

CURRICULUM VITAE

PROFESSOR SIR PETER CRANE FRS

Carl W. Knobloch Jr., Dean, School of Forestry and Environmental Studies
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Dean's Office
Bethany Zemba (203-432-2616 - bethany.zemba@yale.edu)
Assistant Dean: Strategic Affairs, Communications, and Research
Angela Kuhne: 203-432- 6865 – angela.kuhne@yale.edu)
Assistant Dean: Admissions and Appointments
Iris Cordero (203-436-3634, iris.cordero@yale.edu)
Senior Executive Assistant to the Dean

NATIONALITY: British

DATE OF BIRTH: July 18, 1954

U.K. NATIONAL INSURANCE NO: On Request

U.S. SOCIAL SECURITY NO: On Request

MARITAL STATUS: Married (1986 Elinor Margaret Hamer, U.S. citizen, two children)

NATIONAL HONORS: Knighted in the UK, June 2004, for services to horticulture and conservation.

RESEARCH & PROFESSIONAL INTERESTS

Large-scale patterns and processes of plant evolution, plant paleontology.
Integrated paleobotanical and neobotanical studies of plant diversity and evolution.
Conservation of plant diversity, including crop diversity.
Strategic planning for collections-based not-for-profit organizations, especially museums and botanical gardens.

OTHER CURRENT HONORARY APPOINTMENTS

1999-present Research Associate, Department of Geology, The Field Museum, Chicago, U.S.A.
2002-present Honorary Research Fellow, Department of Botany, The Natural History Museum, London, U.K.
2006-present Honorary Research Fellow, The Royal Botanic Gardens, Kew, U.K.

CURRENT BOARD & ADVISORY PANEL APPOINTMENTS

2001-present Patron, The Florilegium Society, Sheffield, U.K.
2005-present Remuneration Committee, The Royal Society, U.K.
2006-present Board Member, Gaylord and Dorothy Donnelley Foundation, Chicago.
(Chair, Governance Committee, 2008-present)
2007-present Executive Board Member, Global Crop Diversity Trust
2008-present External Advisory Committee, Richard Gilder Graduate School,
American Museum of Natural History, New York
2008-present Advisory Council, Ladybird Johnson Wildflower Center, University of Texas at Austin

2008-present	Board Member, Chicago Botanical Garden, Chicago
2009-present	Board Member, WWF-US
2010- present	Advisory Board, Masters in Environmental Management, National University of Singapore
2011- present	Distinguished Counselor, Board of Managers, New York Botanical Garden

ACADEMIES

1998	Fellow of the Royal Society, (Council 2002-2004), U.K.
2001	Foreign Associate, National Academy of Sciences, U.S.A.
2002	Foreign Member, Royal Swedish Academy of Sciences.
2004	Member, Academy Leopoldina, German National Academy.
2005	Foreign Member, Royal Society of Arts and Science, Göteborg, Sweden.
2008	Member, American Academy of Arts and Sciences
2010	Connecticut Academy of Sciences

HONORARY DEGREES & FELLOWSHIPS

2000	Honorary Fellow, Royal Holloway College, University of London, U.K.
2000	Honorary Fellow, Darwin College, University of Kent, U.K.
2001	Honorary Doctor of Design, Kingston University, U.K.
2002	Honorary Fellow, Birkbeck College, University of London, U.K.
2004	Honorary Doctor of Science, University of Portsmouth, U.K.
2005	Honorary Fellow <i>Honoris Causa</i> , The Worshipful Company of Gardeners, London, U.K.
2009	Honorary Doctor of Science, University of Cambridge, U.K.
2010	Honorary Master of Arts (<i>privatim</i>), Yale University, U.S.A.
2011	Honorary Doctor of Science, University of Connecticut, U.S.A.

PROFESSIONAL RECOGNITION & AWARDS

1983	Palaeontological Association (U.K.) Presidents' Prize ("best presentation by a researcher under 30").
1984	Linnean Society of London, Bicentenary Medal ("in recognition of work done by a biologist under the age of 40 years").
1985	One of 10 "Outstanding Young Citizens", Chicago Junior Association of Commerce and Industry.
1990	Ermine Cowles Case Memorial Lecturer, University of Michigan, Ann Arbor.
1993	Paleontological Society, Schuchert Award.
1998	Henry Allan Gleason Award, New York Botanical Garden ("1998 outstanding publication in the fields of plant taxonomy, plant ecology or plant geography").
2001	Hutchinson Medal, Chicago Botanical Garden.
2003	Jean Andrews Visiting Professor, University of Texas, Austin.
2006	Botanical Society of America Centennial Award.
2007	Storer Lecturer, University of California, Davis.
2008	Fellow – WWF-UK.
2009-10	World Class University Fellow, EWha Women's University, Seoul, South Korea.
2011-13	Phi Beta Kappa Visiting Lecturer

EDUCATION & PREVIOUS POSITIONS

1975	B.Sc. Department of Botany, University of Reading, U.K., Honours Degree, Botany, Class 1
1981	Ph.D. Department of Botany, University of Reading, U.K., <i>Studies on the Flora of the Reading Beds (Upper Palaeocene)</i>
1978-1981	Lecturer, Department of Botany, University of Reading, U.K. (fixed-term appointment)
1981-1982	Post-doctoral Research Scholar, Department of Biology, Indiana University, Bloomington, U.S.A.
1982-1985	Assistant Curator, Paleobotany, Department of Geology, Field Museum of Natural History, Chicago, U.S.A.
1985-1990	Associate Curator, Paleobotany, Department of Geology, Field Museum of Natural History, Chicago, U.S.A.

1990-1992 Curator, Paleobotany, Department of Geology, Field Museum of Natural History, Chicago, U.S.A.
 1991-1992 Chair, Department of Geology, Field Museum of Natural History, Chicago, U.S.A.
 1992-1993 Vice-President, Center for Evolutionary and Environmental Biology, Field Museum of Natural History, Chicago, U.S.A.
 1994-1999 Vice President, Academic Affairs, The Field Museum, Chicago, U.S.A.
 1995-1999 Director, The Field Museum, Chicago, U.S.A.
 1999-2006 Director and Chief Executive, The Royal Botanic Gardens, Kew, U.K.
 2006-2009 John and Marion Sullivan University Professor, The University of Chicago

