

***Marchantia* literature 1986-2006  
Mp CpGenome to Genome Project**

- Adam, K.-P., and H. Becker, 1993 A lectin from the liverwort *Marchantia polymorpha* L. *Experientia* 49: 1098-1100.
- Adam, K.-P., R. Thiel, J. Zapp and H. Becker, 1998 Involvement of the Mevalonic Acid Pathway and the Glyceraldehyde–Pyruvate Pathway in Terpenoid Biosynthesis of the Liverworts *Ricciocarpos natans* and *Conocephalum conicum*. *Archives of Biochemistry and Biophysics* 354: 181-187.
- Adam, K. P., and H. Becker, 1994 Phenanthrenes and Other Phenolics from in-Vitro Cultures of *Marchantia-Polymorpha*. *Phytochemistry* 35: 139-143.
- Akashi, K., J. Hirayama, M. Takenaka, S. Yamaoka, Y. Suyama *et al.*, 1997 Accumulation of nuclear-encoded tRNA(Thr)(AGU) in mitochondria of the liverwort *Marchantia polymorpha*. *Biochimica Et Biophysica Acta-Genes Structure and Expression* 1350: 262-266.
- Akashi, K., K. Sakurai, J. Hirayama, H. Fukuzawa and K. Ohyama, 1996 Occurrence of nuclear-encoded tRNA(Ile) in mitochondria of the liverwort *Marchantia polymorpha*. *Current Genetics* 30: 181-185.
- Akashi, K., M. Takenaka, S. Yamaoka, Y. Suyama, H. Fukuzawa *et al.*, 1998 Coexistence of nuclear DNA-encoded tRNA(Val)(AAC) and mitochondrial DNA-encoded tRNA(Val)(UAC) in mitochondria of a liverwort *Marchantia polymorpha*. *Nucleic Acids Research* 26: 2168-2172.
- Akiyama, H., and T. Hiraoka, 1994 Allozyme variability within and divergence among populations of the liverwort *Conocephalum conicum* (Marchantiales- Hepaticae) in Japan. *Journal of Plant Research* 107: 307-320.
- Alfano, F., A. Russell, R. Gambardella and J. G. Duckett, 1993 The actin cytoskeleton of the liverwort *Riccia Fluitans*-Effects of cytochalasin B and aluminium ions on rhizoid tip growth. *J Plant Physiol* 142: 569-574.
- Algeo, T. J., S. E. Scheckler and J. B. Maynard, 2001 Effects of early vascular land plants on weathering processes and global chemical fluxes during the Middle and Late Devonian, pp. 213–236 in *Plants Invade the Land: Evolutionary and Environmental Perspectives*, edited by P. Gensel and D. Edwards. Columbia University Press, New York.
- Andersen, T., and O. Pedersen, 2002 Photosynthesis in Early Land Plants- Adapting to the Terrestrial Environment. *Hydrobiologia* 477: 163-170.
- Anderson, L. E., 2000 Charles E. Allen and Sex Chromosomes. *The Bryologist* 103: 442-448.
- Apostolakos, P., and B. Galatis, 1992 Patterns of Microtubule Organization in 2 Polyhedral Cell-Types in the Gametophyte of the Liverwort *Marchantia-Paleacea* Bert. *New Phytologist* 122: 165-178.
- Apostolakos, P., and B. Galatis, 1993 Interphase and Preprophase Microtubule Organization in Some Polarized Cell-Types of the Liverwort *Marchantia-Paleacea* Bert. *New Phytologist* 124: 409-421.
- Araki, Y., S. Takio, K. Ono and H. Takano, 2003 Two types of plastid *ftsZ* genes in the liverwort *Marchantia polymorpha*. *Protoplasma* 221: 163-173.
- Asakawa, Y., 1990 Biologically Active Substances From Bryophytes, pp. 259-287 in *Bryophyte Development: Physiology and Biochemistry*, edited by R. N. Chopra, Bhatla, S.C. CRC Press, Boca Raton.
- Asakawa, Y., 1998 Biologically active compounds from bryophytes. *Journal of the Hattori Botanical Laboratory* 84: 91-104.
- Asakawa, Y., 2001 Recent advances in phytochemistry of bryophytes-acetogenins, terpenoids and bis(bibenzyl)s from selected Japanese, Taiwanese, New Zealand, Argentinean and European liverworts. *Phytochemistry* 56: 297-312.
- Asakawa, Y., 2004 Chemosystematics of the Hepaticae. *Phytochemistry* 65: 623-669.
- Asakawa, Y., K. Okada and G. W. Perold, 1988 Chemosystematics of Bryophytes For .23. Distribution of Cyclic Bis(Bibenzyls) in the South-African Liverwort *Marchantia-Polymorpha*. *Phytochemistry* 27: 161-163.

- Asakawa, Y., M. Tori, T. Masuya and J. P. Frahm, 1990 Chemosystematics of Bryophytes .34. Ent-Sesquiterpenoids and Cyclic Bis(Bibenzyls) from the German Liverwort *Marchantia-Polymorpha*. *Phytochemistry* 29: 1577-1584.
- Asakawa, Y., M. Tori, K. Takikawa, H. G. Krishnamurty and S. K. Kar, 1987 Cyclic Bis(Bibenzyls) and Related-Compounds from the Liverworts *Marchantia-Polymorpha* and *Marchantia-Palmata*. *Phytochemistry* 26: 1811-1816.
- Bajon, C., A. Blaize-Sauvanet, D. Robert and F. Roland, 1995 Caractérisation in situ d'arn messagers dans le noyau du gamete male mobile d'une bryophyte (*Marchantia polymorpha*). *Cryptogamie Bryol Lichénol* 16: 1-10.
- Bakalin, V. A., 2006 Ecological features and trends in the formation of the flora of liverworts under the impact of current volcanic and glacial activities: The example of Ushkovskii volcano, Kamchatka. *Russian Journal of Ecology* 37: 13-18.
- Banjeri, J., 1989 Some Mesozoic plant remains from Bhuj Formation with remarks on the depositional environment of beds. *Palaeobotanist* 37: 159-168.
- Barale, G., and M. Doludenko, 1994 Comparaisons entre les flores des localités célèbres de calcaires lithographiques S.L. du Sud-Ouest de l'Eurasie. *Geobios* 27: 251-257.
- Barner, J., 1990 Über die ökologische Vorbedingungen zur Entstehung von Thalli aus Rhizoiden von *Marchantia polymorpha* Eien regenerationsökologische Studie. *Phyton* 30: 201-207.
- Bartholomew, S. E., 1987 Apical Organization and Leaf Ontogeny in *Haplomitrium mnioides* (Lindb.) Schust. *The Bryologist* 90: 383-389.
- Bartholomew-Began, S., and B. J. Crandall-Stotler, 1994 The Sporeling Ontogeny of *Monoclea gottschei* subsp. *elongata*. *The Bryologist* 97: 244-252.
- Bartholomew-Began, S., and N. L. Jones, 2005 Juvenile Gametophyte Development in the Blasiales (*Marchantiophyta*; *Metzgeriidae*). 1. Receptacular Gemma/Gemmaling Ontogeny of *Blasia pusilla*. *The Bryologist* 108: 497-505.
- Bartholomew-Began, S. E., 1991 A morphogenetic re-evaluation of *Haplomitrium* Nees (*Hepatophyta*). *Bryophytorum Bibliotheca* 41: 1-297.
- Basile, A., 1993 Localizzazione tissutale e cellulare del piombo in *Funaria hygrometrica* e *Lunularia cruciata*. *Informatore Botanico Italiano* 25: 263-265.
- Basile, A., S. Giordano, S. Sorbo, M. L. Vuotto, M. T. L. Ielpo *et al.*, 1998 Antibiotic Effects of *Lunularia cruciata* Bryophyta Extract. *Pharmaceutical Biology* 36: 25-28.
- Basile, A., R. A. d. Nuzzo, C. Capasso, S. Sorbo, A. Capso *et al.*, 2005 Effect of cadmium on gene expression in the liverwort *Lunularia cruciata*. *Gene* 356: 153-159.
- Basile, D. V., and M. R. Basile, 1987 The Occurrence of Cell Wall-Associated Arabinogalactan Proteins in the Hepaticae. *The Bryologist* 90: 401-404.
- Bateman, R. M., P. R. Crane, W. A. DiMichele, P. R. Kenrick, N. P. Rowe *et al.*, 1998 Early evolution of land plants: Phylogeny, physiology, and ecology of the primary terrestrial radiation. *Annual Review of Ecology and Systematics* 29: 263-292.
- Batley, J. F., and J. B. Ohlrogge, 1990 Evolutionary and Tissue-Specific Control of Expression of Multiple Acyl-Carrier Protein Isoforms in Plants and Bacteria. *Planta* 180: 352-360.
- Beck, L. Y., 2005 *Pedanius Dioscorides of Anazarbus: De Materia medica*. Olms Weidmann, Hildesheim.
- Becker, H., and G. Wurzel, 1987 Sind Lebermoose Arzneipflanzen? *Pharmazie in unserer Zeit* 16: 152-156.
- Beckert, S., S. Steinhauser, H. Muhle and V. Knoop, 1999 A molecular phylogeny of bryophytes based on nucleotide sequences of the mitochondrial *nad5* gene. *Plant Systematics and Evolution* 218: 179-192.
- Bentler, I., and L. Stange, 1991 Attempt to Direct Early Differentiation in 2-Cell Systems of *Riella-Helicophylla* (Bory Et Mont) Mont by Exposing Only One Cell to Light. *Journal of Plant Physiology* 137: 385-388.
- Bertelli, C., S. Lilla and G. Cavallo, 1992 *Dioscurides Neapolitanus, Biblioteca Nazionale di Napoli, Codex ex Vindobonensis Graecus I, Commentarium a cura di Carlo Bertelli, Salvatore Lilla, Guglielmo Cavallo*. Salerno Editrice; Akademische Druck-u. Verlagsanstalt, Roma; Graz-Austria.

- Bharadwaj, D. C., 1991 Paleobiology of origin and diversification in Bryophyta. *Biological Memoirs* 17: 1-44.
- Bidartondo, M. I., T. D. Bruns, M. Weiss, C. Sergio and D. J. Read, 2003 Specialized cheating of the ectomycorrhizal symbiosis by an epiparasitic liverwort. *Proceedings of the Royal Society B-Biological Sciences* 270: 835-842.
- Bischler, H., 1986a Geographic variation and species structure in *Marchantia paleacea* Bertol. *Hikobia* 9: 245-351.
- Bischler, H., 1986b *Marchantia polymorpha* L. s. lat.: karyotype analysis. *Journal Hattori Botanical Lab* 60: 105-117.
- Bischler, H., 1987 The Typification and Synonymy of Japanese *Marchantias* Described by Stephani. *The Bryologist* 90: 331-336.
- Bischler, H., 1988a *Marchantia paleacea* Bertol.- Karyotype analysis. *Beiheft zur Nova Hedwigia* 90: 95-100.
- Bischler, H., 1988b Relationships in the order *Marchantiales* (Hepaticae). *Journal of the Hattori Botanical Laboratory* 64: 47-57.
- Bischler, H., 1989 *Marchantia* L. subg. *Chlamidium* (Nees) Bischl. Sect. *Papillatae* Bischl. Sect. *Nov. en Asie et en Océanie*. *Cryptogamie Bryologie Lichenologie* 10: 61-79.
- Bischler, H., 1990 Quelques *Marchantiales* de l'île de la Réunion. *Cryptogamie Bryologie Lichénologie* 11: 169-171.
- Bischler, H., and M.-C. Boisselier-Dubayle, 1999 Polyploidy in liverworts - a case study of tetraploid *Sauteria*. *Haussknechtia Beiheft* 9: 41-44.
- Bischler, H., and M.-C. Boisselier-Dubayle, 2000 New approaches to the systematics of liverworts. *Nova Hedwigia* 70: 37-44.
- Bischler, H., and M. C. Boisselier-Dubayle, 1993 Variation in a Polyploid, Dioecious Liverwort, *Marchantia-Globosa*. *American Journal of Botany* 80: 953-958.
- Bischler, H., M. C. Boisselier-Dubayle and G. Pant, 1994 On *Aitchisoniella* Kash. (*Marchantiales*). *Cryptogamie Bryologie Lichénologie* 15: 103-110.
- Bischler, H., and S. Piippo, 1991 Bryophyte flora of the Huon Peninsula, Papua New Guinea. L. *Marchantia* (*Marchantiaceae*, *Hepaticae*). *Annales Botanici Fennici* 28: 277-301.
- Bischler, H., and A. T. Whittemore, 2001 *Cronisia* and its two species, *C. fimbriata* and *C. weddellii*. *Cryptogamie, Bryologie* 22: 167-174.
- Bischler-Causse, H., 1989 *Marchantia* L. *The Asiatic and Oceanic taxa*. J. Cramer, Berlin - Stuttgart.
- Bischler-Causse, H., 1993 *Marchantia* L. *The European and African taxa*. J. Cramer, Berlin-Stuttgart.
- Bischler-Causse, H., and M.-C. Boisselier-Dubayle, 1991 Lectotypification of *Marchantia polymorpha* L. *J. Bryology* 16: 361-365.
- Bischler-Causse, H., D. Glennly and M.-C. Boisselier-Dubayle, 1995 On *Neohodgsonia* H. Perss. (*Marchantiales*, *Hepaticae*). *Cryptogamie Bryologie Lichenologie* 16: 235-245.
- Bischler-Causse, H., S. R. Gradstein, S. Jovet-Ast, D. G. Long and N. S. Allen, 2005 *Marchantiidae*. *Flora Neotropica* 97: 1-262.
- Blackmore, S., and S. H. Barnes, 1987 Embryophyte spore walls- origin, development, and homologies. *Cladistics* 3: 185-195.
- Blackwell, W. H., 2003 Two theories of origin of the land-plant sporophyte: Which is left standing? *Botanical Review* 69: 125-148.
- Blunt, W., and S. Raphael, 1994 *The Illustrated Herbal*. Frances Lincoln, London.
- Bockers, M., V. Capková, I. Rtixhá and C. Schäfer, 1997 Growth at high CO<sub>2</sub> affects the chloroplast number but not the photosynthetic efficiency of photoautotrophic *Marchantia polymorpha* culture cells. *Plant Cell, Tissue and Organ Culture* 48: 103-110.
- Boiko, M. F., 1991 Bryophytes of the Initial-Stages of Primary Successions on Substrates of Anthropogenic Origin. *Soviet Journal of Ecology* 22: 85-88.
- Boisselier-Dubayle, M.-C., and H. Bischler, 1997 Enzyme polymorphism in *Preissia quadrata* (*Hepaticae*, *Marchantiaceae*). *Plant Systematics and Evolution* 205: 73-84.
- Boisselier-Dubayle, M.-C., and H. Bischler, 1998 Allopolyploidy in the Thalloid Liverwort *Corsinia* (*Marchantiales*). *Botanica Acta* 111: 490-496.
- Boisselier-Dubayle, M.-C., and H. Bischler, 1999 Genetic Relationships between Haploid and Triploid *Targionia* (*Targioniaceae*, *Hepaticae*). *IJPS* 160: 1163-1169.

