**Table 2**: Diversity and distribution of algae in biocrusts

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Synonyms** | **North America + Greenland** | **South America** | **West & Central Europe** | **Alps** | **Eastern Europe** | **Asia** | **Asia solonchak** | **Africa** | **Australia** | **Antarctica** | **Polar Russia** | **References** |
| **Chlorophyta, Chlorophyceae** | | | | | | | | | | | | | |
| *Actinochloris sphaerica* Korschikov |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Acutodesmus bajacalifornicus* (L.A.Lewis & Flechtner ex E.Hegewald, C.Bock & Krienitz) E.Hegewald, C.Bock & Krienitz |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Büdel, et al., 2009 |
| *Acutodesmus deserticola* (L.A.Lewis & Flechtner ex E.Hegewald, C.Bock & Krienitz) E.Hegewald, C.Bock & Krienitz |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Flechtner et al., 2008 |
| *Acutodesmus obliquus* (Turpin) E. Hegewald et Hanagata | Scenedesmus acutus Meyen |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Deb at al., 2013; Langhans et al., 2009 |
| *Ankistrodesmus falcatus* (Corda) Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Apodochloris polymorpha* (Bischoff & Bold) Komárek |  |  |  |  |  |  |  |  |  |  |  |  | Orlekowsky et al., 2013 |
| *Asterococcus superbus* (Cienkowski) Scherffel |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Axilosphaera vegetata* Ed.R.Cox & Deason |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Binuclearia tectorum* (Kützing) Berger ex Wichmann |  |  |  |  |  |  |  |  |  |  |  |  | Broady, 1986; Alfinito et al., 1998 |
| *Borodinellopsis oleifera* Schwarz |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Botryokoryne simplex* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Bracteacoccus aerius* H.W.Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Andreyeva, 2005 |
| *Bracteacoccus aggregatus* Tereg |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Büdel et al., 2009; Andreyeva, 2005 |
| *Bracteacoccus bullatus* Fuciková, Flechtner & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | Fucikova et al., 2012 |
| *Bracteacoccus cohaerens* H.W.Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Bracteacoccus deserticola* Fuciková, Flechtner & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | Fucikova et al., 2012; soilcrust |
| *Bracteacoccus giganteus* H.W.Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Büdel et al., 2009; Andreyeva, 2005 |
| *Bracteacoccus glacialis* Fuciková, Flechtner & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Fucikova et al., 2012 |
| *Bracteacoccus grandis* H.W.Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Bracteacoccus minor* (Chodat) Petrová |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Lukesova, 2001; Andreyeva, Chaplygina, 2007; Langhans et al., 2009; Orlekowsky et al., 2013; Reisigl, 1964 |
| *Bracteacoccus occidentalis* Fuciková, Flechtner & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | Fucikova et al., 2012 |
| *Bracteacoccus pseudominor* H.W.Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Flechtner et al., 1998; soilcrust |
| *Bracteacoccus xerophilus* Fuciková, Flechtner & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Fucikova et al., 2012 |
| *Characiopodium oviforme* (K.W.Lee & Bold) Ettl & Gärtner | Characium oviforme K.W.Lee & Bold |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Chlamydocapsa lobata* Broady |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Andreyeva, 2005; Andreyeva, Chaplygina, 2007; Peer et al., 2010 |
| *Chlamydomonas acutata* Korschikov |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas caeca* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Chlamydomonas debaryana* Goroschankin var. *atactogama* (Korshikov) Gerloff | Chlamydomonas atactogama (Korshikov) Gerloff |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas leiostraca* (Strehlow) H.Ettl | Chlorogonium leiostracum Strehlow |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas lobulata* H.Ettl |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chlamydomonas macroplastida* Lund |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas macrostellata* Lund |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chlamydomonas microscopica* G.S.West |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas microsphaera* Pascher & Jahoda |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas mutabilis* Gerloff |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas oblongella* J.W.G.Lund |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas ovalis* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Zhang et al., 2010 |
| *Chlamydomonas planconvexa* Lund |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chlamydomonas proboscigera* Korshikov |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas proboscigera* var. *conferta* (Korshikov) H. Ettl | Chlamydomonas conferta Korshikov |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas reinhardtii* P.A.Dangeard |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Langhans et al., 2009 |
| *Chlamydomonas reisiglii* H.Ettl |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Chlamydomonas snowiae* Printz |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydomonas stellata* Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlamydopodium starrii* (Fott) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Chlorococcum ellipsoideum* Deason & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Cavacini, 2001\* |