OTHER PREVIOUS APPOINTMENTS

1981 (Sept) Nature Conservancy (Geological Review Unit), U.K.
 1984-1999 Lecturer, Committee on Evolutionary Biology, University of Chicago, U.S.A.
 1987 (Apr-Oct) Visiting Professor, Botanischer Garten und Institut für Systematische Botanik der Universität Zürich, Switzerland.
 1989 (Jan-May) Visiting Professor, Department of Botany, University of Massachusetts, Amherst, U.S.A.
 1989-1992 Research Associate (Professor), Department of the Geophysical Sciences, University of Chicago, U.S.A.
 1989-1999 Adjunct Professor, Department of Biology, University of Massachusetts, Amherst, U.S.A.
 1990-1993 Visiting Research Fellow, Department of Botany, The Natural History Museum, London, U.K.
 1992-1994 MacArthur Curator, The Field Museum, Chicago, U.S.A.
 1992-1999 Professor, Department of the Geophysical Sciences, University of Chicago, U.S.A.
 1993-1996 Acting Chair, Department of Botany, The Field Museum, Chicago, U.S.A.
 1993-1995 Senior Mellon Fellow, Smithsonian Institution, Washington, D.C., U.S.A.
 1994-1999 Director, Center for Evolutionary and Environmental Biology, The Field Museum, Chicago, U.S.A.
 1994-1999 A. Watson Armour III Curator, The Field Museum, Chicago, U.S.A.
 1997(Apr-June) Senior Fellow, Japan Society for the Promotion of Science, Kagawa University, Japan.
 1998 (Oct) Visiting Professor, Institute of Botany, University of Vienna, Austria.
 1998 (Nov-Dec) Senior Fellow, Japan Society for the Promotion of Science, Kagawa University, Japan.
 1999-2006 Visiting Professor, School of Plant Sciences, University of Reading, U.K.
 2000-2006 Visiting Professor, Palaeobotany, Royal Holloway, University of London, U.K.
 2002-2006 Visiting Professor, Department of Biological Sciences, Imperial College of Science & Technology, U.K.
 2004-2006 Adjunct Professor, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Yunnan, China
 2003 Visiting Professor, Department of Biology, University of Texas at Austin, Texas, U.S.A.
 2006-2009 Lecturer, Committee on Evolutionary Biology, University of Chicago, U.S.A.
 2009-2011 Visiting Professor, Ewha Women's University, Seoul, World Class University Program, Korea.
 2011-2012 J. Y. Pillay Distinguished Professor, Yale-NUS College, Singapore.

EXTERNAL REVIEWS & STRATEGIC PLANNING

1994 External Review of Systematics and Evolution Programs, The Natural History Museum, U.K.
 1994 External Review of Biology Programs at the Swiss Federal Institute of Technology (ETH) and University of Zurich, Switzerland.
 1995 External Review of Texas Memorial Museum, The University of Texas, Austin, Texas, U.S.A.
 1996 Horizon Associates, Strategic Planning, California Academy of Sciences, U.S.A.
 1997 Chair, External Review of Museum of Paleontology, University of California at Berkeley, U.S.A.
 1998 University of Massachusetts, External Review of Biology Programs, U.S.A.
 1998 Smithsonian Institution, External Review of Smithsonian Institution Press, U.S.A.
 1999 Chair, External Review of Programs in Botanical Science, New York Botanical Garden, U.S.A.
 1999 Reader, External Review Committee, Research and Collections, National Museum of Natural History, Smithsonian Institution, U.S.A.
 1999 Chair, External Review, National Botanical Institute, South Africa.
 2000-2006 Member, Overseer's Visiting Committee to the Department of Organismic and Evolutionary Biology, Harvard University, U.S.A.
 2001-2002 Science Commission, Smithsonian Institution, Washington D.C., U.S.A.

- 2003 External Review, National Herbarium of Netherlands.
 2003 External Review, Department of Biology, University of Tokyo, Japan.
 2005 External Review, School of Biological Sciences, Oxford University, U.K.
 2005 Chair, External Review, Botanical Gardens and Institute for Systematic Botany, University of Zurich, Switzerland.
 2005-2009 Scientific Advisory Board, Faculty of Life Sciences, University of Vienna, Austria.
 2006 Chair, External Review, Missouri Botanical Gardens, Science and Conservation Programs, St. Louis, U.S.A.
 2006 Chair, External Review, University of British Columbia Botanical Garden, Vancouver, Canada.
 2007 External Review, Department of Botany, The Natural History Museum, London, U.K.
 2007 NSF Workshop, Future of the Tree of Life Program, Washington D.C., U.S.A.
 2009 NSF Site Visit, National Evolutionary Synthesis Site Visit, Duke University, Durham, North Carolina, U.S.A.
 2009 NSF Workshop, Future of Systematics, Chicago Botanic Garden, Chicago, U.S.A.
 2011 External Review, Environmental and Life Sciences, University of Sydney, Australia.

PROFESSIONAL SOCIETIES

- 1988-1993 Vice-Chair, Association of North American Paleontological Societies, U.S.A.
 1990-1993 Management Committee, Botanical Society of America, U.S.A.
 1998-2000 President, Paleontological Society (President Elect 1997, Past President 2000-2002), U.S.A.
 2002-2004 Council, The Royal Society, U.K.
 2004-2006 President, Palaeontological Association, U.K.

PREVIOUS BOARD AND ADVISORY PANEL APPOINTMENTS

- 1992 National Science Foundation, Systematic Biology, Proposal Review Panel, U.S.A.
 1998 President's *ad hoc* Committee, Harvard University, U.S.A.
 1998-2009 Board of the National Museum of Natural History, Smithsonian Institution, Washington D.C., U.S.A. (Chair Science Committee, 2003-2009)
 1999-2002 Board Member, Royal Botanic Gardens, Kew, Enterprises, Ltd., U.K.
 1999-2006 Board Member & Chairman, Bentham-Moxon Trust, U.K.
 1999-2006 Board Member, Foundation and Friends of the Royal Botanic Gardens, Kew, U.K.
 1999 Selection Panel, Head of Department of Botany, The Natural History Museum, London, U.K.
 2000-2002 Member, Advisory Board for DIVERSITAS, International Biodiversity Observation Year (IBOY).
 2000-2003 Council of the Smithsonian Institution, Washington D.C., U.S.A.
 2000-2006 Board of Botanic Gardens Conservation International, U.K.
 2000-2006 Patron, Thomas Phillips Price Trust, U.K.
 2000-2006 Druce Committee, Department of Plant Sciences, University of Oxford, U.K.
 2000-2006 Field Museum, International Council, Chicago, U.S.A.
 2000-2007 Board of the Lovaine Trust, U.K.
 2001-2006 Advisory Council, Plantlife, U.K.
 2003 Selection Panel, Head of Science, The Natural History Museum, London, U.K.
 2004-2005 Jury Committee, Projects for the Botanic Garden, Padua, Italy.
 2004-2007 Individual Merit Promotion Board, Research Councils, U.K.
 2004-2007 Ministerial Advisory Board, Royal Parks Agency, U.K.
 2004 Selection Panel, Director, Glasnevin Botanical Garden, Dublin, Ireland.
 2004 Selection Panel, Head of Department of Botany, The Natural History Museum, London, U.K.
 2005 Selection Panel, Competition for the new Shanghai Botanical Garden, China.
 2005-2006 International Advisory Panel, Singapore Botanic Gardens, Gardens by the Bay, Singapore.
 2005-2007 Board Member, WWF-UK.
 2006 Board of Electors, Sibthorpe Professor of Botany, Oxford University, U.K.
 2006 Scientific Committee, Association of Tropical Biology and Conservation Meeting, Xishuangbanna, China.
 2006-present Chair, U.S. National Committee for DIVERSITAS.
 2007 Scientific Programme Committee, Third Global Botanic Garden Congress, Wuhan, China.
 2007 Scientific Committee, Associations of Tropical Biology and Conservation Meeting, Morelia, Mexico.

2007-2009 Board Member, Missouri Botanical Garden, St. Louis (Chair, Science & Conservation Committee 2008-2009).