- Boisselier-Dubayle, M.-C., M. d. Chaldée, L. Guérin, J. Lambourdière and H. Bischler, 1995a Genetic variability in western European *Lunularia* (Hepaticae, Lunulariaceae). *Fragmenta Floristica et Geobotanica* 40: 379-391.
- Boisselier-Dubayle, M.-C., M. F. Jubier, B. Lejeune and H. Bischler, 1995b Genetic Variability in the Three Subspecies of *Marchantia polymorpha* (Hepaticae)- Isozymes, RFLP and RAPD Markers. *Taxon* 44: 363-376.
- Boisselier-Dubayle, M.-C., J. Lambourdière and H. Bischler, 1996 Progeny analysis by isozyme markers in the polyploid liverwort *Plagiochasma rupestre*. *Canadian Journal of Botany* 74: 521-527.
- Boisselier-Dubayle, M.-C., J. Lambourdière and H. Bischler, 1998 Taxa Delimitation in *Reboulia* Investigated with Morphological, Cytological, and Isozyme Markers. *The Bryologist* 101: 61-69.
- Boisselier-Dubayle, M.-C., J. Lambourdière and H. Bischler, 2002 Molecular phylogenies support multiple morphological reductions in the liverwort subclass Marchantiidae (Bryophyta). *Molecular Phylogenetics and Evolution* 24: 66-77.
- Boisselier-Dubayle, M.-C., J. Lambourdière, M.-C. Leclerc and H. Bischler, 1997 Phylogenetic relationships in the Marchantiales (Hepaticae). Apparent incongruence between morphological and molecular data. *Comptes Rendus de l'Académie des Sciences - Series III - Sciences de la Vie* 320: 1013-1020.
- Bopp, M., and I. Capesius, 1995 New aspects of the systematics of bryophytes. *Naturwissenschaften* 82: 193-194.
- Bopp, M., and I. Capesius, 1996 New Aspects of Bryophyte Taxonomy Provided by a Molecular Approach. *Botanica Acta* 109: 368-372.
- Bopp, M., and R. Victor, 1988 Protoplasts of *Marchantia polymorpha* and its Development. *Plant Cell Physiology* 29: 497-501.
- Bornefeld, T., 1987 Some aspects of size in chromosome analysis of liverworts (Marchantiales). *Nova Hedwigia* 44: 91-100.
- Boullard, B., 1988 Observations on the coevolution of fungi with hepatics, pp. 107-124 in *Coevolution of fungi with plants and animals*, edited by K. A. Pirozynk and D. L. Hawkesworth. Academic Press, London.
- Bradbury, S. M., 2006 Response of the post-fire bryophyte community to salvage logging in boreal mixedwood forests of northeastern Alberta, Canada. *Forest Ecology and Management* 234: 313-322.
- Brasell, H. M., S. K. Davies and J. P. Mattay, 1986 Nitrogen-Fixation Associated with Bryophytes Colonizing Burnt Sites in Southern Tasmania, Australia. *Journal of Bryology* 14: 139-149.
- Braun, M., 1997 Gravitropism in tip-growing cells. *Planta* 203: S11-S19.
- Bremer, K., C. J. Humphries, B. D. Mishler and S. P. Churchill, 1987 On Cladistic Relationships in Green Plants. *Taxon* 36: 339-349.
- Breuil-Sée, A., 1994 Reviviscence of a bryophyte in anhydrobiosis for the quarter of a century - cytological criteria of reviviscence ability in *Riccia macropora* Lev. thalli. *Comptes Rendus de l'Académie des Sciences - Series III - Sciences de la Vie -Life Sciences* 317: 245-252.
- Breuil-Sée, A., 1993 Recorded desiccation-survival times in bryophytes. *Journal of Bryology* 17: 679-680.
- Breuil-Sée, A., and M. Abadie, 1990-1991 Ultrastructure et fonction des rhizoïdes de deux bryophytes - *Riccia canaliculata* Hoffm. et *R. sorocarpa* Bisch. (Marchantiales-Ricciacées). *Annales des Sciences Naturelles, Botanique, Paris* 13.11: 39-48.
- Brooker, S. G., R. C. Cambie and R. C. Cooper, 1988 *Economic Native Plants of New Zealand*. Botany Division, DSIR, Christchurch.
- Brown, D. H., H. Ougham and R. P. Beckett, 1986a The Effect of the Herbicide Dichlorophen on the Physiology and Growth of Two Bryophytes. *Annals of Botany* 57: 201-209.
- Brown, R. C., Z. B. Carothers, B. E. Lemmon and A. E. Rushing, 1995 Blepharoplast characteristics of the midstage spermatid of *Monoclea gottschei* subsp. *elongata*. *Bryologist* 98: 459-466.
- Brown, R. C., and B. E. Lemmon, 1986 Spore wall development in the liverwort, *Haplomitrium hookeri*. *Canadian Journal of Botany* 64: 1174-1182.

- Brown, R. C., and B. E. Lemmon, 1988 Cytokinesis occurs at boundaries of domains delimited by nuclear-based microtubules in sporocytes of *Conocephalum conicum* (Bryophyta). *Cell Motility and the Cytoskeleton* 11: 139-146.
- Brown, R. C., and B. E. Lemmon, 1990a Polar organizers mark division axis prior to preprophase band formation in mitosis of the hepatic *Reboulia hemisphaerica* (Bryophyta). *Protoplasma* 156: 74-81.
- Brown, R. C., and B. E. Lemmon, 1990b Sporogenesis in bryophytes in *Microspores Evolution and Ontogeny*. Academic Press Limited.
- Brown, R. C., and B. E. Lemmon, 1992 Polar organizers in monplastidic mitosis of hepatics (Bryophyta). *Cell Motility and the Cytoskeleton* 22: 72-77.
- Brown, R. C., and B. E. Lemmon, 2004 gamma-Tubulin, microtubule arrays, and quadripolarity during sporogenesis in the hepatic *Aneura pinguis* (Metzgeriales). *Journal of Plant Research* 117: 371-376.
- Brown, R. C., B. E. Lemmon and T. Horio, 2004 gamma-Tubulin localization changes from discrete polar organizers to anastral spindles and phragmoplasts in mitosis of *Marchantia polymorpha* L. *Protoplasma* 224: 187-193.
- Brown, R. C., B. E. Lemmon and K. S. Renzaglia, 1986b Sporocytic Control of Spore Wall Pattern in Liverworts. *American Journal of Botany* 73: 593-596.
- Bryan, V. S., 2001 Great discoveries in bryology and lichenology - Apospory in mosses discovered by Nathanael Pringsheim in a brilliant epoch of botany. *Bryologist* 104: 40-46.
- Burke, D. H., J. E. Hearst and A. Sidow, 1993 Early Evolution of Photosynthesis - Clues from Nitrogenase and Chlorophyll Iron Proteins. *Proceedings of the National Academy of Sciences of the United States of America* 90: 7134-7138.
- Campbell, E. O., 1987 Monoclea (Hepaticae); Distribution and Number of Species. *The Bryologists* 90: 371-373.
- Cantrill, D. J., 1997 Hepatophytes from the early Cretaceous of Alexander island, Antarctica: Systematics and paleoecology. *International Journal of Plant Sciences* 158: 476-488.
- Cantrill, D. J., 2000 A new macroflora from the South Orkney Islands, Antarctica- evidence of an Early to Middle Jurassic age for the Powell Island Conglomerate. *Antarctic Science* 12: 185-195.
- Capesius, I., and M. Bopp, 1997 New classification of liverworts based on molecular and morphological data. *Pl Syst Evol* 207: 87-97.
- Carafa, A., J. G. Duckett and R. Ligrone, 2003a The Placenta in *Monoclea forsteri* Hook. and *Treubia lacunosa* (Col.) Prosk- Insights into Placental Evolution in Liverworts. *Annals of Botany* 92: 299-307.
- Carafa, A., J. G. Duckett and R. Ligrone, 2003b Subterranean gametophytic axes in the primitive liverwort *Haplomitrium harbouri* a unique type of endophytic association with aseptate fungi. *New Phytologist* 160: 185-197.
- Cardoso, N., and R. Iannuzzi, 2004 Nova Briófitas do Carbonífero Inferior da Bolívia. *Revista Brasileira de Paleontologia* 7: 111-116.
- Carginale, V., S. Sorbo, C. Capasso, F. Trinchella, G. Cafiero *et al.*, 2004 Accumulation, localisation, and toxic effects of cadmium in the liverwort *Lunularia cruciata*. *Protoplasma* 223: 53-61.
- Carothers, Z. B., and A. E. Rushing, 1988 Comparative Morphology of the Bryophyte Blepharoplast. *Advances in Bryology* 3: 95-134.
- Carothers, Z. B., and A. E. Rushing, 1990 Blepharoplast Morphology in *Treubia tasmanica* (Hepaticae- Treubiales). *The Bryologist* 93: 409-416.
- Cashmore, A. R., J. A. Jarillo, Y.-j. Wu and D. Liu, 1999 Cryptochromes: Blue Light Receptors for Plants and Animals. *Science* 284: 760-765.
- Chandra, V., D. Kumar and S. C. Srivastava, 1987 Calobryales distribution and phytogeographical discussion. *Geophytology* 17: 227-232.
- Chen, S., and W. Wang, 1998 Further observation on the movement of air pores of liverwort *Marchantia paleacea* var *diptera*. *Journal of Natural Science Nanjing Normal University* 21: 70-72.
- Chopra, R. N., and P. K. Kumra, 1988 *Biology of bryophytes*. New Age International Ltd., New Delhi.
- Cobb, M., 2006 Heredity before genetics: a history. *Nature Reviews Genetics* 7: 953-958.

- Collins, M., 2000 *Medieval Herbals, The Illustrative Traditions*. The British Library, London.
- Compton, B. D., 1993 Upper North Wakashan and Southern Tsimshian ethnobotany: the knowledge and usage of plants and fungi among the Oweekeno, Hanaksiala (Kitlope and Kemano), Haisla (Kitamaat) and Kitsoo Peoples of the central and north coasts of British Columbia, pp. in *Botany*. University of British Columbia.
- Convey, P., and S. R. I. Lewis, 2006 Geothermal bryophyte habitats in the South Sandwich Islands, maritime Antarctic. *Journal of Vegetation Science* 17: 529-538.
- Cook, M. E., L. E. Graham, C. E. J. Botha and C. A. Lavin, 1997 Comparative ultrastructure of plasmodesmata of *Chara* and selected bryophytes: Toward an elucidation of the evolutionary origin of plant plasmodesmata. *American Journal of Botany* 84: 1169-1178.
- Cook, M. E., L. E. Graham and C. A. Lavin, 1998 Cytokinesis and nodal anatomy in the charophycean green alga *Chara zeylanica*. *Protoplasma* 203: 65-74.
- Costa, J.-L., P. Paulsrud, J. Rikkinen and P. Lindblad, 2001 Genetic Diversity of Nostoc Symbionts Endophytically Associated with Two Bryophyte Species. *Applied and Environmental Microbiology* 67: 4393-4396.
- Cove, D. J., C. D. Knight and T. Lamparter, 1997 Mosses as model systems. *Trends in Plant Science* 2: 99-105.
- Crandall-Stotler, B., 1986 Morphogenesis, developmental anatomy and bryophyte phylogenetics: contraindications of monophyly. *Journal of Bryology* 14: 1-23.
- Crandall-Stotler, B. J., L. L. Forrest and R. E. Stotler, 2005 Evolutionary trends in the simple thalloid liverworts (Marchantiophyta, Jungermanniopsida subclass Metzgeriidae). *Taxon* 54: 299-316.
- Crowley, P. H., C. R. Stieha and D. N. McLetchie, 2005 Overgrowth competition, fragmentation and sex-ratio dynamics- a spatially explicit, sub-individual-based model. *Journal of Theoretical Biology* 233: 25-42.
- Crum, H., 2001 *Structural diversity of bryophytes*. University of Michigan Herbarium, Ann Arbor.
- Cutter, E. G., 1988 Differential growth in some liverworts. *American Journal of Botany* 75: 22-23.
- Davey, M. C., 1997a Effects of physical factors on photosynthesis by the Antarctic liverwort *Marchantia berteroana*. *Polar Biology* 17: 219-227.
- Davey, M. C., 1997b Effects of short-term dehydration and rehydration on photosynthesis and respiration by Antarctic bryophytes. *Environmental and Experimental Botany* 37: 187-198.
- Deltoro, V. I., A. Calatayud, C. Gimeno and E. Barreno, 1998 Water relations, chlorophyll fluorescence, and membrane permeability during desiccation in bryophytes from xeric, mesic, and hydric environments. *Canadian Journal of Botany* 76: 1923-1929.
- Delwiche, C. F., L. E. Graham and N. Thomson, 1989 Lignin-Like Compounds and Sporopollenin in Coleochaete, an Algal Model for Land Plant Ancestry. *Science* 245: 399-401.
- Delwiche, C. F., K. G. Karol and M. T. Cimino, 2002a Phylogeny of the genus Coleochaete (Coleochaetales, Charophyta) and related taxa inferred by analysis of the chloroplast gene *rbcL*. *Journal of Phycology* 38: 394-403.
- Delwiche, C. F., K. G. Karol, M. T. Cimino and K. J. Sytsma, 2002b Phylogeny of the genus Coleochaete (Coleochaetales, Charophyta) and related taxa inferred by analysis of the chloroplast gene *rbcL*. *Journal of Phycology* 38: 394-403.
- Dembitsky, V. M., T. Rezanka, I. A. Bychek and O. M. Afonina, 1993 Polar Lipid and Fatty-Acid Composition of Some Bryophytes. *Phytochemistry* 33: 1009-1014.
- Dettman, M. E., and H. T. Clifford, 2000 Gemmae of the Marchantiales from the Winton Formation (mid-Cretaceous), Eromanga Basin, Queensland. *Memoirs of the Queensland Museum* 45: 285-292.
- Dewey, R. M., 1989 Genetic Variation in the Liverwort *Riccia dictyospora* (Ricciaceae, Hepaticopsida). *Systematic Botany* 14: 155-167.
- Dillenius, J. J., 1995 *Les Muscinées Illustrées par JJ Dillenius en 1741 et Déterminées par S.O Lindberg en 1883*. Presses Universitaires de Namur, Namur (Belgique).
- Dombrowska, O., and Y.-L. Qiu, 2004 Distribution of introns in the mitochondrial gene *nad1* in land plants- phylogenetic and molecular evolutionary implications. *Molecular Phylogenetics and Evolution* 32: 246-263.
- Downing, A. J., and P. M. Selkirk, 1993 Bryophytes on the calcareous soils of Mungo National Park, an arid area of southern central Australia. *Great Basin Naturalist* 53: 13-23.

- Doyle, W. T., and R. E. Stotler, 2006 Contributions toward a bryoflora of California III. Keys and annotated species catalogue for liverworts and hornworts. *Madroño* 53: 89-197.
- Drinnan, A. N., and T. C. Chambers, 1986 Flora of the Lower Cretaceous Koonwarra Fossil Bed (Korumburra Group), South Gippsland, Victoria. *Memoir of the Association of Australasian Palaeontologists* 3: 1-77.
- Duckett, J. G., A. Carafa and R. Ligrone, 2006 A highly differentiated glomeromycotean association with the mucilage-secreting, primitive antipodean liverwort *Treubia* (Treubiaceae)- clues to the origins of mycorrhizas. *American Journal of Botany* 93: 797-813.
- Duckett, J. G., and R. Ligrone, 1993 Massive grana and stromal crystals in the chloroplasts of an extreme-shade liverwort *Dumortiera hirsuta* (W.) Nees (Marchantiales, Hepaticae). *Giornale Botanico Italiano* 127: 320-322.
- Duckett, J. G., and R. Ligrone, 1995 The Formation of Catenate Foliar Gemmae and the Origin of Oil Bodies in the Liverwort *Odontoschisma denudatum* (Mart.) Dum. (Jungermanniales)- a Light and Electron Microscope Study. *Annals of Botany* 76: 405-419.
- Duckett, J. G., and R. Ligrone, 2006a *Cyathodium* Kunze (Cyathodiaceae- Marchantiales), a tropical liverwort genus and family new to Europe, in Southern Italy. *Journal of Bryology* 28: 88-96.
- Duckett, J. G., and R. Ligrone, 2006b Novel features of the plastids in some deep-shade, antipodean thalloid liverworts. *Cryptogamie Bryologie* 27: 75-83.
- Duckett, J. G., and K. S. Renzaglia, 1993 The reproductive biology of the liverwort *Blasia pusilla* L. *Journal of Bryology* 17: 541-552.
- Duckett, J. G., K. S. Renzaglia and K. Pell, 1990 Desiccation causes the proliferation of multicellular hairs, but not mucilage papillae, in *Cryptothallus mirabilis* (Hepatophyta)- a correlated light and electron microscope study. *Canadian Journal of Botany* 68: 697-706.
- Duff, R. J., and D. L. Nickrent, 1999 Phylogenetic Relationships of Land Plants Using Mitochondrial Small-Subunit rDNA Sequences. *American Journal of Botany* 86: 372-386.
- During, 1992 Ecological classifications of bryophytes and lichens, pp. 1-31 in *Bryophytes and Lichens in a Changing Environment*, edited by J. W. B. A. M. Farmer. Oxford University Press, Oxford.
- During, H. J., and B. F. van Tooren, 1990 Bryophyte interactions with other plants. *Botanical Journal of the Linnean Society* 104: 79-98.
- Duroux, L., and K. G. Welinder, 2003 The Peroxidase Gene Family in Plants- A Phylogenetic Overview. *Journal of Molecular Evolution* 57: 397-407.
- Edwards, D., 1996 New insights into early land ecosystems: a glimpse of a lilliputian world. *Review of Palaeobotany and Palynology* 90: 159-174.
- Edwards, D., 2000 The role of mid-Paleozoic mesofossils in the detection of early bryophytes. *Philosophical Transactions- Biological Sciences* 355: 733-755.
- Edwards, D., K. L. Davies, J. B. Richardson and L. Axe, 1995a The ultrastructure of spores of *Cooksonia pertoni*. *Palaeontology* 38: 153-168.
- Edwards, D., K. L. Davies, J. B. Richardson, C. H. Wellman and L. Axe, 1996 Ultrastructure of *Synorisporites downtonensis* and *Retusotriletes* cf. *coronatus* in spore masses from the Pridoli of the Welsh Borderland. *Palaeontology* 39: 783-800.
- Edwards, D., J. G. Duckett and J. B. Richardson, 1995b Hepatic Characters in the Earliest Land Plants. *Nature* 374: 635-636.
- Edwards, D., and U. Fanning, 1994 Lower Devonian coalified sporangia from Shropshire- *Salopella* Edwards & Richardson and *Tortilicaulis* Edwards. *Botanical Journal of the Linnean Society* 116: 89-110.
- Edwards, D., and J. B. Richardson, 2004 Silurian and Lower Devonian plant assemblages from the Anglo-Welsh Basin- a palaeobotanical and palynological synthesis. *Geological Journal* 39: 375-402.
- Edwards, D., P. A. Selden, J. B. Richardson and L. Axe, 1995c Coprolites as evidence for plant-animal interaction in Siluro-Devonian terrestrial ecosystems. *Nature* 377: 329-331.
- Edwards, D., C. H. Wellman and L. Axe, 1999 Tetrads in sporangia and spore masses from the upper Silurian and Lower Devonian of the Welsh Borderland. *Botanical Journal of the Linnean Society* 130: 111-156.