| *Chlorococcum infusionum* (Schrank) Meneghini | Chlorococcum humicola (Nägeli) Rabenhorst |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Langhans et al., 2009; Zhang et al., 2009; Zhang et al., 2010 |
| *Chlorococcum lobatum* (Korshikov) F.E.Fritsch & R.P.John |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Andreyeva, 2005; Novichkova-Ivanova, 1984 |
| *Chlorococcum minimum* Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chlorococcum minutum* Starr |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Chlorococcum oleofaciens* Trainor & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Chlorococcum vacuolatum* Starr |  |  |  |  |  |  |  |  |  |  |  |  | Orlekowsky et al., 2013 |
| *Chlorolobion lunulatum* Hindak |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chloromonas reticulata* (Goroschankin) Gobi | Chlamydomonas clathrata Pascher |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chloromonas rosae* H.Ettl |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chloroplana terricola* Hollerbach |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Andreyeva, Chaplygina, 2007 |
| *Chlorosarcina brevispinosa* Chantanachat & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Chlorosarcinopsis aggregata* Arce & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Flechtner et al., 1998 |
| *Chlorosarcinopsis arenicola* Groover & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Büdel et al., 2009; Flechtner et al., 1998 |
| *Chlorosarcinopsis bastropiensis* Groover & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Chlorosarcinopsis dissociata* Herndon |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Andreyeva, 2005 |
| *Chlorosarcinopsis eremi* Chantanachat &H.C. Bold |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Andreyeva, 2005 |
| *Chlorosarcinopsis gelatinosa* Chantanachat & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Flechtner et al., 1998; Andreyeva, 2005 |
| *Chlorosarcinopsis minor* Gerneck |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Chlorosphaera kerguelensis* Wille |  |  |  |  |  |  |  |  |  |  |  |  | Alfinito et al.,1998 |
| *Chlorotetraëdron polymorphum* (MacEntee, H.C.Bold & P.A.Archibald) MacEntee, H.C.Bold & P.A.Archibald |  |  |  |  |  |  |  |  |  |  |  |  | Peer et al., 2010 |
| *Chromochloris zofingiensis* (Dönz) Fucíková & L.A.Lewis | Bracteacoccus minutus Schwarz |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Coelastrella aeroterrestrica* A.Tschaikner, G. Gärtner & W.Kofler |  |  |  |  |  |  |  |  |  |  |  |  | Peer et al., 2010 |
| *Coelastrella multistriata* (Trenkwalder) Hegewald & N.Hanagata |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Coelastrella oocystiformis* (J.W.G.Lund) E.Hegewald & N.Hanagata | Scotiellopsis oocystiformis (J.W.G.Lund) Puncochárová & Kalina |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Peer at al., 2010 |
| *Coelastrella rubescens* (Vinatzer) Kaufnerová & Eliás | Scotiellopsis rubescens Vinatzer |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Coelastrella terrestris* (Reisigl) Hegewald & N.Hanagata |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Cavacini, 2001\*; Lukesova, 2001; Andreyeva, 2005; Orlekowsky et al., 2013; Reisigl, 1964 |
| *Cylindrocapsa conferta* West |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013 |
| *Cylindrocapsa geminella* Wolle |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013 |
| *Deasonia granata* (Starr) Ettl & Komarek |  |  |  |  |  |  |  |  |  |  |  |  | Büdel et al., 2009 |
| *Deasonia multinucleata* (Deason & Bold) Ettl & Komarek |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Deasonia ovata* (Deason) Ettl & Komarek |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Dictyochloris fragrans* Vischer |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Novichkova-Ivan0va, 1984 |
| *Dictyococcus varians* Gerneck | Dictyococcus pseudovarians Korschikov |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Novakovskaya, Patova, 2013; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Elakatothrix obtusata* Flechtner et al. |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; soilcrust |
| *Ettlia carotinosa* J.Komárek | Neochloris wimmeri (Hilse) Archibald & Bold |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Ettlia oleoabundans* (S.Chantanachat & H.C.Bold) J.Komárek | Neochloris oleabundans S.Chantanachat & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Fasciculochloris mexicana* Flentchner et al. |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Fernandinella alpina* Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Fernandinella alpina* var. *semiglobosa* F.E.Fritsch & R.P.John |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Floydiella terrestris* (R.D.Groover & A.M.Hofstetter) Friedl & O'Kelly | Planophila terrestris R.D.Groover & A.M.Hofstetter |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; |
| *Halochlorella rubescens* P.J.L. Dangeard |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Andreyeva, 2005; |
| *Heterotetracystis akinetos* Ed.R.Cox & T.R.Deason |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Hormotila mucigena* Borzi |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Keratococcus bicaudatus* (A.Braun ex Rabenhorst) J.B.Petersen |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Lobochlamys culleus* (Ettl) T. Pröschold, B. Marin, U.W. Schlösser & M. Melkonian |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Novakovskaya, Patova, 2013 |
