**CURRICULUM VITAE**



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Gar W. Rothwell

Edwin and Ruth Kennedy Distinguished Professor Emeritus

Department of Environmental and Plant Biology

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Courtesy Professor

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Corvallis, OR 97331 E: [gar.rothwell@oregonstate.edu](mailto:gar.rothwell@oregonstate.edu)

**Education** Ph.D.,1973 University of Alberta (Botany)

M.S., 1969 University of Illinois, Chicago (Biology)

B.A., 1966 Central Washington University (Biology)

**Academic Awards and Honors**

2018 International Organisation of Palaeobotany lifetime Honorary Membership

2014 Fellow of the Paleontological Society

2009 Distinguished Fellow of the Botanical Society of America

2004 Ohio University Distinguished Professor

2002 Michael A. Cichan Award, Botanical Society of America

1999-2004 Ohio University Presidential Research Scholar in Biomedical and Life Sciences

1993 Edgar T. Wherry Award, Botanical Society of America

1991-1992 Outstanding Graduate Faculty Award, Ohio University

1982-1983 Chairman, Paleobotanical Section, Botanical Society of America

1972-1973 University of Alberta Dissertation Fellow

1971 Paleobotanical (Isabel Cookson) Award, Botanical Society of America

**Positions Held**

2011-present Courtesy Professor of Botany and Plant Pathology, Oregon State University

2008-2009 Visiting Senior Researcher, University of Alberta

2004-present Edwin and Ruth Kennedy Distinguished Professor of Environmental and Plant Biology, Ohio University

2003-2010 Chair, Department of Environmental and Plant Biology, Ohio University

1999-2000 Visiting Scholar, University of Alberta

1992-1993 University of Alberta, Visiting Senior Researcher in Geology

1991-2004 Professor of Environmental and Plant Biology, Ohio University

1990-1995 University of Alberta, Adjunct Professor of Botany

1984-1985 Visiting Researcher, University of London, Chelsea College

1984-1991 Professor of Botany, Ohio University

1979-1984 Associate Professor of Botany, Ohio University

1974-1979 Assistant Professor of Botany, Ohio University

1973-1974 Visiting Assistant Professor of Botany, University of Alberta

**Professional Society Memberships**

American Fern Society

American Society of Plant Biologists

American Society of Plant Taxonomists

Botanical Society of America

Canadian Botanical Association

Geological Society of America

International Association of Plant Taxonomists

International Organisation of Palaeobotany

International Organization of Pteridologists

Paleontological Society

Sigma Xi

The Botanical Society of Japan

Torrey Botanical Society

**Mentoring, Supervision, and Collaboration**

**Undergraduate Researchers** (resulting in student as published author; \*current): James Basinger, Emma Buczkowski, Chandler Clarkson, Diane Erwin, Amy Falder, Kaitliln Hilleir, Kelli Johnson, Nathan Jud, Steve Karafit, Trevor Lance, Kathleen Pigg, Madeleine Rae, Steven Ratzel, Jennifer Rice, Susan Riggs, MacKensey Smith, \*Alex Scharfstein, Selena Smith, Nicholas Stanich, Mary Trivett, Michelle Van Atta, Susan Warner, Tim Williams

**M.S. Students**: Hazel Beeler, Diane Erwin, Amy Falder, David Frankel, Gary Grove, Jon Hamer, Genaro Hernandez-Castillo, Nicholas Hoffmann, Bai Li, Melissa McComas, Kathleen Pigg, Janelle Pryor, Rudy Serbet, Mary Trivett

**Ph.D. Students** (\*current): Brian Atkinson, \*Alex Bippus, Mike Dunn, Jim Mickle, Janelle Pryor, Heather Sanders, Rudy Serbet, Sara Stubblefield, Mihai Tomescu, Mary Trivett

**Post Doctoral Fellows:** Ignacio Escapa, B-C Feng, Z-H Liu, Patricia Ryberg, David Wight

**Visiting Scientists:** Richard Bateman, UK; Aureal T. Cross, USA; Laurisa Doguzhaeva, Russia; Don Eggert, USA; Ignacio Escapa, Argentina; William Gillespie, USA; Charles Good, USA; Jason Hilton, UK; Eric Karrfalt, USA; Simcha Lev-Yadun, Isreal; Paul Lyons, USA; Michael Millay, USA; Steve Scheckler, USA; Ruth Stockey, Canada; K-Q Sun, China; Z-L Yao, China; Robert Wagner, Spain; Harold Walter, Germany

**Administrative Experience**

**Professional Activities and Elected Offices**

Member and contributor, PaleoBiology Data Base, 2016-present.

Associate Editor, Ameghiniana, 2012-present.

President, International Organisation of Palaeobotany, 2008-2012.

Editorial Advisory Committee, The Paleobotanist, 2001- 2003.

Secretary/Treasurer, International Organisation of Palaeobotany, 2000-2008.

Botanical Society of America, Committee on Committees, 1999-2004.

Scientific Program Organizing Committee, XVI International Botanical Congress, St. Louis MO, 1997-1999.

Chairman, Mid-Continent Paleobotanical Colloquium, 1997. (co-organizer 1981, 1983,

1991, 1997, 2018; organizational adviser 1981-present)

Associate Editor, American Journal of Botany, 1995-present.

Director, Ohio University Scientific Imaging Facility, 1994-2004.

Director, Ohio University Biodiversity Resources (National Science Collections Alliance), 1994-2009.

Editorial Board, Review of Palaeobotany and Palynology, 1991-2012.

Secretary/Treasurer, Paleobotanical Section, Botanical Society of America, 1983-1986. Curator, Ohio University Paleobotanical Collections/Paleobotanical Herbarium (OUPH),

1978-present.

**University (Ohio University)**

Ohio University Distinguished Professors, 2004-present

Ohio University, CAS Chairs and Directors Council, 2003-2010.

Director, Ohio University Biodiversity Resources, 1994-2009.

Director, Ohio University Scientific Imaging Facility, 1993-2004.

Curator of the Ohio University Paleobotanical Herbarium, 1984-2011.

Ohio University Curriculum Council, 1983-1986.

Ohio University Faculty Senate, 1980-1983, 1999-2002.

Ohio University Graduate Council, 1980-1983.

**College (Ohio University)**

Chairs and Directors, 2003-10.

Arts and Sciences Information Technology Committee, 2004-2006.

Arts and Sciences Building Renovation Committee, 1990-1992.

Arts and Sciences Computer Advisory Committee, 1989-1992.

Arts and Sciences Promotion and Tenure Committees, 1980-present.

**Departmental (Ohio University)**

Department Chair, 2003-2010

Chair, Doctoral Program Review (Ohio Board of Regents Mandate), 1995.

Director, Photomicroscopy Laboratory and Departmental Darkrooms, 1984-1993.

Director, Scanning Electron Microscopy Laboratory, 1988-1993.

Chair, Graduate Programs, 1980-1983.

**Publication Record**

**Books Authored**

Stewart, W. N., and G. W. Rothwell. 1993. Paleobotany and the evolution of plants. Cambridge University Press, 521 pp.

**Books/Journal Issues Edited**

1978. Rothwell, G.W., ed. W. N. Stewart, Special Section. Canadian Journal of Botany 56(24): 3083-3107.

1991. Rothwell, G.W. and J.E. Basinger, eds. Paleobotany in Canada, Special Issue. Review of Palaeobotany and Palynology 70(1-2):1-185.

1994. Rothwell, G.W. and R.A. Stockey, eds. Pteridophytes and gymnosperms: Current concepts of structure, evolutionary history, and phylogeny, Special Issue. Journal of Plant Research 107(4): 409-512.

2006. Dunn, M.T. and G.W. Rothwell, eds. A century of seed ferns, Special Issue. Journal of the Torrey Botanical Society. 133(1): 1-209.

2006. Stockey, R.A. and G.W. Rothwell, eds. Evolution of modern ferns. Special Section. International Journal of Plant Sciences, 167(3): 613-749.

2013. Rothwell, G.W. and R.A. Stockey, eds. Thomas N. Taylor Diamond Jubilee, Conceptual advances in fossil plant biology, Special Issue. International Journal of Plant sciences 174(3): 267-607.

2018. Rothwell, G.W., A.M.F. Tomescu and I. Escapa, eds. Tree of Death Special Issue: The role of fossils in resolving the overall pattern of plant phylogeny. American Journal of Botany 105, No. 8.

2018. Krings, M.A., C. Harper, N.R. Cuneo, and G.W. Rothwell, eds. Transformative Paleobotany. Academic Press, Burlington, MA, USA.

**Peer Reviewed Articles, Chapters in Books, and Invited Book Reviews**

276. Tomescu, A.M.F., I. Escapa and G.W. Rothwell. 2021. Phylogeny and time’s arrow: the role of fossils and morphology in reconstructing evolutionary history. New Phytologist manuscript ID: NPH-L-2020-34344, submitted August 31, 2020.

265. Tomescu, A. and G.W. Rothwell. 2021. Fossils and Plant Evolution: Structural Fingerprints and Modularity in the Evo-Devo Paradigm. EvoDevo (EVOD-D-21-00022), submitted September 28, 2021. (also Preprints 2020, 2020070311 (doi: 10.20944/preprints202007.0311.v1).