- Edwards, D. S., 1986 *Aglaophyton major*, a non-vascular land-plant from the Devonian Rhynie Chert. *Botanical Journal of the Linnean Society* 93: 173-204.
- Eguchi, S., H. Takano, K. Ono and S. Takio, 2002 Photosynthetic electron transport regulates the stability of the transcript for the protochlorophyllide oxidoreductase gene in the liverwort, *Marchantia paleacea* var. *diptera*. *Plant and Cell Physiology* 43: 573-577.
- Eisenbeiser-Engelbrecht, I.-E., 1986 Reversible Blockage of DNA Synthesis in Two-cell-systems of *Riella helicophyfla* (Bory et Mont.) Mont. by 5-Fluoro-2deoxyuridine — An Attempt to Synchronize the Two Cells. *Journal of Plant Physiology* 123: 283-288.
- Eldridge, D. J., and M. E. Tozer, 1996 Distribution and floristics of bryophytes in soil crusts in semi-arid and arid eastern Australia. *Australian Journal of Botany* 44: 223-247.
- Equihua, C., 1987 Diseminación de yemas en *Marchantia polymorpha* L. *Cryptogamie, Bryologie Lichénologie* 8: 199-217.
- Ewan, J., 1991 Who Conquered the New World? Or Four Centuries of Exploration in An Indehiscent Capsule. *Annals of the Missouri Botanic Garden* 78: 57-64.
- Ferreira, A. N., 1990 Notas sobre la morfología vegetativa y la reproducción asexual en *Ricciocarpus natans* L. *Corda Marchantiales Hepaticae*. *Lilloa* 37: 51-54.
- Fischer, S., U. Bottcher, S. Reuber, S. Anhalt and G. Weissenböck, 1995 Chalcone Synthase in the Liverwort *Marchantia-Polymorpha*. *Phytochemistry* 39: 1007-1012.
- Fletcher, B. J., D. J. Beerling and S. J. Brentnall, 2005 Fossil bryophytes as recorders of ancient CO<sub>2</sub> levels- Experimental evidence and a Cretaceous case study. *Global Biogeochemical Cycles* 19: GB3012.
- Fletcher, B. J., S. J. Brentnall, W. P. Quick and D. J. Beerling, 2006 BRYOCARB- a process-based model of thallose liverwort carbon isotope fractionation in response to CO<sub>2</sub>, O<sub>2</sub>, light and temperature. *Geochimica et Cosmochimica Acta* 70: 5676-5691.
- Folta, K. M., L. L. Koss, R. McMorrow, H. H. Kim, J. D. Kenitz *et al.*, 2005 Design and fabrication of adjustable red-green-blue LED light arrays for plant research. *BMC Plant Biology* 5: doi:10.1186/1471-2229-1185-1117.
- Fonseca, H. M. A. C., R. L. L. Berbara and M. L. Pereira, 2006 *Lunularia cruciata*, a potential in vitro host for *Glomus proliferum* and *G. intraradices*. *Mycorrhiza* 16: 503-508.
- Forrest, L. L., and B. J. Crandall-Stotler, 2005 Progress towards a robust phylogeny for the liverworts, with particular focus on the simple thalloids. *Journal of the Hattori Botanical Laboratory* 97: 127-159.
- Forrest, L. L., E. C. Davis, D. G. Long, B. J. Crandall-Stotler, A. Clark *et al.*, 2006 Unraveling the evolutionary history of the liverworts (Marchantiophyta) – Multiple taxa, genomes, and analyses. *The Bryologist* 109: 303-334.
- Frahm, J.-P., 2000 The life and work of Johannes Hedwig. *Nova Hedwigia* 70: 1-14.
- Frahm, J.-P., 2004 Recent Developments of Commercial Products from Bryophytes. *The Bryologist* 107: 277-283.
- Frahm, J.-P., W. Frey, H. Kürschner and M. Menzel, 1990 *Mosses and liverworts of Mt. Kinabalu*. Sabah Parks Trusttrees, Kota Kinabalu, Sabah, Malaysia.
- Franquemont, C., T. Plowman, E. Franquemont, S. R. King, C. Niezgoda *et al.*, 1990 The Ethnobotany of Chinchero, an Andean Community in Southern Peru. *Fieldiana, Botany* 24: 1-126.
- Frey, W., and H. H. Hilger, 2001 The gametophyte-sporophyte junction in *Apotreubia hortoniae* (Treubiaceae, Hepaticophytina) - Structure and systematic implications. *Nova Hedwigia* 72: 339-345.
- Frey, W., and H. Kürschner, 1988 Bryophytes of the Arabian peninsula and Socotra - Floristics, phytogeography and definition of the Xerothermic Pangaeic element. *Nova Hedwigia* 46: 37-120.
- Frey, W., and M. Stech, 2005 A morpho-molecular classification of the liverworts (Hepaticophytina, Bryophyta). *Nova Hedwigia* 81: 55-78.
- Friederich, S., U. H. Maier, B. Deus-Neumann, Y. Asakawa and M. H. Zenk, 1999a Biosynthesis of cyclic bis(bibenzyls) in *Marchantia polymorpha*. *Phytochemistry* 50: 589-598.
- Friederich, S., M. Rueffer, Y. Asakawa and M. H. Zenk, 1999b Cytochromes P-450 catalyze the formation of marchantins A and C in *Marchantia polymorpha*. *Phytochemistry* 52: 1195-1202.



- Fry, S. C., R. C. Smith, K. F. Renwick, D. J. Martin, S. K. Hodge *et al.*, 1992 Xyloglucan Endotransglycosylase, a New Wall-Loosening Enzyme-Activity from Plants. *Biochemical Journal* 282: 821-828.
- Fujisawa, M., K. Hayashi, T. Nishio, T. Bando, S. Okada *et al.*, 2001 Isolation of X and Y chromosome-specific DNA markers from a liverwort, *Marchantia polymorpha*, by representational difference analysis. *Genetics* 159: 981-985.
- Fujisawa, M., S. Nakayama, T. Nishio, M. Fujishita, K. Hayashi *et al.*, 2003 Evolution of ribosomal DNA unit on the X chromosome independent of autosomal units in the liverwort *Marchantia polymorpha*. *Chromosome Research* 11: 695-703.
- Fukuda, T., M. Sakai, H. Takano, K. Ono and S. Takio, 2004 Hypermethylation of retrotransposons in the liverwort *Marchantia paleacea* var. *diptera*. *Plant Cell Reports* 22: 594-598.
- Fukuzawa, H., T. Kohchi, T. Sano, H. Shirai, K. Umesonono *et al.*, 1988 Structure and Organization of *Marchantia-Polymorpha* Chloroplast Genome .3. Gene Organization of the Large Single Copy Region from Rbcl to Trni(Cau). *Journal of Molecular Biology* 203: 333-351.
- Fukuzawa, H., T. Kohchi, H. Shirai, K. Ohyama, K. Umesonono *et al.*, 1986 Coding Sequences for Chloroplast Ribosomal Protein-S12 from the Liverwort, *Marchantia-Polymorpha*, Are Separated Far Apart on the Different DNA Strands. *Febs Letters* 198: 11-15.
- Fukuzawa, H., T. Yoshida, T. Kohchi, T. Okumura, Y. Sawano *et al.*, 1987 Splicing of Group-I Introns in Messenger-Rnas Coding for Cytochrome-B6 and Subunit-Iv in the Liverwort *Marchantia-Polymorpha* Chloroplast Genome - Exon Specifying a Region Coding for 2 Genes with the Spacer Region. *Febs Letters* 220: 61-66.
- Furuki, T., 1986 Gemmae of *Haplomitrium hookeri* (Smith) Nees. *Hikobia* 9: 495-496.
- Fuselier, L., and D. N. McLetchie, 2004 Microhabitat and sex distribution in *Marchantia inflexa*, a dioicous liverwort. *Bryologist* 107: 345-356.
- Fuselier, L., and N. McLetchie, 2002 Maintenance of sexually dimorphic preadult traits in *Marchantia inflexa* (Marchantiaceae). *American Journal of Botany* 89: 592-601.
- Gambardella, R., 1987 Ultrastructure and Development of the Gametophyte Vaginula-Sporophyte Foot Complex in the Liverwort *Targionia-Hypophylla* L. *Planta* 172: 431-438.
- Garbary, D. J., K. S. Renzaglia and J. G. Duckett, 1993 The Phylogeny of Land Plants - a Cladistic-Analysis Based on Male Gametogenesis. *Plant Systematics and Evolution* 188: 237-269.
- García Barriga, H., 1992 *Flora Medicinal de Colombia: Botánica Médica. Ed. 2. Tercer Mundo, Santafé de Bogotá.*
- Gerrienne, P., 1997 The fossil plants from the Lower Devonian of Marchin (northern margin of Dinant Synclinorium, Belgium). V. *Psilophyton genseliae* sp. nov., with hypotheses on the origin of Trimerophytina. *Review of Palaeobotany and Palynology* 98: 303-324.
- Gerrienne, P., D. L. Dilcher, S. Bergamaschi, I. Milagres, E. Pereira *et al.*, 2006 An exceptional specimen of the early land plant *Cooksonia paranensis*, and a hypothesis on the life cycle of the earliest eutracheophytes. *Review of Palaeobotany and Palynology* 142: 123-130.
- Giordano, S., F. Alfano, A. Basile and R. C. Cobianchi, 1999 Toxic effects of the thallus of the lichen *Cladonia foliacea* on the growth and morphogenesis of bryophytes. *Cryptogamie Bryologie* 20: 35-41.
- Giordano, S., R. C. Cobianchi, A. Basile and V. Spagnuolo, 1989 The structure and role of hyaline parenchyma in the liverwort *Lunularia cruciata* L Dum. *Giornale botanico italiano* 123: 169-176.
- Givens, J. A., 2006 Reading and Writing the Illustrated Tractacus de herbis, 1280-1526, pp. 115-145 in *Visualizing Medieval Medicine and Natural History, 1200-1550*, edited by K. M. R. Jean A. Givens, Alain Touwaide. Ashgate Publishing Limited, Aldershot, England.
- Glasspool, I. J., D. Edwards and L. Axe, 2004 Charcoal in the Silurian as evidence for the earliest wildfire. *Geology* 32: 381-383.
- Gorelick, R., 2005 Theory for why dioecious plants have equal length sex chromosomes. *American Journal of Botany* 92: 979-984.
- Goremykin, V. V., and F. H. Hellwig, 2005 Evidence for the most basal split in land plants dividing bryophyte and tracheophyte lineages. *Plant Systematics and Evolution* 254: 93-103.
- Govindjee, and D. Krogmann, 2004 Discoveries in oxygenic photosynthesis (1727–2003) — a perspective. *Photosynthesis Research* 80: 15-57.

- Gradstein, S. R., 1989 Is *Marchantia plicata* the largest thalloid liverwort on earth? *Bryol. Times* 50: 3.
- Gradstein, S. R., R. Klein, L. Kraut, R. Mues, J. Spörle *et al.*, 1992 Phytochemical and morphological support for the existence of two species in *Monoclea* (Hepaticae). *Plant Systematics and Evolution* 180: 115-135.
- Graham, L. E., 1993 *Origin of Land Plants*. John Wiley & Sons, New York.
- Graham, L. E., 1996 Green algae to land plants: An evolutionary transition. *Journal of Plant Research* 109: 241-251.
- Graham, L. E., M. E. Cook and J. S. Busse, 2000 The origin of plants: Body plan changes contributing to a major evolutionary radiation. *Proceedings of the National Academy of Sciences of the United States of America* 97: 4535-4540.
- Graham, L. E., C. F. Delwiche and B. D. Mishler, 1991 Phylogenetic Connections Between the 'Green Algae' and the 'Bryophytes' in *Advances in bryology*, edited by N. G. Miller. J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Berlin; Stuttgart.
- Graham, L. E., L. W. Wilcox, M. E. Cook and P. G. Gensel, 2004 Resistant tissues of modern marchantioid liverworts resemble enigmatic Early Paleozoic microfossils. *Proceedings of the National Academy of Sciences of the United States of America* 101: 11025-11029.
- Graham, L. K. E., and L. W. Wilcox, 2000 The origin of alternation of generations in land plants: a focus on matrotrophy and hexose transport. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 355: 757-766.
- Griffiths, H., K. Maxwell, D. Richardson and W. Robe, 2004 Turning the land green: inferring photosynthetic physiology and diffusive limitations in early bryophytes, pp. 3-16 in *The Evolution of Plant Physiology: From whole plants to ecosystems*, edited by A. R. Hemsley and I. Poole. Elsevier Ltd, Amsterdam.
- Grimaldi, D. A., M. S. Engel and P. C. Nascimbene, 2002 Fossiliferous Cretaceous Amber from Myanmar (Burma)- Its Rediscovery, Biotic Diversity, and Paleontological Significance. *American Museum Novitates* 3361: 1-71.
- Groth-Malonek, M., and V. Knoop, 2005 Bryophytes and Other Basal Land Plants- The Mitochondrial Perspective. *Taxon* 54: 293-297.
- Groth-Malonek, M., D. Pruchner, F. Grewe and V. Knoop, 2005 Ancestors of trans-splicing mitochondrial introns support serial sister group relationships of hornworts and mosses with vascular plants. *Molecular Biology and Evolution* 22: 117-125.
- Grotha, R., 1986 Tetracyclines, verapamil and nifedipine induce callose deposition at specific cell sites in *Riella helicophylla*. *Planta* 169: 546-554.
- Guminska, B., and M. Mierzenska, 1992 *Gerronema marchantiae* Sing. et Clem, - A fungus associating with *Marchantia polymorpha* L. and *Nostoc* sp. *Zeszyty Naukowe Uniwersytetu Jagiellonskiego Prace Botaniczne* 24: 171-177.
- Hagemann, W., 1999 Towards an organismic concept of land plants: the marginal blastozone and the development of the vegetation body of selected frondose gametophytes of liverworts and ferns. *Plant Systematics and Evolution* 216: 81-133.
- Halloy, S., 1991 Islands of Life at 6000 M Altitude - the Environment of the Highest Autotrophic Communities on Earth (Socompa Volcano, Andes). *Arctic and Alpine Research* 23: 247-262.
- Hanson, D., T. J. Andrews and M. R. Badger, 2002 Variability of the pyrenoid-based CO<sub>2</sub> concentrating mechanism in hornworts (Anthocerotophyta). *Functional Plant Biology* 29: 407-416.
- Harada, M., S. Takio and S. Takami, 1993 Nitrogen-assimilating enzymes in chlorophyllous cells of the liverwort, *Marchantia paleacea* var. *diptera*, grown in the dark. *Journal of Plant Physiology* 141: 527-532.
- Harashima, S., H. Takano, K. Ono and S. Takio, 2004 Chalcone synthase-like gene in the liverwort, *Marchantia paleacea* var. *diptera*. *Plant Cell Reports* 23: 167-173.
- Harrer, R., 2003 Associations between light-harvesting complexes and Photosystem II from *Marchantia polymorpha* L. determined by two- and three-dimensional electron microscopy. *Photosynthesis Research* 75: 249-258.