| *Macrochloris cohaerens* (Vinatzer) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Macrochloris dissecta* Korshikov |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Macrochloris multinucleata* (Reisigl) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Hoppert et al., 2001 |
| *Mychonastes homosphaera* (Skuja) Kalina & Puncochárová | Chlorella homosphaera Skuja |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008; soilcrust; Zhang et al., 2009; Broady, 1986; Lukesova, 2001; Andreyeva, Chaplygina, 2007; Orlekowsky et al., 2013 |
| *Nautococcus terrestris* Archibald |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Neochloris gelatinosa* Herndon |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Andreyeva, Chaplygina, 2007 |
| *Neochloris minuta* G.Arce & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Andreyeva, 2005 |
| *Neochloris terrestris* Herndon |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Andreyeva, Chaplygina, 2007 |
| *Neochlorosarcina auxotrophica* (R.D.Groover & H.C.Bold) S.Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Neochlorosarcina deficiens* (Groover & Bold) Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Neochlorosarcina minor* (Gerneck) V.M. Andreyeva | Chlorosacina minor Gerneck |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Büdel et al., 2009; Orlekowsky et al., 2013 |
| *Neochlorosarcina minuta* Groover et Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Neochlorosarcina negevensis* Friedmann & Ocampo-Paus |  |  |  |  |  |  |  |  |  |  |  |  | Büdel et al., 2009 |
| *Neochlorosarcina pseudominor* (R.D.Groover & H.C.Bold) S.Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; |
| *Neochlorosarcina sempervirens* (R.D.Groover & H.C.Bold) S.Watanabe | Chlorosacinopsis sempervirens R.D. Groover & H.C. Bold |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Neospongiococcum alabamense* (Deason) Deason | Neospongiococcum rugosum Deason |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Palmellopsis gelatinosa* Korschikov |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007; Orlekowsky et al., 2013 |
| *Palmellopsis texensis* (Groover & Bold) Fritsch et John |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Palmellopsis californica* Flechtner et Johansen |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 2008 |
| *Palmogloea protuberans* (Smith) Kützing |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Planktosphaeria botryoides* Herndon |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Pleurastrum insigne* Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Protosiphon botryoides* (Kützing) Klebs |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Pseudochlorococcum typicum* P.A.Archibald |  |  |  |  |  |  |  |  |  |  |  |  | Büdel et al., 2009 |
| *Pseudodictyochloris dissecta* Vinatzer |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Pseudodictyochloris multinucleata* (Broady) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Pseudomuriella decolor* Vischer | Muriella decolor Vischer |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Pseudomuriella engadiensis* (Kol & Chodat) Fuciková, Rada & L.A.Lewis |  |  |  |  |  |  |  |  |  |  |  |  | Peer at al., 2010 |
| *Pseudoplanophila sphagnothermalis* (Pascher) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Pseudotetracystis compactis* Flechtner et Johansen |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 2008 |
| *Pseudotrochiscia areolata* Vinatzer |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Radiosphaera minuta* Herndon |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Andreyeva, 2005; Andreyeva, Chaplygina, 2007; Orlekowsky et al., 2013 |
| *Radiosphaera negevensis* Ocampo-Paus & Friedmann |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Novichkova-Ivanova, 1984 |
| *Desmodesmus communis* E.Hegewald | Scenedesmus communis E.Hegewald; Scenedesmus quadricauda (Turpin) Brébisson |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Deb at al., 2013 |
| *Scenedesmus rotundus* L.A.Lewis & Flechtner |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Büdel, et al., 2009 |
| *Scotiellopsis levicostata* (Hollerbach) Puncochárová & Kalina |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Spongiochloris excentrica* R.C.Starr |  |  |  |  |  |  |  |  |  |  |  |  | Büdel et al., 2009; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Spongiochloris gigantea* Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008 |
| *Spongiochloris incrassata* Chantanachat & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Spongiochloris lamellata* Deason & Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Spongiochloris llanoensis* Bischoff & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Spongiochloris minor* Chantanachat & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; soilcrust; Büdel et al., 2009; Andreyeva, 2005; Flechtner et al., 2008 |
| *Tetracystis aggregata* R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Andreyeva, Chaplygina, 2007; Orlekowsky et al., 2013 |
| *Tetracystis compacta* Schwarz |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Tetracystis dissociata* R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Tetracystis elliptica* Nakano |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Tetracystis excentrica* R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007; Andreyeva, 2005 |
