

REFERENCES

- Agardh, Carl Adolf. 1824. *Systema Algarum. Literis Berlingianis*. Lund. 312 p.
Characeae, p. XXVII–XXVIII & 123–130.
- Alvarez, Luis W., Walter Alvarez, Frank Asaro, & Helen V. Michel. 1980. Extraterrestrial cause for the Cretaceous-Tertiary extinctions. *Science* 208:1,095–1,108.
- Anadón, Pedro, & Monique Feist. 1981. Charophytes et biostratigraphie du Paléogène inférieur du bassin de l'Ebre oriental. *Palaeontographica (Abt. B)* 178(4/6):143–168, 4 pl.
- Anadón, Pedro, Monique Feist, Jean-Louis Hartenberger, Carla Muller, & José de Villalta-Comella. 1983. Un exemple de corrélation biostratigraphique entre échelles marines et continentales dans l'Éocène: La coupe de Pontils (bassin de l'Ebre, Espagne). *Bulletin de la Société Géologique de France (série 7)* 25(5):747–755.
- Antunes, Miguel T., Ingeborg Soulié-Märsche, Pierre Mein, & Jaime Pais. 1992. Le gisement de Asseiceira, Portugal (Miocène Supérieur). Données complémentaires sur Freiria de Rio Maior. *Ciencias da Terra (UNL)*, Lisboa 11:219–253, 7 pl.
- Babinot, J.-F., P. Freydet, M. Amiot, M. Bilotte, F. de Broin, F. Colombo, J.-P. Durand, M. Feist, M. Floquet, M. Gayet, B. Lange-Badré, A. Masiera, M. Massieux, J. Médus, Y. Tambareau, J. Ullastre, & J. Villatte. 1983. Le Sénonien supérieur continental de la France méridionale et de l'Espagne septentrionale: État des connaissances biostratigraphiques. *Géologie méditerranéenne* 10(3–4):145–268.
- Baldwin, Bruce G., Michael J. Sanderson, J. Marc Porter, Martin F. Wojciechowski, Christopher S. Campbell, & Michael J. Donoghue. 1995. The ITS region of nuclear ribosomal DNA: A valuable source of evidence on angiosperm phylogeny. *Annals of the Missouri Botanical Garden* 82:247–277.
- de Bary, Anton. 1875. Zur Keimungsgeschichte der Charen. *Botanische Zeitung* 23:377–385, 393–401, 409–420, pl. V–VI.
- Bathurst, Robin G. C. 1971. Carbonate Sediments and Their Diagenesis, Developments in Sedimentology, vol. 12. Elsevier. Amsterdam, New York. 620 p.
- Becker, Damien, Laurent Picot, & Jean-Pierre Berger. 2002. Stable isotopes ($d^{13}C$ and $d^{18}O$) of charophyte gyrogonites; example from the Brochene Fluh section (late Oligocene–early Miocene, Switzerland). *Geobios* 35:89–97.
- Bell, W. A. 1922. A new genus of Characeae and new *Merostomata* from the Coal Measures of Nova Scotia. *Transactions of the Royal Society of Canada* 3(16):159–162, 1 pl.
- Benton, Michael J. 1993. *The Fossil Record 2*. Chapman & Hall. London. 945 p.
Charophyta, p. 16–19.
- Berger, Jean-Pierre. 1985. La transgression de la molasse marine supérieure (OMM) en Suisse occidentale. *Münchener Geowissenschaftliche (Abhandlungen A)* 5:1–208.
- . 1986. Biozonation préliminaire des charophytes oligocènes de Suisse occidentale. *Eclogae Geologicae Helvetiae* 79(3):897–912.
- . 1990. Floral changes in the molasse of western Switzerland (Oligo–Miocene): Paleoclimatic implications. In E. Knobloch & Z. Kvacek, eds., *Proceedings of the Symposium Paleofloristic and Paleoclimatic Changes in the Cretaceous and Tertiary*, Prague 1989. Geological Survey Publications. Prague. p. 189–194.
- Berggren, William A., Dennis V. Kent, Marie-Pierre Aubry, & Jan Hardenbol. 1995. *Geochronology, Time Scales and Global Stratigraphic Correlation*. SEPM (Society for Sedimentary Geology) Special Publication number 54. Society for Sedimentary Geology. Tulsa, Oklahoma. 386 p.
- Bharathan, S. 1980. *Studies on Characeae*. Ph.D. dissertation. University of Madras. Madras. 143 p.
- Bhatia, Shashi B., & M. S. Mannikeri. 1976. Some Charophyta from the Deccan Intertrappean Beds near Nagpur, central India. *Geophytology* 6(1):75–81.
- . 1977. Callovian Charophyta from Jaisalmer, Western India. *Geologica et Palaeontologica* 11:187–196.
- Bhatia, Shashi B., & Rajendra S. Rana. 1984. Palaeogeographic implications of the Charophyta and Ostracoda of the Inter-trappean beds of peninsular India. *Mémoires de la Société Géologique de France (new series)* 147:29–35.
- Bignot, Gérard, & Louis Grambast. 1969. Sur la position stratigraphique et les charophytes de la Formation de Kozina (Slovénie, Yougoslavie). *Comptes Rendus des Séances de l'Académie des Sciences, Paris (series D)* 269:689–692.
- Bilan, Wieslaw. 1988. The epicontinental Triassic charophytes of Poland. *Acta Palaeobotanica* 28(1, 2):63–161, 12 pl.
- Birina, L. M. 1948. Nouvelles espèces d'algues calcaires et de foraminifères des limites du Dévonien. *Sovetskaya Geologiya, Sbornik* 28:154–160.
- Blindow, Irmgard. 1994. Sällsyna och hotade kransalger i Sverige. *Svensk Botanisk Tidskrift* 88:65–73.
In Swedish, English summary.
- Blindow, Irmgard, & Anders Langangen. 1995. Kransalgen *Lamprothamnium papulosum* i Sverige [The charophyte *Lamprothamnium papulosum* in Sweden]. *Svensk Botanisk Tidskrift* 89:171–174.
- Blow, W.-H. 1969. Late middle Eocene to recent planktonic biostratigraphy. In P. Brönnimann & H. H. Renz, *Proceedings of the 1st International Conference on Planktonic Microfossils*, Geneva, 1967, vol. 1. E. J. Brill. Leiden. p. 199–422.
- Bold, Harold C., & Michael J. Wynne. 1985. *Introduction to the Algae*, 2nd ed. Prentice-Hall, Inc. Englewood Cliffs, NJ. 720 p.
- Braun, Alexander. 1847. Übersicht der Schweizerischen Characeen. Ein Beitrag zur Flora der Schweiz. *Neue Denkschriften der Schweizerische Gesellschaft der Naturwissenschaften* 10(3):1–23.

- . 1849. Charae Australes et Antarticae, or characters and observations on the Characeae of Australia and the southern circumpolar regions. *Hooker's Journal of Botany and Kew Garden Miscellany* 1:193–203.
- . 1857. Über Parthenogenesis bei Pflanzen. *Abhandlungen der Königlichen Preussischen Akademie der Wissenschaften zu Berlin für das Jahr 1856*:311–376.
- Braun, Alexander, & Otto Nordstedt. 1882. Fragmente einer Monographie der Characeen. Nach den hinterlassenen Manuskripten A. Braun's herausgegeben von Dr. Otto Nordstedt. *Abhandlungen der königlichen Akademie der Wissenschaften zu Berlin* 1882:1–211, pl. 1–7.
- Bremer, Kåre. 1985. Summary of green plant phylogeny and classification. *Cladistics* 1:369–385.
- Breuer, Roswitha. 1988. Zur taxonomischen Gliederung der Familie Porocharaceae (Charophyta). *Paläontologische Zeitschrift* 62(1/2):3–10.
- Breuer, Roswitha, & Monique Feist. 1986. Biostratigraphisch bedeutsame Charophyten aus dem Alttertiär von Erdölfeldern des Oberrheingrabens. *Newsletters on Stratigraphy* 16(3):139–147.
- Briggs, John C. 1995. *Global Biogeography. Developments in Palaeontology and Stratigraphy*, No. 14. Elsevier. Amsterdam. 552 p.
- Brongniart, Adolphe. 1822. Sur la classification et la distribution des végétaux fossiles. *Mémoires Museum National d'Histoire Naturelle* 8:1–91.
- Burne, R. V., J. Bauld, & Patrick De Decker. 1980. Saline lake charophytes and their geological significance. *Journal of Sedimentary Petrology* 50:281–293.
- Bykova, E. V., & E. N. Polenova. 1955. Foraminifery radilyarii i ostracody Devona Volgo-Ural'skoi oblasti [Foraminifera, Radiolaria and Ostracoda of the Devonian of the Volga-Ural district]. *Trudy Vsesoi ushoro neftognaznovo N. I. Geologorazvednovo Instituta (new series)* 87:5–190.
- Carpenter, William, B. 1869. *Philosophical Transactions of the Royal Society of London*.
- Casanova, Michelle T. 1997. Report on instream flora survey for Department of Natural Resources, Queensland. University of New England. Armidale. 3 p., 1 map.
- Castel, Monique. 1967. Charophytes de l'Oligocène supérieur de Marseille. *Bulletin de la Société Géologique de France (series 7)* 9(4):514–519, 3 pl.
- . 1968. Zones de charophytes pour l'Oligocène d'Europe Occidentale. *Comptes Rendus Sommaires de la Société Géologique de France* 4:121–122.
- . 1969. Sur des charophytes de l'Éocène inférieur de Provence. *Comptes Rendus des Séances de l'Académie des Sciences, Paris (series D)* 268:1,589–1,592.
- Castel, Monique, & Louis Grambast. 1969. Charophytes de l'Éocène des Corbières. *Bulletin de la Société Géologique de France* 11(7):936–943, 3 pl.
- Cavelier, Claude, & Charles Pomerol. 1986. Stratigraphy of the Palaeogene. *Bulletin de la Société géologique de France (8ème série) II(2)*:255–265.
- Chapman, Russel L., Mark A. Buchheim, Charles F. Delwiche, Thomas Friedl, Volker A. R. Huss, Kenneth G. Karol, Louise A. Lewis, James Manhart, Richard M. McCourt, Jeanine L. Olsen, & Debra A. Waters. 1998. Molecular systematics of the green algae. In D. E. Soltis, P. S. Soltis, & J. J. Doyle, eds., *Molecular Systematics of Plants II*. Kluwer Academic Publishers. Boston. p. 508–540.
- Chapman, Russel L., & Debra A. Waters. 2002. Green algae and land plants—An answer at last? *Journal of Phycology* 38:237–240.
- Charrière, André, Françoise Depêche, Monique Feist, Nicole Grambast-Fessard, Michel Jaffrezo, Bernard Peybernes, & Miguel Ramalho. 1994. Microfaunes, microfiores et paléoenvironnements successifs dans la formation d'El Mers (Bathonien ? Callovien) du synclinal de Skoura (Moyen Atlas, Maroc). *Geobios* 27:157–174.
- Chen Zhong-Liang, & Yang Hua-ming. 1992. The discovery of *Sycidium* fossils in the Yezhutang formation in Xichang. *Regional Geology of China* 2:229–232.
- Choi Sun Ja. 1989. Les charophytes du bassin potassique catalan (Nord Est de l'Espagne) à la limite Eocène-Oligocène. *Paléobiologie continentale* 16:1–67, 16 pl.
- Choquette, George B. 1956. A new Devonian charophyte. *Journal of Paleontology* 30:1,371–1,374.
- Choubert, B. 1932. Sur la présence d'algues dévoniennes dans le niveau du "Calcaire rose" du système du Kundelungu du Katanga. *Académie Royale de Belgique, Bulletin de la Classe des Sciences (série 5)* 17:1,421–1,431.
- Cimino, Matthew T., & Charles F. Delwiche. 2002. Molecular and morphological data identify a cryptic species complex in endophytic members of the genus *Coleochaete* Bréb. (Chlorophyta: Coleochaetaceae). *Journal of Phycology* 38:1,213–1,221.
- Cimino, Matthew T., Kenneth G. Karol, & Charles F. Delwiche. 2000. An artifact in the small subunit rDNA sequence of *Chaetosphaeridium globosum* (Charophyceae, Streptophyta). *Journal of Phycology* 36:440–442.
- Conkin, James E., & Barbara M. Conkin. 1977. North American primitive Paleozoic charophytes and descendants. *Geobotany* 1977:173–193.
- . 1992. Late Silurian (Ludlovian) charophyte *Moellerina laufeldi* n. sp., from the Karma beds of the Isle of Gotland, Sweden. University of Louisville Notes in Paleontology and Stratigraphy J:1–21, 6 pl.
- Conkin, James E., & Barbara M. Conkin, G. S. Gregory, & A. T. Hotchkiss. 1974. Revision of the charophyte genus *Moellerina* Ulrich 1886 and suppression of the genus *Karpinskya* (Croft 1952) Grambast 1962. University of Louisville Studies in Paleontology and Stratigraphy 3:1–15, 2 pl.
- Cope, John C. W., Keith L. Duff, Colin F. Parsons, Hugh S. Torrens, William A. Wimbledon, & John K. Wright. 1980. A correlation of Jurassic rocks in the British Isles. Part Two: Middle and Upper Jurassic. Geological Society of London, Special Report 15:1–109.
- Corillion, Robert. 1957. Les Charophycées de France et d'Europe occidentale. *Bulletin de la Société Scientifique de Bretagne* 32(fascicule hors série):499 p., 35 pl., 64 maps.