- Harrer, R., R. Bassi, M. G. Testi and C. Schafer, 1998 Nearest-neighbor analysis of a photosystem II complex from *Marchantia polymorpha* L. (liverwort), which contains reaction center and antenna proteins. *European Journal of Biochemistry* 255: 196-205.
- Harris, H., 1999 *The Birth of the Cell*. Yale University Press, New Haven.
- Hartung, W., and H. Gimmler, 1994 A Stress Physiological Role for Abscisic Acid (ABA) in Lower Plants, pp. 157-173 in *Progress in Botany*. Springer-Verlag Berlin, Heidelberg.
- Hartung, W., E. M. Hellwege and O. H. Volk, 1994 The function of abscisic acid in bryophytes. *Journal of the Hattori Botanical Laboratory* 76: 59-65.
- Hartung, W., E. W. Weiler and O. H. Volk, 1987 Immunochemical Evidence That Abscisic Acid Is Produced by Several Species of Anthocerotae and Marchantiales. *The Bryologist* 90: 393-400.
- Hashimoto, T., S. Kanayama, Y. Kan, M. Tori and Y. Asakawa, 1994a Structures and Total Synthesis of 2 Novel Bis(Bibenzyls), Paleatin-a and Paleatin-B, from the Liverwort *Marchantia-Paleacea* Var *Dipteria*. *Chemical & Pharmaceutical Bulletin* 42: 1376-1378.
- Hashimoto, T., M. Tori and Y. Asakawa, 1988 A Highly efficient preparation of lunularic acid and some biological activities of stilbene and dihydrostilbene derivatives. *Phytochemistry* 27: 109-113.
- Hashimoto, T., T. Yoshida, Y. Kan, S. Takaoka, M. Tori *et al.*, 1994b Structures of four novel macrocyclic bis(bibenzyl) dimers, pusilatins A–D from the liverwort *Blasia pusilla*. *Tetrahedron Letters* 35: 909-910.
- Hata, J.-i., Q. Hua, C. Yang, K. Shimizu and M. Taya, 2000 Characterization of energy conversion based on metabolic flux analysis in mixotrophic liverwort cells, *Marchantia polymorpha*. *Biochemical Engineering Journal* 6: 65-74.
- He-Nygrén, X., A. Juslén, I. Ahonen, D. Glenney and S. Piippo, 2006 Illuminating the evolutionary history of liverworts (Marchantiophyta)—towards a natural classification. *Cladistics* 22: 1-31.
- Hedderson, T. A., R. L. Chapman and W. L. Rootes, 1996 Phylogenetic relationships of bryophytes inferred from nuclear-encoded rRNA gene sequences. *Plant Systematics and Evolution* 200: 213-224.
- Heinrichs, J., S. R. Gradstein, R. Wilson and H. Schneider, 2005 Towards a natural classification of liverworts (Marchantiophyta) based on the chloroplast gene *rbcl*. *Cryptogamie, Bryologie* 26: 131-150.
- Hellwege, E. M., K.-J. Dietz and W. Hartung, 1996 Abscisic acid causes changes in gene expression involved in the induction of the landform of the liverwort *Riccia fluitans* L. *Planta* 198: 423-432.
- Hellwege, E. M., K. J. Dietz, O. H. Volk and W. Hartung, 1994 Abscisic-Acid and the Induction of Desiccation Tolerance in the Extremely Xerophilic Liverwort *Exormotheca-Holstii*. *Planta* 194: 525-531.
- Hellwege, E. M., O. H. Volk and W. Hartung, 1992 A Physiological Role of Abscisic Acid in the Liverwort *Riccia fluitans* L. *J. Plant Physiol* 140: 553-556.
- Hemsley, A. R., 1989a The ultrastructure of the spore wall of the triassic bryophyte *Naiadita lanceolata* Review of Palaeobotany and Palynology 61: 89-99.
- Hemsley, A. R., 1989b The ultrastructure of the spores of the Devonian plant *Parka decipiens*. *Annals of Botany* 64: 359-367.
- Hemsley, A. R., 1990 *Parka decipiens* and land plant spore evolution. *Historical Biology* 4: 39-50.
- Hemsley, A. R., 1994 The origin of the land plant sporophyte - an interpolational scenario. *Biological Reviews* 69: 263-273.
- Herrick, J. W., 1995 *Iroquois Medical Botany*. Syracuse University Press, Syracuse, NY.
- Herrmann, B., R. Kilian, S. Peter and C. Schafer, 1997 Light-stress-related changes in the properties of photosystem I. *Planta* 201: 456-462.
- Heupel, T., and L. Stange, 1995 The Auxin Antagonist p-Chlorophenoxyisobutyric Acid Abolishes Polar Distribution of DNA Synthesizing Cells within the Meristem of *Riella helicophylla*. *Journal of Plant Physiology* 146: 757-759.
- Hirata, T., Y. Ashida, H. Mori, D. Yoshinaga and L. J. Goad, 2000a A 37-kDa peroxidase secreted from liverworts in response to chemical stress. *Phytochemistry* 55: 197-202.
- Hirata, T., K. Shimoda and T. Kawano, 2000b Asymmetric hydrolysis of enol esters with two esterases from *Marchantia polymorpha*. *Tetrahedron-Asymmetry* 11: 1063-1066.

- Hirochika, H., and R. Hirochika, 1993 Ty1-Copia Group Retrotransposons as Ubiquitous Components of Plant Genomes. *Japanese Journal of Genetics* 68: 35-46.
- Hodgins, I. W., and R. W. Rogers, 1997 Correlations of stocking with the cryptogamic soil crust of a semi-arid rangeland in southwest Queensland. *Australian Journal of Ecology* 22: 425-431.
- Hoeniger, C., 2006 The Illuminated Tacuinum sanitatis Manuscripts from Northern Italy ca. 1380-1400: Sources, Patrons, and the Creation of a New Pictorial Genre., pp. 51-81 in *Visualizing Medieval Medicine and Natural History, 1200-1550*, edited by K. M. R. Jean A. Givens, Alain Touwaide. Ashgate Publishing Limited, Aldershot, England.
- Hoffman, G. L., and R. A. Stockey, 1997 Morphology and paleoecology of *Ricciopsis speirsae* sp.nov. (Ricciaceae), a fossil liverwort from the Paleocene Joffre Bridge locality, Alberta, Canada. *Canadian Journal of Botany* 75: 1375-1381.
- Hohe, A., and R. Reski, 2005 From axenic spore germination to molecular farming - One century of bryophyte in vitro culture. *Plant Cell Reports* 23: 513-521.
- Holloway, D. M., and M. Lantin, 2002 Maintaining apical dominance in the fern gametophyte. *Annals of Botany* 89: 409-417.
- Horodyski, R. J., and L. P. Knauth, 1994 Life on land in the Precambrian. *Science* 263: 494-498.
- Hueber, F. M., 2001 Rotted wood–alga–fungus- the history and life of *Prototaxites Dawson* 1859. *Review of Palaeobotany and Palynology* 116: 123-158.
- Hunt, P. W., R. A. Watts, B. Trevaskis, D. J. Llewelyn, J. Burnell *et al.*, 2001 Expression and evolution of functionally distinct haemoglobin genes in plants. *Plant Molecular Biology* 47: 677-692.
- Inouye, I., and T. Hori, 1991 High-Speed Video Analysis of the Flagellar Beat and Swimming Patterns of Algae - Possible Evolutionary Trends in Green-Algae. *Protoplasma* 164: 54-69.
- Irifune, K., K. Ono, M. Takahashi, H. Murakami and H. Morikawa, 1996 Stable transformation of cultured cells of the liverwort *Marchantia polymorpha* by particle bombardment. *Transgenic Research* 5: 337-341.
- Ishida, A., K. Ookubo and K. Ono, 1987 Formation of Hydrogen Peroxide by NAD(P)H Oxidation with Isolated Cell Wall-Associated Peroxidase from Cultured Liverwort Cells, *Marchantia polymorpha* L. *Plant and Cell Physiology* 28: 723-726.
- Ishizaki, K., Y. Shimizu-Ueda, S. Okada, M. Yamamoto, M. Fujisawa *et al.*, 2002 Multicopy genes uniquely amplified in the Y chromosome-specific repeats of the liverwort *Marchantia polymorpha*. *Nucleic Acids Research* 30: 4675-4681.
- Itouga, M., Y. kato, H. Deguchi, Y. Ono and H. Sakakibara, 2005 Genetic diversity, sexual conditions and branching pattern within *Reboulia hemisphaerica* (Marchantiales; Hepaticae) in Japan. *Hikobia* 14: 251-261.
- Itouga, M., T. Yamaguchi and H. Deguchi, 2000 Genetic structure of *Lunularia cruciata* (Marchantiales, Hepaticae) in Japan using allozyme markers. *Hikobia* 13: 219-224.
- Itouga, M., T. Yamaguchi and H. Deguchi, 2002 Gene flow and genetic differentiation in four East Asian liverwort species. *Journal of the Hattori Botanical Laboratory* 92: 199-209.
- Jovet-Ast, S., 2000 Documents pour la connaissance des *Riccia* australiens (Hépatiques, Marchantiales) -Nouvelles récoltes. Taxons nouveaux. Commentaires morphologiques et écologiques. *Cryptogamie Bryologie* 21: 289-343.
- Kajikawa, M., S. Yamaoka, K. T. Yamato, H. Kanamaru, E. Sakuradani *et al.*, 2003a Functional analysis of a beta-ketoacyl-CoA synthase gene, MpFAE2, by gene silencing in the liverwort *Marchantia polymorpha* L. *Bioscience Biotechnology and Biochemistry* 67: 605-612.
- Kajikawa, M., K. T. Yamato, H. Kanamaru, E. Sakuradani, S. Shimizu *et al.*, 2003b MpFAE3, a beta-Ketoacyl-CoA synthase gene in the liverwort *Marchantia polymorpha* L., is preferentially involved in elongation of palmitic acid to stearic acid. *Bioscience Biotechnology and Biochemistry* 67: 1667-1674.
- Kajikawa, M., K. T. Yamato, Y. Kohzu, M. Nojiri, E. Sakuradani *et al.*, 2004 Isolation and characterization of Delta(6)-desaturase, an ELO-like enzyme and Delta(5)-desaturase from the liverwort *Marchantia polymorpha* and production of arachidonic and eicosapentaenoic acids in the methylotrophic yeast *Pichia pastoris*. *Plant Molecular Biology* 54: 335-352.

- Kajikawa, M., K. T. Yamato, Y. Sakai, H. Fukuzawa, K. Ohya *et al.*, 2006 Isolation and functional characterization of fatty acid Delta 5-elongase gene from the liverwort *Marchantia polymorpha* L. *Febs Letters* 580: 149-154.
- Kámory, E., G. M. Keserü and B. Papp, 1995 Isolation and Antibacterial Activity of Marchantin A, a Cyclic Bis(bibenzyl) Constituent of Hungarian *Marchantia polymorpha*. *Planta Medica* 61: 387-388.
- Kanekatsu, M., K. Dohke and K. Ohtsuki, 1991 Purification and Characterization of Three Distinct Protein Kinases from *Marchantia polymorpha*. *Plant and Cell Physiology* 32: 159-168.
- Kanekatsu, M., and K. Ohtsuki, 1993 Biochemical Characterization of Casein Kinases II (CK-II) from Cultured Cells of the Liverwort, *Marchantia polymorpha*. *Plant and Cell Physiology* 34: 627-631.
- Kappen, L., and H. Straka, 1988 Pollen and Spores Transport into the Antarctic. *Polar Biology* 8: 173-180.
- Karol, K. G., R. M. McCourt, M. T. Cimino and C. F. Delwiche, 2001 The closest living relatives of land plants. *Science* 294: 2351-2353.
- Katekar, G. F., M. A. Venis and A. E. Geissler, 1993 Binding of lunularic acid, hydrangeic acid and related compounds to the receptor for 1-N-naphthylphthalamic acid. *Phytochemistry* 32: 527-531.
- Kato, M., and H. Akiyama, 2005 Interpolation Hypothesis for Origin of the Vegetative Sporophyte of Land Plants. *Taxon* 54: 443-450.
- Kawai, Y., and J. Otsuka, 2004 The Deep Phylogeny of Land Plants Inferred from a Full Analysis of Nucleotide Base Changes in Terms of Mutation and Selection. *Journal of Molecular Evolution* 58: 479-489.
- Keil, G., 1986 *Hortus Sanitatus, Gart der Gesundheit, Gaerde der Sunthede*, pp. 55-68 in *Medieval Gardens*. Dumbarton Oaks Research Library and Collection, Trustees for Harvard University, Washington, D. C.
- Keller, C. K., and B. D. Wood, 1993 Possibility of chemical weathering before the advent of vascular land plants. *Nature* 364: 223-225.
- Kennedy, A. D., 1996 Antarctic fellfield response to climate change: A tripartite synthesis of experimental data. *Oecologia* 107: 141-150.
- Kennedy, M. J., M. Droser, L. M. Mayer, D. Pevear and D. Mrofka, 2006 Late Precambrian Oxygenation; Inception of the Clay Mineral Factory. *Science* 311: 1446-1449.
- Kenrick, P., 1994 Alternation of generations in land plants- new phylogenetic and palaeobotanical evidence. *Biological Reviews* 69: 293-330.
- Kenrick, P., and P. R. Crane, 1997a *The origin and early diversification of land plants: a cladistic study*. Smithsonian Institution Press, Washington
- Kenrick, P., and P. R. Crane, 1997b The origin and early evolution of plants on land. *Nature* 389: 33-39.
- Kerp, H., N. H. Trewin and H. Hass, 2004 New gametophytes from the Early Devonian Rhynie Chert. *Trans. R. Soc. Edinb. Earth Sci.* 94: 411-428.
- Kilian, R., R. Bassi and C. Schäfer, 1998 Identification and characterization of photosystem II chlorophyll a/b binding proteins in *Marchantia polymorpha* L. *Planta* 204: 260-267.
- Kim, H. N., and T. Yamazaki, 2004 Nonconcerted evolution of histone 3 genes in a liverwort, *Conocephalum conicum*. *Genes & Genetic Systems* 79: 331-344.
- Kim, S.-K., Y.-S. Kim, T.-W. Kim, S.-H. Joo and J.-K. Shim, 2001 Identification of 24a-Methylsterols from *Marchantia polymorpha*. *Bulletin of the Korean Chemical Society* 22: 1299-1300.
- Kim, Y. S., T. W. Kim and S. K. Kim, 2003 Conversion of 6-deoxocastasterone to Brassinolide in a Liverwort, *Marchantia polymorpha*. *Bulletin of the Korean Chemical Society* 24: 1385-1388.
- Kimura, J., and T. Nakano, 1990 Reconstitution of a *Blasia-Nostoc* symbiotic association under axenic conditions. *Nova Hedwigia* 50: 191-200.
- Klán, J., 1992 Two *Gerronema* species growing on *Marchantia* thalli. 1. *G. marchantiae* Sing. et Clem., 2. *G. postii* (Fr.) Sing. *Ceská Mykologie* 46: 121-125.
- Knight, C. D., and D. G. Adams, 1996 A method for studying chemotaxis in nitrogen fixing cyanobacterium-plant symbioses. *Physiological and Molecular Plant Pathology* 49: 73-77.

- Knoll, M. A., and W. C. James, 1987 Effect of the advent and diversification of vascular land plants on mineral weathering through geologic time. *Geology* 15: 1099-1102.
- Kobayashi, Y., V. Knoop, H. Fukuzawa, A. Brennicke and K. Ohyama, 1997 Interorganellar gene transfer in bryophytes: the functional nad7 gene is nuclear encoded in *Marchantia polymorpha*. *Molecular & General Genetics* 256: 589-592.
- Kobiyama, Y., and B. Crandall-Stotler, 1999 Studies of specialized pitted parenchyma cells of the liverwort *Conocephalum Hill* and their phylogenetic implications. *International Journal of Plant Sciences* 160: 351-370.
- Kodama, M., Y. Shiobara, H. Sumitomo, K. Matsumura, M. Tsukamoto *et al.*, 1988 Total syntheses of marchantin A and riccardin B, cytotoxic bis(bibenzyls) from liverworts. *The Journal of Organic Chemistry* 53: 72-77.
- Koeberl, M. J., and N. C. Maravolo, 2006 The Influence of Spermine and 6- Benzylaminopurine on Putative Caspase Activity during Senescence in *Marchantia polymorpha* Thalli. *International Journal of Plant Sciences* 167: 1115-1122.
- Kohchi, T., 2002 Studies on molecular mechanisms for chloroplast function and its light regulation. *Nippon Nogeikagaku Kaishi-Journal of the Japan Society for Bioscience Biotechnology and Agrochemistry* 76: 930-935.
- Kohchi, T., Y. Ogura, K. Umesono, Y. Yamada, T. Komano *et al.*, 1988a Ordered Processing and Splicing in a Polycistronic Transcript in Liverwort Chloroplasts. *Current Genetics* 14: 147-154.
- Kohchi, T., H. Shirai, H. Fukuzawa, T. Sano, T. Komano *et al.*, 1988b Structure and Organization of *Marchantia-Polymorpha* Chloroplast Genome .4. Inverted Repeat and Small Single Copy Regions. *Journal of Molecular Biology* 203: 353-372.
- Kohchi, T., K. Umesono, Y. Ogura, Y. Komine, K. Nakahigashi *et al.*, 1988c A Nicked Group-Ii Intron and Trans-Splicing in Liverwort, *Marchantia-Polymorpha*, Chloroplasts. *Nucleic Acids Research* 16: 10025-10036.
- Kohn, G., O. Vandekerckhove, E. Hartmann and P. Beutelmann, 1988 Acetylenic fatty acids in the ricciaceae (hepaticae). *Phytochemistry* 27: 1049-1051.
- Konno, H., 1988 Galacturan 1,4- $\alpha$ -galacturonidase from carrot *Daucus carota* and liverwort *Marchantia polymorpha*. *Methods in Enzymology* 161: 373-380.
- Konno, H., Y. Yamasaki and K. Katoh, 1987 Fractionation and Partial Characterization of Pectic Polysaccharides in Cell Walls from Liverwort (*Marchantia polymorpha*) Cell Cultures. *Journal of Experimental Botany* 38: 711-722.
- Korn, R. W., 1993 Apical Cells as Meristems. *Acta Biotheoretica* 41: 175-189.
- Kottke, I., and M. Nebel, 2005 The Evolution of Mycorrhiza-like Associations in Liverworts- An Update. *New Phytologist* 167: 330-334.
- Kramer, A., and H. Lehmann, 1986 Feinstrukturelle Untersuchungen zur Entwicklung des "Metachromatischen Körpers" in Zellen des Lebermooses *Riella helicophylla* (Bory et Mont.) Mont. *Berichte Deutsche Botanische Gesellschaft* 99: 111-121.
- Kraut, L., R. Klein and R. Mues, 1992 Flavonoid Diversity in the Liverwort Genus *Monoclea* Hooker. *Zeitschrift für Naturforschung* 47: 794-799.
- Kremer, C., and A. Drinnan, 2003 Secondary wall formation in elaters of liverworts and the hornwort *Megaceros*. *International Journal of Plant Sciences* 164: 823-834.
- Kremer, C., F. Pettolino, A. Bacic and A. Drinnan, 2004 Distribution of cell wall components in *Sphagnum* hyaline cells and in liverwort and hornwort elaters. *Planta* 219: 1023-1035.
- Kugita, M., A. Kaneko, Y. Yamamoto, Y. Takeya, T. Matsumoto *et al.*, 2003 The complete nucleotide sequence of the hornwort (*Anthoceros formosae*) chloroplast genome- insight into the earliest land plants. *Nucleic Acids Research* 31: 716-721.
- Kumar, K., K. K. Singh, A. K. Asthana and V. Nath, 2000 Ethnotherapeutics of bryophyte *Plagiochasma appendiculatum* among the Gaddi tribes of Kangra Valley, Himachal Pradesh, India. *Pharmaceutical Biology* 38: 353-356.
- Kumar, S. S., and S. Kapila, 2003 Cytomorphological observations on *Lunularia cruciata* (L.) Dum. *Phytomorphology* 53: 197-200.
- Kumra, S., and R. N. Chopra, 1989a Effect of some cytokinins on growth and gemma cup formation in *Marchantia palmata* Nees. *Journal of the Hattori Botanical Laboratory* 67: 331-334.