SCHOLARLY MEETINGS

1980 - Secretary and Local Organizer, "First International Organisation of Palaeobotany, Conference", University of Reading, U.K. **1987-1988** - Convener, Systematics Association, International Symposium, "Evolution, Systematics and Fossil History of the Hamamelidae", University of Reading, U.K. **1988** - Invited Observer, Nobel Symposium, "The Hierarchy of Life", Karlskoga, Sweden. **1992** - Local Organizer and Secretary, Fifth North American Paleontological Convention, Chicago. **1993** - Organizer, Field Museum Centennial Colloquium, "Dimensions of Biodiversity". **1995-1999** - Steering Committee Member and Chair, Scientific Program Committee, XVI International Botanical Congress, St. Louis. **1997** - Organizer, Field Museum Spring Symposium "Biological Invasions: Consequences and Ecological Restoration". **1999** - Organizer, Missouri Botanical Garden Fall Symposium "The Origin of Modern Terrestrial Ecosystems: Fossils, Phylogeny and Biogeography". **2008-2009** - Organizer, NAS Workshop, Washington D.C. – **2008-2009** - Organizer, Royal Society, U.K. "Darwin and the Evolution of Flowers". **2008-2009** - Organizer, AAAS, Chicago "Chicago Wilderness: Integrating Biological and Social Diversity into the Future".

ROYAL SOCIETY AND NATIONAL ACADEMY REPORTS AND WORKSHOPS

2000 - Royal Society, Sites of Special Scientific Interest, Working Group, U.K. **2002** - Chair, Royal Society, Measuring Biodiversity for Conservation, Working Group, U.K. (resulting in Royal Society Report on Measuring Biodiversity). **2008** - Chair, National Academy Workshop, Biological Diversity and Ecosystem Services

EDITORSHIPS

1983-1990 Associate Editor, *Botanical Journal of the Linnean Society*
 1984-1986 Co-editor, *Paleobiology*
 1987-1991 Member Review Panel, *Kew Bulletin*
 1987-1993 Associate Editor, *Paleobiology*
 1991-1996 Member Editorial Board, *International Journal of Plant Sciences*
 1987-1998 Member Editorial Board, *Review of Palaeobotany and Palynology*
 1991-1999 Member Editorial Board, *Plant Systematics and Evolution*
 1996-1998 Associate Editor, *International Journal of Plant Sciences*
 1999-present Editor, *International Journal of Plant Sciences*
 1999-present Editorial Board, *Perspectives in Plant Ecology, Evolution and Systematics*
 2000-present Editor, *Perspectives in Plant Ecology, Evolution and Systematics*
 2002-2005 Board of Reviewing Editors, *Science*
 2006-present Editorial Advisory Board, *Journal of Tropical Forest Science*
 2006-present Editorial Board, *Gardens' Bulletin, Singapore*
 2009-present Editorial Advisory Board, *Cytologia*

REVIEWER FOR:

Proceedings of the National Academy of Sciences, Proceedings of the Royal Society, Paleobiology, Botanical Journal of the Linnean Society, International Journal of Plant Sciences, Kew Bulletin, American Journal of Botany, Evolution, Annals of the Missouri Botanical Garden, Evolutionary Theory, Review of Palaeobotany and Palynology, Science, Nature, Canadian Journal of Botany, Trends in Ecology and Evolution, Trends in Plant Biology, Plant Systematics and Evolution, University of Chicago Press, Princeton University Press, Cambridge University Press, Oxford University Press, Blackwells.

ACADEMIC ORGANIZATIONS

Fellow of the Linnean Society, Botanical Society of America (Paleobotanical and Systematic Sections), Geologist's Assn, Systematics Assn, The Paleontological Society, International Organization of Paleobotany, American Assn for the Advancement of Science.

CIVIC, COMMUNITY AND OTHER ORGANIZATIONS

Chicago Committee, Chicago Council on Foreign Relations, 1997-1999, 2008-2009.
Trustee, The Latin School of Chicago, 1997-1999 (Executive Committee, 1998-1999), 2007-2009.
The Garden Society, 2000-present.

COURSES TAUGHT

University of Reading (1978-1981); Undergraduate Level, Taxonomy, Advanced Taxonomy, British Flora, Economic Botany. *University of Reading* (1978-1981); Graduate Level, Introductory Plant Taxonomy, Practical Basis of Plant Taxonomy, Palynology, Palaeobotany. *University of Chicago* (1984-1987); 200 Level, Paleobotany and Plant Evolution. *University of Zürich* (1987); Palaeobotany and Plant Evolution, Topics in Angiosperm Systematics, Aspects of Ecology. *University of Massachusetts* (1989); The Evolutionary History of Plants. *University of Chicago* (1990-1992); 100 Level, Introduction to Natural History: The Diversity of Life Through Time. *University of Chicago*; 300 Level, (1991-1996) Plant Paleontology, (1995) Angiosperm Diversity and Phylogeny. *University of Vienna* (1998) Phylogenetic and Palaeobotanical Perspectives on the Evolution of Land Plants. *University of Chicago* (2007); 100 Level Biological Evolution. *University of Chicago* (2008); 100 and 200 Level, Biological Evolution, Human Impact on the Global Environment. *Yale University* (2011); (3 credit), The Origin and Radiation of Flowering Plants.

POSTDOCTORAL ASSOCIATES

Andrew N. Drinnan, 1988-1990, Early angiosperm flowers (now at University of Melbourne)
Paul Kenrick, 1990-1992, Early land plants (now at The Natural History Museum, London)
Sara Hoot, 1991-1994, Molecular phylogenetics of basal eudicots (now at University of Wisconsin, Milwaukee)
Patrick Herendeen (Adjunct Curator), 1993-1997, Plant systematics/paleobotany (now at George Washington Univ.).
Andrew Douglas, 1997-1999, Floral evolution in the Ranunculidae (now at University of Mississippi).
Richard Lupia, 1997-1999, Cretaceous vegetational change (now at University of Oklahoma).
Andrew Leslie, 2010-present.

STUDENTS

U.S. Major Professor; Gabriela Doria (2010-present), Kathryn Larson (2007-present), Richard Lupia (1997 - now at University of Oklahoma), Susana Magallon-Puebla (1999 - now at UNAM, Mexico City), Hallie Simms (2000 - now at NMNH, Smithsonian), Melinda Brady (2000 - University of Chicago); Anastasia Konopka (1997 - University of Illinois at Chicago); Gabriel Doria (2009-present, Yale University)
U.S. Committee Member; Andrew Leslie (2006-2010), Eric Gyllenhaal (1990), Yao Jiping (1994), Jane Masterson (1995), Paul Markwick (1996).
U.K. Supervisor or Joint Supervisor; Claire Belcher (2005, Royal Holloway College, University of London), Matthew Haworth (University of Oxford), Frances Claxton (2004, University of Reading), Felix Forest (2005, University of Reading).