- . 1975. Flore et Végétation du Massif Armoricaïn, volume IV, Flore des Charophytes (Characées) du Massif armoricaïn et des contrées voisines d'Europe occidentale. Jouve. Paris. 216 p., 16 pl., 18 maps.
- . 1982. Les Characées des îles Kerguelen (Terres australes et antarctiques françaises). Bulletin de la Société des Etudes Scientifique d'Anjou (new series) 11:47–64.
- . 1994. Les Characées de la baie d'Audierne. Penn Ar Bed 152:1–19.
- Corillion, Robert, & Micheline Guerlesquin. 1973. Remarques sur les Characées d'Afrique intertropicale. International Association of Theoretical and Applied Limnology, Proceedings 18(3):1,380–1,384.
- Croft, William N. 1952. A new *Trochiliscus* (Charophyta) from the Downtonian of Podolia. Bulletin of the British Museum (Natural History), Geology 1(7):189–220, 2 pl.
- Dalechamps, Jacques. 1587. Historia Generalis Plantarum, vol. 1. G. Rouillium. Lyon. p. 1,070.
- Dawson, John W. 1883. Palaeontological notes. *Saccammina?* (Calcisphaera) Eriana. Canadian Naturalist and Quarterly Journal of Sciences (new series) 10:5–8.
- Deecke, W. 1883. Über einige neue Siphoneen. Neues Jahrbuch für Geologie und Palaeontologie 48:1–14.
- Delwiche, Charles F., Kenneth G. Karol, Matthew T. Cimino, & Kenneth J. Sytsma. 2002. Phylogeny of the genus *Coleochaete* (Coleochaetales, Charophyta) and related taxa inferred by analysis of the chloroplast gene *rbcL*. Journal of Phycology 38:394–403.
- Demin, V. M. 1967. Kharovye vodorosli iz pestrotsvetnykh otlozhenii Donskoï Luki [Taxonomic Characters of Fossil Charophytes. Fossil Algae from USSR]. Izdat Nauk SSSR. Moscow. p. 23–29.
- Detraz, M., & Pierre-Olivier Mojon. 1989. Evolution paléogéographique de la marge jurassienne de la Téthys du Tithonique-Portlandien au Valanginien: Corrélations biostratigraphique et séquentielle des faciès marins à continentaux. Eclogae Geologicae Helveticae 82(1):37–112.
- Dollfus, Gustave F., & Paul H. Fritel. 1919. Catalogue raisonné des characées fossiles du bassin de Paris. Bulletin de la Société géologique de France (4ème série) 19:243–261.
- Donze, Pierre. 1955. Nouvelles espèces de charophytes dans les niveaux de la limite jurassico-crétacée du Jura, des Alpes-Maritimes et de la Provence. Bulletin de la Société Géologique de France (6ème série) 5:287–290, pl. xiii.
- Ducreux, Georges. 1975. Corrélations et morphogenèse chez le *Chara vulgaris* L. cultivé in vitro. Revue générale de Botanique 82:215–357.
- Dumortier, Barthelemy C. 1822. Commentationes botanicae. Observations dédiées à la Société d'Horticulture de Tournay. Ch. Casterman-Dieu. Tournay. 117 p.
- Dyck, Lawrence A. 1970. Morphological, chemical and developmental studies of *Chara* oosporangial walls. Ph.D. dissertation. Washington University. Missouri. 207 p.
- Edwards, David S., & A. Geoffrey Lyon. 1983. Algae from the Rhynie Chert. Botanical Journal of the Linnean Society 86:37–55.
- Ehrenberg. 1858. Über fortschreitende Erkenntnis massenhafter mikroskopischer Lebensformen in den untersten silurischen Thonschichten bei Petersburg. Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 5:295–311 (Band 1859).
- Ettingshausen, Constantin Frieher von. 1872. Die fossile Flora von Sagor in Krain. 1 Theil. Denkschriften der Kaiserlichen Akademie der Wissenschaften. Kaiserlich-Koeniglichen Hof- und Staatsdruckerei, Wien. Mathematisch-naturwissenschaftliche classe, Band 32, Abtheilung 1:159–199, 10 pl.
- Feist, Monique. 1979. Charophytes at the Cretaceous/Tertiary boundary. New data and present state of knowledge. In W. Kegel Christensen & T. Birkelund, eds., Cretaceous Tertiary Boundary events Symposium, University of Copenhagen, II Proceedings. Copenhagen. p. 88–94.
- . 1981. Charophytes du Crétacé moyen et données nouvelles sur l'évolution des Clavatoracées. Cretaceous Research 2:319–330.
- Feist, Monique, Shashi B. Bhatia, & P. Yadagiri. 1991. On the oldest representative of the family Characeae and its relationships with the Porocharaceae. Bulletin de la Société Botanique de France, Actualités Botaniques 138:25–32.
- Feist, Monique, & Elisabeth Brouwers. 1990. A new *Tolypella* from the Ocean Point dinosaur locality, Northslope, Alaska, and the Late Cretaceous to Paleocene nitelloid charophytes. U.S. Geological Survey Bulletin 1990-F:1–7, 1 pl.
- Feist, Monique, & Fernando Colombo. 1983. La limite Crétacé-Tertiaire dans le nord-est de l'Espagne, du point de vue des charophytes. Géologie Méditerranéenne 10(3–4):303–326.
- Feist, Monique, & René Cubaynes. 1984. Découverte de charophytes dans le Lias du Sud de la France. Implications paléo-écologiques et phylogénétiques. Comptes Rendus de l'Académie des Sciences de Paris 299:593–596.
- Feist, Monique, & Raimund Feist. 1997. Oldest record of a bisexual plant. Nature 385:401.
- Feist, Monique, & Pierre Freyret. 1983. Conséquences stratigraphiques de la répartition des charophytes dans le Campanien et le Maastrichtien du Languedoc. Géologie Méditerranéenne 10(3–4):291–301.
- Feist, Monique, Patrick Génot, & Nicole Grambast-Fessard. 2003. Ancient Dasycladales and Charophyta: Convergences and differences, with special attention to *Munieria baconica* Deecke. Phycologia 42:123–132.
- Feist, Monique, & Nicole Grambast-Fessard. 1982. Clé de détermination pour les genres de charophytes. Paléobiologie continentale 13(2):1–28.
- . 1984. New Porocharaceae from the Bathonian of Europe: Phylogeny and palaeoecology. Palaeontology 27(2):295–305.

- . 1985. Questions sur la nature et l'habitat des charophytes paléozoïques. Actes 110ème Congrès National des Sociétés Savantes (Section Science) 5:65–75.
- . 1991. The genus concept in Charophyta: Evidence from Palaeozoic to recent. In R. Riding, ed., *Calcareous Algae and Stromatolites*. Springer-Verlag, Berlin, New York. p. 189–203.
- Feist, Monique, Robert D. Lake, & Christopher J. Wood. 1995. Charophyte biostratigraphy of the Purbeck and Wealden of southern England. *Palaeontology* 38:407–442.
- Feist Monique, & Michel Ringeade. 1977. Etude biostratigraphique et paléobotanique (charophytes) des formations continentales d'Aquitaine, de l'Eocène supérieur au Miocène inférieur. *Bulletin de la Société Géologique de France (series 7)* 19(2):341–354, pl. x–xiii.
- Feist, Monique, & Zhen Wang. 1995. The species concept in Clavatoraceae (fossil Charophyta) reviewed. *Taxon* 44:351–361.
- Feist-Castel, Monique. 1971. Sur les charophytes fossiles du bassin tertiaire d'Als. *Géobios* 4:157–172, 3 pl.
- . 1972. Charophytes éocènes de la région montpelliéraine. *Paléobiologie continentale* 3(1):1–22, 6 pl.
- . 1973. Observations nouvelles sur la paroi des fructifications chez les charophytes. *Geobios* 6(4):239–242, 3 pl.
- . 1975. Répartition des charophytes dans le Paléocène et l'Eocène du bassin d'Aix-en-Provence. *Bulletin de la Société Géologique de France (series 7)* 17(1):88–97.
- . 1977a. Evolution of the charophyte floras in the upper Eocene and lower Oligocene of the Isle of Wight. *Palaeontology* 20(1):143–157.
- . 1977b. Description du nouveau genre *Krassavinella* (charophytes, Characeae) et répartition de *K. lagenalis* (Straub) dans l'Oligocène Supérieur de la Molasse suisse. *Eclogae Geologicae Helvetiae* 70(3):771–775, 1 pl.
- . 1977c. Etude floristique et biostratigraphique des charophytes dans les séries du Paléogène de Provence. *Géologie Méditerranéenne* 4(2):109–138.
- Flajs, Gerd. 1977. Die Ultrastrukturen des Kalkalgensteletts. *Palaeontographica (Abt. B)* 160(4–6):69–128.
- Gadek, Paul, Peter G. Wilson, & Christopher J. Quinn. 1996. Phylogenetic reconstruction in Myrtaceae using *matK*, with particular reference to the position of *Psiloxylon* and *Heteropyxis*. *Australian Systematic Botany* 9:283–290.
- Gaillon, Benjamin. 1833. Aperçu d'histoire naturelle et observations sur les limites qui séparent le règne végétal du règne animal. Imprimerie Le Roy-Mabille. Boulogne. 35 p., 1 pl.
- Galbrun, Bruno, Monique Feist, Fernando Colombo, Robert Rocchia, & Yvette Tambareau. 1993. Magnetostratigraphy and biostratigraphy of Cretaceous-Tertiary continental deposits, Ager Basin, Province of Lerida, Spain. *Palaeogeography, Palaeoclimatology, Palaeoecology* 102:41–52.
- Garbary, David J., Karen Renzaglia, & Jeffrey G. Duckett. 1993. The phylogeny of land plants: A cladistic analysis based on male gametogenesis. *Plant Systematics and Evolution* 188:237–269.
- Gao Qin-qin, Du Pin-de, Huang Zhi-bin, Wu Xin-ying, Li Meng, & Tan Ze-jin. 2002. Early Carboniferous charophytes from northern and central Tarim Basin. *Acta Micropalaeontologica Sinica* 19(3):288–300. In Chinese, English abstract.
- Gebhardt, Ute, & Jörg Schneider. 1985. *Stomochara* aus den Mansfelder Schichten (Stefan) der Saale-Senke und der erste sichere Nachweis von Characeen Thalli in Paläozoikum. *Freiberger Forschungshefte (series C)* 400:37–43.
- Gensel, Patricia G., & Dianne Edwards. 2001. *Plants Invade the Land: Evolutionary & Environmental Perspectives*. Columbia University Press. New York. 304 p.
- Gess, R. W., & N. Hiller. 1995. Late Devonian charophytes from the Witteberg group, South Africa. *Review of Palaeobotany and Palynology* 89:417–428.
- Gmelin, Carl C. 1826. *Flora Badensis Alsatica et confinium regionum cis et transrhena plantae a lacu Bodamico usque ad confluentem Mosellae et Rheni sponte nascentes exhibens secundum systema sexuale cum iconibus ad naturam delineatis, vol. IV*. Müller. Carlsruhe. 708 p.
- . *Chara*, p. 643–647.
- Gradstein, F. M., F. P. Agterberg, J. O. Ogg, J. Hardenbol, P. Van Veen, J. Thierry, & Huang Z. 1994. A Mesozoic time scale. *Journal of Geophysical Research* 99(B12):24,051–24,074.
- Graham, Linda E. 1993. *Origin of Land Plants*. John Wiley & Sons. New York. 287 p.
- Grambast, Louis. 1956a. La plaque basale des Characées. *Comptes Rendus des Séances de l'Académie des Sciences, Paris (series D)* 242:2,585–2,587.
- . 1956b. Le genre *Gyrogona* Lmk. (Characeae). *Comptes Rendus Sommaires des Séances de la Société géologique de France* 14:278–280.
- . 1956c. Sur la déhiscence de l'oospore chez *Chara vulgaris* L. et la systématique de certaines *Characeae* fossiles. *Revue générale de Botanique* 63:331–336.
- . 1957. Ornementation de la gyrogonite et systématique chez les charophytes fossiles. *Revue générale de Botanique* 64:339–362, 4 pl.
- . 1958. Etude sur les charophytes tertiaires d'Europe Occidentale et leurs rapports avec les formes actuelles. Unpublished Master's thesis. University of Paris. Paris. 286 p.
- . 1959a. Tendances évolutives dans le phylum des charophytes. *Comptes Rendus des Séances de l'Académie des Sciences, Paris (series D)* 249:557–559.
- . 1959b. Extension chronologique des genres chez les *Charoideae*. Société des éditions Technip. Paris. p. 1–12.
- . 1961. Remarques sur la systématique et la répartition stratigraphique des Characeae pré-tertiaires. *Comptes Rendus Sommaires des Séances de la Société géologique de France* 7:200–201.