274. Rothwell, G.W., M.T Dunn and A.C. Scott. 2021. Reconstructing the *Tetrastichia bupatides* Gordon plant; a Lower Carboniferous/Devonian (Tournaisian) hydrasperman gymnosperm from Oxroad Bay, Scotland and Ballyheigue, Ireland. Review of Palaeobotany and Palynology, in revision.

273. Stockey, R.A., G.L. Hoffman and G.W. Rothwell. 2021. Josef Bogner’s Influence on Paleobotany. Aroideana 44: 41-81.

272. Atkinson, B.A., D.L. Contreras, R.A. Stockey and G.W. Rothwell. 2021. Disparate diversity of ancient cunninghamioid conifers (Cupressaceae): two new genera from the Upper Cretaceous of Hokkaido, Japan. Botany 99: 457-473.

271. Stockey, R.A., G.L. Hoffman and G.W. Rothwell. 2021. Fossil evidence for Paleocene diversification of Araceae: *Bognerospadix* gen. nov. and *Orontiophyllum grandifolium* comb. nov. American Journal of Botany 108: 1417–1440. <https://doi.org/10.1002/ajb2.1707>

270. Gierlowski-Kordesch, E.H., G.W. Rothwell, R.A. Stockey and D.B. Finkelstein. 2021. Submarine groundwater discharge as a catalyst for eodiagenetic carbonate cements within marine sedimentary basins. Pp. 445-468, in: Rosen, M.R., L. Park-Boush, D.B. Finkelstein and S.P. Pueyo. Limnogeology: Progress, challenges and opportunities: A tribute to Elizabeth Gierlowski-Kordesch. Springer Nature Switzerland AG, Switzerland.

269. Bippus, A.C., G.W. Rothwell, and R.A. Stockey. 2021. *Cynodontium luthii* sp. nov.: a permineralized moss gametophyte from the Late Cretaceous of the North Slope of Alaska. American Journal of Botany 108: 495-504.

268. Rothwell, G.W. 2021. The evolution of stelar architecture. In: Tomescu, A.M.F. 2021. The stele – a developmental perspective on the diversity and evolution of primary vascular architecture. Biological Reviews. doi: 10.1111/brv.12699.

267. Rothwell, G.W., R.A. Stockey and S.Y. Smith. 2020. Revisiting the Late Cretaceous *Parataxodium wigginsii* flora from the North Slope of Alaska, a high-latitude temperate forest. Cretaceous Research 116:104592; ISSN 0195-6671

266. Stockey, R.A. and G.W. Rothwell. 2020. Diversification of crown group *Araucaria*: the role of *Araucaria famii* sp. nov. and other fossils in the late-Cretaceous (Campanian) radiation of Araucariaceae in the Northern Hemisphere. American Journal of Botany 107: 1072–1093. doi:10.1002/ajb2.1505265.

265. Stockey, R.A., H, Nishida and G.W. Rothwell. 2020. Evolutionary diversification of taiwanioid conifers: evidence from a new Upper Cretaceous seed cone from Hokkaido, Japan. Journal of Plant Research 133: 681–692.

264. Stockey, R.A., G.W. Rothwell and B.A. Atkinson. 2020. Late Cretaceous diversification of cupressaceous conifers: a taiwanioid seed cone from the Eden Main, Vancouver Island, British Columbia, Canada. International Journal of Plant Sciences 181: 529–541 DOI: 10.1086/708383.

263. Rothwell, G.W. 2020. Cauline vasculature and leaf trace production of *Medullosa leuckartii* Göppert & Stenzel (Medullosaceae), a Paleozoic gymnospermous vine. International Journal of Plant Sciences 181: 464-472.

262. Scharfstein, A.R., Stockey, R.A. and G.W. Rothwell. 2020. Evolution and phylogeny of Altingiaceae: anatomically preserved infructescences from Late Cretaceous deposits of Vancouver Island, British Columbia, Canada. International Journal of Plant Sciences 181:452–463. DOI: 10.1086/707107.

261. Rothwell, G.W., A.M.F. Tomescu and I.H. Escapa. 2018. Tree of death: The role of fossils in resolving the overall pattern of plant phylogeny. American Journal of Botany 105: 1239–1242. doi:10.1002/ajb2.1138

260. Stockey, R.A., J.P. Wiebe, B.A. Atkinson, and G.W. Rothwell. 2018. Cupressaceous pollen cones from the Early Cretaceous of Vancouver Island, British Columbia: *Morinostrobus holbergensis* gen. et sp. nov. International Journal of Plant Sciences 179: 402–414.

259. Elgorriaga, A., I.H. Escapa, G.W. Rothwell, A.M.F. Tomescu, and N.R. Cúneo. 2018.The origin of *Equisetum*; evolution of modern horsetails (Equisetales) within the major euphyllophyte clade Sphenopsida. American Journal of Botany 105: 1286–1303. doi:10.1002/ajb2.1125

258. Rothwell, G.W., M.A. Millay, and R.A. Stockey. 2018. Resolving the overall pattern of marattialean fern phylogeny. American Journal of Botany 105: 1304-1314. doi:10.1002/ajb2.1125

257. Savoretti, A., A.C. Bippus, R.A. Stockey, G.W. Rothwell, and A.M.F. Tomescu. 2018. Grimmiaceae in the Early Cretaceous: Tricarinella crassiphylla gen. et sp. nov., and the resolving power of anatomically-preserved bryophytes. Annals of Botany Annals of Botany 121: 1275–1286 .<https://doi.org/10.1093/aob/mcy015>.

256. Rothwell, G.W., M.A. Millay, and R.A. Stockey. 2018. Escapia gen. nov.: Morphological evolution, paleogeographic diversification, and the environmental distribution of marattialean ferns through time. Pp. 271-360 In: Krings, M.A., C. Harper, N.R. Cuneo, and G.W. Rothwell, eds. Transformative Paleobotany. Academic Press, Burlington, MA, USA.

255. Atkinson, B.A., R.A. Stockey, and G.W. Rothwell. 2018. Tracking the initial diversification of asterids: Anatomically preserved cornalean fruits from the early Coniacian (Late Cretaceous) of western North America. International Journal of Plant Sciences 179: 21-35. <http://DOI:10.1086/695339>.

254. Rothwell, G.W. and A.M.F. Tomescu. 2018. Structural Fingerprints of Development at the Intersection of Evo-Devo and the Fossil Record. Pp. 573-602. In: Nuño de la Rosa L., Müller G.B. (eds) Evolutionary Developmental Biology. Springer, Cham.

253. Rothwell, G.W., M. Krings, and C.J. Harper. 2017. Thomas N. Taylor – Pioneering palaeomycologist (1937–2016). IMA Fungus 8: 59–60.

252. Jud, N.A., E.A. Wheeler, G.W. Rothwell and R.A. Stockey. 2017. Angiosperm wood from the Upper Cretaceous (Coniacian) of British Columbia, Canada, IAWA Journal 38: 141-161. <http://DOI:10.1163/22941932-20170164>.

251. Rothwell, G.W., M. Krings and C. Harper. 2017. Thomas N. Taylor – Pioneering palaeomycologist (1937–2016). IAP Mycology 8: 59-60.

250. Spencer, A.R., R.J. Garwood, A.R. Rees, R.J. Raine, G.W. Rothwell, N.T.J. HollingworthandJ. Hilton. 2017. New insights into Mesozoic cycad evolution: an exploration of anatomically preserved Cycadaceae seeds from theJurassic Oxford Clay biota. PeerJ, DOI 10.7717/peerj.3723.

249. Atkinson, B.A., R.A. Stockey, and G.W. Rothwell. 2017. The early diversification of Cornales: Permineralized cornalean fruits from the Campanian (Upper Cretaceous) of western North America. International Journal of Plant Sciences 178: 556-566. DOI: 10.1086/692766.

248. Bippus, A.C., R.A. Stockey, G.W. Rothwell and A.M.F. Tomescu. 2017. Extending the fossil record of Polytrichaceae: Early Cretaceous *Meantoinea alophosioides* gen. et sp. nov., permineralized gametophytes with gemma cups from Vancouver Island. American Journal of Botany 104: 584-597.

247. Tomescu, A.M.F., I. Escapa, G.W. Rothwell, A. Elgorriaga, and N.R. Cuneo. 2017. Developmental programs in the evolution of *Equisetum* reproductive morphology - a hierarchical modularity hypothesis. Annals of Botany, 119: 489–505, 2017; doi:10.1093/aob/mcw273ss.

246. Rothwell, G.W. 2017. In memorium: Thomas Norwood Taylor (1938-2016). Plant Science Bulletin 63: 33-35.

245. Atkinson, B.A., R.A. Stockey, and G.W. Rothwell. 2017. Cretaceous origin of dogwoods: an anatomically preserved *Cornus* (Cornaceae) fruit from the Campanian of Vancouver Island. PeerJ: 4:e2808. [https://*doi*.org/*10.7717*/*peerj*.*2808*](https://doi.org/10.7717/peerj.2808).