- Kumra, S., and R. N. Chopra, 1989b Studies on Growth and Gemma Cup Formation in *Marchantia palmata* Nees. *Beiträge zur Biologie der Pflanzen* 64: 243-252.
- Kunz, S., and H. Becker, 1992 Bibenzyl glycosides from the liverwort *Ricciocarpos natans*. *Phytochemistry* 31: 3981-3983.
- Kunz, S., and H. Becker, 1994 Bibenzyl derivatives from the liverwort *Ricciocarpos natans*. *Phytochemistry* 36: 675-677.
- Kunz, S., and H. Becker, 1995 Cell Wall Pigment Formation of in vitro Cultures of the Liverwort *Ricciocarpos natans*. *Z. Naturforsch.* 50: 235-240.
- Kunz, S., G. Burkhardt and H. Becker, 1994 Riccionidins A and B, anthocyanidins from the cell walls of the liverwort *Ricciocarpos natans*. *Phytochemistry* 35: 233-235.
- Kürschner, H., 2003 The Riccietum jovet-astii - argenteolimbatae ass. nov. of the Jabal Arays area, Yemen - life strategies of a remarkable xerotropical African bryophyte community. *Nova Hedwigia* 76: 399-413.
- Kürschner, H., 2004 Life strategies and adaptations in bryophytes from the Near and Middle East. *Turkish Journal of Botany* 28: 73-84.
- Kutschera, U., and V. Koopmann, 2005 Growth in liverworts of the Marchantiales is promoted by epiphytic methylobacteria. *Naturwissenschaften* 92: 347-349.
- Labandeira, C. C., 2005 Invasion of the continents: cyanobacterial crusts to tree-inhabiting arthropods. *Trends in Ecology & Evolution* 20: 253-262.
- Labelle, J. L., K. G. Dutton and N. C. Maravolo, 1997 The influence of ethylene and spermine on phosphatase activity during senescence in *Marchantia polymorpha*. *International Journal of Plant Sciences* 158: 552-555.
- Lahlou, E. H., T. Hashimoto and Y. Asakawa, 2000 Chemical constituents of the liverworts *Plagiochasma japonica* and *Marchantia tosona*. *Journal of the Hattori Botanical Laboratory*: 271-275.
- Lamy, D., 2006 Helene Biscler-Causse (Bern, Switzerland), 3 January 1932 - (Paris, France) 12 February 2005. *Cryptogamie Bryologie* 27: 5-34.
- Lazenby, E. M., 1995 The *Historia Plantarum Generalis* of John Ray: Book I - a translation and commentary, pp. in *Department of Classics*. The University of Newcastle upon Tyne.
- Leghari, S. M., M. A. Sahito, Z. A. Nizamani and M. A. Baryar, 2001 Rare fossil algal, fungal and *Riccia* spores isolated from Sonda coal deposits, District, Thatta, Sindh, Pakistan. *Journal of Biological Sciences* 1: 173-174.
- Lehmann, H., and J. Herzmann, 1989 On the Significance of Cellular Interactions on the Process of Regeneration in the Liverwort *Riella helicophylla* (BORY et MONT.) MONT. *Biochemie und Physiologie der Pflanzen* 184: 303-309.
- Lerchl, D., S. Himmer, R. Grotha and D. G. Robinson, 1989 Ultrastructural Observations on CTC-Induced Callose Formation in *Riella helicophylla*. *Botanica Acta* 102: 62-72.
- Lewis, L. A., and R. M. McCourt, 2004 Green algae and the origin of land plants. *American Journal of Botany* 91: 1535-1556.
- Lewis, L. A., B. D. Mischler and R. Vilgalys, 1997 Phylogenetic relationships of the liverworts (Hepaticae), a basal embryophyte lineage, inferred from nucleotide sequence data of the chloroplast gene *rbcL*. *Molecular Phylogenetics and Evolution* 7: 377-393.
- Li, S., and X. Luo, 2003 李時珍, 1518-1593. Foreign Languages Press, Beijing.
- Li, X. Y., E. S. Wurtele and C. E. Lamotte, 1994 Abscisic-Acid Is Present in Liverworts. *Phytochemistry* 37: 625-627.
- Ligrone, R., 1993 Le basi morfologiche della conduzione degli elaborati nelle Briofite. *Informatore Botanico Italiano* 25: 256-259.
- Ligrone, R., and J. G. Duckett, 1994 Thallus Differentiation in the Marchantialean Liverwort *Asterella-Wilmsii* (Steph) with Particular Reference to Longitudinal Arrays of Endoplasmic Microtubules in the Inner Cells. *Annals of Botany* 73: 577-586.
- Ligrone, R., and J. G. Duckett, 1996 Development of water-conducting cells in the antipodal liverwort *Symphogyna brasiliensis* (Metzgeriales). *New Phytologist* 132: 603-615.
- Ligrone, R., and J. G. Duckett, 2006 Novel features of the plastids in some deep-shade, antipodean thalloid liverworts. *Cryptogamie Bryologie Lichénologie* 27: 75-83.

- Ligrone, R., J. G. Duckett and K. S. Renzaglia, 1993 The gametophyte-sporophyte junction in land plants. *Advances in Botanical Research* 19: 231-317.
- Ligrone, R., J. G. Duckett and K. S. Renzaglia, 2000 Conducting Tissues and Phyletic Relationships of Bryophytes. *Philosophical Transactions- Biological Sciences* 355: 795-813.
- Ligrone, R., and R. Gambardella, 1988a The sporophyte-gametophyte junction in bryophytes, pp. 225-274 in *Advances in Bryology*, edited by N. G. Miller. J. Cramer, Berlin.
- Ligrone, R., and R. Gambardella, 1988b The ultrastructure of the sporophyte-gametophyte junction and its relationship to bryophyte evolution. *Journal of the Hattori Botanical Laboratory* 64: 187-196.
- Ligrone, R., and C. Lopes, 1989 Cytology and Development of a Mycorrhiza-Like Infection in the Gametophyte of *Conocephalum conicum* (L.) Dum. (Marchantiales, Hepatophyta). *New Phytologist* 111: 423-433.
- Ligrone, R., K. C. Vaughn, K. S. Renzaglia, J. P. Knox and J. G. Duckett, 2002 Diversity in the distribution of polysaccharide and glycoprotein epitopes in the cell walls of bryophytes- new evidence for the multiple evolution of water-conducting cells. *The New Phytologist* 156: 491-508.
- Long, D. G., 2006 New higher taxa of complex thalloid liverworts (Marchantiophyta - Marchantiopsida). *Edinburgh Journal of Botany* 63: 257-262.
- Long, D. G., and R. Grolle, 1992 Studies on the Genus *Asterella* P. Beauv. (Hepaticae). I. Nomenclatural History. *Taxon* 41: 65-69.
- Long, D. G., M. Möller and J. Preston, 2000 Phylogenetic Relationships of *Asterella* (Aytoniaceae, Marchantiopsida) Inferred from Chloroplast DNA Sequences. *The Bryologist* 103: 625-644.
- Lutzoni, F., and M. Pagel, 1997 Accelerated evolution as a consequence of transitions to mutualism. *Proceedings of the National Academy of Sciences of the United States of America* 94: 11422-11427.
- Majewski, T. T., 2005 An attempt to identify cryptogamic plants in Syreniusz's herbal. *Kwartalnik Historii Nauki I Techniki* 50: 183-196.
- Manhart, J. R., 1994 Phylogenetic analysis of green plant rbcL sequences. *Molecular Phylogenetics and Evolution* 3: 114-127.
- Maravolo, N. C., 1997 Biochemical Changes During Sexual Development in *Marchantia Polymorpha*. I. Esterases. *American Journal of Botany* 54: 1113-1117.
- Markham, K. R., K. G. Ryan, S. J. Bloor and K. A. Mitchell, 1998 An increase in the luteolin : apigenin ratio in *Marchantia polymorpha* on UV-B enhancement. *Phytochemistry* 48: 791-794.
- Marschall, M., and M. C. F. Proctor, 2004 Are Bryophytes Shade Plants? Photosynthetic Light Responses and Proportions of Chlorophyll a, Chlorophyll b and Total Carotenoids. *Annals of Botany* 94: 593-603.
- Matsui, K., H. Narahara, T. Kajiwara and A. Hatanaka, 1991 Purification and properties of lipoxygenase in *Marchantia polymorpha* cultured cells. *Phytochemistry* 30: 1499-1502.
- Matthews, R. F., 1993 *Marchantia polymorpha*, pp. in *Fire Effects Information System, [Online]*. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory.
- Mautsoe, P. J., and R. P. Beckett, 1996 A preliminary study of the factors affecting the kinetics of cadmium uptake by the liverwort *Dumortiera hirsuta*. *South African Journal of Botany* 62: 332-336.
- May, T., and B. Fuhrer, 1989 Notes on fungi occurring after fire in Australia 1. Introduction and description of *Gerronema postii*. *The Victorian Naturalist* 106: 133-137.
- Mazal, O., P. Dioscorides, of Anazarbos and Ö. Nationalbibliothek, 1998 *Der Wiener Dioskurides: Codex medicus Graecus 1 der Österreichischen Nationalbibliothek*. Akademische Druck- u. Verlagsanstalt, Graz.
- McCarthy, P. M., 2003 *Catalogue of Australian liverworts and hornworts*. Australian Biological Resources Study, Canberra.
- McLetchie, D. N., 1992 Sex Ratio from Germination through Maturity and Its Reproductive Consequences in the Liverwort *Sphaerocarpos texanus*. *Oecologia* 92: 273-278.



- McLetchie, D. N., 1996 Sperm limitation and genetic effects on fecundity in the dioecious liverwort *Sphaerocarpos texanus*. *Sexual Plant Reproduction* 9: 87-92.
- McLetchie, D. N., 1999 Dormancy/Nondormancy Cycles in Spores of the Liverwort *Sphaerocarpos texanus*. *The Bryologist* 102: 15-21.
- McLetchie, D. N., 2001 Sex-Specific Germination Response in the Liverwort *Sphaerocarpos texanus* (Sphaerocarpaceae). *The Bryologist* 104: 69-71.
- McLetchie, D. N., and A. L. Collins, 2001 Identification of DNA regions specific to the X and Y chromosomes in *Sphaerocarpos texanus*. *Bryologist* 104: 543-547.
- McLetchie, D. N., G. Garcia-Ramos and P. H. Crowley, 2001 Local sex-ratio dynamics: a model for the dioecious liverwort *Marchantia inflexa*. *Evolutionary Ecology* 15: 231-254.
- McLetchie, D. N., and M. N. Puterbaugh, 2000 Population sex ratios, sex-specific clonal traits and tradeoffs among these traits in the liverwort *Marchantia inflexa*. *Oikos* 90: 227-237.
- Meagher, D., 1996 The bryophyte flora of Wilsons Promontory. *The Victorian Naturalist* 113: 84-96.
- Meissner, K., J.-P. Frahm, M. Stech and W. Frey, 1998 Molecular divergence patterns and infrageneric relationship of *Monoclea* (Monocleales, Hepaticae) - Studies in austral temperate rain forest bryophytes I *Nova Hedwigia* 67: 289-302.
- Mishler, B. D., 2000 Deep Phylogenetic Relationships among "Plants" and Their Implications for Classification. *Taxon* 49: 661-683.
- Mishler, B. D., L. A. Lewis, M. A. Buchheim, K. S. Renzaglia, D. J. Garbary *et al.*, 1994 Phylogenetic Relationships of the "Green Algae" and "Bryophytes". *Annals of the Missouri Botanical Garden* 81: 451-483.
- Mishler, B. D., P. H. Thrall, J. S. Hopple, Jr., E. De Luna and R. Vilgalys, 1992 A Molecular Approach to the Phylogeny of Bryophytes- Cladistic Analysis of Chloroplast-Encoded 16S and 23S Ribosomal RNA Genes. *The Bryologist* 95: 172-180.
- Mitchell, J. C., 1986 *Frullania* (Liverwort) *Phytockrmatitis* (Woodcutter's Eczema). *Clinics in Dermatology* 4: 62-64.
- Miyamura, S., S. Matsunaga and T. Hori, 2002 High-speed video microscopical analysis of the flagellar movement of *Marchantia polymorpha* sperm. *Bryol Res* 8: 79-83.
- Moe, D., 1994 The Greek Herbal of Dioscurides Illustrated by a Byzantine A.D. 512, pp. 37-43 in *Garden History Garden Plants, Species Forms and varieties from Pompei to 1800*, edited by D. Moe, J. H. Dickson and P. M. Jørgensen. PACT, Belgium.
- Mösbach, E. W. d., 1992 *Botanica Indigena de Chile*. Museo Chileno de Arte Precolombino, Fundacion Andes, Editorial Andres Bello, Chile.
- Moyá, M. T., 1992 Phenological observations and sex ratios in *Marchantia chenopoda* L. (Hepaticae - Marchantiaceae). *Tropical Biology* 6: 161-168.
- Mullis, K., Faloona, F., Scharf, S., Saiki, R., Horn, G., and Erlich, H., 1986 Specific enzymatic amplification of DNA in vitro: The polymerase chain reaction. *Cold Spring Harbor Symp. Quant. Biol.* 51: 263-273.
- Muñoz, J., Á. M. Felicísimo, F. Cabezas, A. R. Burgaz and I. Martínez, 2004 Wind as a Long-Distance Dispersal Vehicle in the Southern Hemisphere. *Science* 304: 1144-1147.
- Nagai, J.-i., K. T. Yamato, m. Sakaida, H. Yoda, H. Fukuzawa *et al.*, 1999 Expressed sequence tags from immature female sexual organ of a liverwort, *Marchantia polymorpha*. *DNA Research* 6: 1-11.
- Nagashima, F., S. Momosaki, Y. Watanabe, M. Toyota and S. Huneck, 1996 Terpenoids and aromatic compounds from six liverworts. *Phytochemistry* 41: 207-211.
- Nakayama, S., M. Fujishita and K. Ohyama, 2004 FISH shows structural differentiation between liverwort sex chromosomes. *Plant Genome - Biodiversity and Evolution* 2A: 235-246.
- Nakayama, S., M. Fujishita, T. Sone and K. Ohyama, 2001 Additional locus of rDNA sequence specific to the X chromosome of the liverwort, *Marchantia polymorpha*. *Chromosome Research* 9: 469-473.
- Nakayama, T., Y. Fukushi, J. Mizutani and S. Tahara, 1996 Inhibiting effects of lunularic acid analogs on the growth of liverwort, watercress, and timothy grass. *Bioscience Biotechnology and Biochemistry* 60: 862-865.
- Nakazato, T., A. Kadota and M. Wada, 1999 Photoinduction of spore germination in *Marchantia polymorpha* L. is mediated by photosynthesis. *Plant and Cell Physiology* 40: 1014-1020.