- . 1962a. Sur l'intérêt stratigraphique des charophytes fossiles: Exemples d'application au Tertiaire parisien. *Comptes Rendus Sommaires de la Société Géologique de France* 7:207–209.
- . 1962b. Classification de l'embranchement des charophytes. *Naturalia Monspeliensia* (série Botanique) 14:63–86.
- . 1963. Charophytes du Trias. Etat des connaissances acquises, intérêt phylogénétique et stratigraphique. *Mémoires du Bureau de Recherches Géologiques et Minières* 15:567–569.
- . 1966a. Un nouveau type structural chez les Clavatoracées; son intérêt phylogénétique et stratigraphique. *Comptes Rendus des Séances de l'Académie des Sciences, Paris* (series D) 262:1,929–1,932.
- . 1966b. Structure de l'utricule et phylogénie chez les Clavatoracées. *Comptes Rendus des Séances de l'Académie des Sciences, Paris* (series D) 262:2,207–2,210, 3 pl.
- . 1966c. Remarques sur le genre *Nodosoclavator* Maslov emend. (charophytes). *Comptes Rendus Sommaires de la Société Géologique de France* 1966(7):269–270.
- . 1967. La série évolutive *Perimneste-Atopochara* (charophytes). *Comptes Rendus des Séances de l'Académie des Sciences, Paris* (series D) 264:581–584, 4 pl.
- . 1968. Evolution of the utricule in the charophyte genera *Perimneste* Harris and *Atopochara* Peck. *Journal of the Linnean Society of London* (Botany) 61(384):5–11, 3 pl.
- . 1969. La symétrie de l'utricule chez les Clavatoracées et sa signification phylogénétique. *Comptes Rendus des Séances de l'Académie des Sciences, Paris* (series D) 269:878–881, 4 pl.
- . 1970. Origine et évolution des *Clypeator* (charophytes). *Comptes Rendus de l'Académie des Sciences, Paris* (series D) 271:1,964–1,967, 4 pl.
- . 1971. Remarques phylogénétiques et biochronologiques sur les *Septorella* du Crétacé terminal de Provence et les charophytes associées. *Paléobiologie continentale* 2(2):1–38, 29 pl.
- . 1972a. Etude sur les charophytes tertiaires d'Europe Occidentale. I. Genre *Tectochara*. *Paléobiologie continentale* 3(2):1–30, 8 pl.
- . 1972b. Principes de l'utilisation stratigraphique des charophytes. Application au Paléogène d'Europe Occidentale. Colloque d'Orsay 1970. *Mémoires du Bureau des Recherches Géologiques et Minières* 77(1):319–328.
- . 1974. Phylogeny of the Charophyta. *Taxon* 23:463–481.
- . 1975. Charophytes du Crétacé supérieur de la région de Cuenca. In *Caja Provincial de Ahorros de Cuenca*, ed., *Reunión de campo sobre el Cretácico de la Serranía de Cuenca*. Symposium sobre el Cretácico de la Cordillera Ibérica 1974, Cuenca. Cuenca. Imprenta Magerit, Coslada. Madrid. p. 67–83, 6 pl.
- . 1977a. Étude sur les charophytes tertiaires d'Europe Occidentale. II. Espèces nouvelles de l'Éocène inférieur. *Paléobiologie continentale* 8(1):1–27, 7 pl.
- . 1977b. Rôle possible de la multiplication végétative dans l'histoire de certains groupes: L'exemple des charophytes au Crétacé terminal. *Bulletin de la Société botanique de France* 124:149–152.
- Grambast, Louis, & Nicole Grambast. 1954. Sur la position systématique de quelques charophytes tertiaires. *Revue Générale de Botanique* 61:665–671.
- . 1955. Les Raskyelloideae, sous-famille fossile des Characeae. *Comptes Rendus de l'Académie des Sciences* 240:999–1,001.
- Grambast, Louis, & Nicole Grambast-Fessard. 1981. Etude sur les charophytes tertiaires d'Europe Occidentale. III. Le genre *Gyrogonia*. *Paléobiologie continentale* 12(2):1–35, 6 pl.
- Grambast, Louis, & Guillermo Gutierrez. 1977. Espèces nouvelles de charophytes du Crétacé supérieur terminal de la province de Cuenca (Espagne). *Paléobiologie continentale* 8(2):1–34, 15 pl.
- Grambast, Louis, & Jacob Lorch. 1968. Une flore de charophytes du Crétacé inférieur du Proche-Orient. *Naturalia monspeliensia* (série Botanique) 19:47–56, 6 pl.
- Grambast, Louis, & Ingeborg Soulié-Märsche. 1972. Sur l'ancienneté et la diversification des *Nitellopsis* (charophytes). *Paléobiologie continentale* 3(3):1–14.
- Grambast-Fessard, Nicole. 1980. Les charophytes du Montien de Mons (Belgique). *Review of Palaeobotany and Palynology* 30:67–88.
- . 1986. Deux nouveaux représentants du genre *Ascidiella* (Clavatoraceae, Charophyta). *Geobios* 19(2):255–260.
- Grambast-Fessard, Nicole, Monique Feist, & Zhen Wang. 1989. Concerning rejected proposal 781 to conserve *Trochiliscus* (fossil Charophyta). *Taxon* 38(4):641–643, fig. 1–4.
- Grambast-Fessard, Nicole, & Miguel Ramalho. 1985. Charophytes du Jurassique supérieur du Portugal. *Revue de Micropaléontologie* 28(1):58–66, 2 pl.
- Gray, Samuel F. 1821. A natural arrangement of British plants according to their relations to each other. London. vol. 1, 824 p., vol. 2, 760 p.
- Groves, James. 1916. On the name *Lamprothamnium* Braun. *Journal of Botany* 54:336–337.
- . 1924. *Clavator* Reid et Groves. *Journal of Botany* 62:116–117.
- . 1926. Charophyta. In E. M. Reid & M. E. J. Chandler, eds., *The Bembridge Flora. I. Catalogue of Cainozoic Plants*. British Museum, Natural History. London. p. 165–173.
- . 1933. Charophyta. In W. Jongmans, ed., *Fossilium Catalogus II, Plantae*, pars 19. Junk. Berlin. p. 1–74.
- Groves, James, & G. R. Bullock-Webster. 1920. *The British Charophyta*, vol. 1. The Ray Society. London. 141 p., 20 pl.
- . 1924. *The British Charophyta*, vol. 2. The Ray Society. London. 129 p., 45 pl.
- Guerlesquin, Micheline. 1984. Nombres chromosomiques et ploïdie chez les charophytes. *Cryptogamie Algologie* 5:115–126.
- . 1986. *Lamprothamnium papulosum* (Wallr.) J. Gr., Characée, espèce halophile en régression. *Cryptogamie Algologie* 7(3):182–183.

- Hacquaert, Armand L. 1932. Notes sur les genres *Sycidium* et *Trochiliscus*. Bulletin Musée Royal Histoire Naturelle, Belgique 8(30):1–22.
- Hao Yichun, Ruan Peihua, Zhou Xiugao, Song Qishan, Yang Guodong, Cheng Shuwei, & Wei Zhenxin. 1983. [Middle Jurassic–Tertiary deposits and Ostracod-Charophyta fossil assemblages of Xining and Minhe basins]. Earth Science, Journal of the Wuhan College of Geology 23:1–219, 44 pl. In Chinese with English abstract, p. 177.
- Hardenbol, Jan, Jacques Thierry, Martin B. Farley, Thierry Jacquin, Pierre-Charles de Graciansky, & Peter R. Vail. 1998. Mesozoic and Cenozoic chronostratigraphic framework of European Basins. Special Publication, Society for Sedimentary Geology 60:3–13.
- Harris, Thomas M. 1939. British Purbeck Charophyta. British Museum (Natural History). London. 83 p., 17 pl.
- Heckel, Philip. 1972. Recognition of ancient shallow marine environments. In J. Keith Rigby & William K. Hamblin, eds., Recognition of Ancient Sedimentary Environments. SEPM Special Publication 16:226–286.
- Heer, Oswald. 1855. Flora Tertiaria Helvetiae I. Winterthur. Wurster. p. 1–117, 50 pl.
- Hennings, P. 1897. Beitrage zur Pilzflora Südamerikas, II. Hedwigia 36:190–246.
- Hillis, David M., Craig Moritz, & Barbara K. Mable. 1996. Molecular Systematics. Sinauer Associates, Inc. Sunderland, Massachusetts. 600 p.
- Horn af Rantzien, Henning. 1954. Middle Triassic Charophyta of south Sweden. Opera Botanica 1(2):1–83, 7 pl.
- . 1956a. An annotated check-list of genera of fossil Charophyta. Micropaleontology 2(3):243–256.
- . 1956b. Morphological terminology relating to female charophyte gametangia and fructifications. Botaniska Notiser 109(2):212–259.
- . 1957. Nitellaceous charophyte gyrogonites in the Rajmahal Série (Upper Gondwana) of India, with notes on the flora and stratigraphy. Stockholm Contributions in Geology I(1):1–29, 3 pl.
- . 1959a. Recent charophyte fructifications and their relation to fossil charophyte gyrogonites. Arkiv for Botanik 4(2):165–332, 19 pl.
- . 1959b. Morphological types and organ-genera of Tertiary charophyte fructifications. Stockholm Contributions in Geology IV(2):45–197, 21 pl.
- Horn af Rantzien, Henning, & L. Grambast. 1962. Some questions concerning recent and fossil charophyte morphology and nomenclature. Stockholm Contributions in Geology IX(3):135–144.
- Horn af Rantzien, Henning, & Sigurd Olsen. 1949. A suggested starting-point for the nomenclature of Charophyta. Svensk Botanisk Tidskrift 43:98–106.
- Hoshaw, Robert W., & James R. Rosowski. 1973. Isolation and purification methods for microscopic algae. In J. R. Stein, ed., Handbook of Phycological Methods, vol. 1. Cambridge University Press. Cambridge. p. 53–68.
- Hu Jimin, & Zeng Denim. 1982. The palaeontological atlas of Hunan. Charophyta. Geological Memoirs 2(1):543–595, 952–967, pl. 359–394.
- Hutchinson, G. Evelyn. 1975. A Treatise on Limnology, vol. 3, Limnological Botany. John Wiley & Sons. New York. 660 p.
- Hy, Félix C. 1889. Sur les modes de ramification et de cortication dans la famille des Characées et les caractères qu'ils peuvent fournir à la classification. Bulletin de la Société botanique de France 36:393–398.
- . 1913. Les Characées de France. Bulletin de la Société botanique de France 60(26):1–47.
- Imahori, Kozo. 1954. Ecology, phytogeography and taxonomy of the Japanese Charophyta. Kanazawa University. Kanazawa, Japan. 234 p., 66 fig., 41 pl.
- Ishchenko, T. A., & A. A. Ishchenko. 1982. Novaia nakhodka kharophitov v verkhniem silure Podolii [New finds of Charophyta in the upper Silurian of Podolia]. In J. V. Teslenko, ed., Sistematika i èvolutsia drevnik rastenii Ukraini. Naukova Dumka. Kiev. p. 21–32, pl. 5–6. In Ukrainian.
- Ishchenko, T. A., & L. Ya. Saidakovsky. 1975. Nakhodka kharofitov v Silure Podolii [Charophyte finds in the Silurian deposits of Podolia]. Doklady Akadademii Nauk SSSR 220(1):1–80, pl. 1–XV. In Ukrainian.
- Iyengar, M. O. P. 1958. *Nitella terrestris* sp. nov., a terrestrial charophyte from south India. Bulletin of the Botanical Society of Bengal 12:85–90.
- Jeppsson, Lennart. 1998. Silurian oceanic events: Summary of general characteristics. In E. Landing & M. E. Johnson, eds., Silurian Cycles. New York State Museum Bulletin 491:239–257.
- Jiang Yuan, Zhang Zerun, & Meng Xiangsong. 1985. [Early Cretaceous charophyte flora from southern Henan and its stratigraphical significance]. Acta Micropaleontologica Sinica 2(2):161–168. In Chinese with abstract and table of contents in English.
- John, David M., & Jenny A. Moore. 1987. An SEM study of the oospore of some *Nitella* species (Charales, Chlorophyta) with descriptions of wall ornamentation and an assessment of its taxonomic importance. Phycologia 26:334–355.
- John, David M., Jenny A. Moore, & Dawn R. Green. 1990. Preliminary observations on the structure and ornamentation of the oosporangial wall in *Chara* (Charales, Charophyta). British Phycological Journal 25:1–24.
- Johnson, Leigh A., & Douglas E. Soltis. 1994. *MatK* DNA sequences and phylogenetic reconstruction in *Saxifragaceae* s. str. Systematic Botany 19:143–156.
- . 1995. Phylogenetic inference in *Saxifragaceae sensu stricto* and *Gilia* (Polemoniaceae) using *matK* sequences. Annals of the Missouri Botanical Garden 82:149–175.
- Jones, Timothy P., Steven M. Fortier, Allan Pentecost, & Margaret E. Collinson. 1996. Stable carbon and oxygen compositions of recent charophyte oosporangia and water from Malham Tarn, U.K. Biogeochemistry 34:99–112.