| *Tetracystis fissurata* Nakano |  |  |  |  |  |  |  |  |  |  |  |  | Broady, Weinstein, 1998; Andreyeva, 2005 |
| *Tetracystis intermedia* (Deason & Bold) R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Tetracystis pulchra* R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Tetracystis tetraspora* (Arce & Bold) R.M.Brown & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Trochiscia hirta* (Reinsch) Hansgirg |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Vitreochlamys aulata* (Pascher) Batko | Sphaerellopsis aulata (Pascher) Gerloff |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Chlorophyta, Trebouxiophyceae** | | | | | | | | | | | | | |
| "*Chlorella*" *mirabilis* Andreyeva |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Lukesova, 2001; Flechtner et al., 2008 |
| *Apatococcus lobatus* (Chodat) J.B.Petersen |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Lukesova, 2001 |
| *Asterochloris excentrica* (Archibald) Skaloud & Peksa |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Asterochloris magnus* (Archibald) Skaloud & Peksa | Trebouxia magna Archibald |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Auxenochlorella protothecoides* (Krüger) Kalina & Puncochárová |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Chlorella* cf. *sorokiniana* |  |  |  |  |  |  |  |  |  |  |  |  | Büdel, 2009 |
| *Chlorella chlorelloides* (Naumann) C.Bock, L.Krienitz & T.Pröschold |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Chlorella lobophora* V.M. Andreyeva | Lobosphaeropsis lobophora (Andreyeva) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Chlorella vulgaris* Beijerinck | Chlorella terricola Gollerbach |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008; Flechtner et al., 1998; soilcrust; Cavacini, 2001; Andreyeva, 2005; Langhans et al., 2009; Reisigl, 1964; Peer et al., 2010; Zhang et al., 2009; Zhang et al., 2010; Flechtner et al., 2008 |
| *Chloroidium ellipsoideum* (Gerneck) Darienko, Gustavs, Mudimu, Menendez, Schumann, Karsten, Friedl & Proschold | Chlorella ellipsoidea Gerneck |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Flechtner et al., 1998; Lukesova, 2001; Andreyeva, 2005; Orlekowsky et al., 2013; Peer et al., 2010 |
| *Chloroidium saccharophilum* (W.Krüger) Darienko, Gustavs, Mudimu, Menendez, Schumann, Karsten, Friedl & Proschold | Chlorella saccharophila (Krüger) Migula |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Cavacini, 2001\*; Andreyeva, 2005 |
| *Choricystis chodatii* (Jaag) Fott |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Andreyeva, 2005 |
| *Choricystis guttula* Hindak |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Choricystis parasitica* (Brandt) Pröschold & Darienko | Choricystis minor (Skuja) Fott |  |  |  |  |  |  |  |  |  |  |  | Peer et al., 2010 |
| *Coccobotrys verrucariae* Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 2008 |
| *Coccomyxa hypolithica* Vogel |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Coccomyxa pringsheimii* Jaag |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008 |
| *Coccomyxa subglobosa* f. *scabra* S.Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Coccomyxa subglobosa* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Coenobotrys gloeobotrydiformis* (H.Reisigl) I.Kostikov, T.Darienko, A.Lukesová, & L.Hoffmann | Coccomyxa gloeobotrys H. Reisigl |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Cavacini, 2001\*; Andreyeva, 2005 |
| *Coenochloris bilobata* (Broady) Hindák |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Coenochloris oleifera* (Broady) I.Kostikov, T.Darienko, A.Lukesová, & L.Hoffmann | Sphaerocystis oleifera Broady; Coenocystis oleifera (Broady) Hindak var. oleifera |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Andreyeva, 2005 |
| *Coenochloris signiensis* (Broady) Hindak |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Coenocystis oleifera* var. *antarctica* (Broady) V.M. Andreyeva |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Cavacini, 2001\* |
| *Coleochlamys cucumis* (Reisigl) Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Desmococcus olivaceus* (Persoon ex Acharius) J.R.Laundon | Pleurococcus vulgaris Meneghini |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Orlekowsky et al., 2013; Engelskjøn, 1986; Cavacini, 2001; Flechtner at al., 1998 |
| *Dictyochloropsis splendida* Geitler |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Flechtner at al., 1998 |
| *Dictyochloropsis splendida* var. *gelatinosa* E.Tschermak-Woess |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Dictyochloropsis symbiontica* Tschermak-Woess |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007; Andreyeva, 2005 |
| *Dictyochloropsis symbiontica* var. *ellipsoidea* Tschermak-Woess |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Diplosphaera chodatii* Bialosukniá |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Orlekowsky et al., 2013; Flechtner et al., 2008 |
| *Diplosphaera mucosa* Broady |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Elliptochloris bilobata* Tschermak-Woess |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007; Novakovskaya, Patova, 2013 |
| *Elliptochloris reniformis* (S.Watanabe) H.Ettl & G.Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Elliptochloris subsphaerica* (Reisigl) Ettl & Gärtner | Chlorella reisiglii (H.Reisigl) Watanabe |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Andreyeva, 2005; Langhans et al., 2009; Reisigl, 1964; Flechtner et al., 1998; Novakovskaya, Patova, 2013 |