GRANTS (1981-1999)

1981 - Fieldwork, southeastern Spain (award from the Linnean Society, and British Museum, Natural History). **1981** - Research Visit, Indiana University (award from British Council & Reading University Research Board). **1984** - \$83,000 (15 Jan. 1984-31 Dec. 1987) National Science Foundation, *Early Fossil History and Evolution of the Betulaceae*. **1987** - \$152,995 (Oct. 1987-Sept. 1989), (with S. Lidgard & M. H. Nitecki) National Science Foundation, *Support for the Care and Use of the Systematic Collection of Mazon Creek Fauna and Flora*. **1987** - \$110,000 (Jan. 1988-Dec. 1990) National Science Foundation, *Floral Structure and Systematics of Mid-Cretaceous Angiosperms*. **1988** - \$65,000 (Nov. 1988-Nov. 1989) National Science Foundation, *Acquisition of New Scanning Electron Microscopy Facilities at Field Museum of Natural History*. **1988** - \$5,000 (Jan. 1989-April 1990) National Science Foundation, *Additional Support for Scanning Electron Microscope Facilities at Field Museum of Natural History*. **1990** - \$210,923 (Jan. 1991-Dec. 1993) National Science Foundation, *Systematics Floral Structure and Reproductive Biology of Mid-Cretaceous Magnoliid Angiosperms*. **1990** - \$40,000 (Dec. 1990-Aug. 1994) Petroleum Research Fund, American Chemical Society, *Global Patterns of Cretaceous Vegetational Change*. **1991** - \$10,100 (March 1991-Feb. 1992) National Science Foundation, *Major Patterns in the Phylogeny of Flowering Plants: Floral Development and Relationships Among Basal "Non-magnoliid" Dicotyledons*. **1991** - \$20,600 National Science

Foundation, *Support for NAPC.V -The Fifth North American Paleontological Convention*. **1993** - \$164,369 (June 1994-June 1998) (with N. Walsh) National Science Foundation, *Training for Undergraduates in Collection-based Analysis of Biological Diversity*. **1995** - \$200,000 Department of Commerce, NTIA Program (with nine other Museums), *NATUREnet: A nine Museum Consortium*. **1995** - \$112,500 Institute of Museum Services, (with L. Breslauer) *General Operating Support for the Field Museum*. **1996** - \$127,988 (May 1997-May 1999) National Science Foundation, (with P. Herendeen, R. Lupia) *Assessing Cretaceous Vegetational Change: Palynological, Mesofossil and Macrofossil Evidence*. **1996** - \$240,000 The Andrew W. Mellon Foundation (with R. Foster, D. Moskovits) *Rapid Reference Herbarium at The Field Museum: The Development of a Conservation Resource*. **1996** - \$287,515 (Jan. 1997-June 1999) National Science Foundation, (with P. Herendeen) *Support for the Paleobotanical Collections at Field Museum*. **1997** - \$112,500 Institute of Museum Services, (with L. Breslauer) *General Operating Support for The Field Museum*.

OTHER GRANTS TO THE FIELD MUSEUM PALEOBOTANY LABORATORY (1990-1999)

1990 - \$33,006 National Science Foundation (Patrick Herendeen), *Paleobotanical Patterns in the Evolution of Angiosperm Secondary Xylem and their Phylogenetic Significance*. **1991** - \$4,801 National Science Foundation (Jane Masterson), *Geological History of Polyploidy in Woody Angiosperms* (Doctoral Dissertation Improvement Grant). **1993** - \$124,645 National Science Foundation (Sara Hoot), *Phylogenetic Relationships of Ranunculidae and Basal Hamamelidae: Implications for the Early Evolution of Non-magnoliid Dicotyledons*. **1995** - \$99,705 National Science Foundation (Patrick Herendeen), *Systematics and Paleobotany of the Legume Subfamily Caesalpinioideae*. **1998** - \$9,850 National Science Foundation (Hallie T. Sims), *Patterns of Morphological Evolution in Late Paleozoic Seeds* (Doctoral Dissertation Improvement Grant).

GOVERNMENT AND OTHER SUPPORT TO R.B.G., KEW

1999/00-2005/06	Grant-in-Aid (excluding capital and modernization funds): £14.30 million (1999/00); £14.30 million (2000/01); £14.30 million (2001/02); £14.30 million (2002/03); £17.58 million (2003/04); £17.30 million (2004/05); £17.94 million (2005/06).
1999/00-2005/06	Capital (Grant-in-Aid and Private Sources): £2.92 million (1999/00); £2.64 million (2000/01); £5.02 million (2001/02); £2.00 million (2002/03); £6.80 million (2003/04); £7.60 million (2004/05); £7.60 million (2005/06).
1999/00-2005/06	Visitor-related Income: £2.86 million (1999/00); £3.13million (2000/01); £4.12 million (2001/02); £4.00 million (2002/03); £4.57 million (2003/04); £5.71 million (2004/05); £7.01 million (2005/06).
1999/00-2005/06	Project Income (excluding Millennium Seed Bank): £1.10 million (1999/00); £1.33 million (2000/01); £1.52 million (2001/02); £1.41 million (2002/03); £1.80 million (2003/04); £2.64 million (2004/05); £3.05 million (2005/06).
1999/00-2005/06	Reserves: £9.28 million (1999/00); £9.70 million (2000/01); £12.30 million (2001/02); £10.57 million (2002/03); £11.17 million (2003/04); £10.49 million (2004/05); £9.64 million (2005/06).

KEY CAPITAL INVESTMENTS, R.B.G., KEW

2000	The Wellcome Trust Millennium Building (for the Millennium Seed Bank Project and public access).
2000	Refurbishment of Sir William Chamber's Orangery (for catering and events).
2000	White Peaks (for retail, catering and exhibition space).
2002	The Nash Conservatory (for events).
2003	The Visitor Centre, Wakehurst Place (for visitor reception, retail and catering).
2005	The Stables Restaurant, Wakehurst Place (for catering).
2005-2006	Victoria Gate (for visitor reception, retail and catering).
2006	The Davies Alpine House (for public display of the "alpine" plant collections).
2006	Kew Palace (by Historic Royal Palaces) and new Visitor Centre (for improved public access to heritage components)
2006	Refurbishment of Sir William Chamber's Pagoda (for public access).
2006	The Sackler Crossing (for improved patterns of visitor circulation).
2006	The Wolfson Wing of the Jodrell Laboratory (for improved research facilities).

- 2006 The Herbarium & Library Extension/Plant Information Centre (for improved collection preservation and public access).
- 2006 The Shirley Sherwood Gallery of Botanical Art (for improved access to Kew's art collections).

KEY SCIENCE & CONSERVATION ACTIVITIES, R.B.G., KEW

- 1999/00-2005/06 Annual scientific output maintained at an average of 400 publications per annum (including many substantial books).
- 1999/00-2005/06 Scientific papers in higher impact journals increased from 13 per annum in 2000 to 71 in 2005.
- 1999/00-2005/06 Total plant species use reports, conservation assessments and species conservation plans supported increased from 1,087 in 2000/01 to a peak of 6,996 in 2004/05.

KEY PUBLIC ACCESS, PUBLIC PROFILE & EDUCATIONAL ACTIVITIES, R.B.G., KEW

- 1999/00-2005/06 Visitor admissions for Kew and Wakehurst Place combined increased by 66% from 1.14 million in 2000/01 to 1.9 million in 2005/06.
- 1999/00-2005/06 Utilisation of the Kew website increased by 575% from 3.2 million page views in 2000/01 to 21.6 million page views in 2005/06.
- 1999/00-2005/06 Three "Year at Kew" BBC Television Series (each 12 x 30 minutes episodes) implemented in 2004, 2005 and 2007. "Trees that made Britain" BBC Television Series (8 x 30 minute episodes) implemented 2006.
- 1999/00-2005/06 Equivalent advertising value of print, media and television public relations for Kew increased from £4.3 million in 2000 to £26.8 million in 2005.
- 2003 World Heritage Site accreditation secured for the Royal Botanic Gardens, Kew from UNESCO (UK Nominee 2005).

KEY ORGANIZATIONAL DEVELOPMENT ACTIVITIES, R.B.G., KEW

- 1999/00-2005/06 All major departments restructured.
- 2000 New Pay and Grading structure introduced.
- 2004 Volunteer Program introduced.
- 2004 Investors in People accreditation secured.
- 2005 ISO14001 Sustainability accreditation achieved.