244. Shelton, G.W.K., R.A. Stockey, G.W. Rothwell and A.M.F. Tomescu. 2016. *Krassiloviella* *limbelloides* gen. et sp. nov.: Additional diversity in the hypnanaean moss family Tricos taceae (Valanginian, Vancouver Island, British Columbia). International Journal of plant Sciences 177: 792-808.

243. Hilton, J., J.B. Ridingand G.W. Rothwell. 2016. Age and identity of the oldest pine fossils. Geology 44: e402-403 (DOI 10.1130/G38240Y.1).

242. Gernandt, D.S., G. Holman, C. Campbell, M. Parks, A. Liston, R.A. Stockey and G.W. Rothwell. 2016. Phylogenetics of extant and fossil Pinaceae using implied character weighting and model-based methods. Botany 94 :863-884.

241. Rothwell, G.W. and T. Ohana. 2016. Stockeystrobus gen. nov. (Cupressaceae), and the evolutionary diversification of sequoioid conifers. Botany 94: 847-861.

240. Stockey, R.A., G.W. Rothwell and K.R. Johnson. 2016. Evaluating relationships among floating aquatic monocots: A new species of Cobbania (Araceae) from the Upper Maastrichtian of South Dakota. International Journal of Plant Sciences 177: 706-725.

239. Rothwell, G.W. and R.A. Stockey. 2016. Phylogenetic diversification of Early Cretaceous seed plants: The compound seed cone of Doylea tetrahedrasperma. American Journal of Botany 103: 923 – 937.

238. Smith, S.L., R.A. Stockey, G.W. Rothwell and S.A. Little. 2016. A new species of Pityostrobus (Pinaceae) from the Cretaceous of California: moving towards understanding the Cretaceous radiation of Pinaceae. Journal of Systematic Palaeontology 14: 69-81., <http://www.tandfonline.com/doi/abs/10.1080/14772019.2016.1143885>

237. Buczkowski, E.L., R.A. Stockey, B.A. Atkinson and G.W. Rothwell. 2016. Cunninghamia beardii sp. nov. (Cupressaceae: Cunninghamioideae), anatomically preserved pollen cones from the Eocene of Vancouver Island, British Columbia Canada. International Journal of Plant Sciences 177: 103-114.

236. Shelton, G.W.K., R.A. Stockey, G.W. Rothwell and A.M.F. Tomescu. 2015. Exploring the fossil history of pleurocarpous mosses: Tricostaceae fam. Nov. from the Cretacous of Vancouver Island, Canada. Americal Journal of Botany 102: 1883-1900.

235. Spencer, A.R.T., G. Mapes, J. Hilton, R.M. Bateman and G.W. Rothwell. 2015. Middle Jurassic evidence for the origin of Cupressaceae: a paleobotanical context for the roles of regulatory genetics and development in the evolution of conifer seed cones. American Journal of Botany 102: 942-961.

234. Atkinson, B.A., R.A. Stockey G.W. Rothwell, R.A. Mindell and M.J. Bolton. 2015. Lauraceous flowers from the Eocene of Vancouver Island: Tinaflora beardiae gen. et sp. nov. (Lauraceae). International Journal of Plant Sciences 176: 378-392.

233. Klymiuk, A.A., R.A. Stockey and G.W. Rothwell. 2015. Plant-arthropod interactions in Acanthostrobus edenensis (Cupressaceae), a new conifer from the Upper Cretaceous of Vancouver Island, British Columbia. International Journal of Plant Science176: 378-392.

232. Smith, M.A., G.W. Rothwell and R.A. Stockey. 2015. Mesozoic diversity of Osmundaceae: Osmundacaulis whittlesii sp. nov. in the Early Cretaceous of western Canada. International Journal of Plant Sciences 176: 245**–**258.

231. Rothwell, G.W. and S. Ash. 2015. Internal Anatomy of the Late Triassic Equisetocaulis gen. nov., and the evolution of modern horsetails. Journal of the Torrey Botanical Society 142: 27-37. 230.

230. Atkinson, B.A., G.W. Rothwell and R.A. Stockey. 2014. Hughmillerites vancouverensis sp. nov. and the Cretaceous diversification of Cupressaceae. American Journal of Botany 101: 2136-2147.

229. Rothwell, G.W., S.W. Wyatt and A.M.F. Tomescu. 2014. Plant evolution at the interface of paleontology and developmental biology: an organism centered paradigm. American Journal of Botany 101: 899-913.

228. Ray, M.M., G.W. Rothwell and R.A. Stockey. 2014. Anatomically preserved Early Cretaceous bennettitalean leaves*: Nilssoniopteris corrugata* sp. nov., from Vancouver Island, Canada. Journal of Paleontology 88: 1085-1093.

227. Tomescu, A.M.F, S.W. Wyatt, M. Hasebe and G.W. Rothwell. 2014. Early evolution of the vascular plant body plan - the missing mechanisms. Current Opinion in Plant Biology 17: 126-136.

226. Atkinson, B.A., G.W. Rothwell and R.A. Stockey. 2013. *Hubbardiastrobus cunninghamioides* gen. et sp. nov., evidence for a Lower Cretaceous diversification of cunninghamioid Cupressaceae. International Journal of Plant Sciences, 175: 256-269.

225. Rothwell, G.W., G. Mapes, R.A. Stockey and J. Hilton. 2013. Diversity of ancient conifers: the Jurassic seed cone Bancroftiastrobus digitata gen. et sp. nov. (Coniferales). International Journal of Plant Sciences 174: 937-946.

224. Rothwell, G.W. and R.A. Stockey. 2013. Conceptual advances in fossil plant biology: Introduction and dedication. International Journal of Plant Sciences 174: 267-268.

223. Rothwell, G.W. and R.A. Stockey. 2013. Evolution and phylogeny of gnetophytes: evidence from the anatomically preserved seed cone Protoephedrites eamesii gen. et sp. nov. and several species of bennettitalean seeds. International Journal of Plant Sciences 174: 511-529.

222. Serbet, R., B. Bomfleur and G.W. Rothwell. 2013. Cunninghamia taylorii sp. nov. a structurally preserved cupressaceous conifer from the Upper Cretaceous (Campanian) Horseshoe Canyon Formation of Western North America. International Journal of Plant Sciences 174: 471-488.

221. Stockey, R.A., G.L. Hoffman, and G.W. Rothwell. 2013. Paleobotany and paleoecology of Gao Mine, a Late Paleocene fossil locality near Red Deer, Alberta, Canada. Canadian Journal of Earth Sciences 50: 235-248.

220. Stockey, R.A. and G.W. Rothwell. 2013. Pararaucaria carrii sp. nov., anatomically preserved evidence for the conifer family Cheirolepidiaceae in the Northern Hemisphere. International Journal of Plant Sciences 174: 445-457.

219. Escapa, I.H., N.R. Cuneo, G.W. Rothwell and R.A. Stockey, 2013. Pararaucaria delfueyoi from the Late Jurassic Cañadón Calcáreo Formation, Chubut, Argentina: insights into the evolution of Cheirolepidiaceae. International Journal of Plant Sciences 174: 458-470.

218. Ryberg, P.E., R.A. Stockey, J. Hilton, G. Mapes, J.B. Riding and G.W. Rothwell. 2012. Reconsidering relationships among stem and crown group Pinaceae: Oldest record of the genus Pinus from the Early Cretaceous of Yorkshire, UK. International Journal of Plant Sciences 173: 917-932.

217. Rothwell, G.W., G. Mapes, R.A. Stockey and J. Hilton. 2012. The seed cone *Eathiestrobu*s gen. nov.; fossil evidence for a Jurassic origin of Pinaceae. American Journal of Botany 99: 708-720.

216. Escapa, I.H., G.W. Rothwell, R.A. Stockey, and N.R. Cuneo. 2012. Seed cone anatomy of Cheirolepidiaceae (Coniferales): Reinterpreting Pararaucaria patagonica Wieland. American Journal of Botany 99:1058-1068.

215. Dunn, M. and G.W. Rothwell. 2012. Phenotypic plasticity of the hydrasperman seed fern *Tetrastichia bupatides* Gordon. International Journal of Plant Sciences 173: 823-834.

214. Hillier, K.G. and G.W. Rothwell. 2012. *Senftenbergia oregonensis* (Arnold) Comb. Nov., (Filicales); delimiting relationships among Paleozoic Tedeleaceae. International Journal of Plant Sciences 173: 549-557.

213. Sanders. H., G.W. Rothwell and S.W. Wyatt. 2011. Parallel evolution of auxin regulation in rooting systems. Plant Systematics and Evolution 291: 221-225.

212. Klymiuk, A., G.W. Rothwell and R.A. Stockey. 2011. The first organismal concept for an extinct species of Pinaceae: *Pinus arnoldii* Miller. International Journal of Plant Sciences 172: 294-313.

211. Rothwell, G.W., R. A. Stockey, G. Mapes, and J. Hilton. 2011. Structure and relationships of the Jurassic conifer seed cone *Hughmillerites juddii* gen. et comb. nov. : implications for the early evolution of Cupressaceae. Review of Palaeobotany and Palynology 164: 45-59.