- Jost, Ludwig. 1895. Beiträge zur Kenntniss der Coleochaeten. *Berichte der Deutschen Botanischen Gesellschaft* 8:433–452.
- Judd, Walter S., Christopher S. Campbell, Elisabeth A. Kellogg, Peter F. Stevens, & Michael J. Donoghue. 2002. *Plant Systematics: A Phylogenetic Approach*, 2nd ed. Sinauer. Sunderland, Massachusetts. 576 p.
- Karczewska, Jawiga, & N. P. Kyansep-Romaschkina. 1979. Revision of the late Cretaceous genus *Mongolichara* Kyansep-Romaschkina. *Acta Palaeontologica Polonica* 24(4):423–427, 2 pl.
- Karczewska, Jadwiga, & Maria Ziemińska-Tworzydło. 1970. Upper Cretaceous Charophyta from the Nemegt basin, Gobi Desert. *Palaeontologica Polonica* 21(1970):121–144, 5 pl.
- . 1972. Lower Tertiary Charophyta from the Nemegt Basin, Gobi Desert. *Palaeontologica Polonica* 27:51–81, 20 pl.
- . 1981. New Upper Cretaceous Charophyta from the Nemegt basin, Gobi Desert. *Palaeontologica Polonica* 42:97–146, 18 pl.
- Karol, Kenneth G., Richard M. McCourt, Matthew T. Cimino, & Charles F. Delwiche. 2001. The closest living relatives of plants. *Science* 294:2,351–2,353.
- Karpinsky, A. P. 1906. Die Trochiliden. *Mémoires du Comité Géologique (new series)* 27:1–86, 3 pl. In Russian, German translation, p. 87–166.
- Katsuhara, M., & Masashi Tazawa. 1986. Salt tolerance in *Nitellopsis obtusa*. *Protoplasma* 135:155–166.
- Kenrick, Paul, & Peter R. Crane. 1997. *The Origin and Early Diversification of Land Plants*. Smithsonian Institution Press. Washington, D.C. 441 p.
- Kenrick, Paul, & Li Cheng-Sen. 1998. An early, non-calcified, dasycladalean alga from the Lower Devonian of Yunnan Province, China. Review of Palaeobotany and Palynology 100:73–88.
- Khan, Mahmood, & Y. S. R. K. Sarma. 1984. Cytogeography and cytosystematics of Charophyta. In D. E. G. Irvine & D. M. John, eds., *Systematics Association Special Volume Number 27, Systematics of the Green Algae*. Academic Press. London and Orlando. p. 303–330.
- Kidston, Robert, & William H. Lang. 1921. On old red sandstone plants showing structure, from the Rhynie Chert Bed, Aberdeenshire. Part V. The Thallophyta occurring in the peat-bed; the succession of the plants throughout a vertical section of the bed, and the conditions of accumulation and preservation of the deposit. *Transactions of the Royal Society of Edinburgh* 52(part IV, no. 33):855–902, 1 fig., 10 pl.
- Kisielevsky, Franciszek J. 1967. Novye dannye o Triasovyykh Kharophytakh Prikaspiiskoi vpadiny [New data on the Lower Triassic charophytes from the Caspian Depression]. *Voprosy Geologii Yuzhnogo Urala i Povolzh'ya*. Saratovskogo Universiteta Saratov 4:37–44. In Russian.
- . 1980. Novye vidy Verkhnepermiskikh Kharofitov [New species of Charophyta from the upper Permian]. *Voprosy Geologii Yuzhnogo Urala i Povolzh'ya*. Saratovskogo Universiteta Saratov 19:3–11. In Russian.
- . 1993a. Biostratigrafia verkhnepermiskika otlozhenii vostoka Vostochnoevropeskoï Platformy po charofitam [Biostratigraphy of upper Permian deposits from the east of the eastern European platform after charophytes]. *Nedra Povolzhia i Prikaspiia*, p. 16–18. In Russian.
- . 1993b. Kharofity iz Inderskovo gorizonta Prikaspiiskoi Vpadiny [Charophyta from the Inder horizon of the Caspian depression]. *Paleontologicheskii Zhurnal* 1:87–94. In Russian.
- . 1993c. Kharofity iz verkhnepermiskikh otlozhenii vostochnoi chasti Vostochno Evropeiskoi Platformy [Permian Charophyta from the east of the Eastern European Platform]. *Paleontologicheskii Zhurnal* 3:97–109, 2 pl. In Russian.
- . 1996. Kharofity. In N. K. Esaulova, V. R. Lozovsky, & A. Yu. Rozanov, eds., *Stratotypy i opornye razrezy verkhnei Permi Povolzh'ia* [Stratotypes and Reference Sections of the Upper Permian of Regions of the Volga and Kama Rivers]. University of Kazan. Kazan. p. 294–300, pl. 5.6-1 and 5.6-2. In Russian.
- Kiss, John Z., & Andrew Staehelin. 1993. Structural polarity in the *Chara* rhizoid, a reevaluation. *American Journal of Botany* 80(3):273–282.
- Knoll, Andrew H. 1984. Patterns of extinction in the fossil record of vascular plants. In Matthew H. Nitecki, ed., *Extinctions*. University of Chicago Press. Chicago. p. 21–68.
- Knowlton, F. H. 1888. Description of a new fossil species of the genus *Chara*. *Botanical Gazette* 13:156–157.
- Kozur, Heinz. 1973. Beiträge zur Stratigraphie und Paläontologie der Trias. *Geologische und Paläontologische Mitteilungen Innsbruck* 3(1):1–37.
- Kranz, Harold D., & Volker A. R. Huss. 1996. Molecular evolution of pteridophytes and their relationship to seed plants: Evidence from complete 18S rRNA gene sequences. *Plant Systematics and Evolution* 202:1–11.
- Krassavina, L. K. 1966. Charophyta fossilia nova et curiosa e sedimentis quaternariis regionis in fluxu medio fluminis kama jacentis. *Novitatis Systematica Plantarum non vascularium* 3:115–125. In Russian and Latin.
- . 1971. Sravnitel'noie' isuchenie sovremennykh i iskopaemykh kharofitov: Plodonosheniya *Nitellopsis obtusa* i giurogonity vidov *Tectochara* [A comparative study of recent and fossil Charophyta: Of the fructification in *Nitellopsis obtusa* and of the gyrogonites in the species of *Tectochara*]. *Botanicheskii Zhurnal* 56(1):106–117. In Russian.
- . 1978. Interesnye nakhodki iskopaemykh kharofitov vodoroslei iz Vostochnoi Sibiri [Interesting records of the fossil Charophyta from eastern Siberia]. *Botanicheskii Zhurnal* 63:226–233, 2 pl. In Russian.
- Krause, Werner. 1984. Rote Liste der Armleuchteralgen (Charophyta). In J. Blab, E. Nowak, & W.

- Trautmann, eds., Rote Liste der gefährdeten Tiere und Pflanzen in der Bundesrepublik Deutschland. Kilda-Verlag. Greven. p. 184–187.
- Kunth, Carol S. 1815. In Aimé Bonpland & Alexander von Humboldt, eds., *Nova genera et species plantarum, quas in peregrinatione ad plagam aequinoctialem orbis novi collegerunt, descripserunt, partim adumbraverunt A. Bonpland et A. de Humboldt. Ex schedis autographis Amati Bonplandi in ordinem digessit C. S. Kunth, accedunt Alexandri de Humboldt notationes ad geographiam plantarum spectantes. Sumtibus Librariae Graeco-Latino-Germanicae. Lutetiae. Paris. vol. 1, 377 p.* Characeae Richard, p. 38. 7 vol., 1815–1825.
- Kützing, Friedrich, T. 1843. *Phycologia Generalis, oder Anatomie, Physiologie und Systemkunde der Tange*. Brockhaus. Leipzig. XXXII + 459 p., 80 pl. Charae, p. 313–321, pl. 38–39.
- Kyansep-Romaschkina, N. P. 1974. Znachenie kharovykh vodoroslei dlya stratigraphii Mezozoïskikh otlozhenii Fergany i paleolimnologicheskikh rekonstruktsii [Importance of charophytes for the stratigraphy of Mesozoic sediments from Fergana and for the palaeolimnologic reconstitutions]. *Probl issled drtevnikh ozer evrazii L. Nauka. Leningrad. p. 21–37, fig.125–126, pl. I–III.*
- . 1975. Nekotorye pozdneiurkie i melovye kharophity Mongolii [Some charophytes from the Upper Jurassic and Cretaceous of Mongolia]. *Iskopaemaya Fauna Flora i Mongolii. Sovmestnaya sovestsko-Mongolyskaya paleontologicheskaya ekspeditskaya. Trutsy 2:181–204, 6 pl.* In Russian.
- . 1980. Pozdnelovye kharovye vodorosli iz ozernykh otlozhenii Mongolii i Zakavkaz'ia [Charophytes from Upper Cretaceous lacustrine deposits of Mongolia and Transcaucasia]. In G. G. Martinson & N. P. Kyansep-Romaschkina. *Limnobiots drevnykh ozernykh basseinov Evrazii. Nauka. Leningrad. p. 71–90, fig. 123–124, 2 pl.* In Russian.
- de Lamarck, Jean Baptiste P. A. de Monet. 1801. *Système des Animaux Sans Vertèbres*. Published by the author. Paris. 432 p.
- . 1804. Suite des mémoires sur les fossiles des environs de Paris. *Annales du Museum d'Histoire Naturelle 5:349–357.* *Gyrogona*, p. 355–356.
- . 1822. *Histoire Naturelle des Animaux Sans Vertèbres, vol. 1. Verdère*. Paris. 711 p. *Gygonites medicagimula*, p. 614.
- Langangen, Anders. 1974. Ecology and distribution of Norwegian charophytes. *Norwegian Journal of Botany 21:31–52.*
- . 1979. *Chara canescens* reported from Spitsbergen. *Phycologia 18(4):436–437.*
- Langer, Wolfhart. 1976. Neufunde von *Sycidium* G. Sandberger (nova class., Charophyta?) aus dem Devon der Eifel. *Paläontologische Zeitschrift 50(3/4):209–221.*
- . 1991. Über Charophyta und einige Foraminiferen aus dem westdeutschen Mitteldevon. *Neues Jahrbuch für Geologie und Paläontologie, Monatshefte 1991(5):307–318.*
- Leitch, Andrew R. 1989. Formation and ultrastructure of a complex, multilayered wall around the oospore of *Chara* and *Lamprothamnium* (Characeae). *British Phycological Journal 24:229–236.*
- . 1991. Calcification of the charophyte oosporangium. In R. Riding, ed., *Calcareous Algae and Stromatolites*. Springer-Verlag. Berlin. p. 204–216.
- Leitch, Andrew R., David M. John, & Jenny A. Moore. 1990. The oosporangium of the Characeae (Chlorophyta, Charales). *Progress in Phycological Research 7:213–261.*
- Leman, S. 1812. Note sur la gyrogonite. *Nouveau Bulletin des Sciences, Société Philomatique 3(2):208–210, fig. 5, pl. 2.*
- von Leonhardi, Herman Freiherrn. 1863. Über die böhmischen Characeen. *Lotus 13:55–62, 69–80, 110–111, 124–132.*
- Li Xing-Xue, & Cai Chong-Yang. 1978. [A type-section of Lower Devonian strata in southwestern China with brief notes on the succession and correlation of its plant assemblages.] *Acta Geologica Sinica 52:1–12.* In Chinese, with English abstract.
- Liere, K., & G. Link. 1995. RNA-binding activity of the matK protein encoded by the chloroplast *trnK* intron from mustard (*Sinapis alba* L.). *Nucleic Acids Research 23:917–921.*
- Lin Huanan. 1989. Cretaceous–early Tertiary charophytes from the Mid-Hebei Province and its adjacent regions. *Petroleum Industry Press. p. 1–106, pl. 1–40.*
- Lin Xiaodong. 1989. [Cretaceous fossil charophytes in Zhejiang]. Editorial office of Geology of Zhejiang. Hangzhou, Zhejiang. p. 1–11, 6 pl. In Chinese.
- Lindley, John. 1836. *A Natural System of Botany*, 2nd ed. Longman, Rees, Orme, Brown, Green, and Longman. London. 526 p. Charales, p. 414.
- Linnaeus [Linné, von Linnaeus], Carl. 1753. *Species plantarum, exhibentes plantas rite cognitatas, ad genera relatas, cum differentiis specificis, nominibus trivialibus, synonymis selectis, loci natalibus, secundum sexuale digestas, vol. 2. Impensis Laurentii Salvii. Stockholm. vol. 2, p. 561–1,200.* *Chara*, p. 1,156–1,157.
- Liu Junying. 1982. [Jurassic charophytes from Sichuan province]. *Bulletin of the Institute of Geology, Chinese Academy of Geological Sciences 5:97–110, 2 pl.* In Chinese.
- Liu Junying, & Chen Zhongliang. 1992. Discovery of fossil charophytes from the Late Triassic Xujiahe Formation and Early Jurassic Lower Yimen Formation, Sichuan Province, and its significance. *Acta Geologica Sinica 66:73–81, 1 pl.*
- Liu Junying, & Wu Xinying. 1985. [Charophytes from Tugulu group of the Junggar basin]. *Bulletin of the Institute of Geology Chinese Academy of Geological Sciences 11:139–153, 4 pl.* In Chinese with English abstract, p. 151.