RESEARCH PRESENTATIONS (1980-present: excluding general public lectures and presentations)

1980 - 1st International Organisation of Palaeobotany Conference, Reading, U.K. Systematics Association Meeting, Problems of Phylogenetic Reconstruction, Cambridge, U.K. (presented by C. R. Hill). Department of Botany, Reading University, U.K. **1981** - Department of Botany, Reading University, U.K. A.I.B.S., Bloomington, Indiana, U.S.A. 13th International Botanical Congress, Australia (presented by E. M. Friis). Department of Botany, University of Illinois, Urbana, U.S.A. Evolutionary Biology, Harvard University, U.S.A. New York Botanical Garden, U.S.A. Department of Biology, Indiana University, Bloomington, U.S.A. **1982** - Linnean Society, London, U.K. AIBS, Pennsylvania State University. (see abstracts for titles), U.S.A. Department of Botany, Ohio State University, Columbus, U.S.A. Third Meeting Hennig Society, University of Maryland, U.S.A. Department of Geophysical Sciences, University of Chicago, U.S.A. **1983** - Department of Biology, University of North Dakota, U.S.A. Evolutionary Morphology Group, University of Chicago, U.S.A. Department of Botany, University of Alberta, Edmonton, Canada. Department of Botany, University of California, Davis, U.S.A. Workshop on graph-theoretical presentations, University of Pennsylvania, U.S.A. European Paleobotanical Conference, Montpellier, France (presented by R. A. Stockey). AIBS, North Dakota. (see abstracts for title), U.S.A. Missouri Botanical Garden 30th Annual Systematics Symposium. St. Louis, U.S.A. North Eastern Paleobotanical Meetings, Harvard Forest, Massachusetts, U.S.A. Palaeontological Association, Annual Meeting, Swansea, U.K. Department of Botany, Kings' College, University of London, U.K. **1984** - 4th Meeting of Hennig Society, British Museum, London (presented by C. R. Hill), U.K. AIBS, Colorado State University, Fort Collins. (see abstracts for title), U.S.A. 2nd International Organization of Paleobotany Conference, Edmonton, Canada (see abstracts for title). 6th International Palynological Congress, Calgary, Canada (see abstracts for title). Department of Biology, Hope College, Michigan, U.S.A. Department of Biology, Northern Illinois University, DeKalb, U.S.A. Department of Biology, Loyola University,

Chicago, U.S.A. Department of Biology, Indiana University, Bloomington, Indiana, U.S.A. Department of Biology, Illinois State University, Bloomington, Illinois, U.S.A. **1985** - Division of Biological Sciences, University of Michigan, Ann Arbor, Michigan, U.S.A. Department of Botany, Kings' College, University of London, U.K. Department of Botany, Reading University, U.K. Departments of Botany & Palaeontology, British Museum (Natural History), London, U.K. Österreichische Paläontologische Gesellschaft, Vienna, Austria. Botanischer Garten und Institut für Systematische Botanik, Universität Zürich, Switzerland. Department of Geology, Aarhus University, Denmark. Department of Earth Sciences, Cambridge University, U.K. International Symposium on Pollen Form and Function, London, U.K. International Conference on Systematic and Taxonomic Approaches in Palaeobotany, London, U.K. Department of Biology, University of North Carolina, Chapel Hill, U.S.A. Department of Life Sciences, Illinois Institute of Technology, U.S.A. Third International Congress of Systematic and Evolutionary Biology, Brighton, U.K. (see abstracts for titles). AIBS, University of Florida, Gainesville (see abstracts for titles), U.S.A. **1986** - Department of Geology, McMaster University, Canada. Department of the Geophysical Sciences, University of Chicago, U.S.A. Department of Botany, University of Iowa, U.S.A. Department of Biology, Central College, Iowa, U.S.A. AIBS, University of Massachusetts, Amherst. (see abstracts for titles), U.S.A. Colloque sur l'évolution des gymnospermes, Fondation Louis Emberger-Charles Sauvage, Université Montpellier, France. Deutsche Akademie der Naturforscher, Leopoldina, Halle, D.D.R. Institut und Museum für Geologie und Paläontologie der Georg-August-Universität, Göttingen, West Germany. Department of Botany, University of Massachusetts, U.S.A. Department of Ecology and Evolutionary Biology, University of Connecticut, U.S.A. **1987** - Department of Biology, Indiana University, U.S.A. Department of Biology, University of Chicago, U.S.A. Botanischer Garten und Institut für Systematische Botanik, Universität Zürich, Switzerland. XIV International Botanical Congress, Berlin, West Germany. Institut für Botanik der Universität Wien (Vienna), Austria. **1988** - Department of Botany, University of Kansas, Lawrence, Kansas, U.S.A. Department of Botany, Iowa State University, Ames, Iowa, U.S.A. Department of Botany, University of Wisconsin, Madison, Wisconsin, U.S.A. Royal Botanic Gardens, Kew, U.K. Symposium, "Evolution Systematics and Fossil History of the Hamamelidae", University of Reading, U.K. Symposium, "Evolutionary Innovation", Field Museum of Natural History, Chicago, U.S.A. AIBS, Davis. (see abstracts for title, presented by L. Hufford), U.S.A. Department of Botany, Southern Illinois University, Carbondale, Illinois, U.S.A. GSA, University of Colorado, Boulder, U.S.A. **1989** - Department of Biology, Royal Holloway and Bedford New College, London, U.K. Department of Botany, Ohio University, Athens, Ohio, U.S.A. Department of Botany, University of Massachusetts, Amherst, Massachusetts, U.S.A. Department of Biology, Smith College, Northampton, Massachusetts, U.S.A. Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, U.S.A. Ecology and Evolutionary Biology Program, Yale University, New Haven, Connecticut, U.S.A. Department of Paleontology, University of California, Berkeley, California, U.S.A. AIBS., Toronto. (see abstracts for titles), Canada. Department of Botany, University of California, Davis, California, U.S.A. **1990** - Department of Geology, Northwestern University, Evanston, Illinois, U.S.A. Palaeontological Association, Annual Meeting, Liverpool, U.K. Department of Geology, Southern Methodist University, Dallas, Texas, U.S.A. Department of Biology, University of Minnesota, Duluth, Minnesota, U.S.A. British Museum, Natural History, London, U.K. Symposium, "Pollen and Spores: Patterns of Diversification", London, U.K. Department of Botany, University of Massachusetts, Amherst, Massachusetts, U.S.A. Museum of Paleontology, University of Michigan, Ann Arbor, Michigan, U.S.A. Department of Biology, University of Michigan, Ann Arbor, Michigan, U.S.A. Department of Geology, Leicester University, U.K. **1991** - Department of Botany, Oxford University, U.K. Department of Natural Sciences, Florida Museum of Natural History, U.S.A. North Central GSA, Toledo (presented by S. Lidgard), U.S.A. AIBS., San Antonio (see abstracts for titles), U.S.A. Department of Botany, Louisiana State University, U.S.A. Department of Botany, University of Georgia, U.S.A. **1992** - Department of Biology, University of Massachusetts, U.S.A. School of Botany, University of Melbourne, Australia. Department of Botany, University of Queensland, Australia. Department of Botany, University of Maryland, U.S.A. Department of Plant Biology, Ohio State University, U.S.A. AIBS, Hawaii (presented by S. Hoot, see abstracts for title), U.S.A. 4th International Organization of Palaeobotany Conference, Paris (see abstracts for titles), France. 8th International Palynological Convention, Aix-en-Provence (presented by K. R. Pedersen, see abstracts for title), France. Missouri Botanical Garden, Annual Systematics Symposium, St. Louis, U.S.A. Department of Botany, University of Stockholm, Sweden. **1993** - Plant Development and Evolution, Keystone Symposium, Taos, New Mexico, U.S.A. Department of Botany, University of Texas at Austin, U.S.A. Laboratory of Molecular Systematics, Smithsonian Institution, Washington, D.C., U.S.A. International Symposium on the Evolution of the Monocotyledons, Royal Botanic Gardens, Kew, U.K. Chicago Plant Science Seminar, Chicago, U.S.A. XV International Botanical Congress, Yokohama (see abstracts for title), Japan. AIBS, Ames Iowa (see abstracts for titles), U.S.A. Department of Geology, Yale University, U.S.A. NATO workshop, Arctic Plants and Climate, 65 million areas of Change, London, U.K. Department of Biology, University of Amman, Jordan. Department of Botany, University of Reading, U.K. **1994** - Department of Environmental, Population and Organismic Biology, University of Colorado, Boulder, U.S.A. Geological Institute, UNAM, Mexico City, Mexico. Department of Botany,