210. Jud, N.A., G.W. Rothwell and R.A. Stockey. 2010. Paleoecological and phylogenetic implications of *Saxicaulis meckertii* gen. et sp. nov.: a bennettitalean stem from the Upper Cretaceous of western North America. International Journal of Plant Sciences 171: 915-925.

209. Stevens, L.G., J. Hilton, A.R. Rees, G.W. Rothwell and R.M. Bateman. 2010. Systematics, phylogenetics, and reproductive biology of *Flemingites arcuatus* sp. nov., an exceptionally preserved and partly reconstructed Carboniferous arborescent lycopsid. International Journal of Plant Sciences 171: 783-808.

208. Rothwell, G.W. and R.A. Stockey. 2010. Independent evolution of seed enclosure in Bennettitales: Evidence from the anatomically preserved cone *Foxeoidea connatum* gen. et sp. nov. Pp. 51-66. In C.T. Gee [ed.], *Plants in Mesozoic Time: Innovations, Phylogeny, Ecosystems* (Ted Delevoryas festschrift).  Indiana University Press, Bloomington and Indianapolis.

207. Hernandez-Castillo, G.R., R.A. Stockey, G.W. Rothwell and G. Mapes. 2009. Reconstruction of the Pennsylvanian-age walchian conifer *Emporia cryptica* sp. nov. (Emporiaceae, Voltziales). Review of Palaeobotany and Palynology 157: 218-237.

206. Tomescu, A.M.F., L. Pratt, G.W. Rothwell, P.K. Strother, G.C. Nadon. 2009. Carbon isotopes support the presence of extensive land floras pre-dating the origin of vascular plants. Palaeogeography, Palaeoclimatology, Palaeoecology 283: 46-59.

205. Hernandez-Castillo, G.R., R.A. Stockey, G.W. Rothwell and G. Mapes. 2009. A new voltzialean conifer, *Emporia royal*ii sp nov. (Emporiaceae), from the Hamilton Quarry, Kansas. International Journal of Plant Sciences 170: 1201-1227.

204. Sanders, H., G.W. Rothwell and S.E. Wyatt. 2009. Key morphological alterations in the evolution of leaves. International Journal of Plant Sciences 170: 860-868.

203. Hernandez-Castillo, G.R., R.A. Stockey, G.W. Rothwell and G. Mapes. 2009. Whole plant reconstruction of *Emporia lockardii* (Emporiaceae) Voltziales and initial thoughts on Paleozoic conifer ecology. International Journal of Plant Sciences 170: 1056-1074.

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**Published Abstracts and Meetings Presentations**

2021a. June. Leaves of Araceae from the late Paleocene of Alberta, Canada: *Orontiophyllum grandifolium* comb. nov. Abstracts of the Virtual Midcontinent Paleobotanical Colloquium; MPC 2021. (Georgia L. Hoffman, Ruth A. Stockey, Gar W. Rothwell) <https://sites.google.com/berkeley.edu/mpc2021/abstracts>

2021b. June. Fossil spadices: *Bognerospadix* and the Paleocene diversification of Araceae. Abstracts of the Virtual Midcontinent Paleobotanical Colloquium; MPC 2021. (Ruth A. Stockey, Georgia L. Hoffman, Gar W. Rothwell). <https://sites.google.com/berkeley.edu/mpc2021/abstracts>

2021c. July. Mesozoic seed plant diversity; another Lower Cretaceous contribution from Apple Bay, Vancouver Island. 13th British Columbia Paleontology Symposium (Virtual) Abstracts p. 17-18. British Columbia Paleontology Alliance Vancouver, 2021. (Gar. W. Rothwell, Ashley A. Klymiuk and Ruth A. Stockey).

2021d. July. An exceptionally diverse permineralized bryophyte flora from the Late Cretaceous of Vancouver Island. 13th British Columbia Paleontology Symposium (Virtual) Abstracts p. 23-24. British Columbia Paleontology Alliance Vancouver, 2021. (Alex C. Bippus, Randel Mindel, Gar. W. Rothwell, and Ruth A. Stockey).

2021e. July. Fossil aroid spadices from British Columbia and Alberta. 13th British Columbia Paleontology Symposium (Virtual) Abstracts p. 12-13. British Columbia Paleontology Alliance Vancouver, 2021. (Ruth A. Stockey, Georgia L. Hoffman and Gar W. Rothwell).

2021f. July. Plant-fungal associations in endomycorrhizal root nodules of Early Cretaceous conifers (Vancouver Island, Canada). Abstract 68, 113th meeting of the Botanical Society of America, Virtual Botany Conference. (Yume Imada, Ruth A. Stockey, Gar. W. Rothwell and Alexandru M. F; Tomescu). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=68>

2021g. July. Mesozoic “cupulate” gymnosperms: how to distinguish Doyleales from Umkomasiales. Abstract 297, 113th meeting of the Botanical Society of America, Virtual Botany Conference. (Gar. W. Rothwell, Ashley A. Klymiuk and Ruth A. Stockey). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=297>

2021h. July. Structure and homologies of seed enclosing fructifications among Mesozoic “cupulate” gymnosperms. Abstract 301, 113th meeting of the Botanical Society of America, Virtual Botany Conference. (Ruth A. Stockey, Ashley A. Klymiuk and Gar. W. Rothwell). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=301>

2021f. July. Mesozoic seed plant diversity; another Lower Cretaceous contribution from Apple Bay, Vancouver Island. Virtual British Columbia Paleontological Association Symposium. (Gar W. Rothwell, Ashley A. Klymiuk and Ruth A. Stockey)

2021g. July. Fossil aroid spadices from British Columbia and Alberta. 2021. Virtual British Columbia Paleontological Association Symposium. (Ruth A. Stockey, Georgia L. Hoffman and Gar W. Rothwell)

2020a. May. Uncovering Mesozoic peat mo, ss diversity: permineralized Sphagnopsida (Bryophyta) from the Late Cretaceous of Vancouver Island, Canada. Abstracts (oral, posters) for Virtual MPC 2020; 37th Midcontinent Paleobotanical Colloquium, Burk Museum, Seattle, WA, USA (Alexander C. Bippus, Gar W. Rothwell, and Ruth A. Stockey). <https://sites.google.com/uw.edu/mpc2020virtualprogram/oral-presentations_1>

2020b. May. Diversity of ancient cunninghamioid conifers (Cupressaceae): two new permineralized ovulate cones from the Upper Cretaceous of Hokkaido, Japan. Abstracts (oral, posters) for Virtual MPC 2020; 37th Midcontinent Paleobotanical Colloquium, Burk Museum, Seattle, WA, USA (Brian Atkinson, Dori Contreras, Ruth A. Stockey and Gar W. Rothwell). <https://sites.google.com/uw.edu/mpc2020virtualprogram/oral-presentations_1>

2020c. May. Eulogy for Brian Axsmith. G. Rothwell, M. Dunn. Virtual MPC 2020; 37th Midcontinent Paleobotanical Colloquium, Burk Museum, Seattle, WA, USA. <https://sites.google.com/uw.edu/mpc2020virtualprogram/schedule>

2020d July. Evolutionary diversification of Cretaceous taiwanioid Cupressaceae. Abstract 179, 112th meeting of the Botanical Society of America, Virtual Botany Conference. (Rothwell, G.W., R.A. Stockey, and Selena S.Y. Smith). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=179>.

2020e July. Reconstruction of the Whole Plant *Tetrastichia bupatides* Gordon from the Devonian/Mississippian boundary of Scotland and Ireland. Abstract 387, 112th meeting of the Botanical Society of America, Virtual Botany Conference. (Michael Dunn, Gar Rothwell and Andrew Scott). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=378>.

2020f. July. Permineralized gametophytes from Vancouver Island reveal that peat mosses (Class Sphagnopsida) were anatomically diverse by the Late Cretaceous. . Abstract 662, 112th meeting of the Botanical Society of America, Virtual Botany Conference. (Alex Bippus, Ruth Stockey, and Gar Rothwell). <https://www.botanyconference.org/engine/search/index.php?func=detail&aid=662> .

2019a April. Characterizing a Late Cretaceous flora from the north slope of Alaska; revising the concept of *Parataxodium wigginsii* Arnold and Lowther. Abstracts of the 36th Midcontinent Paleobotanical Colloquium, Cameron University, Lawton, OK, USA (Gar W. Rothwell, Ruth A. Stockey and Selena Smith).