- Nasu, M., K. Tani, C. Hattori, M. Honda, T. Shimaoka *et al.*, 1997 Efficient transformation of *Marchantia polymorpha* that is haploid and has very small genome DNA. *Journal of Fermentation and Bioengineering* 84: 519-523.
- Nebel, m., H.-P. Kreier, M. Preussing, M. Weiss and I. Kottke, 2004 Symbiotic fungal associations of liverworts are the possible ancestors of mycorrhizae, pp. 339-360 in *Frontiers in Basidiomycota Mycology*, edited by R. Agerer, H. Piepenbring and P. Blanz. HIW-Verlag, Ecking Germany.
- Needham, J., 1986 *Science and civilisation in China, Vol. 6 part 1*. Cambridge Eng. University Press, Cambridge.
- Nehira, K., 1987 Some Ecological Correlations of Spore Germination Patterns in Liverworts. *Bryologist* 90: 405-408.
- Nehira, K., and N. Nakagoshi, 1987 Reproductive processes of bryophytes in an urban environment. *Symposia Biologica Hungarica* 35: 269-278.
- Newton, M. E., 1987 Developmental Aspects of Chromatin Condensation in Liverworts. *Bryologist* 90: 376-382.
- Newton, M. E., 1990 Genetic structure of hepatic species. *Botanical Journal of the Linnean Society* 104: 215-229.
- Ngumi, V. W., S. Takio and S. Takami, 1990 Photoautotrophic Growth in Cell Suspension Culture from the Liverwort, *Marchantia paleacea* var. *diptera*. *Journal of Plant Physiology* 137: 25-28.
- Nickrent, D. L., C. L. Parkinson, J. D. Palmer and R. J. Duff, 2000 Multigene Phylogeny of Land Plants with Special Reference to Bryophytes and the Earliest Land Plants. *Molecular Biology and Evolution* 17: 1885-1895.
- Nishiyama, R., H. Mizuno, S. Okada, T. Yamaguchi, M. Takenaka *et al.*, 1999 Two mRNA species encoding calcium-dependent protein kinases are differentially expressed in sexual organs of *Marchantia polymorpha* through alternative splicing. *Plant and Cell Physiology* 40: 205-212.
- Nishiyama, R., K. T. Yamato, K. Miura, M. Sakaida, S. Okada *et al.*, 2000 Comparison of expressed sequence tags from male and female sexual organs of *Marchantia polymorpha*. *DNA Research* 7: 165-174.
- Nishiyama, T., and M. Kato, 1999 Molecular Phylogenetic Analysis Among Bryophytes and Tracheophytes Based on Combined Data of Plastid Coded Genes and the 18S rRNA Gene. *Molecular Biology and Evolution* 16: 1027-1036.
- Nishiyama, T., P. G. Wolf, M. Kugita, R. B. Sinclair, M. Sugita *et al.*, 2004 Chloroplast Phylogeny Indicates that Bryophytes Are Monophyletic. *Molecular Biology and Evolution* 21: 1813-1819.
- Niu, C., J.-B. Qu and H.-X. Lou, 2006 Antifungal Bis[bibenzyls] from the Chinese Liverwort *Marchantia polymorpha* L. *Chemistry & Biodiversity* 3: 34-40.
- Nozato, N., K. Oda, K. Yamato, E. Ohta, M. Takemura *et al.*, 1993 Cotranscriptional Expression of Mitochondrial Genes for Subunits of NADH Dehydrogenase, Nad5, Nad4, Nad2, in *Marchantia-Polymorpha*. *Molecular & General Genetics* 237: 343-350.
- Oda, K., K. Yamato, E. Ohta, Y. Nakamura, M. Takemura *et al.*, 1992a Gene Organization Deduced from the Complete Sequence of Liverwort *Marchantia-Polymorpha* Mitochondrial-DNA - a Primitive Form of Plant Mitochondrial Genome. *Journal of Molecular Biology* 223: 1-7.
- Oda, K., K. Yamato, E. Ohta, Y. Nakamura, M. Takemura *et al.*, 1992b Transfer-Rna Genes in the Mitochondrial Genome from a Liverwort, *Marchantia-Polymorpha* - the Absence of Chloroplast-Like Transfer-Rnas. *Nucleic Acids Research* 20: 3773-3777.
- Odland, A., 1997 Development of vegetation in created wetlands in western Norway. *Aquatic Botany* 59: 45-62.
- Odrzykoski, I. J., and J. Szweykowski, 1991 Genetic differentiation without concordant morphological divergence in the thallose liverwort *Conocephalum conicum*. *Plant Systematics and Evolution* 178: 135-151.
- Ohyama, K., 1996 Chloroplast and mitochondrial genomes from a liverwort, *Marchantia polymorpha* - Gene organization and molecular evolution. *Bioscience Biotechnology and Biochemistry* 60: 16-24.

- Ohyama, K., H. Fukuzawa, T. Kohchi, T. Sano, S. Sano *et al.*, 1988a Structure and Organization of Marchantia-Polymorpha Chloroplast Genome .1. Cloning and Gene Identification. *Journal of Molecular Biology* 203: 281-298.
- Ohyama, K., H. Fukuzawa, T. Kohchi, H. Shirai, T. Sano *et al.*, 1986 Chloroplast Gene Organization Deduced from Complete Sequence of Liverwort Marchantia-Polymorpha Chloroplast DNA. *Nature* 322: 572-574.
- Ohyama, K., T. Kohchi, H. Fukuzawa, T. Sano, K. Umesono *et al.*, 1988b Gene Organization and Newly Identified Groups of Genes of the Chloroplast Genome from a Liverwort, Marchantia-Polymorpha. *Photosynthesis Research* 16: 7-22.
- Okada, S., M. Fujisawa, T. Sone, S. Nakayama, R. Nishiyama *et al.*, 2000 Construction of male and female PAC genomic libraries suitable for identification of Y-chromosome-specific clones from the liverwort, Marchantia polymorpha. *The Plant Journal* 24: 421-428.
- Okada, S., T. Sone, M. Fujisawa, S. Nakayama, M. Takenaka *et al.*, 2001 The Y chromosome in the liverwort Marchantia polymorpha has accumulated unique repeat sequences harboring a male-specific gene. *Proceedings of the National Academy of Sciences of the United States of America* 98: 9454-9459.
- Oldenburg, D. J., and A. J. Bendich, 1998 The structure of mitochondrial DNA from the liverwort, Marchantia polymorpha. *Journal of Molecular Biology* 276: 745-758.
- Oldenburg, D. J., and A. J. Bendich, 2001 Mitochondrial DNA from the liverwort Marchantia polymorpha- circularly permuted linear molecules, head-to-tail concatemers, and a 5' protein. *Journal of Molecular Biology* 310: 549-562.
- Oliev, R., 1994 Response to auxin by cells of Riella helicophylla during reversible arrest in different cell-cycle phases. *Planta* 194: 510-515.
- Oliver, M. J., Z. Tuba and B. D. Mishler, 2000 The Evolution of Vegetative Desiccation Tolerance in Land Plants. *Plant Ecology* 151: 85-100.
- Oliver, M. J., J. Velten and B. D. Mischler, 2005 Desiccation tolerance in bryophytes- a reflection of the primitive strategy for plant survival in dehydrating habitats? *Integr Comp Biol* 45: 788-799.
- Omoto, C. K., I. R. Gibbons, R. Kamiya, C. Singyoji, K. Takahashi *et al.*, 1999 Rotation of the Central Pair Microtubules in Eukaryotic Flagella. *Molecular Biology of the Cell* 10: 1-4.
- Oostendorp, C., 1987 The Bryophytes of Paleozoic and the Mesozoic. *Bryophytorum Bilbiotheca* 34: 1-110; Plates I-XLIX.
- Osawa, S., T. Ohama, F. Yamao, A. Muto, T. H. Jukes *et al.*, 1988 Directional mutation pressure and transfer RNA in choice of the third nucleotide of synonymous two-codon sets. *Proceeding of the National Academy of Sciences USA* 85: 1124-1128.
- Osbaldeston, T. A., 2000 *Dioscorides de Materia Medica, being a herbal with many other medicinal materials written in Greek in the first century of the common era*. Ibis Press, Johannesburg, South Africa.
- Osborne, D. J., 1990 Ethylene Formation, Cell Types and Differentiation, pp. 203-215 in *Polyamines and Ethylene - Biochemistry, Physiology of Interactions*, edited by H. E. Flores, R. N. Artica and J. C. Shannon. American Society of Plant Physiologists, University Park, Pennsylvania.
- Osborne, D. J., J. Walters, B. V. Milborrow, A. Norville and L. M. C. Stange, 1996 Evidence for a non-ACC ethylene biosynthesis pathway in lower plants. *Phytochemistry* 42: 51-60.
- Pacak, A., and Z. Szweykowska-Kulinska, 2003 Organellar inheritance in liverworts: An example of Pellia borealis. *Journal of Molecular Evolution* 56: 11-17.
- Pacini, E., and G. G. Franchi, 1994 Role of the Tapetum in Pollen and Spore Dispersal. *Plant Systematics and Evolution*: 1-11.
- Paciolla, C., and F. Tommasi, 2003 The ascorbate system in two bryophytes- Brachythecium velutinum and Marchantia polymorpha. *Biologia Plantarum* 47: 387-393.
- Pagoria, D. A., and N. C. Maravolo, 2005 DNA fragmentation in Marchantia polymorpha Thalli in response to spermine treatment. *International Journal of Plant Sciences* 166: 589-594.
- Panossian, A., E. Gabrielian, C. Schwartner and H. Wagner, 1996 Marchantin B from the liverwort Marchantia polymorpha selectively inhibits the biosynthesis of 5-lipoxygenase products and the release of arachidonic acid in Ca<sup>2+</sup> ionophore A23187 stimulated human granulocytes. *Phytomedicine* 2: 309-311.

- Pant, D. D., and N. Bhowmik, 1998 Fossil Bryophytes with special references to Gondwanaland forms., pp. 1-52 in *Topics in Bryology*, edited by R. N. Chopra. Allied Publishers, New Delhi.
- Pant, D. D., and R. Singh, 1989 On the possible occurrence of anisospory in some Hepaticae. *Botanical Journal of the Linnean Society* 100: 183-196.
- Pant, G., and S. D. Tewari, 1989 Various Human Uses of Bryophytes in the Kumaun Region of Northwest Himalaya. *The Bryologist* 92: 120-122.
- Panteris, E., P. Apostolakos, R. Graf and B. Galatis, 2000 Gamma-tubulin colocalizes with microtubule arrays and tubulin paracrystals in dividing vegetative cells of higher plants. *Protoplasma* 210: 179-187.
- Pasca, M., 1994 The Salerno School of Medicine. *American Journal of Nephrology* 14: 478-482.
- Pass, J. M., and K. S. Renzaglia, 1995 Comparative microanatomy of the locomotory apparatus of *Conocephalum conicum* (Hepaticae, Conocephalaceae). *Fragmenta Floristica et Geobotanica* 40: 365-377.
- Patidar, K. C., C. M. Solanki and A. Kaul, 1986 Chlorophyll Concentration And a/b Ratios In Response To Habitats In Three Species of *Riccia*. *Yushania* 3: 1-4.
- Patidar, K. C., C. M. Solanki and A. Kaul, 1987 Spore Output in Marchantiales. *The Bryologist* 90: 251-252.
- Pence, V. C., S. S. Dunford and S. Redella, 2005 Differential effects of abscisic acid on desiccation tolerance and carbohydrates in three species of liverworts. *Journal of Plant Physiology* 162: 1331-1337.
- Perold, S. M., 1990 Marchantiales - Spore Germination, Early Protonema Development and Vegetative Reproduction in *Riccia*, Section Piliifer. *Bothalia* 20: 214-215.
- Perold, S. M., 1993 Studies in the Marchantiales (Hepaticae) from southern Africa. 3. The genus *Targionia* and *T. hypophylla* with notes on *T. lorbeeriana* and *Cyathodium foetidissimum* (Targioniaceae). *Bothalia* 23: 215-221.
- Perold, S. M., 1995a Fruiting *Lunularia cruciata*, now also reported from southern Africa. *Bothalia* 25: 239-242.
- Perold, S. M., 1995b Studies in the Marchantiales (Hepaticae) from southern Africa. 9. The genus *Marchantia* and its five local species. *Bothalia* 25: 183-204.
- Perold, S. M., 1995c The taxonomic history of the Ricciaceae (1937-1995) and a classification of sub-Saharan Ricciaceae. *Bothalia* 25: 211-231.
- Perold, S. M., 1999 Studies in the Sphaerocarpaceae (Hepaticae) from southern Africa. 1. The genus *Monocarpus* and its only member, *M. sphaerocarpus*. *Bothalia* 29: 225-230.
- Petersen, J., R. Teich, B. Becker, R. Cerff and H. Brinkmann, 2006 The GapA/B gene duplication marks the origin of streptophyta (Charophytes and land plants). *Molecular Biology and Evolution* 23: 1109-1118.
- Peumans, W. J., A. Barre, J. Bras, P. Rouge, P. Proost *et al.*, 2002 The liverwort contains a lectin that is structurally and evolutionary related to the monocot mannose-binding lectins. *Plant Physiology* 129: 1054-1065.
- Pike, L., A. Hu and K. S. Renzaglia, 1992 Liverwort genomes display extensive structural variations. *Botanical Journal of the Linnean Society* 109: 1-14.
- Pinheiro, M. d. F. S., R. C. L. Lisboa and R. d. V. Brazão, 1989 Contribuição ao estudo de Briófitas como fontes de antibióticos. *Acta Amazonica* 19: 139-145.
- Platéarius, J., G. Malandin, F. Avril and P. Lieutaghi, 1986 *Le livre des simples médecines : d'après le manuscrit français 12322 de la Bibliothèque nationale de Paris*. Éd. Ozalid et Textes Cardinaux, Paris.
- Pole, M. S., and J. I. Raine, 1994 Triassic plant fossils from Pollock Road, Southland, New Zealand. *Alcheringa* 18: 147-159.
- Poli, D. B., M. Jacobs and T. J. Cooke, 2003 Auxin regulation of axial growth in bryophyte sporophytes: Its potential significance for the evolution of early land plants. *American Journal of Botany* 90: 1405-1415.
- Post, A., and M. Veski, 1992 Photosynthesis, pigments and chloroplast ultrastructure of an Antarctic liverwort from sun-exposed and shaded sites. *Canadian Journal of Botany* 70: 2259-2264.

- Proctor, M. C. F., Z. Nagy, Z. Csintalan and Z. Takács, 1998 Water-content components in bryophytes- analysis of pressure-volume relationships. *Journal of Experimental Botany* 49: 1845-1854.
- Proctor, M. C. F., J. A. Raven and S. K. Rice, 1992 Stable carbon isotope discrimination measurements in Sphagnum and other bryophytes physiological and ecological implications. *Journal of Bryology* 17: 193-202.
- Pruchner, D., S. Beckett, H. Muhle and V. Knoop, 2002 Divergent Intron Conservation in the Mitochondrial nad2 Gene- Signatures for the Three Bryophyte Classes (Mosses, Liverworts, and Hornworts) and the Lycophytes. *Journal of Molecular Evolution* 55: 265-271.
- Pruchner, D., B. Nassal, M. Schindler and V. Knoop, 2001 Mosses share mitochondrial group II introns with flowering plants, not with liverworts. *Molecular Genetics and Genomics* 266: 608-613.
- Pursiheimo, S., E. Rintamäki, E. Baena-Gonzalez and E.-M. Aro, 1998 Thylakoid protein phosphorylation in evolutionally divergent species with oxygenic photosynthesis. *FEBS Letters* 423: 178-182.
- Qiu, Y.-L., Y. Cho, J. C. Cox and J. D. Palmer, 1998 The gain of three mitochondrial introns identifies liverworts as the earliest land plants. *Nature* 394: 671-674.
- Qiu, Y. L., L. B. Li, B. Wang, Z. D. Chen, V. Knoop *et al.*, 2006 The deepest divergences in land plants inferred from phylogenomic evidence. *Proceedings of the National Academy of Sciences of the United States of America* 103: 15511-15516.
- Racine, C., R. Jandt, C. Meyers and J. Dennis, 2004 Tundra fire and vegetation change along a hillslope on the Seward Peninsula, Alaska, USA. *Arctic Antarctic and Alpine Research* 36: 1-10.
- Read, D. J., J. G. Duckett, R. Francis, R. Ligrone and A. Russell, 2000 Symbiotic Fungal Associations in 'Lower' Land Plants. *Philosophical Transactions- Biological Sciences* 355: 815-831.
- Redecker, D., R. Kodner and L. E. Graham, 2000 Glomalean fungi from the Ordovician. *Science* 289: 1920-1921.
- Rees, D. C., and G. P. Juday, 2002 Plant Species diversity on logged versus burned sites in central Alaska. *Forest Ecology and Management* 155: 291-302.
- Remy, W., P. G. Gensel and H. Hass, 1993 The Gametophyte Generation of Some Early Devonian Land Plants. *International Journal of Plant Sciences* 154: 35-58.
- Remy, W., and H. Hass, 1991a Ergänzende Beobachtungen an Lyonophyton rhyniensis. *Argumenta Palaeobotanica* 8: 1-27.
- Remy, W., and H. Hass, 1991b Kidstonophyton discoides nov.gen., novspec., ein Gametophyt aus dem Chert von Rhynie (Unterdevon, Schottland). *Argumenta Palaeobotanica* 8: 29-45.
- Remy, W., and H. Hass, 1991c Langiophyton mackiei nov.gen., nov. spec., ein Gametophyt mit Archegoniophoren aus dem Chert von Rhynie (Unterdevon, Schottland). *Argumenta Palaeobotanica* 8: 69-117.
- Remy, W., and H. Hass, 1996 New information on gametophytes and sporophytes of Aglaophyton major and inferences about possible environmental adaptations. *Review of Palaeobotany and Palynology* 90: 175-193.
- Remy, W., T. N. Taylor and H. Hass, 1994a Early Devonian fungi- a blastocladalean fungus with sexual reproduction. *American Journal of Botany* 81: 690-702.
- Remy, W., T. N. Taylor, H. Hass and H. Kerp, 1994b Four hundred-million-year-old vesicular arbuscular mycorrhizae. *Proceedings of the National Academy of Sciences USA* 91: 11841-11843.
- Renzaglia, K. S., D. L. Bernhard and D. J. Garbary, 1999 Developmental ultrastructure of the male gamete of Selaginella. *International Journal of Plant Sciences* 160: 14-28.
- Renzaglia, K. S., R. C. Brown, B. E. Lemmon, J. G. Duckett and R. Ligrone, 1994 Occurrence and phylogenetic significance of monoplastidic meiosis in liverworts. *Canadian Journal of Botany* 72: 65-72.
- Renzaglia, K. S., and J. G. Duckett, 1987a Comparative Ultrastructural Studies of Spermatogenesis in the Metzgeriales (Hepatophyta). II. The Blepharoplast of Blasia pusilla. *American Journal of Botany* 74: 53-64.

