

Dr. Susanne S. Renner  
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1 Brookings Drive  
Saint Louis, MO 63130  
United States of America

Review Committee for Corresponding Members  
The Botanical Society of America

Re: Nomination of Professor Else Marie Friis as Corresponding Member of the Botanical Society of America

Saint Louis, January 25, 2024

Dear Colleagues,

I would like to nominate Professor Else Marie Friis for election as a Corresponding Member of the Botanical Society of America. I first met Professor Friis in September 1992 at a symposium organized by the Royal Danish Academy of Sciences, at a time when she had already moved to the Department of Palaeobotany of the Swedish Museum of Natural History in Stockholm. We have then met a few more times at meetings, but have never been coauthors. I became familiar with her work on (mostly) Cretaceous fossils representing the Annonaceae, Araceae, Betulaceae, Chloranthaceae, Cunoniaceae, Illiciaceae, Lauraceae, Magnoliaceae, Nymphaeaceae and the gymnosperms Cupressaceae and *Ephedra*. because of molecular-clock studies in which fossils are crucial for calibration, so as to estimate absolute time. I have also often used Professor Friis's 1987 edited volume, with William Chaloner and Peter Crane, on *The origins of angiosperms and their biological consequences* (Cambridge University Press).

Professor Friis is perhaps best known for her use of the sieving method to fossil-rich Cretaceous soils, an approach that led to her discovery of some of the earliest remains of flowers yet known, some of them exquisitely preserved. The structural information that she and her colleagues have obtained from these remains, was something that she not been imagined prior to her work. The fundamental importance of Professor Friis's discoveries recently were explained for the public in Ben Crair's piece about her in the New Yorker (2 January 2023), entitled "*The Fossil Flowers That Rewrote the History of Life -- Some of the world's first flowers burned in wildfires more than a hundred million years ago. Else Marie Friis rediscovered them.*"

Another new technique for which Professor Friis was an early adopter is synchrotron radiation X-ray tomographic microscopy, which she and her colleagues began applying around 2014. Among other insights, this approach led to new insights on the Gnetales and Bennettitales (Friis, E. M., Crane, P.R., Pedersen, K.R., Bengtson, S., Donoghue, P.C.J., Grimm, G.W., and Stampanoni, M. 2007. *Phase-contrast X-ray microtomography links Cretaceous seeds with Gnetales and Bennettitales*. Nature 450.)

Professor Friis's many contributions have led to numerous awards and distinctions, among them her membership in the Royal Danish Academy of Sciences and Letters, the Royal Swedish Academy of Science, the Norwegian Academy of Science and Letters, the Chinese Academy of Sciences (CAS), the American Academy of Arts and Sciences, and the Royal Society of London.

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I want to finish this nomination with a personal anecdote that sheds light on Professor Friis's ethical work ethic. In April 2020, she alerted me to a request for a moratorium on the publication of any fossil specimens purchased from sources in Myanmar after June 2017, when the Myanmar military began its campaign to seize control of the amber mining. She had signed this and was alerting others, such as myself, who indeed had been approached about (beautiful) Lauraceae fossils in Burmese amber. Else Marie's alert in fact caused me to desist from collaborating on the material.

In short, Professor Friis is a distinguished scientist who has made outstanding contributions to the plant sciences. She now lives in Aarhus, Denmark, but also often spends time at the Oak Spring Garden Foundation and in Chicago working with her American paleobotanical colleagues.

Sincerely,

*Susanne Renner*

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Honorary Professor in Biology  
Washington University in Saint Louis

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Review Committee for Corresponding Members,  
Botanical Society of America

January 24<sup>th</sup>, 2024

Dear Colleagues:

Re: Nomination of Professor Else Marie Friis  
as Corresponding Member of the Botanical Society of America

It is a pleasure to write in support of the nomination of Professor Else Marie Friis for election as a Corresponding Member of the Botanical Society of America. Trained in botany and geology at the University of Aarhus, Denmark, Professor Friis' research focuses on her discoveries of well-preserved fossil flowers, fruits, seeds, stamens, and pollen to elucidate the earliest phases of angiosperm (flowering plants) evolutionary history. Her pioneering research on ancient flowers has revealed the paleontological history of flowering plants at a level of detail that was simply unimaginable fifty years ago.

In the early 1970s there was little prospect of ever having a meaningful understanding of the paleontological and phylogenetic history of flowering plants, the most speciose and ecologically important group of terrestrial autotrophs. Phylogenetic methods were in their infancy, and most of what was known about the angiosperm fossil record, especially during the Cretaceous (145-65 million years ago), was based on leaves and pollen. Efforts to collect and study ancient angiosperm flowers focused on flower macrofossils, which were rare, usually poorly preserved, and difficult to interpret.

The key breakthrough, made by Professor Friis in the late 1970s was to discover that numerous small fossil flowers, not visible to collectors in the field, are abundant, can be extracted from Cretaceous sediments using bulk-sieving techniques, and are often preserved in superb detail. Professor Friis primary research contribution has been to pioneer the careful study of these fossils, first with scanning electron microscopy and then with synchrotron X-ray microtomography, and to apply the knowledge gained to developing a more detailed understanding of the early evolutionary history of flowering plants.