Duke University, U.S.A. Indiana University/Purdue University Indianapolis, Indiana, U.S.A. VI Argentine Paleontological Congress, Trelew, Argentina. AIBS, Knoxville, Tennessee (see abstracts for titles), U.S.A. International Symposium on the Evolution of the Ranunculiflorae, Bayreuth, Germany. Department of Genetics, University of Georgia, U.S.A. Department of Biology and Sigma Xi Andrews University, Berrien Springs, Michigan, U.S.A. **1995** - Division of Biology, California Institute of Technology, U.S.A. Department of Biology, Loyola University, Chicago, U.S.A. SOTAB Conference, University of Georgia, U.S.A. Department of the Geophysical Sciences, The University of Chicago, U.S.A. AIBS, San Diego, California (see abstracts for titles), U.S.A. Linnean Society, University of Liverpool, U.K. Department of Biology, Andrews University, Berrien Springs, Michigan, U.S.A. Mexican Botanical Congress, Cuernavaca, Mexico. **1996** - Wesleyan University, Middletown, Connecticut, U.S.A. American Association for the Advancement of Science, Baltimore, Maryland, U.S.A. Department of Biology, University of North Carolina, U.S.A. Department of Botany, Washington State University, U.S.A. Rancho Santa Ana Botanic Garden, California, U.S.A. 9th International Palynological Congress, Houston, Texas (see abstracts for title), U.S.A. AIBS, Seattle, Washington (see abstracts for titles), U.S.A. 5th International Organization of Palaeobotany Conference, Santa Barbara, California (see abstracts for titles), U.S.A. German Botanical Congress, Düsseldorf, Germany. Swiss Academy of Sciences, Zürich, Switzerland. Royal Botanical Gardens, Melbourne, Australia. Institut de recherche en biologie végétale, Montreal, Quebec, Canada. **1997** - Evolution of Plant Development, Keystone Symposium, Taos, New Mexico, U.S.A. Department of Biology, University of Illinois at Chicago, Chicago, Illinois, U.S.A. Department of Biology, Kagawa University, Takamatsu, Japan. National Institute for Basic Biology, Okazaki, Japan. Department of Biology, Kyoto University, Kyoto, Japan. Fern Development and Evolution, Purdue University, West Lafayette, Indiana, U.S.A. AIBS, Montreal, Quebec, Canada. California Academy of Sciences, San Francisco, California, U.S.A. Missouri Botanical Garden, annual Systematics Symposium, St. Louis, (presented by E. M. Friis and S. Magallon), U.S.A. IX Meeting of Brazilian Paleobotanists and Palynologists, Sao Paulo, Brazil. **1998** - The Royal Society, New Fellows Seminar, London, U.K. Department of Bioscience, Kagawa University, Takamatsu, Japan. **1999** - Department of Geology, University of Iowa, Iowa, U.S.A. Department of Organismal Biology, Harvard University, Massachusetts, U.S.A. Palaeontological Association, Annual Address, University of Leeds, U.K. Department of Plant Sciences, Oxford University, Oxford, U.K. XVI International Botanical Congress, St. Louis (see abstract for title), U.S.A. School of Plant Sciences, University of Reading, U.K. **2000** - John Innes Institute, Norwich, U.K. Department of Geology, Portsmouth University, U.K. Geoscience 2000, University of Manchester, U.K. Evolutionary Biology Centre, Uppsala University, Sweden. Department of Biology, University of Sheffield, U.K. Brazilian Botanical Congress, Brasilia, Brazil. AIBS, Portland, Oregon, U.S.A. Evolution and Development Symposium, The Natural History Museum, London, U.K. Department of Biology, University of Cambridge, U.K. **2001** - German Palaeontological Society and Systematic Biology Society, Bremen, Germany. Royal Society of Western Australia, Perth, Australia. Department of Biology, University of Bristol, U.K. Department of Biology, University of Wales, Cardiff, U.K. **2002** - New York Botanical Garden, New York, U.S.A. Botanical Institute and Botanic Garden, University of Bonn, Germany. Institute of Botany, University of Zurich, Switzerland. Botanical Garden, University of Valencia, Spain. Southern Methodist University, Dallas, U.S.A. **2003** - University of Wyoming, Laramie, U.S.A. Columbia University, New York, U.S.A. University of Texas, Austin, Texas, U.S.A. University of Göteborg, Sweden. **2004** - Institute of Botany, Chinese Academy of Sciences, Beijing, China. Institute of Vertebrate Palaeontology and Palaeanthropology, Chinese Academy of Sciences, Beijing, China. International Pteridophyte Symposium, Royal Botanic Gardens, Edinburgh, U.K. Department of Botany, University of Sheffield, U.K. Department of Geography, University of Birmingham, U.K. **2005** - XVII International Botanical Congress, Vienna, Austria (see abstract for title). School of Biology, University of Leeds, U.K. Palaeobotany Group, Linnean Society, London, U.K. **2006** - European Society of Plant Biology, Lyon, France. Department of the Geophysical Sciences, University of Chicago, U.S.A. **2007** - Darwin College, University of Cambridge, U.K. University of California, Davis, U.S.A. University of Kansas, Lawrence, U.S.A. Swedish Museum of Natural History, Stockholm, Sweden. Korean Association of Biological Sciences, Seoul, S. Korea. Korean Association of Plant Taxonomists, Seoul, S. Korea. Committee on Evolutionary Biology, University of Chicago, U.S.A. Royal Swedish Academy of Sciences, Stockholm, Sweden. Field Museum, Chicago, U.S.A. **2008** - University of Alberta, Canada. Arizona State University, U.S.A. Boone State University, North Carolina, U.S.A. International Organization of Palaeobotany Conference, Bonn, Germany. Birbal Sahni Institute of Palaeobotany, Lucknow, India. J.M. Patel College, Bhandara, India. Department of Ecology and Evolution, University of Chicago. **2009** - Xishuangbauna Tropical Garden, China. Kunming Institute of Botany, China. Nanjing Institute of Paleontology, China. AAAS Meeting, Chicago, U.S.A., EWHA Women's University, Seoul, S. Korea. Korean National Institute for Biological Resources, Seoul, S. Korea. Korean Botanical Society, Seoul, S. Korea. University of Cambridge, U.K. Royal Society, London, U.K. National Museum of Natural History, Smithsonian Institution. U.S.A. School of Forestry and Environmental Studies, Yale University, U.S.A. Department of Geology and Geophysics, Yale University, U.S.A. Wesleyan University, U.S.A. Royal Botanic Gardens, Kew, U.K. EHWA Advanced Academy, Seoul, S. Korea. **2010** - DAI, Heidelberg, Germany.