- Renzaglia, K. S., and J. G. Duckett, 1987b Spermatogenesis in *Blasia pusilla*- From Young Antheridium through Mature Spermatozoid. *The Bryologist* 90: 419-449.
- Renzaglia, K. S., and J. G. Duckett, 1991 Towards an understanding of the differences between the blepharoplasts of mosses and liverworts, and comparisons with hornworts, biflagellate lycopods and charophytes- a numerical analysis. *New Phytologist* 117: 187-208.
- Renzaglia, K. S., R. J. Duff, D. L. Nickrent and D. J. Garbary, 2000 Vegetative and reproductive innovations of early land plants: implications for a unified phylogeny. *Philosophical Transactions of the Royal Society of London Series B-Biological Sciences* 355: 769-793.
- Renzaglia, K. S., and D. J. Garbary, 2001 Motile Gametes of Land Plants Diversity Development and Evolution. *Critical Reviews in Plant Sciences* 20: 107-213.
- Renzaglia, K. S., E. M. Rasch and L. M. Pike, 1995 Estimates of Nuclear DNA Content in Bryophyte Sperm Cells- Phylogenetic Considerations. *American Journal of Botany* 82: 18-25.
- Retallack, G. J., 2000 Ordovician life on land and early Paleozoic global change. *Paleontological Society Papers* 6: 21-45.
- Rethy, R., H. Fredericq, J. de Greef and J. Maton, 1990 Light and the Diagravitropic Growth of *Marchantia-Polymorpha* L. Thalli Phytochrome-Controlled Epinasty. *Memoires de la Societe Royale de Botanique de Belgique* 12: 77-88.
- Rieck, A., N. Bülow, C. Fricke, Y. Saritas and W. A. König, 1997 (-)-1(10),11-eremophiladien-9 $\beta$ -ol from the liverwort *Marchantia polymorpha* ssp. *aquatica*. *Phytochemistry* 45: 195-197.
- Riethe, P., 2005 Hildegards von Bingen >Liber simplicis medicinae< im Mainzer >Gart der Gesundheit<. *Sudhoffs Archiv* 89: 96-119.
- Rockwell, N. C., Y.-S. Su and J. C. Lagarias, 2006 Phytochrome structure and signaling mechanisms. *The Annual Review of Plant Biology* 57: 837-858.
- Rogers, R. W., 1994 Zonation of the Liverwort *Riccia* in a Temporary Watercourse in Subtropical, Semiarid Australia. *Australian Journal of Botany* 42: 659-662.
- Rose, A., F. Gindullis and I. Meier, 2003 A novel alpha-helical protein, specific to and highly conserved in plants, is associated with the nuclear matrix fraction. *Journal of Experimental Botany* 54: 1133-1141.
- Ross-Davis, A. L., and K. A. Frego, 2004 Propagule Sources of Forest Floor Bryophytes-Spatiotemporal Compositional Patterns. *The Bryologist* 107: 88-97.
- Rushing, A. E., and Z. B. Carothers, 2000 Midstage spermatid architecture in *Riccia gougetiana* (Hepaticae). *Bryologist* 103: 390-396.
- Russell, J., and S. Bulman, 2005 The liverwort *Marchantia foliacea* forms a specialized symbiosis with arbuscular mycorrhizal fungi in the genus *Glomus*. *New Phytologist* 165: 567-579.
- Sago, J., 1995 The cryptogams of Royal Park, Melbourne, Victoria. *The Victorian Naturalist* 112: 234-238.
- Sakaguchi, S., T. Fukuda, H. Takano, K. Ono and S. Takio, 2004 Photosynthetic electron transport differentially regulates the expression of superoxide dismutase genes in liverwort, *Marchantia paleacea* var. *diptera*. *Plant and Cell Physiology* 45: 318-324.
- Salazar Allen, N., and H. Korpelainen, 2006 Notes on neotropical *Cyathodium*. *Cryptogamie, Bryologie* 27: 85-96.
- Samecka-Cymerman, A., A. Marczonek and A. J. Kempers, 1997 Bioindication of heavy metals in soil by liverworts. *Archives of Environmental Contamination and Toxicology* 33: 162-171.
- Saruwatari, M., S. Takio and K. Ono, 1999 Low temperature-induced accumulation of eicosapentaenoic acids in *Marchantia polymorpha* cells. *Phytochemistry* 52: 367-372.
- Saxena, A., 2006 Seasonal pattern of metal bioaccumulation and their toxicity on *Sphagnum squarrosum*. *Journal of Environmental Biology* 27: 71-75.
- Schäfer, C., V. Schmid and M. Roos, 1994 Characterization of high-light-induced increases in xanthophyll cycle pigment and lutein contents in photoautotrophic cell cultures. *Journal of Photochemistry and Photobiology B: Biology* 22: 67-75.
- Scherp, P., R. Grotha and U. Kutschera, 2002 Interaction between Cytokinesis-Related Callose and Cortical Microtubules in Dividing Cells of the Liverwort *Riella helicophylla*. *Plant Biology* 4: 619-624.

- Scherp, P., R. Grotha and U. Kutschera, 2004 Callose biosynthesis in developing gemmalings of the liverwort *Riella helicophylla*: effects of aromatic nitroso-compounds. *Journal of Bryology* 26: 21-28.
- Schmid, V., S. Peter and C. Schäfer, 1995 Prolonged high light treatment of plant cells results in changes of the amount, the localization and the electrophoretic behavior of several thylakoid membrane proteins. *Photosynthesis Research* 44: 287-295.
- Scholnick, R. J., 1991 "Scribner's Monthly" and the "Pictorial Representation of Life and Truth" in Post-Civil War America. *American Periodicals* 1: 46-69.
- Schuster, R. M., 1992a *The Hepaticae and Anthocerotae of North America, Vol. V*. Columbia University Press, New York.
- Schuster, R. M., 1992b *The Hepaticae and Anthocerotae of North America, Vol. VI*. Columbia University Press, New York.
- Schuster, R. M., 1992c The oil-bodies of the Hepaticae I. Introduction. *Journal of the Hattori Botanical Lab* 72: 151-162.
- Schuster, R. M., and N. Konstantinova, 1995 Studies on Treubiales, I. On *Apotreubia* Hatt. et al. and *A. hortonae* Schust. and Konstantinova, sp. n. *Journal of the Hattori Botanical Laboratory* 78: 41-61.
- Schwabe, W. W., 1990 Lunularic acid in growth and dormancy of liverworts, pp. 245-257 in *Bryophyte Development- Physiology and Biochemistry*, edited by R. N. Chpra and S. C. Bhatla. CRC Press.
- Scott, G. A. M., 1987 Studies in Ancient Bryology, I. Introduction and Liverworts to 1500 A.D. *Journal of Bryology* 14: 625-634.
- Scott, G. A. M., 1988 Studies in Ancient Bryology, II. Mosses to 1500 A.D. *Journal of Bryology* 15: 1-15.
- Scott, G. A. M., and D. C. Pike, 1988 *Targionia* in Australasia. *Beiheft zur Nova Hedwigia* 90: 159-162.
- Selosse, M.-A., 2002 Prototaxites- A 400 MYR Old Giant Fossil, A Saprophytic Holobasidiomycete, or A Lichen? *Mycological Research News* 106: 642-644.
- Selosse, M.-A., 2005 Are liverworts imitating mycorrhizas? *New Phytologist* 165: 345-349.
- Seppelt, R. D., 1998 The genus *Riccia* (Marchantiales- Ricciaceae), in South Australia. *Hikobia* 12: 317-341.
- Sharkey, T. D., S. E. Weise, A. J. Standish and I. Terashima, 2004 CO<sub>2</sub> Processing - Chloroplast to leaf, pp. 171-206 in *Photosynthetic Adaptation - Chloroplast to Landscape*, edited by W. K. Smith, T. C. Vogelmann and C. Critchley. Springer.
- Sharma, B. D., and O. P. Suthar, 1986 *Sporangioceros nipanica* a petrified primitive bryophyte from the Jurassic of Rajmahal Hills India. *Journal of the Hattori Botanical Laboratory* 60: 271-274.
- Shaw, A. J., 2001 Biogeographic Patterns and Cryptic Speciation in Bryophytes. *Journal of Biogeography* 28: 253-261.
- Shaw, J., and K. Renzaglia, 2004 Phylogeny and diversification of bryophytes. *American Journal of Botany* 91: 1557-1581.
- Shibaya, T., Y. Kaneko and Y. Sugawara, 2005 Involvement of arabinogalactan proteins in protonemata development from cultured cells of *Marchantia polymorpha*. *Physiologia Plantarum* 124: 504-514.
- Shimamura, M., R. C. Brown, B. E. Lemmon, T. Akashi, K. Mizuno *et al.*, 2004  $\gamma$ -Tubulin in Basal Land Plants- Characterization, Localization, and Implication in the Evolution of Acentriolar Microtubule Organizing Centers. *Plant Cell* 16: 45-59.
- Shimamura, M., and H. Deguchi, 2002 Morphological study of the sporophyte of *Lunularia cruciata* (L.) Dumort. *Hikobia* 13: 679-684.
- Shimamura, M., H. Deguchi and Y. Mineyuki, 1998 Meiotic cytokinetic apparatus in the formation of the linear spore tetrads of *Conocephalum japonicum* (Bryophyta). *Planta* 206: 604-610.
- Shimamura, M., H. Deguchi and Y. Mineyuki, 2003a A review of the occurrence of monoplastidic meiosis in liverworts. *Journal of the Hattori Botanical Lab* 94: 179-186.
- Shimamura, M., T. Furuki and H. Deguchi, 2005 Sporophyte Anatomy of *Cavicularia densa* (Blasiaceae). *The Bryologist* 108: 420-426.

- Shimamura, M., T. Furuki and H. Deguchi, 2006 Sporophyte anatomy of *Blasia pusilla* (Blasiales, Blasiaceae). *Hikobia* 14: 399-402.
- Shimamura, M., A. Kitamura, Y. Mineyuki and H. Deguchi, 2001 Occurrence of monoplastic sporocytes and quadripolar microtubule systems in Marchantiales (Bryophyta; Marchantiidae). *Hikobia* 13: 551-562.
- Shimamura, M., Y. Shigetou and H. Deguchi, 2003b Developmental investigation on the gametophyte of *Apotreubia nana* (Treubiaceae, Hepaticae). *Hikobia* 14: 107-112.
- Shinmen, Y., K. Katoh, S. Shimizu, S. Jareonkitmongkol and H. Yamada, 1991 Production of arachidonic acid and eicosapentaenoic acids by *Marchantia polymorpha* in cell culture. *Phytochemistry* 30: 3255-3260.
- Shizhen, L., 2003 *Compendium of Materia Medica : Bencao Gangmu (6 vols.)*. Foreign Language Press, Beijing, China.
- Smith, M. A., and N. C. Maravolo, 2004 The Influence of Spermine on the In Situ Expression of a Protein Kinase Associated with Senescence in *Marchantia polymorpha* Thalli *International Journal of Plant Sciences* 165: 745-751.
- Smith, R. I. L., 1991 Exotic Sporomorpha as Indicators of Potential Immigrant Colonists in Antarctica. *Grana* 30: 313-324.
- Smith, R. I. L., 1993 The role of bryophyte propagule banks in primary succession- Case-study of an Antarctic fellfield soil, pp. 55-78 in *Primary Succession on Land*. Blackwell Scientific Publications, Oxford.
- Smith, R. I. L., 2005a Bryophyte diversity and ecology of two geologically contrasting Antarctic islands. *Journal of Bryology* 27: 195-206.
- Smith, R. I. L., 2005b The thermophilic bryoflora of Deception Island: unique plant communities as a criterion for designating an Antarctic Specially Protected Area. *Antarctic Science* 17: 17-27.
- Sone, T., M. Fujisawa, M. Takenaka, S. Nakagawa, S. Yamaoka *et al.*, 1999 Bryophyte 5S rDNA was inserted into 45S rDNA repeat units after the divergence from higher land plants. *Plant Molecular Biology* 41: 679-685.
- Stange, L., 1988 Disorganization of the meristem in *Riella helicophylla* by inhibition of auxin action, pp. 361-366 in *Physiology and Biochemistry of Auxins in Plants, Symposium, Liblice, Czechoslovakia (September 28 - October 2, 1987)*, edited by M. Kutack, R. S. Bandurski and J. Krekule. Academic Publishing; Academia, The Hague, Netherlands; Prague, Czechoslovakia.
- Stange, L., and D. J. Osborne, 1988a Cell Specificity in Auxin-Induced and Ethylene-Induced Supergrowth in *Riella-Helicophylla*. *Planta* 175: 341-347.
- Stange, L. M. C., and D. J. Osborne, 1988b Contrary Effects of Ethylene and ACC on Cell Growth in the Liverwort *Riella Helicophylla*, pp. 341-348 in *Biochemical and Physiological Aspects of Ethylene Production in Lower and Higher Plants; Proceedings of a Conference held at the Limburgs Universitair Centrum, Diepenbeek, Belgium, 22-27 August 1988*, edited by M. D. P. H. Clijsters, R. Marcelle, M. Van Poucke Kluwer Academic Publishers, Dordrecht, The Netherlands.
- Stanislaus, R. C., and N. C. Maravolo, 1994 The Influence of Polyamines on Senescence in *Marchantia polymorpha*. *The Bryologist* 97: 162-165.
- Stannard, J., 1999 *Herbs and Herbalism in the Middle Ages and Renaissance*. Ashgate, Variorum, Aldershot.
- Stearn, W. T., 1986 The Wilkins Lecture, 1985: John Wilkins, John Ray and Carl Linnaeus. *Notes and Records of the Royal Society of London* 40: 101-123.
- Stech, M., J. P. Frahm, H. H. Hilger and W. Frey, 2000 Molecular relationship of *Treubia* Goebel (Treubiaceae, Treubiopsida) and high taxonomic level classification of the Hepaticophytina - Studies in austral temperate rain forest bryophytes 6. *Nova Hedwigia* 71: 195-208.
- Stech, M., and W. Frey, 2001 CpDNA-relationship and classification of the liverworts (Hepaticophytina, Bryophyta). *Nova Hedwigia* 72: 45-58.
- Stech, M., and W. Frey, 2004 Molecular circumscription and relationships of selected Gondwanan species of *Haplomitrium* (Calobryales, Haplomitriopsida, Hepaticophytina). *Nova Hedwigia* 78: 57-70.



- Stech, M., N. A. Konstantinova and W. Frey, 2002 Molecular divergence between *Treubia* Goebel and *Apotreubia* S. Hatt. & Mizut., the two genera of the archaic liverwort class Treubiopsida (Hepaticophytina). *Nova Hedwigia* 75: 91-100.
- Steele, K. P., K. E. Holsinger, R. K. Jansen and D. W. Taylor, 1991 Assessing the reliability of 5S rRNA sequence data for phylogenetic analysis in green plants. *Molecular Biology and Evolution* 8: 240-248.
- Stemans, P., 2000 Miospore evolution from the Ordovician to the Silurian. *Review of Palaeobotany and Palynology* 113: 189-196.
- Stemans, P., A. le Hérisse and N. Bozdogan, 1996 Ordovician and Silurian cryptospores and miospores from southeastern Turkey. *Review of Palaeontology and Palynology* 93: 35-76.
- Steinhauser, S., S. Beckert, I. Capesius, O. Malek and V. Knoop, 1999 Plant mitochondrial RNA editing. *Journal of Molecular Evolution* 48: 303-312.
- Stránský, K., M. Streibl and K. Ubik, 1991 On Natural Waxes .30. Unusual Alkanes Pattern of Some Plant Cuticular Waxes. *Collection of Czechoslovak Chemical Communications* 56: 1123-1129.
- Strother, P. K., 1991 A classification schema for the cryptospores. *Palynology* 15: 219-236.
- Strother, P. K., S. Al-Hajri and A. Traverse, 1996 New evidence for land plants from the lower Middle Ordovician of Saudi Arabia. *Geology* 24: 55-58.
- Strother, P. K., G. D. Wood, W. A. Taylor and J. H. Beck, 2004 Middle Cambrian cryptospores and the origin of land plants. *Memoirs of the Association of Australasian Palaeontologists* 29: 99-113.
- Sturtevant, A. H., 2001 *A History of Genetics*. Cold Spring Harbor Laboratory Press.
- Sugawara, Y., and M. Takeuchi, 1988 Changes in the resistance of protoplasts and regenerated cells to freezing and osmotic dehydration during protoplast culture of *Marchantia polymorpha*. *Cryobiology* 25: 517.
- Suire, C., 2000 A comparative, transmission-electron microscopic study on the formation of oil-bodies in liverworts. *J. Hattori Bot. Lab.* 89: 209-232.
- Suire, C., F. Bouvier, R. A. Backhaus, D. Begu, M. Bonneau *et al.*, 2000 Cellular localization of isoprenoid biosynthetic enzymes in *Marchantia polymorpha*. Uncovering a new role of oil bodies. *Plant Physiology* 124: 971-978.
- Suzuki, K., 2004 Characterization of telomere DNA among five species of pteridophytes and bryophytes. *Journal of Bryology* 26: 175-180.
- Suzuki, T., S. Takio and T. Satoh, 1998 Light-dependent expression in liverwort cells of chlL-N and chlB identified as chloroplast genes involved in chlorophyll synthesis in the dark. *Journal of Plant Physiology* 152: 31-37.
- Suzuki, T., S. Takio, K. Tanaka, I. Yamamoto and T. Satoh, 1999 Differential Light Regulation of the *rbcs* Gene Expression in Two Cell Lines of the Liverwort *Marchantia paleacea* var. *diptera*. *Plant and Cell Physiology* 40: 100-103.
- Suzuki, T., S. Takio, I. Yamamoto and T. Satoh, 2001 Characterization of cDNA of the liverwort phytochrome gene, and phytochrome involvement in the light-dependent and light-independent protochlorophyllide oxidoreductase gene expression in *Marchantia paleacea* var. *diptera*. *Plant and Cell Physiology* 42: 576-582.
- Sztein, A. E., J. D. Cohen and T. J. Cooke, 2000 Evolutionary patterns in the auxin metabolism of green plants. *International Journal of Plant Sciences* 161: 849-859.
- Sztein, A. E., J. D. Cohen, I. G. de la Fuente and T. J. Cooke, 1999 Auxin metabolism in mosses and liverworts. *American Journal of Botany* 86: 1544-1555.
- Szweykowski, J., K. Buczkowska and I. J. Odrzykoski, 2005 *Conocephalum salebrosum* (Marchantiopsida, Conocephalaceae) – a new Holarctic liverwort species. *Plant Systematics and Evolution* 253: 133-158.
- Taira, Z., M. Takei, K. Endo, T. Hashimoto, Y. Sakiya *et al.*, 1994 Marchantin-a Trimethyl Ether - Its Molecular-Structure and Tubocurarine-Like Skeletal-Muscle Relaxation Activity. *Chemical & Pharmaceutical Bulletin* 42: 52-56.
- Takemura, M., K. Oda, K. Yamato, E. Ohta, Y. Nakamura *et al.*, 1992 Gene Clusters for Ribosomal-Proteins in the Mitochondrial Genome of a Liverwort, *Marchantia-Polymorpha*. *Nucleic Acids Research* 20: 3199-3205.