| *Fottea pyrenoidosa* Broady |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Fusochloris perforata* G.L.Floyd & S.Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, Chaplygina, 2007 |
| *Gloeocystis papuana* (S.Watanabe) H.Ettl & G.Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Peer at al., 2010 |
| Gloeocystis polydermatica (Kützing) Hindák | Sporotetras polydermatica (Kützing) Kostikov et al. |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Gloeocystis rupestris* Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Gloeocystis vesiculosa* Nägeli |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Langhans et al., 2009 |
| *Heterochlorella luteoviridis* (Chodat) J.Neustupa, Y.Nemcova, M.Eliás & P.Skaloud |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Jaagiella alpicola* Vischer |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Leptosira erumpens* (Deason & Bold) Lukesová |  |  |  |  |  |  |  |  |  |  |  |  | Orlekowsky et al., 2013; Peer at al., 2010 |
| *Leptosira terricola* (Bristol) Printz |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Novakovskaya, Patova, 2013 |
| *Leptosira vischerii* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Lobosphaera tiroliensis* Resigl |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Muriella magna* F.E.Fritsch & R.P.John |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Muriella terrestris* J.B.Petersen |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008; Flechtner et al., 2013; soilcrust; Andreyeva, 2005; Peer at al., 2010; Flechtner et al., 1998 |
| *Myrmecia astigmatica* Vinatzer |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Flechtner et al., 2008 |
| *Myrmecia biatorellae* J.B.Petersen |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; soilcrust; Andreyeva, 2005; Orlekowsky et al., 2013; Flechtner et al., 2008 |
| *Myrmecia bisecta* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; soilcrust; Lukesova, 2001; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Myrmecia incisa* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Flechtner et al.,1998; Novakovskaya, Patova, 2013; soilcrust; Andreyeva, 2005; |
| *Myrmecia israelensis* (S.Chantanachat & H.Bold) T.Friedl |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Büdel, et al., 2009 |
| *Myrmecia macronucleata* (Deason) V.M.Andreeva |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Andreyeva, Chaplygina, 2007 |
| *Oocystis alpina* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Parietochloris alveolaris* (H.C.Bold) S.Watanabe & G.L.Floyd |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Parietochloris bilobata* (Vinatzer) Andreyeva | Ettlia bilobata (Vinatzer) Komarek; Neochloris bilobata Vinatzer |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Parietochloris cohaerens* (R.D.Groover & H.C.Bold) S.Watanabe & G.L.Floyd | Ettlia cohaerens (R.D.Groover & H.C.Bold) Ettl & Gärtner; Neochloris cohaerens R.D.Groover & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Parietochloris pseudoalveolaris* (T.R.Deason & H.C.Bold) S.Watanabe & G.L.Floyd |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Andreyeva, 2005 |
| *Planktosphaerella terretsris* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Prasiococcus calcarius* (J.B.Petersen) Vischer |  |  |  |  |  |  |  |  |  |  |  |  | Broady, 1986; Seppelt, 2002; Broady, 2005 |
| *Prasiola crispa* (Lightfoot) Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Kanda et al., 2002; Seppelt, 2002; Cavacini, 2001; Reisigl, 1964; Engelskjon, 1986 |
| *Pseudococcomyxa simplex* (Mainx) Fott |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Cavacini, 2001\*; Lukesova, 2001; Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Raphidonema pyreoidifera* Korshikov |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Raphidonema sempervirens* Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Schizochlamydella minutissima* Broady |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005; Andreyeva, Chaplygina, 2007 |
| *Stichococcus bacillaris* Nägeli | Stichococcus minor Nägeli |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008; Flechtner et al., 1998; Novakovskaya, Patova, 2013; soilcrust; Cavacini, 2001\*; Alfinito et al., 1998; Lukesova, 2001; Langhans et al., 2009; Orlekowsky et al., 2013; Reisigl, 1964; Peer at al., 2010 |
| *Stichococcus mirabilis* Lagerheim |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Trebouxia gigantea* (Hildreth & Ahmadjian) Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Trochisciopsis insignis* Trenkwalder |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| **Chlorophyta, Ulvophyceae** | | | | | | | | | | | | | |
| *Chlorochytrium paradoxum* (G.A.Klebs) G.S.West |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; |
| *Dilabifilum arthopyreniae* (Vischer et Klement) Tschermak-Woess |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008 |
| *Gloeotilopsis sarcinoidea* (Groover & H.C.Bold) Friedl | Pleurastrum sarcinoideum Groover & H.C.Bold |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Kentrosphaera facciolae* Borzì |  |  |  |  |  |  |  |  |  |  |  |  | Broady, 1986; Alfinito et al., 1998 |
| *Planophila bipyrenoidosa* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Andreyeva, 2005 |
| *Planophila laetevirens* Gerneck |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Pseudendoclonium basiliense* Vischer |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Lukesova, 2001 |