EMBO, Heidelberg, Germany. Department of Ecology and Evolution, Yale University, U.S.A. NAS, Woods Hole, U.S.A. International Congress on Plant Sexual Reproduction, Bristol, U.K. Flora Malesiana Symposium, Singapore Botanical Garden, Singapore; University of Connecticut, Storrs, Connecticut, U.S.A. University of Illinois, Champaign-Urbana, U.S.A. Brown University, U.S.A. Shanghai Botanic Garden, Shanghai, China. XIII Brazilian Symposium of Palaeobotany & Palynology, Salvador, Brazil. **2011** – UWICE, Bumthang, Bhutan. Evolution of Plant Patterns Workshop, Moose, Wyoming, U.S.A. Eckerd College, U.S.A. WWF, Washington DC. **2012** – Yale-NUS College, Singapore. Teale Lecture, University of Connecticut, U.S.A. Austin College, Fort Worth, Texas, U.S.A. University of Florida, Gainesville, Florida, U.S.A. Rhodes College, Memphis, U.S.A. Illinois College, Illinois, U.S.A. Phi Beta Kappa, Yale University, New Haven, U.S.A. Botanical Society of America, Columbus, Ohio, U.S.A. Bowling Green State University, Ohio, U.S.A.; Allegheny College, Pennsylvania, U.S.A. **2013** (scheduled) Phi Beta Kappa, College of the South, Sewanee, Phi Beta Kappa, Wells College, Aurora, New York.

PUBLICATIONS

BOOKS

1. KENRICK, P., & P. R. CRANE. 1997. *The Origin and Diversification of Land Plants*. Smithsonian Institution Press, 592 pp.
2. FRIIS, E. M., K. R. PEDERSEN & CRANE, P. R. 2011. *Early Flowers and Angiosperm Evolution*. Cambridge University Press. 596 pp.
3. CRANE, P. R. 2013. *Ginkgo: The Tree That Time Forgot*. Yale University Press. (in press).

EDITED VOLUMES

1. FRIIS, E. M., W. G. CHALONER, & P. R. CRANE. Editors. 1987. *The Origins of Angiosperms and their Biological Consequences*. Cambridge: Cambridge University Press, x + 337 pp.
2. CRANE, P. R., & S. BLACKMORE. Editors. 1989a. *The Evolution, Systematics and Fossil History of the Hamamelidae*. Volume 1, Introduction and "Lower" Hamamelidae. Oxford: Oxford University Press, xii + 305 pp.
3. CRANE, P. R., & S. BLACKMORE. Editors. 1989b. *The Evolution, Systematics and Fossil History of the Hamamelidae*. Volume 2, "Higher" Hamamelidae. Oxford: Oxford University Press, xii + 356 pp.
4. LIDGARD, S., & P. R. CRANE. Editors. 1992. *Fifth North American Paleontological Convention, Abstracts and Program*. Paleontological Society Special Publication, 6, xxii + 326 pp.
5. CRANE, P. R., & P. S. HERENDEEN. Editors. 1999. The Origin of Modern Terrestrial Ecosystems: Fossils, Phylogeny and Biogeography. *Annals of the Missouri Botanical Garden*, **86**: 227-655.
6. CRANE, P. R., & J. SCHÖNENBERGER. Editors. 2008. In Search of the Earliest Flowers. *International Journal of Plant Sciences*. **169**: 815-927.
7. STOCKEY, R. A., S. W. GRAHAM & P. R. CRANE. Editors. 2009. Darwin Special Issue. *American Journal of Botany*, **96**: 1-381.
8. CRANE, P. R., S. D. HOPPER, P. H. RAVEN & D. W. STEVENSON. Guest Editors. 2010. Plant Science Research in Botanic Gardens. *Trends in Plant Science*, **14**: 575-642.
9. CRANE, P. R., W. G. CHALONER & E. M. FRIIS. Editors. 2010. Darwin and the Evolution of Flowers. *Philosophical Transactions of the Royal Society*: **365**: 345-543.

RESEARCH PUBLICATIONS

1. CRANE, P. R. 1977. The Alum Bay Plant Beds. *Tertiary Research*, **1**: 95-99.

2. COLLINSON, M. E., & P. R. CRANE. 1978. *Rhododendron* seeds from the Palaeocene of southern England. *Botanical Journal of the Linnean Society*, **76**: 195-205.
3. CRANE, P. R. 1978. Angiosperm leaves from the Lower Tertiary of Southern England. (Summary of a paper read at the First International Symposium on Angiosperm Palaeobotany, Czechoslovakia, June 1977) *Courier Forschungsinstitut Senckenberg*, **30**: 126-132.
4. CRANE, P. R., & G. PLINT. 1979. Calcified angiosperm roots from the Upper Eocene of southern England. *Annals of Botany*, **44**: 107-112.
5. SMITH, P. H., & P. R. CRANE. 1979. Fungal spores of the genus *Pesavis* from the Lower Tertiary of Britain. *Botanical Journal of the Linnean Society*, **79**: 243-248.
6. CRANE, P. R., & E. A. JARZEMBOWSKI. 1980. Insect leaf mines from the Palaeocene of southern England. *Journal of Natural History*, **14**: 629-636.
7. CRANE, P. R. 1981. Betulaceous leaves and fruits from the British Upper Palaeocene. *Botanical Journal of the Linnean Society*, **83**: 103-136.
8. CRANE, P. R., & S. R. MANCHESTER. 1982. An extinct juglandaceous fruit from the Upper Palaeocene of southern England. *Botanical Journal of the Linnean Society*, **85**: 89-101.
9. HILL, C. R., & P. R. CRANE. 1982. Evolutionary cladistics and the origin of angiosperms. In: K. A. Joysey & A. E. Friday (eds) *Problems of Phylogenetic Reconstruction*, pp. 269-361. New York: Academic Press, Proceedings of the Systematics Association Symposium, Cambridge, 1980.
10. MANCHESTER, S. R., & P. R. CRANE. 1983. Attached leaves, inflorescences, and fruits of *Fagopsis*, an extinct genus of fagaceous affinity from the Oligocene Florissant Flora of Colorado, U.S.A. *American Journal of Botany*, **70**: 1147-1164.
11. STOCKEY, R. A., & P. R. CRANE. 1983. *In situ* *Cercidiphyllum*-like seedlings from the Paleocene of Alberta, Canada. *American Journal of Botany*, **70**: 1564-1568.
12. CRANE, P. R. 1984. Misplaced pessimism and misguided optimism: a reply to Mabberley. *Taxon*, **33**: 79-82.
13. CRANE, P. R. 1984. A re-evaluation of *Cercidiphyllum*-like plant fossils from the British Lower Tertiary. *Botanical Journal of the Linnean Society*, **89**: 199-230.
14. CRANE, P. R., & D. L. DILCHER. 1984. *Lesqueria*: an early angiosperm fruiting axis from the mid-Cretaceous. *Annals of the Missouri Botanical Garden*, **71**: 384-402.
15. DILCHER, D. L., & P. R. CRANE. 1984. *Archaeanthus*: an early angiosperm from the Cenomanian of the western interior of North America. *Annals of the Missouri Botanical Garden*, **71**: 351-383.
16. CRANE, P. R. 1985. Phylogenetic analysis of seed plants and the origin of angiosperms. *Annals of the Missouri Botanical Garden*, **72**: 716-793.
17. CRANE, P. R. 1985. Phylogenetic relationships in seed plants. *Cladistics*, **1**: 329-348.
18. CRANE, P. R., & R. A. STOCKEY. 1985. Growth and reproductive biology of *Joffrea speirsii* gen. et sp. nov., a *Cercidiphyllum*-like plant from the Late Paleocene of Alberta, Canada. *Canadian Journal of Botany*, **63**: 340-364.
19. SOLADOYE, M. O., & P. R. CRANE. 1985. Systematic palynology of *Baphia* (Sophoreae, Papilionoideae) *Grana*, **24**: 145-160.