2019b July. *Liquidambar*-like infructescences from the Upper Cretaceous (Coniacian) Eden Main Quarry, Vancouver Island, British Columbia. Abstract 120, 111th meeting of the Botanical Society of America, Tucson, AZ, USA. (Alex Scharfstein, Ruth A. Stockey and Gar W. Rothwell). <https://2019.botanyconference.org/engine/search/index.php?func=detail&aid=120>

2019c July. A third tricostate moss from the Lower Cretaceous of Vancouver Island (British Columbia, Canada). Abstract 620, 111th meeting of the Botanical Society of America, Tucson, AZ, USA. (Torres, S.A., R.A. Stockey, G.W. Rothwell and A.M.F. Tomescu). <https://2019.botanyconference.org/engine/search/index.php?func=detail&aid=620>

2019d July. Cauline vascular architecture and leaf trace production of Early Permian Medullosa lucartii Goeppert and Stenzel. Abstract 120, 111th meeting of the Botanical Society of America, Tucson, AZ, USA. (G.W.Rothwell). <https://2019.botanyconference.org/engine/search/index.php?func=detail&aid=164>

2019e New details on the diversity of a Late Cretaceous flora from Hornby Island, British Columbia, Canada. Abstract 442, 111th meeting of the Botanical Society of America, Tucson, AZ, USA. (Jud, N., G.W. Rothwell, R.A. Stockey and G. Beard). <https://2019.botanyconference.org/engine/search/index.php?func=detail&aid=442>

2019f Uncovering Mesozoic polar bryophyte diversity: A permineralized haplolepideous moss gametophyte from the Late Cretaceous of the north slope of Alaska. Abstract 297, 111th meeting of the Botanical Society of America, Tucson, AZ, USA. (A. Bippus, G.W. Rothwell and R.A. Stockey). <https://2019.botanyconference.org/engine/search/index.php?func=detail&aid=297>

2018a June. Following in the footsteps of the great Chester Arnold; reexamining the Late Cretaceous *Parataxodium wigginsii* flora of Alaska’s north slope. Abstracts of the 35th Midcontinent Paleobotanical Colloquium, Athens, OH, USA (Gar W. Rothwell1and Ruth A. Stockey).

2018b June. A permineralized taiwanioid cupressaceous seed cone from the Cretaceous of Hobetsu, Hokkaido, Japan. Abstracts of the 35th Midcontinent Paleobotanical Colloquium, Athens, OH, USA (Ruth A. Stockey, Gar W. Rothwell1 and Harufumi Nishida).

2018c July. Late Cretaceous diversification of cupressaceous conifers; a taiwanioid seed cone from the Eden Main, Vancouver Island, British Columbia, Canada. Abstract 150, 110th meeting of the Botanical Society of America, Rochester, MN, USA. (Ruth A. Stockey, Gar W.Rothwell and Brian Atkinson). <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=150>

2018d July. Early Cretaceous bryophyte biogeography: Insights from the west coast of North America. Abstract 706, 110th meeting of the Botanical Society of America, Rochester, MN, USA. (Alexander C. Bippus, Gar W. Rothwell, Ruth A. Stockey, and Alexandru M. F. Tomescu). <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=706>

2018e July. Penetrating the perplexing Upper Cretaceous *Parataxodium* plexus from the Price Creek Formation of north slope Alaska - Will the real *Parataxodium* please stand up. Abstract 164, 110th meeting of the Botanical Society of America, Rochester, MN, USA. 2018. (G.W. Rothwell and Ruth A. Stockey) <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=164>

2018f July. Seed plant phylogeny inferred from integrated analyses of morphological and molecular data. Abstracat 498,110th meeting of the Botanical Society of America, Rochester, MN, USA. 2018. (Mathews, Sarah; Campbell, Christopher; Cronn, Richard; Gernandt, David; Graham, Sean; Hansen, Kimberly; Holman, Garth; D. Kelch; Lam, Vivienne; Li, Jianhua; Liston, Aaron; Little, Damon; Mapes, Gene; Mei, Wenbin; Moore, Abigail; Ngalingum, Nathalie; Parks, Matthew; Peery, Rhiannon; Rai, Hardeep; Raubeson, Linda; Ross, Gregory; Rothwell, Gar; Ruhsam, Markus; Ryberg, Patricia E.; Schwarzbach, Andrea; Stevenson, Dennis; Stockey, Ruth; Yang, Yong.) <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=498>

2018g August. The life and legacy of Thomas N. Taylor. European Palaeobotany and Palynology Congress, Dublin, Ireland (Rothwell, G.W., M. Krings, C.J. Harper and N.R. Cúneo).

2018h August. Diversification of crown group *Araucaria*: A seed cone from the mid-Cretaceous (Campanian) of Vancouver Island, British Columbia, Canada. European Palaeobotany and Palynology Congress, Dublin, Ireland (Stockey, R.A. and G.W. Rothwell).

2017a May. Confronting the confusing conundrum of Cretaceous cupressaceous conifers. 34th Midcontinent Paleobotanical Colloquium, University of Michigan, Ann Arbor, MI. (Serbet, R. and G.W. Rothwell) <https://sites.google.com/a/umich.edu/mpc2017/abstracts>

2017b June. *Cyacas*-like seeds in the Bajocian Stage of the Middle Jurassic. 109th meeting of the Botanical Society of America, Ft. Worth, TX. <http://2017.botanyconference.org/engine/search/index.php?func=detail&aid=358> (Rothwell, G.W., R.A. and D.W. Stevenson)

2017c June. A new Upper Cretaceous araucarian seed cone from the Brannen Lake locality (Campanian) of Vancouver Island, British Columbia. 108th meeting of the Botanical Society of America, Savannah, GA. (Stockey, R.A. and G.W. Rothwell) <http://2017.botanyconference.org/engine/search/index.php?func=detail&aid=416>

2017d June. Additional bryophyte diversity in the Lower Cretaceous of Vancouver Island (British Columbia, Canada): an anatomically-preserved tristichous moss. 108th meeting of the Botanical Society of America, Savannah, GA. (Savoretti, A., A. Bippus, R.A. Stockey, G.W. Rothwell and A. Tomescu) <http://2017.botanyconference.org/engine/search/index.php?func=detail&aid=219>

2016a May. A Tribute to Tom Taylor. 33rd Midcontinent Paleobotanical Colloquium. Cornell University, Ithaca, NY (Rothwell, G.W.). <https://www.youtube.com/watch?v=wFOrQZmrjvA>.

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1981e (Scheckler, S. E., G. W. Rothwell, and W. H. Gillespie). The oldest seed plants from the Late Devonian of West Virginia. Botanical Society of America, Miscellaneous Serial Publication 160: 47.

1981f New Interpretations of the Earliest Conifers. XIII International Botanical Congress (Sydney, Australia), Abstracts: 189.

1981g (Rothwell, G. W., S. E. Scheckler, and W. H. Gillespie). The earliest evidence for seed plants. XIII International Botanical Congress (Sydney, Australia), Abstracts: 190.

1981h (Karrfalt, E. E., J. R. Jennings, and G. W. Rothwell). Further observations on the structure and development of the lycopod root-bearing organ, *Protostigmaria*. XIII International Botanical Congress (Sydney, Australia); 208.

1980a (Pigg, K. B., and G. W. Rothwell). Vegetative and fertile shoots of an Upper Pennsylvanian woody lycopsid. Ohio Journal of Science 80 (April program abstracts): 17.

1980b Coniferophytes and cycadophytes; gymnosperm phylogeny or fantasy? 158: 97.

1980c Permineralized parts of putative primitive gymnosperms. Botanical Society of America, Miscellaneous Serial Publication 158: 98.

1980d Vascular architecture and cordaitean diversity. Botanical Society of America, Miscellaneous Serial Publication 158: 98.

1979a (Rothwell, G. W., and, J. E. Mickle). Morphology and anatomy of *Alethopteris* pinnules from the Upper Pennsylvanian of Ohio. Ohio Journal of Science 79 (Program Abstracts): 17.

1979b (Rothwell, G. W., and D. A. Eggert). Morphology and origin of complex permineralized pollen organs of Carboniferous medullosan pteridosperms. Ninth International Congress of Carboniferous Stratigraphy and Geology, Urbana, IL, Abstracts of Papers 60-61.

1979c (Rothwell, G. W., D. A. Eggert, W. N. Stewart, and C. G. K. Ramanujam). Structure and relationships of campanulate medullosan pollen organs. Botanical Society of America, Miscellaneous Serial Publication 157: 32.

1979d (Rothwell, G. W., J. R. Jennings, and E. E. Karrfalt). Structure and relationships of *Protostigmaria*. Botanical Society of America, Miscellaneous Serial Publication 157: 33.

1979e Vascular architecture in Permian species of *Medullosa*. Botanical Society of America, Miscellaneous Serial Publication 157: 36.

1978a Characterizing the fossil true-ferns from the Paleozoic of North America. Ohio Journal of Science 78 (April Program and Abstracts Supplement): 23.

1978b Filicalean ferns in the Upper Pennsylvanian of Ohio. Botanical Society of America, Miscellaneous Serial Publication 156: 53.

1977 The taxonomy of *Conostoma leptospermum* and *C. platyspermum*. Botanical Society of America, Miscellaneous Serial Publication 154: 42.

1976a The vascular architecture of *Cordaianthus concinnus* Delevoryas. Botanical Society of America Abstracts. Allen Press, Lawrence, KS pp. 30-31.

1976b (Rothwell, G. W., and A. H. Blickle). Species determination in psaroniaceous axes. Botanical Society of America Abstracts. Allen Press, Lawrence, KS p. 31.

1976c Nodal anatomy and seed plant systematics: A review and reevaluation. Botanical Society of America Abstracts. Allen Press, Lawrence, KS p. 60.