| *Pseudendoclonium printzii* (Vischer) Bourrelly |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Streptophyta** | | | | | | | | | | | | | |
| *Actinotaenium cucurbita* (Brébisson ex Ralfs) Teiling | Actinotaenium cucurbita var. attenuatum (G.S.West) Teiling |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Broady, 1986; Pankow et al., 1991 |
| *Actinotaenium cucurbita* var. *rotundatum* (Krieger) Teiling |  |  |  |  |  |  |  |  |  |  |  |  | Pankow et al., 1991 |
| *Actinotaenium curtum* (Brébisson ex Ralfs)Teiling | Penium curtum (Brébisson ex Ralfs) Kützing |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Chlorokybus atmophyticus* Geitler |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Closterium lanceolatum* Kützing ex Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Closterium navicula* var. *crassum* (West & G.S.West) Grönblad |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Closterium pusillum* Hantzsch |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Cosmarium anceps* P. Lundell |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium cymatopleurum* var. *archeri* (Roy & Bisset) West & G.S.West |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium decedens* (Reinsch) Raciborski |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Skuja, 1964 |
| *Cosmarium holmiense* var. *integrum* P. Lundell |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium furcatospermum* West & G.S.West |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Cosmarium granatum* Brébisson ex Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Deb at al., 2013 |
| *Cosmarium quadratum* Ralfs ex Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium speciosum* var. *simplex* Nordstedt |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium subcostatum* Nordstedt |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cosmarium subtumidum* Nordstedt |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013 |
| *Cosmarium undulatum* Corda ex Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Cylindrocystis brebissonii* (Ralfs) De Bary |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Büdel et al., 2009; Pankow et al., 1991; Lukesova, 2001; Langhans et al., 2009; Orlekowsky et al., 2013; Reisigl, 1964; Peer et al., 2010; Skuja, 1964 |
| *Cylindrocystis brebissonii* var. *desertii* Flechtner et al. |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Cylindrocystis crassa* De Bary |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Langhans et al., 2009; Novakovskaya, Patova, 2013; Skuja, 1964 |
| *Euastrum crassicole* P. Lundell |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Interfilum terricola* (J.B.Petersen) Mikhailyuk, Sluiman, Massalski, Mudimu, Demchenko, Friedl & Kondratyuk | Geminella terricola J.B.Petersen |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Lukesova, 2001 |
| *Klebsormidium bilatum* Lokhorst |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Klebsormidium crenulatum* (Kützing) H.Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Langhans et al., 2009; Orlekowsky et al., 2013 |
| *Klebsormidium dissectum* (F.Gay) H.Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Fletcher et al., 1998; soilcrust; Lukesova, 2001; Langhans et al., 2009; Orlekowsky et al., 2013; Peer at al., 2010 |
| *Klebsormidium flaccidum* (Kützing) P.C.Silva, K.R.Mattox & W.H.Blackwell | Chlorhormidium dissectum (Chodat) Fott |  |  |  |  |  |  |  |  |  |  |  | Hoppert et al., 2001; Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008; Flechtner et al., 1998; Lukesova, 2001; Langhans et al., 2009; Orlekowsky et al., 2013; Reisigl, 1964; Peer at al., 2010; Skuja, 1964; Flechtner et al., 2008 |
| *Klebsormidium montanum* (Hansgirg) S.Watanabe |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Skuja, 1964 |
| *Klebsormidium mucosum* (Boye Petersen) Lokhorst | Chlorhormidium mucosum (J.B. Petersen) Starmach |  |  |  |  |  |  |  |  |  |  |  | Rindi et al., 2011 |
| *Klebsormidium nitens* (Meneghini) Lokhorst | Chlorhormidium nitens (Meneghini) Komaromy |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Büdel et al., 2009; Cavacini, 2001\*; Lukesova, 2001 |
| *Klebsormidium pseudostichococcus* (Heering) H.Ettl & Gärtner |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Orlekowsky et al., 2013 |
| *Klebsormidium sterile* (Deason & Bold) P.C.Silva, K.R.Mattox & W.H.Blackwell |  |  |  |  |  |  |  |  |  |  |  |  | Ettl & Gärtner, 1995 |
| *Klebsormidium subtilissimum* (Rabenhorst) P.C.Silva, K.R.Mattox & W.H.Blackwell | Ulothrix subtilissima Rabenhorst |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Mesotaenium endlicherianum* Nägeli |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Mesotaenium macrococcum* (Kützing ex Kützing) J.Roy & Bisset |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Lukesova, 2001 |
| *Zygogonium ericetorum* Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Hoppert et al., 2001; Langhans et al., 2009 |
| **Stramenopiles, Bacillariophyceae** | | | | | | | | | | | | | |
| *Achnanthes brevipes* C.Agardh |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008 |
| *Achnanthes coarctata* (Brébisson) Grunow | Achnanthidium coarctatum Brébisson ex W.Smith |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Flechtner et al., 2008 |
| *Achnanthes exigua* Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985 |