- Liu Xiao-feng, & Zhang Rong-fu. 1994. Charophytes in the Lower Carboniferous of Liaoning Province. *Liaoning Geology* 1–2:165–171.
- Loeblich Jr., Alfred R., & Helen Tappan. 1961. Suprageneric classification of the Rhizopodea. *Journal of Paleontology* 35:245–330.
- Loiseleur-Deslongchamps, Jean Louis Auguste. 1810. Notice sur les plantes à ajouter à la Flore de France. (Flora Gallica); avec quelques corrections et observations. Sajou. Paris. 172 p., 6 pl. Characeae, p. 135–139.
- Lu Hui-nan. 1997. On charophyte genera named by Chinese authors. *Acta Micropalaeontologica Sinica* 14(4):391–404. In Chinese, English abstract.
- Lu Hui-Nan, & Luo Q. X. 1984. Upper Permian and Triassic fossil charophytes from Xinjiang, with special reference to the development of upper Paleozoic to lower Mesozoic charophyte floras. *Acta Micropalaeontologica Sinica* 1(2):155–169, 3 pl.
- . 1990. [Fossil charophytes from the Tarim Basin, Xinjiang]. Scientific and Technical documents Publishing House. Beijing. 261 p., 48 pl. In Chinese, English abstract, Latin descriptions.
- Lu Huinan, I. Soulié-Marsche, & Wang Qifei. 1996. [Evolution and classification of Palaeozoic charophytes]. *Acta Micropalaeontologica Sinica* 13(1):1–12. In Chinese, English abstract.
- Lu Huinan, & Yuan Xiaoqi. 1991. [Jurassic and Early Cretaceous charophytes from the Bayan hot basin and its neighborhood]. *Acta Micropalaeobotanica Sinica* 8:373–394. In Chinese, English summary.
- Lu Huinan, & Zhang Shanzen. 1990. [New Palaeozoic charophytes of China]. *Acta Micropalaeontologica Sinica* 7(1):9–17, 1 pl. In Chinese, English summary.
- Lyell, Charles. 1826. On a recent formation of freshwater limestone in Forfarshire and on some recent deposits of freshwater marl. *Transactions of the Geological Society of London* 2(2):73–96. Appendix on the *Chara* and on its seed-vessel, the gyrogonite, p. 90–94, pl. xii–xiii.
- Mädler, Karl. 1952. Charophyten aus dem Nordwestdeutschen Kimmeridge. *Geologisches Jahrbuch* 67:1–46, 2 pl.
- . 1955. Zur taxonomie der tertiären charophyten. *Geologisches Jahrbuch* 70:265–328, 4 pl.
- Mädler, Karl, & Ulrich Staesche. 1979. Fossile charophyten aus dem Känozoikum (Tertiär und Quartär) der Türkei. *Geologisches Jahrbuch* B33:81–157, 9 pl.
- Magniez, Guy, Pierre Rat, & Henri Tintant. 1960. Découverte d'oogones de charophytes dans le Bathonien marin près de Dijon. *Comptes Rendus de l'Académie des Sciences (series D)* 250:1,692–1,694.
- Mamet, Bernard, Alain Roux, Martine Lapointe, & Louise Gauthier. 1992. Algues ordoviciennes et siluriennes de l'Île Anticosti (Québec, Canada). *Revue de Micropaléontologie* 35:211–248.
- Margulis, Lynn, John O. Corliss, Michael Melkonian, & David J. Chapman, eds., Heather I. McKhann, editorial coordinator. 1990. Handbook of Protoctista. The structure, cultivation, habitats and life histories of the eukaryotic microorganisms and their descendants exclusive of animals, plants and fungi. Jones & Bartlett Publishers. Boston. 914 p.
- Martin-Closas, Carles. 1988. Découverte de la plaque basale chez les Clavatoraceae (Charophyta). Implications phylogénétiques. *Comptes Rendus de l'Académie des Sciences de Paris* 306(2):1,131–1,136.
- . 1996. A phylogenetic system of Clavatoraceae (fossil Charophyta). *Review of Palaeobotany and Palynology* 94:259–293.
- Martin-Closas, Carles, R. Bosch, & J. Serra-Kiel. 1999. Biomechanics and evolution of spiralization in charophyte fructifications. In M. H. Kurmann & A. R. Hemsley, eds., *The Evolution of Plant Architecture*. Royal Botanic Gardens, Kew. London. p. 399–421.
- Martin-Closas, Carles, & Nicole Grambast-Fessard. 1986. Les charophytes du Crétacé inférieur de la région de Maestrat (Chaîne ibérique–Catalanides, Espagne). *Paléobiologie continentale* 15:1–66, 10 pl.
- Martin-Closas, Carles, & Michael E. Schudack. 1991. Phylogenetic analysis and systematization of post-Paleozoic charophytes. *Bulletin de la Société botanique de France, Actualités botaniques* 138(1):53–71.
- . 1997. On the concept of species in fossil Charophyta. A reply to Feist & Wang. *Taxon* 46:521–525.
- Martin-Closas, Carles, & Josep Serra-Kiel. 1991. Evolutionary patterns of Clavatoraceae (Charophyta) in the Mesogean basins analysed according to environmental change during Malm and Lower Cretaceous. *Historical Biology* 5:291–307.
- Martin-Closas, C., J. Serra-Kiel, P. Busquets, & E. Ramos-Guerrero. 1999. New correlation between charophyte and larger foraminifera biozones (middle Eocene, southeastern Pyrenees). *Geobios* 32:5–18.
- Martini, Erlend. 1971. Standard Tertiary and Quaternary calcareous nannoplankton zonation. *Proceedings of the 2nd International Congress on Planktonic Microfossils, Rome, 1970. Tecnoscienza* 2:739–785.
- Maslov, Vladimir Petrovich. 1961. Ne iavliautsia li Sitsidii i Khovanelly utrikulami kharophytov? [Are *Sycidium* and *Chovanelia* not the utricles of charophytes?]. *Doklady Akademii Nauk SSSR* 138(3):677–680. In Russian.
- . 1963a. Vvedenie v izuchenie iskopaemykh kharovykh vodoroslei [Introduction to the study of fossil charophytes]. *Trudy Geologicheskogo Instituta, Akademiya Nauk SSSR* 82:1–104. In Russian.
- . 1963b. Prorastanie oospory i iskopaemykh kharophytov i novyi organ-pod [Germination of the oospore in fossil charophytes and a new organ-genus]. *Doklady Akademii Nauk SSSR* 152(2):443–445, fig. 1–2. In Russian.
- . 1966. Nekotorye Kainozoïskie kharophyty luga SSSR i metodika ikh izucheniia [Certain Ceno-

- zoic charophytes in the south of the USSR and the methods of their studies]. In V. P. Maslov & V. A. Vakhrameev, eds., *Iskopaemye kharophyty SSSR* [Fossil charophytes of the USSR]. Trudy Geologicheskogo Instituta SSSR 143:10–92. In Russian.
- Massieux, Michèle, & Yvette Tambareau. 1978. Charophytes thanétiennes et infra-ilerdiennes des Pyrénées Centrales. *Revue de Micropaléontologie* 21(3):140–148.
- Mattox, Karl R., & Kenneth D. Stewart. 1984. Classification of the green algae: A concept based on comparative cytology. In D. E. G. Irvine & D. M. John, eds., *Systematics of the Green Algae*, The Systematics Association Special Volume Number 27. Academic Press. London and Orlando, Florida. p. 29–72.
- Maynard Smith, J. 1978. *The Evolution of Sex*. Cambridge University Press. Cambridge. 222 p. Reprinted in 1990.
- McCourt, Richard M. 1995. Green algal phylogeny. *Trends in Ecology and Evolution* 10:159–163.
- McCourt, Richard M., Kenneth G. Karol, Michelle T. Casanova, & Monique Feist. 1999. Monophyly of genera and species of Characeae based on *rbc L* sequences, with special reference to Australian and European *Lychnothamnus barbatus* (Characeae: Charophyceae). *Australian Journal of Botany* 47:361–369.
- McCourt, Richard M., Kenneth G. Karol, Micheline Guerlesquin, & Monique Feist. 1996. Phylogeny of extant genera in the family Characeae (Charales, Charophyceae) based on *rbc L* sequences and morphology. *American Journal of Botany* 83:125–131.
- McCourt, Richard M., Susan Meiers, Kenneth G. Karol, & Russell L. Chapman. 1996. Molecular systematics of the Charales. In D. B. Chaudhary & S. B. Agrawal, eds., *Cytology, Genetics and Molecular Biology of Algae*. SPB Publishing. Amsterdam. p. 323–336.
- Mebrouk, Fateh, Mahamed Mahboubi, Mustapha Bessedik, & Monique Feist. 1997. L'apport des charophytes à la stratigraphie des formations continentales paléogènes de l'Algérie. *Geobios* 30:171–177.
- Médus, Jacques, Monique Feist, Robert Rocchia, David J. Batten, Daniel Boclet, Fernando Colombo, Yvette Tambareau, & Juliette Villatte. 1988. Prospects for recognition of the palynological Cretaceous/Tertiary boundary and an iridium anomaly in nonmarine facies of the eastern Spanish Pyrenees: A preliminary report. *Newsletters on Stratigraphy* 18:123–138.
- Meiers, Susan, T. Vernon W. Proctor, & Russell L. Chapman. 1999. Phylogeny and biogeography of *Chara* (Charophyta) inferred from 18S rDNA sequences. *Australian Journal of Botany* 47:347–360.
- Meiers, Susan T., W. L. Rootes, Vernon W. Proctor, & Russell L. Chapman. 1997. Phylogeny of the Characeae (Charophyta) inferred from organismal and molecular characters. *Archiv für Protistenkunde* 148:308–317.
- Mein, P. 1989. Updating of MN zones. In E. Lindsay, V. Fahlbusch, & P. Mein, eds., *European Neogene mammal chronology*. NATO ASI Series A, Life Sciences 180:73–90.
- Meyen, F. 1827. Beobachtung und Bemerkungen über die Gattung *Chara*. *Linnaea* 2(1):55–81, pl. 2–3.
- Michaux-Ferrière, Nicole, & Ingeborg Soulié-Marsche. 1987. The quantities of DNA in the vegetative nuclei of *Chara vulgaris* and *Tolypella glomerata* (Charophyta). *Phycologia* 26(4):435–442, 3 fig., 4 tables.
- Migula, Walter. 1897. Die Characeen. In G. L. Rabenhorst, ed., 1890–1897, *Kryptogamen-flora von Deutschland, Oesterreichs und der Schweiz*, Bd. 5. Edward Kummer. Leipzig. 765 p., 149 fig.
- Mishler, Brent D., & Steven P. Churchill. 1985. Transition to a land flora: Phylogenetic relationships of the green algae and bryophytes. *Cladistics* 1:305–328.
- Mohr, G., P. S. Perlman, & A. M. Lambowitz. 1993. Evolutionary relationships among group II intron-encoded proteins and identification of a conserved domain that may be related to maturase function. *Nucleic Acids Research* 21:4,991–4,997.
- Mojon, Pierre-Olivier. 1989. Charophytes et Ostracodes laguno-lacustres du Jurassique de la Bourgogne (Bathonien) et du Jura septentrional franco-suisse (Oxfordien). *Remarques sur les discontinuités émersives du Kimmeridgien du Jura*. *Revue de Paléobiologie (volume spécial)* 3:1–18.
- Mojon, Pierre-Olivier, & André Strasser. 1987. Microfaciès, sédimentologie et micro-paléontologie du Purbeckien de Bienne (Jura Suisse occidentale). *Eclogae Geologicae Helvetiae* 80(1):37–58.
- Moore, Jenny A. 1986. Charophytes of Great Britain and Ireland. Handbook number 5. Botanical Society of the British Isles. London. 140 p.
- . 1991. *Lamprothamnium papulosum*, a pioneer in the conservation of Characeae and their habitats. *Bulletin de la Société botanique de France, Actualités botaniques* 138(1):73–74.
- Müller, Otto Friedrich. 1778. *Flora danica*, vol. V, no. 13. Published by the author. Copenhagen. pl. 721–780.
- Conferva nidifica*, pl. 761.
- Musacchio, Eduardo A. 1971. Charophytas de la formación La Amarga (Cretácico inferior), Provincia de Neuquén, Argentina. *Revista del Museo de La Plata (new series)* 6(Paleontología 37):19–38, 3 pl.
- . 1973. Charophytas y Ostracodos no marinos del grupo Neuquén (Cretácico Superior) en algunos afloramientos de las provincias de Río Negro y Neuquén, República Argentina. *Revista del Museo de la Plata (new series)* 8(Paleontología 48):1–32, 7 pl.
- Nötzold, T. 1965. Die Präparation von Gyrogoniten und Kalkigen Charophyten-Oogonien aus festen Kalksteinen. *Monatsberichte Deutschen Akademie Wissenschaften zu Berlin* 7(3):216–221.
- Nordstedt, Otto. 1889. De Algis et Characeis 4. Über die Hartschale der Characeenfrüchte. *Lunds Universitet Årsskrift* 25:2–17, fig. 7–44, pl. 1.
- Oliver, Daniel. 1877. *Flora of Tropical Africa*, vol. III, *Umbelliferæ to Ebenaceæ*. L. Reeve. London. 544 p.