1975a (Rothwell, G. W., and J. F. Basinger). Petrified plants from the Eocene of British Columbia. Botanical Society of America Abstracts. Allen Press, Lawrence, KS p. 17.

1975b Structurally preserved microsporangiate conifer cones from the Eocene of British Columbia. Botanical Society of America Abstracts. Allen Press, Lawrence, KS p. 24.

1975c A pteropsid fructification from the Middle Pennsylvanian of Kansas. Botanical Society of America Abstracts. Allen Press, Lawrence, KS p. 24.

1974a Primary vasculature and gymnosperm systematics. Patterns of gymnosperm evolution (Symposium). American Journal of Botany 61 (#5 supplement): 23.

1974b (Rothwell, G. W., W. N. Stewart, and J. F. Basinger). *Medullosa* is not a polystelic seed fern. American Journal of Botany 61 (#5 supplement): 18.

1973a Developmental features as criteria for taxonomic delimitation. American Journal of Botany 60 (#4 supplement): 19.

1973b (Taylor, T. N., G. W. Rothwell, and C. W. Good). Studies of Carboniferous and extant elater bearing spores. Abstracts, American Association Strat. Palynology p. 21.

1972a Structure and affinities of the Paleozoic pollen organ, *Idanothekion*. American Journal of Botany 59: 662.

1972b Studies of *Callistophyton*-like Paleozoic pteridosperms. American Journal of Botany 59: 662-663.

1972c (Rothwell, G. W., and K. L. Whiteside). 1972. The structure of medullosan rooting systems. American Journal of Botany 59: 663.

1971a Carboniferous ovule ontogeny. American Journal of Botany 58: 472.

1971b (Rothwell, G. W., and T. N. Taylor). Additional observations on the pteridosperm *Schopfiastrum*. American Journal of Botany 58: 472.

1970a (Rothwell, G. W., and D. A. Eggert). A *Conostoma* with a tentacular integument from the Pennsylvanian of Illinois. American Journal of Botany 57: 758.

1970b (Rothwell, G. W., and T. N. Taylor). Structurally preserved calamite fructifications. American Journal of Botany 57: 756.

1969 Additional Observations on *Conostoma* *anglo-germanicum* and *C. oblongum* from the Lower Pennsylvanian of North America. XI International Botanical Congress, Abstracts. Seattle, WA p. 143.

**Symposia and Invited Lectures**

2018 February. Tall tales about horsetails. Department of Botany and Plant Pathology, Oregon State University.

2018. June. 80 years of Paleobotany at Ohio University. 35th Midcontinent Paleobotanical Colloquium, Ohio Universisty.

2016 May. A Tribute to Tom Taylor. Midcontinent Paleobotanical Colloquium. Cornell University. <https://www.youtube.com/watch?v=wFOrQZmrjvA>.

2016 August. Horestails through form, space and Time; introduction and overview. Botany 2016, Savannah, GA. <http://www.botanyconference.org/engine/search/index.php?func=detail&aid=1005>

2016 October. Do fossils have a role in phylogenetic reconstruction? If so, what? Annual Meeting of the Willi Hennig Society, Buenos Aires, Argentina.

2013 July. [Calibrating the ages of conifer clades](http://www.botanyconference.org/engine/search/index.php?func=detail&aid=364). In The Critical Role of Plant Fossils in Divergence Dating Studies.105th meeting of the Botanical Society of America, New Orleans, Lousiana. (Escapa, I., Rothwell, G.W. and Cuneo, N.)

2012 January. Climbing the Tree of Death to view the Tree of Life. Humboldt State University, Arcada, CA.

2012 April. A paleobotanical perspective on conifer phylogeny. Oregon State University, Corvallis, OR.

2012 May. The role of development in plant evolution; a paleobotanical perspective. University of California, Davis, Davis, CA.

2012 July. Descent with Modification; uniting paleontology and molecular genetics to integrate pattern and process in plant evolution. First American Journal of Botany Special Lecture. Botany 2012, 104th meeting of the Botanical Society of America, Columbus, Ohio.

2012 November. Extending the C/S technique for differentiating paleoenvironments using a statistical approach. In Terrestrial proxies of paleoclimate and paleoenvironment in deep time. Geological Society of America Annual Meeting in Charlotte, North Carolina. (Nadon, G.C., Tomescu, A.M.F., Prat, L.M. and Rothwell, G.W.)

2011 March. Paleo-evo/devo: The evolution of polar auxin regulation in vascular plants. Evolution of plant patterns symposium. Jackson Hole, Wyoming.

2011 July. Introduction to Innovations in organismal botany – a tribute to the pioneering studies of Donald A. Eggert. Botany 2011, 103rd meeting of the Botanical Society of America. St. Louis, MO. (Taylor, T.N. and G.W. Rothwell)

2011 July. Rooting the Paleozoic’s largest trees; morphology, development, and homologies of *Stigmaria*. In Innovations in organismal botany – a tribute to the pioneering studies of Donald A. Eggert. Botany 2011, 103rd meeting of the Botanical Society of America. St. Louis, MO.

2011 August. Oregon’s first tropical forests. “Fossil fest”. North American Research Group, Beaverton, Oregon.

2011 August. Introduction and overview of conifer phylogeny. In Molecules and fossils, developing concordance of results for the systematics and phylogeny of Conifers. International Botanical Congress, Melbourne, Australia. (Rothwell, G.W., Campbell, C, Escapa, I, Gernandt, D. Holman, G. Kelch, D., Little, D. Mapes, G. Mathews, S and Stockey, R.)

2011 August. Simultaneous analysis of molecules and morphology and the relationship of fossil ovulate cones to living generaz of Pinaceae. In Molecules and fossils, developing concordance of results for the systematics and phylogeny of Conifers. International Botanical Congress, Melbourne, Australia. (Gernandt, D., Holman, G., Parks, M., Campbell, C., Crown, R., Liston, A., Rothwell, G. and Stockey, R.)

2010 May. Contrasting the trees of life and death in the resolution of embryophyte phylogeny. Keynote address at the Midcontinent Paleobotanical Colloquium, Frostberg State University, Frostberg, MD.

2010 June. From the dawn of time to the tree of death; Evolution of modern vegetation. Sigma Xi annual banquet speaker, Ohio University, Athens, OH.

2010 August. A slice of death; snippets of plant paleontology for the 21st century. Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR (Co-presentation with R.A. Stockey)

2010 September. Paleobotany and Evolution. Science Café, Ohio University, Athens, OH.

2009 February. Paleobotany in the 21st century. Universidad del Mar, Puerto Escondido, Oaxaca, Mexico.

2009 February. Delving the dead for developmental patterns of plant evolution and phylogeny. University of British Columbia, Vancouver, BC , Canada.

2009 Anthophytes and seed ferns in the origin of flowering plants; contemporary approaches to the resolution of relationships. Botany and Mycology 2009, Botanical Society of America.

2008 March. Retrospective. Midcontinent Paleobotanical Colloquium. University of South Alabama, Mobile, Alabama.

2008 July. Utility of pollen characaters in gymnosperm systematics and Assembling the Tree of Life (AToL). Botany 2008. University of British Columbia, Vancouver, BC , Candada. (Ickert-Bond, S., M Kurmann and G.W. Rothwell)

2008 July. Fossils as blank slates and blank checks. Botany 2008. University of British Columbia, Canada. (Rothwell, G.W. and K. Nixon).

2008 September. Structure and relationships of bennettitalean seeds and cones: Is it time to move beyond the anthophyte hypothesis? International Palynological Congress (IPC-XII)/8th International Organisation of Palaeobotany Conference. (IOPC-VIII), Bonn, Germany. (Rothwell, G.W., W.L. Crepet and R.A. Stockey).

2007 August. Stalking the first flowering plants: permineralized vegetation from the Valanginian/Hauterivian boundary on Vancouver Island, Canada. In Search of the Earliest Flowers: An International Symposium, Stockholm, Sweden (Stockey, R.A. and G.W. Rothwell).

2007 [Molecules to Morphology: Introduction](http://2007.botanyconference.org/engine/search/index.php?func=detail&aid=1808). Molecules to Morphology: Developing an Understanding of Plant Evolution Through Time. Plant Biology & Botany 2007, Chicago, IL. ([Rothwell, G.W.](http://2007.botanyconference.org/engine/search/index.php?func=contactbyemail&id=136) and S. [Wyatt](http://2007.botanyconference.org/engine/search/index.php?func=contactbyemail&id=2047).)

2007 [Molecules to morphology: summary and conclusions](http://2007.botanyconference.org/engine/search/index.php?func=detail&aid=1680). Molecules to Morphology: Developing an Understanding of Plant Evolution Through Time. Plant Biology & Botany 2007, Chicago, IL. ([Wyatt, S](http://2007.botanyconference.org/engine/search/index.php?func=contactbyemail&id=2047). and G.W.[Rothwell)](http://2007.botanyconference.org/engine/search/index.php?func=contactbyemail&id=136).