- Takenaka, M., S. Yamaoka, T. Hanajiri, Y. Shimizu-Ueda, K. T. Yamato *et al.*, 2000 Direct transformation and plant regeneration of the haploid liverwort *Marchantia polymorpha* L. *Transgenic Research* 9: 179-185.
- Takio, S., 1990 Nitrate Reductase Inactivator in a Chlorate Resistant Mutant of the Liverwort, *Marchantia-Paleacea* Var *Diptera*. *Journal of Plant Physiology* 136: 30-34.
- Takio, S., and S. Hino, 1988 Nitrate Reductase from Suspension Cultured Cells of *Marchantia Polymorpha* L. *Journal of Plant Physiology* 132: 470-473.
- Takio, S., K. Ikuta, Y. Satoh and T. Satoh, 1993 Photosynthetic Properties of Dark-bleached Cells of the Newly Established Line from the Liverwort, *Marchantia paleacea* var. *diptera*. *Journal of Plant Physiology* 142: 6-11.
- Takio, S., N. Nakao, T. Suzuki, K. Tanaka, I. Yamamoto *et al.*, 1998 Light-dependent expression of protochlorophyllide oxidoreductase gene in the liverwort, *Marchantia paleacea* var. *diptera*. *Plant and Cell Physiology* 39: 665-669.
- Takio, S., S. Takami and S. Hino, 1988 Photosynthetic Ability of Dark-grown *Marchantia paleacea* Cells in Suspension Culture. *Journal of Plant Physiology* 132: 195-198.
- Takio, S., N. Takase and T. Satoh, 1999 Hypermethylation of CpNpG and CpG sequences flanking telomeres in the liverwort, *Marchantia paleacea* var. *diptera*. *Journal of Plant Physiology* 154: 341-345.
- Tanaka, K., S. Takio, I. Yamamoto and T. Satoh, 1996 Purification of the cytosolic CuZn-superoxide dismutase (CuZn-SOD) of *Marchantia paleacea* var *diptera* and its resemblance to CuZn-SOD from chloroplasts. *Plant and Cell Physiology* 37: 523-529.
- Tanurdzic, M., and J. A. Banks, 2004 Sex-determining mechanisms in land plants. *Plant Cell* 16: S61-S71.
- Taylor, T. N., 1988 The Origin of Land Plants- Some Answers, More Questions. *Taxon* 37: 805-833.
- Taylor, T. N., H. Kerp and H. Hass, 2005 Life history biology of early land plants: deciphering the gametophyte phase. *Proceedings of the National Academy of Sciences USA* 102: 5892-5897.
- Taylor, T. N., W. Remy, H. Hass and H. Kerp, 1995 Fossil arbuscular mycorrhizae from the early Devonian. *Mycologia* 87: 560-573.
- Taylor, W. A., 1995a Spores in Earliest Land Plants. *Nature* 373: 391-392.
- Taylor, W. A., 1995b Ultrastructure of *Tetrahedraletes medinensis* (Strother and Traverse) Wellman and Richardson, from the Upper Ordovician of southern Ohio. *Review of Palaeobotany and Palynology* 85: 183-187.
- Taylor, W. A., 1997 Ultrastructure of lower Paleozoic dyads from southern Ohio II- *Dyadospora murusattenuata*, functional and evolutionary considerations. *Review of Palaeobotany and Palynology* 97: 1-8.
- Taylor, W. A., and T. N. Taylor, 1987 Spore Wall Ultrastructure of *Protosalvinia*. *American Journal of Botany* 74: 437-443.
- Theophrastus, B. Einarson and G. K. K. Link, 1990 *De causis plantarum. III*. Heinemann, London.
- Thomas, R. J., T. G. Woodward and H. A. Rogoff, 2002 Growth Asymmetry and Auxin Transport in Setae of Gravistimulated *Pellia epiphylla* Sporophytes. *The Bryologist* 105: 407-410.
- Tilney, L. G., T. J. Cooke, P. S. Connelly and M. S. Tilney, 1990 The distribution of plasmodesmata and its relationship to morphogenesis in fern gametophytes. *Development* 110: 1209-1221.
- Tognoni, F., 2005 Nature Described: Fabio Colonna and Natural History Illustration. *Nuncius. Journal of the History of Science* 20: 347-370.
- Tomescu, A. M. F., and G. W. Rothwell, 2006 Wetlands before tracheophytes- Thalloid terrestrial communities of the Early Silurian Passage Creek biota (Virginia). *Geological Society of America Special Papers* 399: 41-56.
- Tori, M., M. Aoki and Y. Asakawa, 1994 Chenopodene, Marchantin-P and Riccardin-G from the Liverwort *Marchantia Chenopoda*. *Phytochemistry* 36: 73-76.
- Tounou, E., S. Takio, A. Sakai, K. Ono and H. Takano, 2002 Ampicillin Inhibits Chloroplast Division in Cultured Cells of the Liverwort *Marchantia polymorpha*. *Cytologia* 67: 429-434.
- Toyota, M., and Y. Asakawa, 1993 Sesqui- and triterpenoids of the liverwort *Conocephalum japonicum*. *Phytochemistry* 32: 1235-1237.
- Toyota, M., T. Kinugawa and Y. Asakawa, 1994 Bibenzyl cannabinoid and bisbibenzyl derivative from the liverwort *Radula perrottetii*. *Phytochemistry* 37: 859-862.

- Toyota, M., T. Shimamura, H. Ishii, M. Renner, J. Braggins *et al.*, 2002 New Bibenzyl Cannabinoid from the New Zealand Liverwort *Radula marginata*. *Chemical and Pharmaceutical Bulletin* 50: 1390-1392.
- Trewin, N. H., S. R. Fayers and R. Kelman, 2003 Subaqueous silicification of the contents of small ponds in an Early Devonian hot-spring complex, Rhynie, Scotland. *Canadian Journal of Earth Sciences* 40: 1697-1712.
- Tsekos, I., 1999 The sites of cellulose synthesis in algae: Diversity and evolution of cellulose-synthesizing enzyme complexes. *Journal of Phycology* 35: 635-655.
- Tsuboi, H., N. Suetsuga and M. Wada, 2006 Negative phototropic response of rhizoid cells in the fern *Adiantum capillus-veneris*. *Journal of Plant Research* 119: 505-512.
- Turmel, M., M. Ehara, C. Otis and C. Lemieux, 2002 Phylogenetic relationships among streptophytes as inferred from chloroplast small and large subunit rRNA gene sequences. *Journal of Phycology* 38: 364-375.
- Turnau, K., M. Ronikier and J. Unrug, 1999 Role of mycorrhizal links between plants in establishment of liverworts thalli in natural habitats. *Acta Societatis Botanicorum Poloniae* 68: 63-68.
- Umesono, K., H. Inokuchi, Y. Shiki, M. Takeuchi, Z. Chang *et al.*, 1988 Structure and Organization of *Marchantia-Polymorpha* Chloroplast Genome .2. Gene Organization of the Large Single Copy Region from Rps12 to Atpb. *Journal of Molecular Biology* 203: 299-331.
- van de Peer, Y., R. de Baere, J. Cauwenberghs and R. de Wachter, 1990 Evolution of green plants and their relationship with other photosynthetic eukaryotes as deduced from 5S ribosomal RNA sequences. *Plant Systematics and Evolution* 170: 85-96.
- van Zanten, B. O., and S. R. Gradstein, 1987 Feasibility of long-distance transport in Columbian hepatics, preliminary report. *Symposia Biologica Hungarica* 35: 315-322.
- van Zanten, B. O., and S. R. Gradstein, 1988 Experimental dispersal geography of neotropical liverworts. *Beihefte zur Nova Hedwigia* 90: 41-94.
- Varo, J., J. Guerra, M. L. Zafra and R. M. Ros, 1992 Regression and invasion of bryophytes in the south and southeast of the Iberian Peninsula. *Biological Conservation* 59: 129-131.
- Vashistha, B. D., 1987 Effect of Some Auxins and Cytokinins on Growth and Archegonial Formation in the Liverwort *Riccia jrostitii* Aust. *Biochem Physiol Pflanzen* 182: 309-321.
- Verkley, G. J. M., H. A. van der Aa and G. W. de Cock, 1997 *Bryoscyphus atromarginatus* spec nov. (Leotiaceae), a new ascomycete parasitizing the thallus of *Marchantia polymorpha*. *Persoonia* 16: 383-387.
- Vishvakarma, K. S., and A. Kaul, 1988 Influence of moisture levels on growth of *Plagiochasma appendiculatum* Lehm. et Lindenb. and *Reboulia hemisphaerica* (L.) Raddi on a comparative basis. *Cryptogamie Bryologie Lichénologie* 9: 337-341.
- Volchenkova, T. A., N. A. Kalabina, C. Schaefer, V. P. Zubov and Z. S. Yu., 2001 A study of moss (*Marchantia polymorpha*) thylakoid membrane lipids in monolayers. *Membrane & Cell Biology* 14: 579-585.
- von Konrat, M., J. E. Braggins and P. Harris, J., 1999 A New Technique to Investigate Cell Layers of the Capsule Wall Using *Frullania* (Hepaticae) as a Case Study. *The Bryologist* 102: 240-248.
- Wark, M. C., 1997 Regeneration of some forest and gully communities in the Angahook-Lorne State Park (north-eastern Otway Ranges) 1-10 years after the wildfire of February 1983. *Proceedings of the Royal Society of Victoria* 109: 7-36.
- Waters, D. A., M. A. Buchheim, R. A. Dewey and R. L. Chapman, 1992 Preliminary Inferences of the Phylogeny of Bryophytes from Nuclear-Encoded Ribosomal RNA Sequences. *American Journal of Botany* 79: 459-466.
- Weber, B., T. Borner and A. Weihe, 1995 Remnants of a DNA-Polymerase Gene in the Mitochondrial-DNA of *Marchantia-Polymorpha*. *Current Genetics* 27: 488-490.
- Weis, E., D. Wamper and K. A. Santarius, 1986 Heat sensitivity and thermal adaptation of photosynthesis in liverwort thalli. *Oecologia* 69: 134-139.
- Wellman, C. H., 1996 *Cryptospores from the type area of the Caradoc Series in southern Britain*, London.
- Wellman, C. H., 1999 Sporangia containing *Scylaspora* from the Lower Devonian of the Welsh Borderland. *Palaeontology* 42: 67-81.

- Wellman, C. H., 2004 Origin, function and development of the spore wall in early land plants, pp. 43-63 in *The Evolution of Plant Physiology*, edited by A. R. Hemsley and I. Poole. Academic Press.
- Wellman, C. H., D. Edwards and L. Axe, 1998 Permanent dyads in sporangia and spore masses from the Lower Devonian of the Welsh Borderland Botanical Journal of the Linnean Society 127: 117-147.
- Wellman, C. H., and J. Gray, 2000 The microfossil record of early land plants. Philosophical Transactions of the Royal Society of London Series B-Biological Sciences 355: 717-731.
- Wellman, C. H., P. L. Osterloff and U. Mohiuddin, 2003 Hepatic characters in the earliest land plants. Nature 425: 282-285.
- Wheeler, J. A., 2000 Molecular Phylogenetic Reconstructions of the Marchantioid Liverwort Radiation. The Bryologist 103: 314-333.
- Whittemore, A. T., 1991 The secondary chemistry of the Marchantiales. Advances in Bryology 4: 75-102.
- Wilkinson, C. E., M. D. Hocking and T. E. Reimchen, 2005 Uptake of salmon-derived nitrogen by mosses and liverworts in coastal British Columbia. Oikos 108: 85-98.
- Witt, H.-J., 1989a Activities of Enzymes Involved in Sucrose and Starch Metabolism in *Riella helicophylla* (Bory et Mont.) Mont. during Differentiation. Journal of Plant Physiology 135: 99-104.
- Witt, H.-J., 1989b Changes in Activity of Enzymes Involved in Carbohydrate metabolism during Dedifferentiation of Mature Cells of *Riella helicophylla* (Bory et Mont.) Mont. Journal of Plant Physiology 135: 597-600.
- Witt, H.-J., 1992 UDP-Glucose Metabolism during Differentiation and Dedifferentiation of *Riella helicophylla*. Journal of Plant Physiology 140: 276-281.
- Witt, H.-J., and B. Teubert, 1992 Changes in Activities of Enzymes Involved in Starch Metabolism during the Development of Gemmae to 14-Day-Old Plants of *Riella helicophylla*. Journal of Plant Physiology 140: 375-377.
- Wu, P.-C., and Y. Jia, 2003 The Medicinal Uses of Bryophytes. Acta Botanica Yunnanica 14S: 51-55.
- Wurzel, G., H. Becker, T. Eicher and K. Tiefensee, 1990 Molluscicidal Properties of Constituents from the Liverwort *Ricciocarpos natans* and of Synthetic Lunularic Acid Derivatives. Planta Medica 56: 444-445.
- Wüthrich, K. L., L. Bovet, P. E. Hunziker, I. S. Donnison and S. Hörtensteiner, 2000 Molecular cloning, functional expression and characterisation of RCC reductase involved in chlorophyll catabolism. The Plant Journal 21: 189-198.
- Yamaoka, S., M. Takenaka, T. Hanajiri, Y. Shimizu-Ueda, H. Nishida *et al.*, 2004 A mutant with constitutive sexual organ development in *Marchantia polymorpha* L. Sexual Plant Reproduction 16: 253-257.
- Yoshida, T., T. Hashimoto, S. Takaoka, Y. Kan, M. Tori *et al.*, 1996 A method for studying chemotaxis in nitrogen fixing cyanobacterium-plant symbioses. Tetrahedron 52: 14487-14500.
- Yoshikawa, H., Y. Ichiki, K. D. Sakakibara, H. Tamura and M. Suiko, 2002 The biological and structural similarity between lunularic and abscisic acid. Biosci Biotechnol Biochem 66: 840-846.
- Yuan, X., S. Xiao and T. N. Taylor, 2005 Lichen-like Symbiosis 600 Million Years Ago. Science 308: 1017-1020.
- Zacharias, H., 1995 Emil Heitz (1892- 1965)- Chloroplasts, Heterochromatin, and Polytene Chromosomes. Genetics 141: 7-14.
- Zaitsev, S. Y., T. A. Volchenkova, N. A. Kalabina, C. Schaefer and V. P. Zubov, 1998 Purification and monolayer study of the thylacoid lipids of moss *Marchantia polymorpha*. Macromolecular Symposia 136: 119-129.
- Zdebska, D., 1996 Is Spongiophyton a Devonian Liverwort? Flora Histochemica et Cytobiologica 24.
- Zehr, D. R., 1990 A Simplified Technique for Assaying the Production of Bacteriostatic Compounds by Hepatics. Lindbergia 16: 128-132.

江苏新医学院, 1986 中葯大辞典. Shanghai ke xue ji shu chu ban she: Xin hua shu dian Shanghai fa xing suo fa xing, Shanghai.