20. BLACKMORE, S., E. VAN CAMPO, & P. R. CRANE. 1986. Lophate Compositae pollen from the Pliocene and Miocene of the Mediterranean Region. *Pollen et Spores*, **28**: 391-402.
21. CRANE, P. R. 1986. The morphology and relationships of the Bennettiales. In: B. A. Thomas & R. A. Spicer (eds) *Systematic and Taxonomic Approaches in Palaeobotany*, pp. 163-175. Oxford: Clarendon Press.
22. CRANE, P. R. 1986. Form and function in wind dispersed pollen. In: S. Blackmore & I. K. Ferguson (eds) *Pollen and Spores: Form and Function*, pp. 179-202. London: Academic Press.
23. CRANE, P. R., E. M. FRIIS, & K. R. PEDERSEN. 1986. Lower Cretaceous angiosperm flowers: Fossil evidence on early radiation of Dicotyledons. *Science*, **232**: 852-854.
24. CRANE, P. R., & R. A. STOCKKEY. 1986. Morphology and development of pistillate inflorescences in extant and fossil Cercidiphyllaceae. *Annals of the Missouri Botanical Garden*, **73**: 382-393.
25. FRIIS, E. M., P. R. CRANE, & K. R. PEDERSEN. 1986. Floral evidence for Cretaceous chloranthoid angiosperms. *Nature*, **320**: 163-164.
26. CRANE, P. R. 1987. Vegetational consequences of the angiosperm diversification. In: E. M. Friis, W. G. Chaloner & P. R. Crane (eds) *The Origins of Angiosperms and their Biological Consequences*, pp. 107-144. Cambridge: Cambridge University Press.
27. CRANE, P. R., & C. R. HILL. 1987. Cladistic and paleobotanical approaches to plant phylogeny. In: H. Hoenigswald & L. F. Wiener (eds) *Biological Metaphor and Cladistic Classification*, pp 139-154. Philadelphia: University of Pennsylvania Press.
28. CRANE, P. R., & R. A. STOCKKEY. 1987. *Betula* leaves and reproductive structures from the Middle Eocene of British Columbia. *Canadian Journal of Botany*, **65**: 2490-2500.
29. CRANE, P. R., & G. R. UPCHURCH. 1987. *Drewria potomacensis* gen. et sp. nov., an Early Cretaceous member of the Gnetales from the Potomac Group of Virginia. *American Journal of Botany*, **74**: 1722-1736.
30. FRIIS, E. M., W. G. CHALONER, & P. R. CRANE. 1987. Introduction to angiosperms. In: E. M. Friis, W. G. Chaloner & P. R. Crane (eds) *The Origins of Angiosperms and their Biological Consequences*, pp. 1-15. Cambridge: Cambridge University Press.
31. MANCHESTER, S. R., & P. R. CRANE. 1987. A new genus of Betulaceae from the Oligocene of western North America. *Botanical Gazette*, **148**: 263-273.
32. BLACKMORE, S., & P. R. CRANE. 1988. Systematic implications of pollen and spore ontogeny. In: C. J. Humphries (ed.) *Ontogeny and Systematics*, pp. 84-115. New York: Columbia University Press.
33. CRANE, P. R. 1988. *Abelia*-like fruits from the early Palaeocene of north-west Scotland. *Tertiary Research*, **9**: 21-30.
34. CRANE, P. R. 1988. Major clades and relationships in the 'higher' gymnosperms. In: C. B. Beck (ed.) *Origin and Evolution of Gymnosperms*, pp. 218-272. New York: Columbia University Press.
35. CRANE, P. R., S. R. MANCHESTER, & D. L. DILCHER. 1988. Morphology and phylogenetic significance of the angiosperm *Platanites hebridicus* Forbes from the Palaeocene of Scotland. *Palaeontology*, **31**: 503-517.
36. FRIIS, E. M., P. R. CRANE, & K. R. PEDERSEN. 1988. The reproductive structures of Cretaceous Platanaceae. *Biologiske Skrifter*, **31**: 1-55.
37. LIDGARD, S. H., & P. R. CRANE. 1988. Quantitative analyses of the early angiosperm radiation. *Nature*, **331**: 344-346.

38. CRANE, P. R. 1989. Paleobotanical evidence on the early radiation of non-magnoliid dicotyledons. *Plant Systematics and Evolution*, **162**: 165-191.
39. CRANE, P. R. 1989. Patterns of evolution and extinction in vascular plants. In: K. C. Allen & D. E. G. Briggs (eds) *Evolution and the Fossil Record*, pp. 154-187. London: Belhaven Press.
40. CRANE, P. R. 1989. Early fossil history and evolution of the Betulaceae. In: P. R. Crane & S. Blackmore (eds) *Evolution, Systematics and Fossil History of the Hamamelidae*, pp. 87-116. Oxford: Oxford University Press.
41. CRANE, P. R., E. M. FRIIS, & K. R. PEDERSEN. 1989. Reproductive structure and function in Cretaceous Chloranthaceae. *Plant Systematics and Evolution*, **165**: 211-226.
42. CRANE, P. R., & S. H. LIDGARD. 1989. Angiosperm diversification and paleolatitudinal gradients in Cretaceous floristic diversity. *Science*, **246**: 675-678.
43. DRINNAN, A. N., & P. R. CRANE. 1989. Cretaceous paleobotany and its bearing on the biogeography of austral angiosperms. In: T. N. Taylor & E. L. Taylor (eds) *Antarctic Paleobiology and its Role in the Reconstruction of Gondwana*, pp. 192-219. New York: Springer-Verlag.
44. FRIIS, E. M., & CRANE, P. R. 1989. Reproductive structures of Cretaceous Hamamelidae. In: P. R. Crane & S. Blackmore (eds) *Evolution, Systematics and Fossil History of the Hamamelidae*, pp. 155-174. Oxford: Oxford University Press.
45. HUFFORD, L., & P. R. CRANE. 1989. A preliminary phylogenetic analysis of "lower" Hamamelidae. In: P. R. Crane & S. Blackmore (eds) *Evolution, Systematics and Fossil History of the Hamamelidae*, pp. 175-192. Oxford: Oxford University Press.
46. PEDERSEN, K. R., P. R. CRANE, & E. M. FRIIS. 1989. The morphology and phylogenetic significance of *Vardekloeftia* Harris (Bennettitales). *Review of Palaeobotany and Palynology*, **59**: 7-24.
47. PEDERSEN, K. R., P. R. CRANE, & E. M. FRIIS. 1989. Pollen organs and seeds with *in situ* *Eucommiidites* pollen. *Grana*, **28**: 279-294.
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