2006 August. Paleontology provides a context for the developmental mechanisms of evolution. Bringing together the living and the Dead: Integrating extant and fossil biodiversity in evolutionary studies.Botanical Society of America 100th Annual Meeting, Chico State University, Chico, CA.

2006. January. Vegetation of the Past; Raising the Dead to the Level of Science. Ohio's First, Ohio's Finest, Ohio's Future - Ohio University Distinguished Professor Lecture. Athens, OH.

2005 October. From Gordon to auxin: the role of *Buteoxylon* in seed plant evolution. New Discoveries in old collections. Linnean Society of London, London, UK.

2005 Do we need more characters or more taxa to resolve the overall pattern of plant phylogeny. Early evolution: Developmental biology, paleobotany and ecology symposium. XVII International Botanical Congress. Vienna, Austria.

2004 November. The Phylogeny of Ferns: A paleobotanical perspective. John Carroll University, Cleveland, OH.

2004 November. Tropical Forests of Ohio. Ohio University Foundation Trustees Dinner. Athens, OH.

2004 October. Fossils and morphological characters in the resolution of fern phylogeny. North Carolina State University, Raleigh, NC.

2004 July. Ferns for the 21st Century. Fossils, ferns, and patterns of phylogeny. Royal Botanic Garden Edinburgh, Scotland, UK.

2004 April. Morphology and fossils: essential tools or extinct approaches to the resolution of vascular plant phylogeny. The Dead Plant Society, Cornell University, Ithaca NY.

2004 April. Fern Phylogeny: mode and tempo, pattern and process. Evolution of Modern Ferns Symposium, Department of Biological Sciences, University of Alberta, Edmonton, AB, Canada.

2004 March. Early evolution of terrestrial biotas, an overview - International Organisation of Palaeobotany Conference VII, Bariloche, Argentina.

2003 October. Ferns; ancient plants in an identity crisis. Texas State University, San Marcos, TX.

2002 August. Paleontology and plant evolution. Botany 2002 Program, Madison, WI. p. 2.

2002 August. Paleontological evidence for the evolution of conifer reproduction. Botany 2002 Program, Madison, WI. p. 6.

2001 May. Fossil seeds and pollination biology in Mesozoic plants from British Columbia. Fourth British Columbia Paleontological Symposiuim, Kamloops, British Columbia, Canada. (Stockey, R. A. and G. W. Rothwell)

2001 May. Anatomically preserved cycadeoid cones from the Cretaceous of Vancouver and Hornby Islands. Fourth British Columbia Paleontological Symposiuim, Kamloops, British Columbia, Canada. (Rothwell, G. W. and R. A. Stockey)

2001 July. Cenozoic ferns of North America: preservation, ecology and evolution. North American Paleontological Convention. Berkeley, CA.

2001 August. Mississippian ovules with characteristics of two unique morphotaxa: S*tephanospermum* and *Rhynchnosperma*. Botanical Society of America Meetings, Albuquerque, NM. (Dunn, M. T., G. W. Rothwell and G. Mapes)

2001 August. Exploring the cladistic relationships of sphenopsids. Botanical Society of America Meetings, Albuquerque, NM. (Tomescu, A. M. F. and G. W. Rothwell)

2001 August. Evidence for compound pollen cones in Paleozoic conifers. Botanical Society of America Meetings, Albuquerque, NM. (Hernandez-Castillo, G., G. W. Rothwell, G. Mapes)

2001 August. An ovulate *Williamsonia* cone from the Upper Cretaceous of western North America. Botanical Society of America Meetings, Albuquerque, NM. (Stockey, R. A. and G. W. Rothwell)

2001 Autust. Permineralized cycad seeds from the Jurassic of British Columbia, Canada. Botanical Society of America Meetings, Albuquerque, NM. (Stockey, R. A. and G. W. Rothwell)

2001 August. Systematic characters of ovulate *Cycadeoidea/Bennettites* cones from the Cretaceous of Vancouver and Hornby Islands, British Columbia, Canada. Botanical Society of America Meetings, Albuquerque, NM. (Rothwell, G. W. and R. A. Stockey)

2001 August. Pollen tubes, contractile tissue, and pollination biology in Cycadeoidales/Bennettitales. Albuquerque, NM. (Rothwell, G. W. and R. A. Stockey)

2000 August. Taxonomic diversity among Late Pennsylvanian conifers at Hamilton, Kansas. Botanical Society of America Meetings, Portland, OR. (Liu, Z., G. Mapes and G. W. Rothwell)

2000 August. Coniferophytes, grade or clade? Confronting the Puzzle. International Organisation of Palaeobotany Conference (IOPC-VI). Qinhauangdao of Hebei, China. (Mapes, G., G. W. Rothwell and Z. Liu)

2000 August. The earliest occurrence of *Medullosa*. Botanical Society of America Meetings, Portland, OR. (Mapes, G., K. Sun, M. Krings, G. W. Rothwell and R. H. Mapes)

2000 August. *Pityostrobus* in the Lower Cretaceous of southwestern Russia. Botanical Society of America Meetings, Portland, OR. (Ratzel, S. R., G. W. Rothwell, R. H. Mapes, G. Mapes and L. A. Doguzhaeva)

2000 August. Phytogeographic considerations of the Cathaysia Flora and the Euramerica Flora. Program of the sixth Conference of the International Organisation of Palaeobotany Conference, (IOPC-VI), Qinhauangdao of Hebei, China. (Sun, K., G. Mapes and G. W. Rothwell)

1999 August. Conifers in the fossil record. International Conifer Conference. Wye College, Wye, Kent, England.

1999 August. Seed plant phylogeny. Green Plant Phylogeny Symposium, International Botanical Congress, St. Louis, MO.

1999 March. Sameness as a tool in plant phylogeny. Earth History and Paleobiology Seminar Series, Harvard University, Cambridge, MA.

1998 November. Fern phylogeny using both living and fossil species. The University, Allahabad, India.

1998 November. Phylogenetic relationships among ferns and fern-like plants. Birbal Sahni Institute of Paleobotany, Lucknow, India.

1998 September. Mode and tempo of evolution in ferns. Miami University, Oxford, OH.

1998 May. Origin of clades and the conquest of land. University of California, Berkeley, CA.

1998 April. Tropical Vegetation of West Virginia. West Virginia State College, Institute, WV.

1997 October. Developing ontogenetic approaches in plant paleontology. Ontogeny and Paleontology Symposium. 57th Annual Meeting of the Society of Vertebrate Paleontology, Chicago, IL. (Trivett, M. L., G. W. Rothwell and R. A. Stockey)

1997 August. The importance of fossils in reconstructing fern phylogeny. Relationships and fossil history of ferns symposium. American Institute of Biological Sciences Meetings, Montreal, Canada.

1997 July. Land Plant phylogeny, homology, and the evolution of ferns. Fern Development and Evolution Symposium. Purdue University, West Lafayette, IN.

1996 September. Fossils and phenology: New evidence for interpreting the evolution of ginkgophytes. Centenary Commemorative Symposium for Discovery of Ginkgo sperms. University of Tokyo, Japan.

1996 August. Distribution of sporangial characters among polysporangiophyte (tracheophyte) land plants. Global Morphological Characters of Land Plants Symposium sponsored by the Botanical Society of America and International Association of Plant Taxonomists at the annual meeting of the American Association of Biological Sciences, Seattle, WA. (Trivett, M. L. and G. W. Rothwell)

1996 April. The role of fossils in deciding: What is a fern? University of Kansas.

1996 March. The evolution and phylogeny of ferns. Department of Biological Sciences, Ohio University.

1996 February. Morphology, paleontology, and fern phylogeny. Purdue University.

1995 August. Fossils, ferns and fern phylogenetic relationships. Fossils and Phylogeny Symposium sponsored by the Botanical Society of America at the annual meeting of the American Association of Biological Sciences, San Diego, CA.

1995 May. Late Paleozoic conifers of North America. Walter A. Bell Memorial Symposium on Paleobotany and Coal Science. Sydney, Nova Scotia, Canada. (Rothwell, G. W. and G. Mapes)

1995 April. Fern Phylogeny. Bailey Hortorium, Cornell University.

1994 November. Reconstructing Fossil Ferns to Reconstruct Fern Phylogeny. Uppsala, Sweden. (Rothwell, G. W. and R. A. Stockey)

1994 November. The Role of Conifers in Seed Plant PhylogenyCBuilding on the Contributions of Rudolph Florin. In: Seed Plant Origins and Systematics, Swedish Museum of Natural History, Stockholm.

1994 November. Seed plant systematics: Relationships of conifers to other seed plants. In: Seed Plant Origins and Systematics, Swedish Royal Academy, Stockholm, Sweden.

1994 April. Late Paleozoic conifer taphonomy in esturarian carbonates. Geological Society of America, North-Central Section, Kalamazoo, MI. (Rothwell, G. W., G. Mapes and R. H. Mapes)

1994 April. Pteridophytic evolution: A reproductive paradigm. In: Paleobiology of Fossil Plants: New Insight and Perspectives Symposium. VI Congreso Argentino de Paleontologia y Bioestratigrafia. Museo Paleontologico Egidio Feruglio, Trelew, Argentina.