- Olsen, Sigurd. 1944. Danish Charophyta. Chorological, ecological and biological investigations. Det Kongelige Danske Videnskabernes Selskab Biologiske Skrifter 3(1):1–240.
- Ooi, K. A., Y. Endo, J. Yokoyama, & N. Murakami. 1995. Useful primer designs to amplify DNA fragments of the plastid gene *matK* from angiosperm plants. *Journal of Japanese Botany* 70:328–331.
- Pal, B. P., B. C. Kundu, V. S. Sundaralingam, & G. S. Venkataraman. 1962. Charophyta. Monographs on Algae. India Council of Agricultural Research. New Delhi. 130 p., 296 fig.
- Pander, Christian H. 1856. Monographie der fossilen Fische des Silurischen Systems des russisch-baltischen Gouvernements. Geognostische Beschreibung der russisch-baltischen gouvernements. Kaiserliche Akademie der Wissenschaften. St. Petersburg. x + 91 p., 8 pl.
- Papenfuss, George F. 1946. Proposed names for the phyla of Algae. *Bulletin of the Torrey Botanical Club* 73:217–218.
- Peck, Raymond E. 1934a. The North American trochiliscids. Paleozoic Charophyta. *Journal of Paleontology* 8:83–119.
- . 1934b. Late Paleozoic and early Mesozoic Charophyta. *American Journal of Science (series 5)* 27:49–55, 1 pl.
- . 1936. Structural trends of the Trochiliscaceae. *Journal of Paleontology* 10:764–768.
- . 1937. Morrison Charophyta from Wyoming. *Journal of Paleontology* 11(2):83–90, 1 pl.
- . 1938. A new family of Charophyta from the Lower Cretaceous Texas. *Journal of Paleontology* 12:173–176, fig. 1, pl. 28.
- . 1941. Lower Cretaceous Rocky Mountain non-marine microfossils. *Journal of Paleontology* 15:285–304, p. 42–44.
- . 1957. North American Mesozoic Charophyta. Geological Survey Professional Paper 294-A. United States Government Printing Office. Washington, D.C. 44 p., 8 pl.
- . 1974. On the systematic position of the umbellids. *Journal of Paleontology* 48(2):409–412.
- Peck, Raymond E., & Jerome A. Eyer. 1963a. Representatives of *Chovanella*, a Devonian charophyte in North America. *Micropaleontology* 9(1):97–100.
- . 1963b. Pennsylvanian, Permian and Triassic Charophyta of North America. *Journal of Paleontology* 37:835–844, 1 pl.
- Peck, Raymond E., & Gustavo A. Morales. 1966. The Devonian and lower Mississippian charophytes of North America. *Micropaleontology* 12:303–324.
- Peck, Raymond E., & Carl C. Reker. 1947. Cretaceous and lower Cenozoic Charophyta from Peru. *American Museum Novitates* 1369:1–6.
- . 1948. Eocene Charophyta from North America. *Journal of Paleontology* 22(1):85–90, pl. 21.
- Pia, Julius. 1927. ThallopHYta. In M. Hirmer, ed., *Handbuch der Paläobotanik*. I. R. Oldenbourg. München, Berlin. p. 31–136.
- Poyarkov, Budimir Vladimirovich. 1965. O systematicheskoy polozhenii umbell [Status of *Umbella*]. *Doklady Akademii Nauk SSSR* 163:728–730. In Russian.
- Prevost, Constant. 1826. Sur une nouvelle gyrogonite ou capsule de *Chara* fossile très abondante dans les meulrières d'eau douce dans les environs de Paris. *Nouveau Bulletin Société Philomatique* 2(3):186–188.
- Proctor, Vernon W. 1962. Viability of *Chara* oospores taken from migratory water birds. *Ecology* 43:528–529.
- Racki, Grzegorz. 1982. Ecology of the primitive charophyte algae: A critical review. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen* 162(3):388–399.
- Racki, Grzegorz, & Maria Racka. 1981. Ecology of the Devonian charophyte algae from the Holy Cross Mts. *Acta Geologica Polonica* 31(3/4):213–222, 2 pl.
- Racki, G., & J. Sobon-Podgorska. 1992. Givetian and Frasnian calcareous microbiotas of the Holy Cross Mountains. *Acta Palaeontologica Polonica* 37(2/4):255–289.
- Rafinesque, Constantine S. 1815. *Analyse de la Nature, ou Tableau de l'Univers et des corps organisés*. Published by the author. Palermo. 224 p. Characias, p. 209.
- Rásky, Klara. 1945. Fossile Charophyten-Früchte aus Ungarn. *Ungarischen Naturwissenschaftlichen Museums* 2:1–75, 3 pl.
- Reid, Clement R., & James Groves. 1916. Preliminary report on the Purbeck Characeae. *Proceedings of the Royal Society of London (series B)* 89:252–256, 1 pl.
- . 1921. The Charophyta of the Lower Headon Beds of Hordle (Hordwell) Cliffs (South Hampshire). *Quarterly Journal of the Geological Society* 77:175–192, 3 pl.
- Reitlinger, E. A., & M. V. Jarzewa. 1958. Novye Kharofity verkhnefamenskikh otlozhenii Russkoi Platformy [New charophytes of the upper Famennian deposits of the Russian platform]. *Doklady Akademii Nauk SSSR* 123(6):1,113–1,116, 1 pl. In Russian.
- Richard, L. Cl. 1815. *See* Kunth, 1815.
- Ridley, Henry N. 1930. The dispersal of plants throughout the world. L. Reeve & Co. Ashford, Kent. 744 p.
- Riveline, Jeanine. 1986. Les charophytes du Paléogène et du Miocène inférieur d'Europe occidentale. *Cahiers de Paléontologie*. Centre National de la Recherche Scientifique. Paris. 227 p., 38 pl.
- Riveline, J., J.-P. Berger, M. Feist, C. Martin-Closas, M. Schudack, & I. Soulié-Märsche. 1996. European Mesozoic-Cenozoic charophyte biozonation. *Bulletin de la Société Géologique de France* 167(3):453–468.
- Riveline, Jeanine, & Michel Perreau. 1979. Les Characées à incrustation calcaire du gisement de Mutigny (Marne). *Revue de Micropaléontologie* 22(1):37–43.
- Roth, A. G. 1797. *Catalecta Botanica quibus plantae novae et minus cognitae describuntur atque illustrantur*, vol. I. G. Mülleriano. Lipsiae. viii + 244 + 10 p., 8 pl.

- Ruprecht, F. J. 1845. Distributio cryptogamarum vascularium in imperio Rossico. Beiträge zur Pflanzenkunde des Russischen Reiches, fasc. 3. Kaiserlichen Academie der Wissenschaften. St. Petersburg. 56 p.
- Sahni, B., & S. R. Naranaya Rao. 1943. On *Chara sausari*, sp. nov. a *Chara (sensu stricto)* from the intertrappean cherts at Sausar in the Deccan. Proceedings of the National Academy of Sciences of India 13:215–223.
- Saidakovskiy, L. Ya. 1960. Biostratigraphichna skhema nizhnogo Triasi Dnieprovsko-Donetskoï Zapadini [Biostratigraphical scheme of the Lower Triassic from the Dniepr-Donetz depression]. Akademiya Nauk Ukraïni RSR, Geologicheskii Zhurnal 20(6):50–57. In Ukrainian.
- . 1962. Kharofity iz Triasovykh pestrotsvetov Bol'shovo Dombassa [Charophytes du Trias bigarré du Grand Donbass]. Doklady Akademiya Nauk SSSR 145(5):1,141–1,144, pl. 1. In Russian.
- . 1966. Biostratigraphiia Triasovykh Otlozhenii Iuga Russkoi Platformy [Biostratigraphy of the Triassic deposits of the south of the Russian Platform]. In V. P. Maslov & V. A. Vakhrameev, Iskopaemye kharofity SSSR [Fossil charophytes of the USSR], Trudy Geologicheskogo Instituta SSSR 143:93–144, 4 pl. In Russian.
- . 1968. Kharofity iz triasa prikaspiskoy vpadiny [Charophyta from the Triassic of the Caspian depression]. Paleontologicheskii Zhurnal 2:95–110, 1 pl. In Russian; translated in Paleontological Journal 1968, 2(2):324–347, 1 pl.
- . 1971. Novyi rod Triasovykh Kharofytov [A new genus of Triassic charophytes]. Geologicheskii Zhurnal SSSR 31(3):121–122. In Russian.
- . 1989. Kharofity iz verkhnekamennougol'nykh i permiskikh otlozhenii Evropeiskoi chasti SSSR [Charophytes in deposits from Upper Carboniferous and Permian in the European part of USSR]. Paleontologicheskii Zhurnal 1989:84–94, 1 pl. In Russian.
- . 1993. Permskie i Triasovskie Charophyta zemnoho shara [Permian and Triassic Charophyta of the world]. Algologiya 3(2):76–82. In Russian, abstract in English.
- Samoilova, R. B. 1955. Ob Ozersko-Khovanskikh Trokhiliskakh [Les *Trochiliscus* d'Ozerki-Khovansk]. Doklady Akademiya Nauk SSSR 103(5):909–911. In Russian.
- . 1961. Pervaya Nakhodka Trokhiliskov podrola Karpinskaya Croft v Devonskikh otlozheniyakh Russkoy Platformy [First discovery of *Trochiliscus* of the genus *Karpinskaya* Croft in the Devonian deposits of the Russian Platform]. Doklady Akademiya Nauk SSSR 139(1):206–207. In Russian.
- Sandberger, Guido. 1849. Eine neue Polypen-Gattung *Sycidium* aus der Eifel. Neues Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefakten-Kunde 20:671–672, 1 pl.
- Sanders, Erin R., Kenneth G. Karol, & Richard M. McCourt. 2003. Occurrence of *matK* in a *trnK* group II intron in charophyte green algae, and phylogeny of the Characeae. American Journal of Botany 90:628–633.
- Sawa, Takashi, & Paul W. Frame. 1974. Comparative anatomy of Charophyta. I. Oogonia and oospores of *Tolypella*, with special reference to the sterile oogonial cell. Bulletin of the Torrey Botanical Club 101(3):136–144.
- Schimper, W. P. 1869. Traité de Paléontologie végétale. J. B. Baillière. Paris. Vol. I, text, 738 p. Characeae: p. 215–232, pl. V. Atlas published in 1874, 110 pl.
- Schellwien, Ernst. 1898. Die fauna des Karnischen Fusulinenkalks. Theil II: Foraminifera. Palaeontographica XLIV:237–282, pl. 17–24. *Möllerina* (Foraminifer): p. 238, 281.
- Schmidt-Kittler, Norbert E., ed. 1987. International Symposium on mammalian biostratigraphy and palaeoecology of the European Paleogene. München Geowissenschaften (Abhandlungen A) 10:1–312.
- Schreber, Johan C. D. 1759. Lithographia Halensis: Exhibens lapides circa Halam Saxonum reperiundas, systematice digestos secundum classes et ordines, genera et species cum synonymis selectis et descriptionibus specierum; cum figuris aeneis. Curt. Halae (Halle an der Saale, Germany). xxiv + 80 p.
- Schudack, Michael. 1986. Zur Nomenklatur der Gattungen *Porochara* Mädlar 1955 (syn. *Musacchiella* Feist & Grambast-Fessard 1984) und *Feistiella* n. gen. (Charophyta). Paläontologische Zeitschrift 60(1/2):21–27.
- . 1987. Charophytenflora und fazielle Entwicklung der Grenzschichten mariner Jura/Wealden in den Nordwestlichen Iberischen Ketten (mit Vergleichen zu Asturien und Kantabrien). Palaeontographica (Abt. B) 204:1–180, 9 pl.
- . 1989. Charophytenflora aus den unterkretazischen Vertebraten-Fundschichten bei Galve und Uña (Ostspanien). Berliner Geowissenschaftliche (abhandlungen A) 106:409–443.
- . 1990. Bestandsaufnahme und Lokalisierung der Charophyten aus Oberjura und Unterkreide des Nordwestdeutschen Beckens. Berliner Geowissenschaftliche (abhandlungen A) 124:209–245, 4 pl.
- . 1993a. Möglichkeiten palökologischer Aussagen mit Hilfe von fossilen Charophyten. Festschrift Professor W. Krutzsch. Museum für Naturkunde. Berlin. p. 39–58, 2 pl.
- . 1993b. Die Charophyten in Oberjura und Unterkreide Westeuropas. Mit einer phylogenetischen Analyse der Gesamtgruppe. Berliner geowissenschaftliche Abhandlungen E8:209 p., 20 pl.
- . 1999. Some charophytes from the Middle Dinosaur Member of the Tendaguru Formation (Upper Jurassic of Tanzania). Mitteilungen aus dem Museum für Naturkunde Berlin, Geowissenschaftliche Reihe 2:201–205.

- Schudack, Michael, C. Turner, & F. Peterson. 1998. Biostratigraphy, paleoecology, and biogeography of charophytes and ostracodes from the Upper Jurassic Morrison Formation, Western Interior, USA. *Modern Geology* 22:379–414.
- Schwarz, J., & Th. W. Griessemer. 1992. Charophyten-Massenvorkommen aus den Oberen Pechelbronn-Schichten (Unteroligozän) von Merkwiller-Pechelbronn im Elsaß (Frankreich, Dépt. Bas-Rhin). *Paläontologische Zeitschrift* 66(1/2):23–37.
- Scotese, Christopher R. 1997. Paleogeographic Atlas, Paleomap progress Report 90-0497. Department of Geology, University of Texas. Arlington, Texas. 45 p.
- Seward, Albert C. 1894. Catalogue of the Mesozoic Plants in the Department of Geology, British Museum (Nat. Hist.). The Wealden Flora. I, Thallophyta and Pteridophyta. British Museum (Natural History). London. x + 179 p.
- Algites*, p. 4, pl. 1, 1–2.
- Shaikin, I. M. 1966. Characeae (kharofity) verkhevo Karbona Dombasa [Characeae of the Upper Carboniferous in the Donez basin]. *Trudy Geologicheskogo Instituta Akademii Nauk SSR* 143:154–160, 1 pl. In Russian.
- . 1976. Novye svedeniya po Biostratigrafii Iurskikh i Melovykh otlozheniiy Preddobrudzhinskogo proggiba (po Dannym Izucheniya Kharophitov) [New data on biostratigraphy of the Jurassic and Cretaceous deposits of the Fore-Dobrogean trough (by the data of studies in Charophyta)]. *Geologicheskii Zhurnal* 36(2):77–86, 2 pl. In Russian.
- . 1977. Kharophity v produktivnoyi tovshchi Boltis'koi Zappadini [Charophyta from productive strata of Boltishka depression]. *Materiali do paleontologii Kainozoyu Ukraini* [The materials of the Cenozoic paleontology of Ukraine] C:107–110. In Ukrainian.
- . 1987. Chapter 5: Kharovye vodorolli (Charophyta). In V. N. Dubatolov, ed., *Iskopaemye izvestkovye vodorolli. Morphologia, sistematika, Metody i zucheniya* [Methods, morphology, and systematics of fossil calcareous Algae]. *Akademiya Nauk SSSR, Sibirskoe ordelenie, Novosibirsk* 674:140–160, fig. V1–V7, pl. XXIII–XXIV. In Russian.
- Shaw, G. 1971. The chemistry of sporopollenin. In J. Brooks, P. R. Grant, M. Muir, P. Van Gijzel, & G. Shaw, eds., *Sporopollenin, Proceedings of a Symposium held at the Geology Department, Imperial College, London, 23–25 September, 1970*. Academic Press, London, New York. p. 306–348.
- Shu Zhiqing & Zhang Zerun. 1985. [Early Cretaceous charophytes from the Hetao area of Inner Mongolia]. *Selected papers of the 1st National Fossil Algal Symposium*. Beijing. p. 63–74, 2 pl. In Chinese.
- Simons, Jan, Marieke Ohm, Remko Daalder, Peter Boers, & Winnie Rip. 1994. Restoration of Botshol (The Netherlands) by reduction of external nutrient load: recovery of a characean community, dominated by *Chara connivens*. *Hydrobiologia* 275/276:243–253.
- Sirna, Giuseppe. 1968. The Lower Cretaceous Charophyta and the paleogeography of Mediterranean basin. *Atti dell' Accademia Nazionale dei Lincei* 44:566–573, 2 pl.
- Sluiman, Hans J., & Caroline Guihal. 1999. Phylogenetic position of the *Chaetosphaeridium* (Charophyta), a basal lineage in the Charophyceae inferred from 18S rDNA sequences. *Journal of Phycology* 35:395–402.
- Smith, Gilbert M. 1938. Algae and Fungi, vol. 1. In *Cryptogamic Botany*. McGraw-Hill. New York. 545 p.
- Charophyceae, p. 127–135.
- . 1950. *The Fresh-Water Algae of the United States*. McGraw-Hill Book Company. New York. 719 p.
- Sohn, I. G. 1961. Techniques for preparation and study of fossil ostracods. In R. C. Moore, ed., *Treatise on Invertebrate Paleontology, Part Q. Geological Society of America & The University of Kansas Press*. New York & Lawrence, Kansas. p. 64–70.
- Sommer, Friedrich W. 1954. Contribução à paleofitografia do Paraná. In F. W. Lange, ed., *Paleontologia do Paraná. Volume Comemorativo do 1 Centenário do Estado do Paraná. Comissão de Comemorações do Centenário do Paraná*. Paraná, Brazil. p. 175–194, pl. 15–20.
- Soulié-Marsche, Ingeborg. 1979. Origine et évolution des genres actuels des Characeae. *Bulletin du Centre de Recherches, de Production, d'Exploration et de Production d'Elf-Aquitaine* 3(2):821–831.
- . 1981. Palaeoflora. In N. Petit-Maire & J. Riser, *Holocene lake deposits and palaeoenvironments in central Sahara, northeastern Mali. Palaeogeography, Palaeoclimatology, Palaeoecology* 35:45–61.
- . 1987. Les charophytes. In J. C. Misovsky, ed., *Géologie de la Préhistoire: Méthodes, techniques, applications (GEOPRE)*. Société géologique de France. Paris. p. 669–683.
- . 1989. Etude comparée de gyrogonites de charophytes actuelles et fossiles et phylogénie des genres actuels. *Imprimerie des Tilleuls*. Millau, France. 237 p., 45 pl.
- . 1991. Charophyte remains from Wadi Howar as evidence for deep mid-Holocene freshwater lakes in the eastern Sahara of northwest Sudan. *Quaternary Research* 36:210–223.
- . 1999. Chirality in charophytes: Stability and evolution from 400 million years to present. In G. Pályi, C. Zucchi, & L. Caglioti, eds., *Advances in BioChirality*. Elsevier. Amsterdam. p. 191–207.
- Stache, Guido. 1872. Über neue Characeenreste aus der oberen Abteilung der Liburnische Stufe bei Isino in Istrien. *Verhandlungen der Geologischen Reichsanstalt*, Wien. p. 316–319.
- Astrocharas*, p. 316.
- . 1880. G., Die Liburnische Stufe. *Verhandlung der Kaiserlichen und Königlichen geologischen Reichsanstalt* 12:195–209.
- . 1889. Die Liburnische Stufe. *Abhandlungen der Kaiserlich Königlichen geologischen Reichsanstalt* 13(1):1–170, 6 pl.

