taxa	Province (Acronym)	Taxa
West Azerbaijan (Aze. ^W)	1	Khorassan (Kho.)	52
East Azerbaijan (incl. Ardabil) (Aze. ^E)	8	Khuzestan (Khu.)	7
Sistan va Baluchestan (Bal.)	2	Kermanshah (Kes.)	4
Bushehr (Buh)	1	Kohkiluyeh va Boyerahmad (Koh.)	5
Chaharmahal Bakhtiari (Cha.)	4	Kordestan (Kor.)	23
Esfahan (Esf.)	0	Lorestan (Lor.)	13
Fars (Far.)	49	Markazi (Arak & Qom) (Mar.)	12
Gilan (Gil.)	101	Mazandaran (Maz.)	246
Golestan (Gol.)	143	Semnan (Sem.)	12
Hamadan (Ham.)	11	Tehran (Teh.)	89
Hormozgan (Hor.)	9	Yazd (Yaz.)	0
Ilam (Ila.)	6	Zanjan (incl. Qazvin) (Zan.)	2
Kerman (Ker.)	8		

Leucodon immersus, *Metzgeria furcata*, *Neckera complanata*, *Palamocladium euchloron*, *Plagiomnium cuspidatum*, *Plagiomnium undulatum*, *Porella platyphylla*, *Pseudoleskeella laxiramea*, *Radula complanata*, *Syntrichia caninervis*, *S. ruralis* and *Thamnum alopecurum*.

IRANIAN AND SW ASIAN ENDEMICS

We cannot give a reliable list of the endemic species in the area, until all groups are critically checked. Several species have been described from Iran based only on type collection or on few records. The following one is a preliminary list of endemic and subendemic species in Iran and adjacent areas (partly after Størmer, 1963; Frey & Kürschner, 1983b). Almost half of these species belong to Pottiaceae, a typical family of dry habitats.

Asterella persica (Steph.) Howe. Outside Iran known from Saudi Arabia, UAE and Yeman (Kürschner, 2001).

Brachythecium umbilicatum Jur. & Milde. Known from locus classicus in Kordestan (Juratzka & Milde, 1870).

Bryum elwendicum C. Fehln. Described from Kuhe Elvand (Fehln. 1885). It is also known from Mazandaran and Tehran (Bornmüller, 1908; Schiffner, 1908).

Bryum syriacum Lor. A Middle East endemic, known already from Iran, Afghanistan, Iraq, Turkey, Syria, Sinai, Lebanon and Jordan (Frey & Kürschner, 1991).

Didymodon planotophaceus J. Froehl. (Syn.: *D. planifolius* J. Froehl. *nom. illeg.*). It is known from type locality in Lorestan, Bisheh (Froehlich, 1950).

Funaria anomala Jur. A Middle Eastern endemic, known from Iran, Turkey and Syria (Juratzka & Milde, 1870).

Gymnostomum mosis (Lorentz) Jur. & Milde. A SW Asian endemic species, described from Fars, between Kaserun and Bushehr (Schiffner, 1897).

Leucodon immersus Lindb. A Middle East endemic, known from N. Iran, Turkey and the Caucasus (see Kürschner & al., 2000 for its distribution map).

Palamocladium euchloron (Müll. Hal.) Wijk & Margad. A subendemic species in the Middle East, known from N. Iran, the Caucasus, Turkey and Greece (Düll, 1995; Kürschner & al., 2000 for its distribution map).

Philonotis seriata var. *persica* Schiffn. The variety was described by Schiffner (1908) from Silakhor, near Arak.

Philonotis laxitexta J. Froehl. Described from three syntypes in Khorasan: Kuh-e Nishapur, Darreh Abshar, above Akhlomat [Akhlamad], Tehran (Pasgaleh) and Golestan (Mont. Shahvar). (Froehlich, 1950).

Pseudoleskeella laxiramea (Schiffn.) Broth. An endemic species of the South Caspian forests (see Kürschner & al., 2000 for its distribution map).

Tortula astoma Schiffn. Described from E Azerbaijan, Zendjanab near Tabriz (Schiffner, 1908).

Tortula demawendica Schiffn. Known from West Azerbaijan and Tehran (Schiffner, 1908).

Trichostomopsis haussknechtii (Jur. & Milde) T. Agnew & C.C. Towns. Known from Iran, Iraq, Afghanistan and Kuwait (Agnew & Vondráček, 1975; Kürschner, 2000).

Trichostomum mildeanum Jur. Described from Rasht in Gilan Province (Juratzka & Milde, 1870).

Trichostomum persicum Jur. & Milde. Described from the type locality in Fars, near Schahpur (Juratzka & Milde, 1870).

EXCLUDED RECORDS

The following species were reported to occur in Iran mostly according to Frey & Kürschner (1991). A carefull review of the original references revealed that the reported localities are outside Iran.

Ditrichum pallidum (Hedw.) Hampe

Nicholson (1920) reported this species near Batoum on the Black Sea not in Iran as mentioned in Frey & Kürschner (1991).

Paraleucobryum enerve (Thed.) Loeske

Juratzka & Milde (1870) reported this species from Lenkoran not from Iran.

Entosthodon angustifolius Jur. & Milde

The type locality of this species „Monte Singara“ is a place located at present in Iraq

Fissidens pusillus (Wilson) Milde

Frey & Kürschner (1991) wrongly mentioned the occurrence of this species according to their earlier paper (Frey & Kürschner, 1983a).

Fissidens persicus R. Ruthe

Based on the present geographical bounderies, the type locality of this species (Mont. Singara, see Juratzka & Milde, 1870) is a location in NW Iraq, not in Iran as deduced from species epithet and mentioned in Frey & Kürschner (1991).

Grimmia crinita Brid.

The report of this species in Juratzka & Milde (1870) is from the Caucasus, not from Iran as mentioned in Frey & Kürschner (1991).

Phascum cuspidatum Hedw.

The species was reported by Juratzka & Milde (1870) from M. Elburs [Elbrus] in the Caucasus, not from Iran.

Polytrichum commune Hedw.

Nicholson (1920) reported this species from the Black Sea, not from Iran.

Timmia anomala (Bruch, Schimp. & W. Gümbel) Limpr.

This name was wrongly used in Frey & Kürschner (1991), instead of *Timmiella anomala* (Bruch & Schimp.) Limpr. It was then correctly published by Kürschner (1996).

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