1993 September. Phylogenetic relationships among ferns and Gymnosperms. Evolution of pteridophytes and Gymnosperms: Symposium S.1.7.1. Integrating fossil evidence. XV International Botanical Congress, Yokohama, Japan.

1993 March. The origin and evolution of conifers. Gimnospermas fòsiles, una perspectiva biologica. Las conferencencias serán ebn el auditoro nabor carrillo, a un costado del Centro de Informaciòn Cientifica y Humanistica, en Ciudad Universitaria, Mexico City.

1993 March. The evolution of seed plantsCa biological perspective. Gimnospermas fòsiles, una perspectiva biologica. Las conferencencias serán ebn el auditoro nabor carrillo, a un costado del Centro de Informaciòn Cientifica y Humanistica, en Ciudad Universitaria, Mexico City.

1992 June. Fossil History of Branching Patterns in Vascular Plants. V International Symposium of the International Organisation of Plant Biosystematists: Experimental and Molecular Approaches to Plant Biosystematics, St. Louis, MO.

1992 May. The Phylogenetic Radiations of Ferns: a Paleobotanical Perspective. Northeastern Fern Conference, Harvard Forest, Petersham, MA.

1992 April. The Evolution of Vascular Architecture. The Katherine Esau International Symposium on Plant Structure: Concepts, Connections and Challenges, Davis, CA.

1990 May. Pollination Biology of the Most Primitive Gymnosperms. 3rd International Senckenberg Conference, Frankfurt, Germany.

1989 September. Evolutionary radiations among filicalean ferns. Keynote Address, Southeastern Fern Conference, Boone, NC.

1989 September. The Evolution of Gymnospermous Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

1989 August. The Lycopsida: An incidence of insouciant evolutionary innovation. In: The Lycopods Symposium, American Institute of Biological Sciences, Toronto, Ontario, Canada.

1989 August. Evolutionary radiations among primitive conifers. In: New Evidence for the Classification of Conifers Symposium, Botanical Society of America, Toronto, Ontario, Canada. (Rothwell, G. W. and G. Mapes).

1989 June. Early Evolution of Gymnospermous Biology. Natural History Museum, University of Tokyo, Tokyo, Japan.

1989 June. Evolution of the Ferns, Chiba University, Chiba City, Japan.

1989 January. Epiphytes, lianas and community physiognomy in the evolutionary radiation of filicalean ferns. University of Chicago, Chicago, IL.

1988 April. Origin of the Land Flora. In: Origins and Destruction: New Theories of Evolution. Adult Courses, Smithsonian Institution, Washington, D.C.

1987 August. Biology of Early Gymnosperm Reproduction: An Overview. In: Evolution of Early Seed Plants (Symposium), XIV International Botanical Congress, West Berlin.

1986 December. The evolution of gymnospermous biology. University of Alberta, Edmonton, Alberta, Canada.

1986 November. Interpreting the Evolutionary Role of Heterochrony from the Fossil Record of Vascular Plants. In: Ontogeny and Heterochrony in the Fossil Record (Symposium), Geological Society of America Meetings, San Antonio, TX.

1986 September. Morphology and Reproductive Biology in the Origin of Cordaites and Conifers. In: L'Evolution des Gymnospermes, Approche Biologique et Paleobiologique. Colloque orgainse par la Foundation Louis EmbergerCCharles Sauvage, sous l'egide de la Societe Botanique de France, Montpellier, France.

1986 April. The Role of Phenotype in Interpreting Evolution. Herman F. Becker Distinguished Lecture, Sigma Xi, Indiana University, Bloomington, IN.

1985 August. The Role of Heterochrony in the Evolution of Vascular Plants. In: Paleobotanical Perspectives on Vascular Plant Evolution (Symposium). Botanical Society of America Meetings, Gainesville, FL.

1984 December. Reconstructing plants of the past. Goldsmith's College, University of London, England.

1984 October. Characterizing fossil vegetation. Chelsea College, University of London, London, England.

1981 November. Functional Morphology and Reproductive Biology of the most Primitive Seeds. The Ohio State University, Columbus, OH.

1981 October. Evolution, and the Origin of the Seed Habit. Miami University, Oxford, OH.

1981 August. New Interpretations of the Earliest Conifers. In: Paleozoic and Mesozoic Gymnosperms (Symposium). XI International Botanical Congress. Sydney, Australia.

1979 August. The Callistophytales; Structure, Reproduction and Phylogeny. In: Current Concepts of Paleozoic Seed Ferns (Symposium). 30th Meeting of the A.I.B.S., Stillwater, OK.

1978 November. Reconstructing Plants of the Past--A Peek into the Coal-Age Forest. Oberlin College, Oberlin, OH.

1978 March. Primary Vasculature and Seed Plant Systematics. Gray Herbarium, Harvard University, Cambridge, MA.

1976 December. Interpreting Seed Plant Steles. Division of Biological Sciences, University of Michigan, Ann Arbor, MI.

1974 June. Primary Vasculature and Gymnosperm Systematics. In: Patterns of Gymnosperm Evolution (Symposium). 25th Meeting of the A.I.B.S., Tempe, AZ.

**Grants Funded (Selected; total grants funded 44)**

2009 REU Supplement to: Resolving the Phylogeny of seed plants. Emerging Frontiers Division, Gymnosperms on the Tree of Life program, National Science Foundation (EF- 0724544). $7,500 (G. W. Rothwell and G. Mapes)

2008 REU Supplement to: Resolving the Phylogeny of seed plants. Emerging Frontiers Division, Gymnosperms on the Tree of Life program, National Science Foundation (EF- 0724544). $7,500 (G. W. Rothwell and G. Mapes).

2007 REU Supplement to: Resolving the Phylogeny of seed plants. Emerging Frontiers Division, Gymnosperms on the Tree of Life program, National Science Foundation (EF- 0724544). $6,500 (G. W. Rothwell and G. Mapes).

2007 GFP as a tool for multi-representational visual translation. Course, Curriculum, and Laboratory and Instructional Division, CCLI - Adaptation and Implementation Program, National Science Foundation (DUE 0633618). $140,215 (S. Wyatt, D. Moore, J. Duerr and G.W. Rothwell,Rothwell).

2006 AToL: Collaborative Research: Resolving the Phylogeny of seed plants. Emerging Frontiers Division, Gymnosperms on the Tree of Life program, National Science Foundation (EF-0629819), $2,999,983 (Ohio University budget. $301,519; G. W. Rothwell, G. Mapes and R. A. Stockey).

2003 Megafossil evidence for Ordovician-Silurian terrestrial biotas. Geology and Paleontology Program, National Science Foundation (EAR-0308931). $45,830.

2003 Dissertation research: The first complex terrestrial communities. Systematic Biology Program, National Science Foundation. (DEB-0308806). $11,600 (G. W. Rothwell and A. M. F. Tomescu).

2001 Systematic Analysis of Living and Fossil Duckweeds using a Combined Morphological/Molecular Approach. Ohio University Baker Award. $8,510.

1998 Paleontological Studies of Conifers: Evolution and Ecology. Ohio University Post-Doctoral Fellowship for 1999. $28,652 (G. W. Rothwell (PI), G. Mapes and R. H. Mapes).

1997 Phylogeny of coniferophytic seed plants (China Travel Supplement). International Studies Program, National Science Foundation (DEB 9527920). $10,500 (G. W. Rothwell and G. Mapes).

1996 Phylogeny of coniferophytinc seed plants. Systematic Biology Program, National Science Foundation. (DEB 9527920). $95,000 (G. W. Rothwell and G. Mapes).

1994 Establishing a Multipurpose Scientific Imaging Facility at Ohio University. Academic Research Infrastructure Program, National Science Foundation. (STI- 9413419). $100,000 (G. W. Rothwell, D. A. Gulino, M. E. Kordesch and J. Salick).

1994 Developing the Scientific Imaging Capabilities of Ohio University. The Ohio University Foundation, 1804 Fund. $65,000 (G. W. Rothwell, D. A. Gulino, M. E. Kordesch and J. Salick).

1994 Developing the Scientific Imaging Infrastructure at Ohio University, Ohio University College of Arts and Sciences. $40,000.

1994 Matching funds for establishing a multipurpose scientific imaging facility at Ohio University, Ohio Board of Regents Action Fund. $65,000.

1986 Evolutionary Relationships of Primitive Gymnosperms. National Science Foundation (BSR86-00660). $110,000 (G. W. Rothwell and D. C. Wight).

1983 Pennsylvanian Age Plants of Eastern North America. National Science Foundation (BSR83-10572). $140,000.

1981 Establishment of a Multipurpose Photomicroscopy Laboratory at Ohio University. National Science Foundation (DEB81-09682). $42,000.

1980 Matching Funds for Equipment for a Photomicroscopy Laboratory. Ohio University 1804 Fund. $35,000.

1980 Studies of Anatomically Preserved Plants from the Pennsylvanian of Eastern North America. National Science Foundation (DEB80-10793). $80,000.

1978 Vascular Architecture in Systematic Studies of Primitive Seed Plants. National Science Foundation (DEB77-25366). $37,000.