- Steele, Kelly P., & Rytas Vilgalys. 1994. Phylogenetic analyses of Polemoniaceae using nucleotide sequences of the plastid gene *matK*. *Systematic Botany* 19:126–142.
- Sternberg, Kaspar. 1825. Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt, vol. IV. Fleischer. Regensburg. 48 p. *Bechera*, p. XXX–XXXI.
- Stockmans, François. 1960. Initiation à la paléobotanique stratigraphique de la Belgique et notions connexes: Guide de la salle des végétaux fossiles. Naturalistes belges. Bruxelles. 222 p. *Charophytes*, p. 62.
- Straub, E.W. 1952. Mikropaläontologische Untersuchungen im Tertiär zwischen Ehingen und Ulm an der Donau. *Geologisches Jahrbuch* 66:433–524
- Strauss, René, & Jeannine Lepoint. 1966. Influence des chlorures alcalins sur la nutrition et la croissance des Characées. *Comptes Rendus des Séances de l'Académie des Sciences, Paris (series D)* 263:40–43.
- Stroede, W. 1933. Über die Beziehungen der Characeen zu den chemischen Faktoren der Wohngewässer und des Schlammes. *Archiv für Hydrobiologie* 25:192–223.
- Stur, D. 1881. Die Silur-Flora der Etage H-h in Böhmen. Sitzungsbericht der Akademie der Wissenschaften 84(1):330–391. *Barrandeina*, p. 362.
- Summerson, G. H. 1958. Arenaceous Foraminifera from the Middle Devonian limestones of Ohio. *Journal of Paleontology* 32(3):544–558, pl. 81–82.
- Talent, J. A., R. Mawson, J. C. Aitchison, R. T. Becker, K. N. Bell, M. A. Bradshaw, C. J. Burrow, A. G. Cook, G. Dargan, M. Feist, G. Playford, A. J. Wright, & Zhen Y. Z. 2000. Devonian palaeobiogeography of Australia and adjoining regions. *Memoirs of the Association of Australian Palaeontologists* 23:167–257. *Charophyta*, p. 222–223.
- Tambareau, Yvette, Monique Feist, Carla Gruas-Cavagnetto, & Marco Murru. 1989. Caractérisation de l'Ilerdien continental dans le domaine ouest-méditerranéen. *Comptes Rendus des Séances de l'Académie des Sciences de Paris (series D)* 308(2):689–695.
- Tang Lunhe, & Di Hengshu. 1991. [Fossil charophytes from Qaidam basin, Qinghai]. *Ke xue ji shu wen xian chu ban she*. Beijing. 220 p., 79 pl. In Chinese with abstract and table of contents in English.
- Tappan, Helen. 1980. *The Paleobiology of Plant Prokaryotes*. W. E. Freeman and Company. San Francisco. 1,028 p.
- Taylor, Thomas N., Winfried Remy, & Hagen Hass. 1992. Parasitism in a 400-million year-old green alga. *Nature* 357:493–494.
- Thaler, Louis. 1965. Une échelle de zones biochronologiques pour les mammifères du Tertiaire d'Europe. *Comptes Rendus Sommaires de la Société Géologique de France* 4:118.
- Traverse, Alfred F. 1955. Pollen analysis of the Brandon lignite of Vermont. United States Bureau of Mines, Report of Investigations 5,151:108 p.
- Turmel, Monique K., Megumi Ehara, Christian Otis, & Claude Lemieux. 2002. Phylogenetic relationships among streptophytes inferred from chloroplast small and large subunit rDNA gene sequences. *Journal of Phycology* 38:364–375.
- Tuttle, A. H. 1926. The location of the reduction divisions in a charophyte. University of California Publications in Botany 13:227–235, 2 pl.
- Tuzson, J. 1909. Zur Phyletisch-paläontologischen Entwicklungsgeschichte des Pflanzenreichs, vol. XVIII, no. 5. Engler's Botanisches Jahrbuch. Leipzig. p. 461–473. *Charales*, p. 470.
- . 1913. Adatok Magyarorszag Fosszilis Flórájához (Addimenta ad floram fossilem Hungariae III). *Magyar Földtani* XXI(8):208–234, pl. XIII–XXI.
- Uliana, M. A. & Eduardo A. Musacchio. 1978. Microfossiles calcareos no-marinos del Cretacico superior en Zampal, provincia de Mendoza, Argentina. *Ameghiniana* 15:111–135.
- Ulrich, Edward O. 1886. Description of new Silurian and Devonian fossils. *Contributions to American Paleontology* 1:3–35, 3 pl.
- UNESCO. 1981. Background papers and supporting data on the Practical Salinity Scale 1978. UNESCO Technical Papers in Marine Science 37:1–144.
- Unger, Franz. 1850. *Genera et Species Plantarum Fossilium*. Published by the author. Vindobonae. 627 p. *Characeae*, p. 31–36.
- Vaillant, S. 1719. Caractères de quatorze genres de plantes. *Mémoires de l'Académie royale des Sciences de Paris pour 1719*:17–20.
- Van Raam, Joop C. 1995. The Characeae of Tasmania. *Nova Hedwigia, Beiheft* 110:1–80.
- Wallroth, F. G. 1833. Flora cryptogamia Germaniae. Pars posterior—Continens Algas et Fungos. In M. J. Bluff & C. A. Fingerhuth, *Compendium florae Germanicae. Sectio II plantae cryptogamicae sine cellulosa*. Tomus IV. J. L. Schrag. Norimbergae. lvi + 923 p.
- Walter Lévy, Léone, & René Strauss. 1968. Sur l'absorption du strontium par *Chara fragilis* Desvaux. *Comptes Rendus des séances de l'Académie des Sciences Paris (série D)* 266:1,486–1,489.
- . 1974. Résistance des characées aux effets toxiques des ions Pb²⁺. *Comptes Rendus des séances de l'Académie des Sciences Paris (series D)* 278:2,023–2,026, 1 fig.
- Wang Qifei, Yang J.-L., & Lu H.-N. 2003. Late paleozoic charophyte assemblages of China. *Acta Micropalaeontologica Sinica* 20:199–211, 4 pl., 1 map.
- Wang Shui. 1961. Tertiary Charophyta from Chaidamu (Tsaidam) Basin, Qinghai (Chinghai) Province. *Acta Palaeontologica Sinica* 9(3):183–209, 7 pl. In Chinese with English summary, p. 209–219.
- Wang Shui, & Chang Shan-zen. 1956. On the occurrence of *Sycidium melo* var. *pskouensis* Karpinsky from the Devonian of Northern Szechuan. *Acta Palaeontologica Sinica* 4(3):381–386, 1 pl. In Chinese, English summary.

- Wang Shui, Huang Renjin, Wang Zhen, Lin Xiaodong, Zhang Zerun, & Xu Xilin. 1982. [Cretaceous and Cenozoic charophytes from Jiangsu]. Geological Publishing House. Beijing. 66 p., 28 pl.
In Chinese with English abstract.
- Wang Shui, Huang Renjin, Yang Chenqiong, & Li Huanan. 1978. Early Tertiary charophytes from coastal region of Bohai, vol 1. Science Press. Beijing. 49 p., 23 pl.
In Chinese with English abstract.
- Wang Zhen. 1976. [Middle Devonian *Sycidium* and *Chovanella* from southwestern China]. Acta Palaeontologica Sinica 15(2):175–186, 3 pl.
In Chinese with English abstract.
- . 1978a. [Cretaceous charophytes from the Yangtze-Han river basin with a note on the classification of Porocharaceae and Characeae]. Memoirs Nanjing Institute of Geology and Palaeontology, Academia Sinica 9:61–88, 8 pl.
In Chinese with English abstract.
- . 1978b. [Paleogene charophytes from the Yangtze-Han River basin]. Memoirs Nanjing Institute of Geology and Palaeontology, Academia Sinica 9:101–120, 5 pl.
In Chinese with English abstract.
- . 1984. [Two new charophyte genera from the upper Permian and their bearing on the phylogeny and classification of Charales and Trochiliscals]. Acta Micropalaeontologica Sinica 1(1):49–60, 2 pl.
In Chinese with English abstract.
- Wang Zhen, J. E. Conkin, Huang Ren-jin, & Lu Huinan. 1980. Early and Middle Devonian charophytes of eastern Guangxi, China. University of Louisville Studies, Paleontology and Stratigraphy 13:1–16, 3 pl.
- Wang Zhen, & Huang Renjin. 1978. [Triassic charophytes of Shaanxi]. Acta Palaeontologica Sinica 17(3):267–276, 2 pl.
In Chinese with English abstract.
- Wang Zhen, Huang Renjin, & Wang Shui. 1976. [Mesozoic and Cenozoic Charophyta from Yunnan Province]. Mesozoic Fossils of Yunnan, vol. 1. Nanjing Institute of Geology and Palaeontology Science Press. Nanjing. 65–86, 6 pl.
In Chinese.
- Wang Zhen, & Lu Huinan. 1980. [New discovery of Devonian charophytes from southern China with special reference to classification and gyrogonite orientation of Trochiliscals and Sycidiales]. Acta Paleontologica Sinica 19(3):190–200, 2 pl.
In Chinese with English abstract.
- . 1982. [Classification and evolution of Clavatoraceae, with notes on its distribution in China]. Bulletin Nanjing Institute of Geology and Palaeontology, Academia Sinica 4:77–104, 4 pl.
In Chinese with English abstract.
- Wang Zhen, Lu Huinan, & Zhao Chanben. 1985. [Cretaceous charophytes from Songliao basin and adjacent areas]. Tectonic & Scientific Press of Hi Long Jiang. Haerbin. 84 p., 30 pl.
In Chinese with English abstract.
- Wang Zhen, & Wang Ren-nong. 1986. [Permian charophytes from the southeastern area of the North China platform]. Acta Micropaleontologica Sinica 3(3):273–278, 1 pl.
In Chinese with English summary.
- Watson, Joan. 1969. A revision of the English Wealden Flora-I, Charales-Ginkgoales. Bulletin of the British Museum (Natural History), Geology 17(5):207–254, pl. I–VI.
- Westphal, M., & J. P. Durand. 1990. Magnétostratigraphie des séries continentales fluvio-lacustres du Crétacé supérieur dans le synclinal de l'Arc (région d'Aix-en-Provence, France). Bulletin de la Société géologique de France (série 8) 6:609–620.
- Wiley, E. O. 1978. The evolutionary species concept reconsidered. Systematic Zoology 27:17–26.