| *Achnanthes lanceolata* (Brébisson ex Kützing) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Deb et al., 2013 |
| *Achnanthes minutissima* var. *minutissima* Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Caloneis alpestris* (Grunow) Cleve |  |  |  |  |  |  |  |  |  |  |  |  | Skuja, 1964 |
| *Cocconeis placentula* Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Vinogradova, Darienko, 2008; Ettl et Gärtner, 1995 |
| *Cyclotella meneghiniana* Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Diatoma vulgaris* var. *ovale* Hust. |  |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995 |
| *Diploneis ovalis* (Hilse) Cleve |  |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995 |
| *Encyonema silesiacum* (Bleisch) D.G.Mann | Cymbella silesiaca Bleisch |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Encyonema ventricosum* (C.Agardh) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Eunotia bilunaris* (Ehrenberg) Schaarschmidt |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Eunotia exigua* (Brébisson ex Kützing) Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Eunotia praerupta* Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995 |
| *Fragilaria capucina* Desmazières |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Staurosirella pinnata* (Ehrenberg) D.M.Williams & Round | Fragilaria pinnata Ehrenberg |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995; Novichkova-Ivanova, 1984; Rumrich et al., 1989 |
| *Gomphonema olivaceum* (Hornemann) Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Gomphonema parvulum* (Kützing) Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985; Rumrich et al., 1989 |
| *Hantzschia amphioxys* (Ehrenberg) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008; Flechtner et al., 1998; Zhang et al., 2009; Lukesova, 2001; Orlechowsky et al., 2013; Rumrich et al., 1989; Johansen, 1985; Zhang et al., 2010; Flechtner et al., 2008 |
| *Hantzschia amphioxys* var. *compacta* Hustedt |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Hantzschia amphioxys* var. *capitata* O.F. Müller |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Flechtner et al., 1998 |
| *Luticola cohnii* (Hilse) D.G. Mann |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998 |
| *Luticola dismutica* (Hustedt) D.G.Mann |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Luticola nivalis* (Ehrenberg) D.G. Mann |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001; Flechtner et al., 2008 |
| *Luticola mutica* (Kützing) D.G.Mann | Navicula mutica Kützing |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008; Flechtner et al., 1998; Lukesova, 2001; Johansen, 1985; Flechtner et al., 2008 |
| *Luticola muticoides* (Hustedt) G.G. Mann |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Broady, Weistein, 1998 |
| *Mayamea atomus* (Kützing) Lange-Bertalot | Navicula atomus (Kützing) Grunow |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Mayamea asellus* (Weinhold) Lange-Bertalot | Navicula asellus Weinhold ex Hustedt |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985 |
| *Muelleria gibbula* (Cleve) S.A.Spaulding & E.F.Stoermer |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 2008 |
| *Navicula rhynchocephala* Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013 |
| *Navicula cincta* (Ehrenberg) Ralfs |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Diadesmis contenta* (Grunow ex Van Heurck) D.G. Mann | Navicula contenta Grunow ex Van Heurck |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Navicula cryptocephala* Kützing |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Vinogradova, Darienko, 2008; Ettl et Gärtner, 1995 |
| *Navicula minima* Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989, Ashley et al., 1985 |
| *Fistulifera pelliculosa* (Brebisson) Lange-Bertalot | Navicula pelliculosa (Kützing) Hilse |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008; Orlechowsky et al., 2013 |
| *Luticola paramutica* (Bock) D.G. Mann | Navicula paramutica Bock |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995; Ashley et al., 1985 |
| *Navicula tenelloides* Hustedt |  |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985 |
| *Navicula tripunctata* (O.F. Müller) Bory de Saint-Vincent |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008 |
| *Nitzschia brevisima* Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Nitzschia dissipata* (Kützing) Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Nitzschia communis* Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985 |
| *Nitzschia fonticola* (Grunow) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Nitzschia frustulum* (Kützing) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Novichkova-Ivanova, 1984 |
| *Nitzschia inconspicua* Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Ashley et al., 1985 |
| *Nitzschia microcephala* Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Nitzschia palea* (Kützing) W.Smith |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989; Novichkova-Ivanova, 1984; |
| *Nitzschia sigmoidea* (Nitzsch) W.Smith |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Nitzschia recta* Hantzsch ex Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013 |
| *Nitzschia hantzschiana* Rabenhorst |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Ashley et al., 1985 |
| *Pinnularia borealis* Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Vinogradova, Darienko, 2008; Flechtner et al., 1998; Zhang et al., 2009; Lukesova, 2001; Orlechowsky et al., 2013; Rumrich et al., 1989; Johansen, 1985; Zhang et al., 2010 |