- Williamson, W. C. 1880. On the organization of the fossil plants of the coal-measures. Part X. Including an examination of the supposed radiolarians of the Carboniferous rocks. *Philosophical Transactions of the Royal Society of London* 171(2):493–539, pl. 14–21.
- Winter, Ursula, & Gunter O. Kirst. 1991. Partial turgor pressure regulation in *Chara canescens* and its implications for a generalized hypothesis of salinity response in charophytes. *Botanica Acta* 104:37–46.
- Winter, Ursula, Ingeborg Soulié-Märtsche, & Gunter O. Kirst. 1996. Effects of salinity on turgor pressure and fertility in *Tobypella* (Characeae). *Plant, Cell and Environment* 19:869–879.
- Wium-Andersen, Soten, U. Anthoni, C. Christoffersen, & G. Houen. 1982. Allelopathic effects on phytoplankton by substances isolated from aquatic macrophytes (Charales). *Oikos* 39:187–190.
- Womersley, H. B. S., & I. L. Ophel. 1947. *Protochara*, a new genus of Characeae from Western Australia. *Transactions of the Royal Society of South Australia* 71:311–317, 2 fig.
- Wood, Richard D. 1962. New combinations and taxa in the revision of Characeae. *Taxon* 11:7–25.
- . 1972. Characeae of Australia. *Nova Hedwigia* 22:1–120, 17 pl.
Also separately printed the same year by J. Cramer, Lehre, 120 p.
- . 1978. Cryptogams. In O. A. Leistner, ed., *Flora of Southern Africa*, vol. 9. Botanical Research Institute, Department of Agricultural Technical Services. Pretoria. 56 p.
- Wood, Richard D., & Kozo Imahori. 1959. Geographical distribution of Characeae. *Bulletin of the Torrey Botanical Club* 86(3):172–183.
- . 1964–1965. A revision of the Characeae. J. Cramer. Weinheim. Part 1: Monograph, 1965: 904 p., Part 2: Iconograph, 1964: 395 pl.
- Wood, Richard D., & R. Mason. 1977. Characeae of New Zealand. *New Zealand Journal of Botany* 15:87–180.
- Woodruff, Fay, Samuel M. Savin, & Robert G. Douglas. 1981. Miocene stable isotope record: A detailed deep ocean study and its paleoclimatic implications. *Science* 212:665–668.
- Yang Chenqiong. 1987. New materials of charophytes from the Paleogene Shahejie Formation of the Dong Ying depression and their environment. *Reports on the Redbeds and Palaeontology in Gas and Petroleum Areas* 1:156–164, 4 pl.
In Chinese with English abstract.
- Yang Guodong, & Zhou Xingao. 1990. [Discovery of lower Carboniferous charophytes in the northern part of the Tarim basin and their importance]. *Dizhi lunping* 36:269–276, 2 pl.
In Chinese.
- Zaneveld, Jacques S. 1940. The Charophyta of Malaysia and adjacent countries. *Blumea* 4(1):1–223.
- Zeng De-nim, & Hu Ji-min. 2001. Discussion about the charophyte fossils during Middle Devonian period and its living environment. *Hunan Geology* 20(2):89–91.
- Zhang Jie-fang, Lu Hui-nan, Zhang Zhen-lai, & Gao Qin-qin. 1978. Charophyta. *Palaeontological Atlas of Southern Central China* 4:325–382, 710–722.
- Zhao Zhiqing & Huang Ren-jin. 1985. Early Tertiary charophytes from the upper part of the Shahejie Formation in Puyang, Henan. *Selected Papers on Micropalaeontology of China*, p. 11–18, pl. III.

INDEX

- abrasives 12
 acidophilic 32
 Aclistochara 101, 104, 119, 120,
 121, 123, 127, 134, 141, 142,
 143
 Acutochara 104, 106
 adhesive 28
 Algites 146
 alkaline 32
 allopatric speciation 68
 Altochara 101
 Amblyochara 123, 127, 132
 Amphorochara 121
 Ampullichara 97
 anisostichous 1
 antheridial primordia 2
 antheridium 11
 apex 4
 apical cell 17
 Ascidiella 106
 Astrocharas 146
 Atopochara 106, 113, 125
 Atopocharaceae 106, 113
 Atopocharae 106
 ATOPOCHAROIDEAE 106,
 113
 Auerbachichara 104
 aulacanthous 1
 axial section 27
 axillary node 11
- Baltica 40
 Barrandina 146
 basal plate 4, 18
 basal pore 18
 Bechera 146
 biflagellate 11
 bifurcate 2
 biocycle 11
 biomass 29
 biotope 33
 biozonation 47
 Brachychara 125
 brackish 29
 water 31
 bract cell 2
 bracteole 2
 branching 2
 branchlet 1
 Brevichara 125
 bromoform 26
 bryophyte 12
 bulbil 3
 Bysmochara 123
- calcification 18
 calcine 10
 Calcisphaera 92
 calcite 4
 calcium carbonate 4
- Campaniella 134
 Catillochara 101
 Caucasuella 121, 123
 cellulose 6
 Centroporus 94
 Chara 120, 121, 125, 127, 132,
 134, 136, 141, 143
 CHARACEAE 100, 101, 106,
 116, 119, 120, 121, 123, 125,
 127, 143
 Characeites 120, 146
 Characella 120
 Characias 120
 CHARALES 92, 98
 Chareae 120
 CHARINEAE 99
 Charites 121
 CHAROIDEAE 119, 120
 CHAROPHYCEAE 92
 Charophycophyta 92
 CHAROPHYTA 92
 Charopsis 120
 chloroplast 79
 Chovanella 97
 CHOVANELLACEAE 97
 Chovanellales 94
 Circonitella 136
 cladom 1
 classification 6
 Clavator 106, 108, 110
 CLAVATORACEAE 104, 106,
 110, 123, 125
 Clavatorae 106
 Clavatorites 103
 Clavatoritinae 100, 101
 CLAVATORITOIDEAE 100,
 101
 CLAVATOROIDEAE 106, 110
 climatic zone 30
 Clypeator 107, 112
 Clypeatorae 106
 Clypeatorinae 106
 Coenoclavator 123
 cold phase 25
 Collichara 123
 coloration 27
 concentric lamination 10
 Conferva 143
 conodont 26
 contiguous (cortical cell) 1
 convolution 15
 cooling phase 25
 coronula 4
 cell 6
 cortex 1
 cortication 1
 cosmopolitan 1
 species 37
 Costacidium 97
 crayfish 12
- Cristatella 146
 Croftiella 141
 cryptogam 11
 Cuneatochara 103
 Cuneatocharoideae 100, 101
- Dasycladales 146
 decline 76
 dehiscence
 opening 18
 zone 17
 development 11
 diagenesis 24
 Dictyoclavator 106, 108
 Diectochara 113
 dimension 15
 dinosaur eggshell 26
 dioecious 11
 dioecy 11
 dioic 3
 diploid 11
 diplostichous 1
 Dongmingochara 141
 dormancy 11, 29
 dormant 11
 Dughiella 123
- Echinochara 113
 Echinocharoideae 106
 ectocalcine 10
 ectosporine 6
 EDTA 27
 egg 11
 Embergerella 110
 encrusted 2
 endangered species 36
 endemic species 37
 endemics 1
 endemism 36
 endocalcine 10
 endomitosis 12
 endosporine 6
 Eochara 99
 EOCHARACEAE 99
 Eotectochara 141
 epiphyte 12
 equatorial diameter 15
 Euaclistochara 101
 Eutrochiliscus 92, 94
 evolutionary species 68
 extinction 39
- Feistiella 101
 fertilization 4
 fertilizer 12
 Flabellochara 110
 flocculation 12
 foraminifer 26
 freshwater 29

- gametangia 11
 Gemmichara 92
 germination 11, 17
 giant cell 12
 Globator 113
 Globatorae 106
 Gobichara 132
 Gondwana 40
 Grambastichara 120
 Grambastiella 140, 141
 Granulachara 121
 green algae 11
 Grovesichara 123, 141
 Guangraochara 127
 Gyrogona 116, 119, 123, 125,
 136
 gyrogonite 11
 Gyrogonites 101, 125
- habit 12
 halophilic 31
 halophobe 31
 haploid 11
 haplophasic 11
 haplostichous 1
 Harrisichara 125, 127, 132, 138
 Hebeichara 125
 Hemiclavorator 110
 Henanochara 125
 Heptorella 110
 Hetaochara 125
 heterochronic 68
 Hexachara 99
 higher plant 1
 Hornichara 125, 142
 Horniella 101
- internal cellular fold 74
 internode 1
 isopolarity index 15
 isostichous 1
 isotopic composition 24
- Jarzevaella 101
 junction line 16, 17
 Jurella 121
- Karpinskya 96
 Karpinskyaceae 92
 Kosmogyra 121, 127, 146
 Kosmogyrella 146
 Krassavinella 125
- Lagynophora 123, 127
 Lamprothamnium 119, 123, 127
 Lamprothamnus 127
 Latochara 104
 Laurentia 40
 Leonardosia 104, 106
 Leonidiella 104
 Linyiechara 127
 Lucernella 110
- Luichara 104
 Lychnothamnites 127
 Lychnothamnus 123, 127, 141
- Maedleriella 127
 Maedlerisphaera 143
 mammal 26
 manubrium 11
 marine habitat 33
 Maslovichara 104
 Maslovicharoideae 104
 mechanical separation 27
 meiosis 11, 12
 melanin 6
 Mesochara 123, 127, 132
 metallic coating 28
 Microchara 119, 127, 132
 microprobe 24
 microproblematica 146
 microspecies 1
 Microstomella 134
 migration 40
 Miliola 94
 mineral composition 24
 mineralization 24
 Minhechara 104
 Moellerina 92, 97
 MOELLERINACEAE 92, 93
 MOELLERINALES 92
 molecular phylogeny 77
 mollusc 26
 Mongolichara 123, 132
 monoecious 11
 monoecy 11
 monogenetic 11
 multipartite basal plate 18
 Multispirochara 132
 Munieria 146
 Musacchiella 101
- Nanglingquichara 132
 Neimongolichara 132
 Nemegtichara 132
 Neochara 134, 143
 neutrophilic 32
 Nitella 119, 143
 Nitelleae 143
 Nitellites 143
 NITELLOIDEAE 119, 120, 143
 Nitellopsis 115, 123, 134
 nodal cell 1
 node 1
 Nodosochara 134, 141
 Nodosoclavorator 110
 nodosoclavoratoroid utricle 22
 nodule 17
 nodulose layer 22
 noncontiguous (cortical cell) 1
 nonmarine 12
 Nothochara 136
 Nucella 97
- oblate 15
 Obtusochara 121, 123
 Octochara 99
 oligobrackish 31
 oogonium 2
 oosphere 4
 oospore 4
 membrane 7
 operculum 17
 ornamentation 6
 ostracode 26
- Palaeochara 99
 PALAEOCHARACEAE 99
 PALAEOCHARINEAE 98
 Palaeonitella 120, 143
 Palaeoxyris 146
 Pangaea 42
 Paracuneatochara 104, 106
 parallel lamination 19
 parthenogenesis 11
 Peckichara 119, 127, 132, 136
 Peckisphaera 136
 Perimneste 107, 113
 peroblate 15
 photosynthesis 24
 phragmoplast 1
 phylloid 1
 Pinnopotamen 97
 PINNOPUTAMENACEAE 97
 pioneer 29
 Piriformachara 132
 Platychara 125, 136
 polar axis 15
 polynucleate 12
 polyploidy 12
 pore of dehiscence 16
 Porochara 101, 104
 POROCHARACEAE 99, 100,
 101, 104, 106, 119, 121, 123
 POROCHAROIDEAE 100, 101
 Porosphaera 101
 Praechara 103, 132
 Praescydium 94
 Primochara 92
 proembryon 5
 prolata 15
 propagation 36
 propagule 11
 protective measure 76
 Protochara 120
 protonema 1
 provincial differentiation 43
 Pseudoglobator 112
 Pseudoharrisichara 136
 Pseudolatochara 140
 Pseudomoellerina 94
 PSEUDOMOELLERINACEAE
 93
 Pseudomoellerinoideae 93
 Pseudoscydium 94
 Psilochara 141

- Qinghaichara 134
 Rantzieniella 117
 Raskyaechara 143
 Raskyella 116, 117
 RASKYELLACEAE 115, 116,
 121
 Raskyellae 115
 Raskyelloideae 115
 rbcL 79
 recovery 76
 Retusochara 136
 Rhabdochara 123, 141
 rhizoid 2
 rose 17
 rosette 17
 Rothia 119, 143

 Saccamina 92
 Saidakovskiyella 141
 saline environment 10, 24
 Saportanella 117
 scolecodont 26
 seasonality 24
 section 27
 seed 26
 sejoined 11
 Septorella 110
 Septorellinae 106
 sex organ 11
 Shaikinella 104
 Shandongochara 141
 shape 15
 shield cell 11
 simple basal plate 18

 Sinochara 136
 sister cell 4, 6
 Songliaochara 119, 141
 spermatozoid 11
 Sphaerochara 101, 119, 120, 125,
 143
 spine cell 1
 spiral 14
 cell 4, 14
 unit 14
 Spirangium 146
 sporine 6
 sporopollenin 6
 sporostine 6
 stable isotope 24
 Stellatochara 104
 Stellatocharaceae 104
 STELLATOCHAROIDEAE 100,
 104, 106
 Stenochara 103
 Stephanochara 127, 134, 141,
 142
 stipulode 1
 Stomochara 101
 Strobilochara 142
 Stylochara 142
 subcosmopolitan species 37
 suboblate 15
 Sulcosphaera 134
 SYCIDIACEAE 94
 SYCIDIALES 94
 Sycididae 94
 Sycidiphyceae 94
 Sycidium 94

 Tectochara 132, 134
 Tolypella 101, 119, 125, 143, 145
 Triclypella 110, 112
 triplostichous 1
 TROCHILISACEAE 94
 Trochiliscidae 94
 Trochiliscus 92, 94, 96
 Turbochara 134, 136
 tylacanthous 1

 ultrasonic cleaner 27
 Umbella 146
 Uncatoella 146
 utricle 14

 vegetative
 propagation 3
 reproduction 11
 Vladimiriella 101

 Wangichara 142
 water quality 29
 waterbird 12
 Weikkoella 92

 X-ray analysis 24
 Xinjiangichara 121
 Xinjiangochara 97
 Xinjiangocharaceae 97

 Y-calcification 10, 19
 Yahuchara 127

 Zhejiangella 143
 zygote 11