| *Pinnularia obscura* Krasske |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Pinnularia microstauron* (Ehrenberg) Cleve |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Ettl et Gärtner, 1995 |
| *Pinnularia intermedia* (Lagerstedt) Cleve |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Pinnularia braunii* (Grunow) Cleve |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013; Ettl et Gärtner, 1995 |
| *Pinnularia viridis* (Nitzsch) Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Ettl et Gärtner, 1995 |
| *Rhopalodia gibba* (Ehrenberg) Otto Müller |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Sellaphora seminulum* (Grunow) D.G.Mann | Navicula seminulum Grunow |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| *Synedra ulna* (Nitzsch) Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Deb at al., 2013; Ettl et Gärtner, 1995 |
| *Stauroneis anceps* Ehrenberg |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 1998; Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008 |
| *Stephanodiscus astraea* (Ehrenberg) Grunow |  |  |  |  |  |  |  |  |  |  |  |  | Rumrich et al., 1989 |
| **Stramenopiles, Xanthophyceae** | | | | | | | | | | | | | |
| *Botrydiopsis alpina* Vischer |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Botrydiopsis arhiza* Borzi |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Cavacini, 2001\*; Orlechowsky et al., 2013 |
| *Botrydiopsis constricta* Broady |  |  |  |  |  |  |  |  |  |  |  |  | Broady, 1976 |
| *Botrydiopsis eriensis* Snow |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Lukesova, 2001 |
| *Botrydiopsis intercedens* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Botryochloris minima* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; |
| *Botrydiopsis minor* (Schmidle) Chodat |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; |
| *Botrydium granulatum* (Linnaeus) Greville |  |  |  |  |  |  |  |  |  |  |  |  | Orlechowsky et al., 2013 |
| *Bumilleria klebsiana* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Bumilleriopsis terricola* Matwienko |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Capitulariella radians* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Vinogradova, Darienko, 2008 |
| *Chlorocloster terrestris* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Chlorocloster simplex* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Gloeobotrys arborum* Geitler |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Gloeobotrys piriformis* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Gloeobotrys ovalis* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Gloeobotrys limneticus* (G.M. Smith) Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Gloeobotrys gelatinosus* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964; Cavacini, 2001\* |
| *Ellipsoidion perminimum* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Orlechowsky et al., 2013; Reisigl, 1964 |
| *Heterotrichiella gracilis* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Heterococcus viridis* (brevicellularis, chodatii) |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Reisigl, 1964 |
| *Heterococcus pleurococcoides* Pitschmann |  |  |  |  |  |  |  |  |  |  |  |  | Flechtner et al., 2008 |
| *Monodus chodatii* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\* |
| *Monodus unipapilla* Reisigl |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Pleurochloris commutata* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Tribonema vulgare* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984; Lukesova, 2001 |
| *Tribonema minus* (Wille) Hanzen |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013 |
| *Xanthonema exile* (Klebs) P.C. Silva |  |  |  |  |  |  |  |  |  |  |  |  | Cavacini, 2001\*; Reisigl, 1964 |
| *Xanthonema debile* (Vischer) P.C. Silva |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust; Lukesova, 2001; Reisigl, 1964; Peer at al., 2010 |
| *Xanthonema hormidioides* (Vischer) P.C. Silva |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964; Peer at al., 2010 |
| *Xanthonema montanum* (Vischer) P.C. Silva |  |  |  |  |  |  |  |  |  |  |  |  | Peer at al., 2010 |
| *Xanthonema solidum* (Vischer) P.C. Silva |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| **Stramenopiles, Eustigmatophyceae** | | | | | | | | | | | | | |
| *Chloridella neglecta* (Pascher et Geitler) Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Novichkova-Ivanova, 1984 |
| *Ellipsoidion oocystoides* Pascher |  |  |  |  |  |  |  |  |  |  |  |  | soilcrust |
| *Eustigmatos vischeri* D.J. Hibberd |  |  |  |  |  |  |  |  |  |  |  |  | Peer et al., 2010 |
| *Eustigmatos magnus* (J.B. Petersen) J.B. Hibberd |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Vinogradova, Darienko, 2008; Büdel et al., 2009; Lukesova, 2001; Orlechowsky et al., 2013; Flechtner et al., 2008 |
| *Pseudocharaciopsis ovalis* (Chodat) J.B. Hibberd |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |
| *Vischeria stellata* (Chodat ex Poulton) Pascher |  |  |  |  |  |  |  |  |  |  |  |  | Reisigl, 1964 |
| *Vischeria helvetica* (Vischer et Pascher) J.B. Hibberd |  |  |  |  |  |  |  |  |  |  |  |  | Novakovskaya, Patova, 2013; Fletcher et al., 1998 |
| **Euglenozoa** | | | | | | | | | | | | | |
| *Euglena mutabilis* F. Schmitz |  |  |  |  |  |  |  |  |  |  |  |  | Lukesova, 2001 |