Central in all of Professor Friis' research, is her masterful integration of information from living and fossil plants. The discovery of well-preserved ancient flowers enabled point-by-point comparisons with the flowers of living angiosperms, which is crucial to interpreting the phylogenetic relationships of fossil material. Professor Friis' discoveries also made possible inferences on pollination, dispersal, and other aspects of early angiosperm biology. For example, documentation of the size and structure of embryos in the seeds of early angiosperms allowed her to infer ecology and germination behavior, while her recognition of unusual endothelial tissues in the seeds of early angiosperms suggests maternal control over embryo development. Documentation of pollen grains *in situ* within fossil flowers also provides an improved basis for interpreting the record of dispersed fossil pollen.

Professor Friis' discoveries of rich assemblages of fossil flowers from the Early Cretaceous of eastern North America and Portugal have helped catalyse an explosion of high-quality research on the early angiosperm fossil record over the past four decades. Her work has been emulated by many others, leading to the discovery of spectacularly preserved fossil flowers from Lower and Upper Cretaceous strata in Europe, North America, Asia and Antarctica. Professor Friis has also shown that many previously enigmatic non-angiosperm fossils that occur in the same fossil assemblages as early angiosperms were extinct relatives of extant Gnetales, thereby expanding dramatically knowledge of the fossil history of this isolated but important group of living seed plants.

Together with the development of explicit, computer-facilitated, phylogenetic models based on molecular data, which came to the fore during the 1990s, Professor Friis' discoveries have revolutionized our understanding of the history of flowering plants. She has demonstrated remarkable consistency between the unexpected patterns of early flowering plant evolution now inferred from modern phylogenetic studies and the fossil record. Her discoveries are also the primary means by which molecular clock studies of deeper divergences in the history of flowering plants can be calibrated. Without the ground-breaking work of Professor Friis the direct fossil evidence of the structure biology and relationships of the earliest angiosperms would be insignificant compared to what we know today.

Now retired from her position as Professor of Palaeobotany at the Swedish Museum of Natural History Professor Friis sustains the same high quality and productivity of research that has characterized her entire career. Her accomplishments have been recognized by her election to the Royal Danish Academy of Sciences and Letters (1990), the Royal Swedish Academy of Science (1996), Norwegian Academy of Science and Letters (1998), American Academy of Arts and Sciences (2017) and the Royal Society in the United Kingdom (2020). Professor Friis is also a recipient of the Royal Order of the Polar Star, First Class, from the Government of Sweden. Within the last few weeks she has received the Lapworth Medal from the Palaeontological Association in the UK.

Professor Friis is the undisputed international leader in revealing the deep evolutionary of flowering plants (angiosperms) based on fossil flowers, especially from the critical early phases of their initial diversification during the Cretaceous period. Her research is the best of its kind in the world, both in terms of technical ability and sophistication of outlook. I support the nomination of Professor Else Marie Friis for election as a Corresponding member of the Botanical Society of America without reservation and with great enthusiasm. Please text or call me (203-500-6462) if you would like to discuss any aspect of this assessment.

Sincerely



Sir Peter Crane FRS  
President



26 OXFORD STREET  
CAMBRIDGE, MASSACHUSETTS 02138

January 28, 2024

Dear members of the evaluation committee for Corresponding Members of the BSA:

I am pleased to *strongly advocate* for the election of Else Marie Friis to be a Corresponding Member of the Botanical Society of America. By every metric, Else Marie is one of the most important paleobotanists of our generation and she has been recognized for her work by the American Academy of Arts and Sciences (U.S.), the Royal Society (U.K.), and many other eminent scholarly societies around the world.

Else Marie Friis fundamentally changed our understanding of the earliest phases of the evolution of flowering plants and their reproductive structures. For well over a century, Darwin's "abominable mystery" - which spoke to the absence of an angiosperm fossil record prior to the mid-Cretaceous and the seemingly instantaneous appearance of diverse angiosperm lineages in the fossil record in the mid-Cretaceous - confounded plant evolutionary biologists. But, two things were lacking: a correct search image for what the oldest flowers might look like (not large and magnolia-like) and a key insight into the simplest of techniques, finding and putting old mud through a sieve to discover a previously unseen world of small flowers beautifully preserved and looking like they were picked yesterday when seen under the scanning electron microscope. Else Marie figured out that charcoalfied fossils (toasted by wildfire, but not burned) might well survive in the fossil record and be three-dimensionally preserved. And she knew exactly where to look for these Lower Cretaceous fossils. The result, decades later, is an amazing record of some of the earliest angiosperms and a complete rewrite of plant evolutionary history. Simply put, Else Marie Friis is an amazing biologist, with total command of floral morphology and the keen eye and intellectual insights that were needed to solve Darwin's "abominable mystery."

I will not belabor this nomination with anything other than the following: how many paleobotanists end up having their story told in the *New Yorker Magazine*? If you have not read the piece from the January 2, 2023 issue, have a look. It will put a smile on your face!

<https://www.newyorker.com/science/elements/the-fossil-flowers-that-rewrote-the-history-of-life>.

Sincerely,

A handwritten signature in black ink, appearing to read 'William (Ned) Friedman'.

William (Ned) Friedman  
Arnold Professor of Organismic and Evolutionary Biology  
Director of the Arnold Arboretum

## **CV Else Marie Friis**

Professor emerita, Department of Palaeobiology, Swedish Museum of Natural History, Stockholm  
From Dec 2019 also Department of Geoscience, Aarhus University, Aarhus, Denmark

**Female**, Born: 18 June 1947, Holstebro, Denmark

### **Education:**

1975 Master of Science (mag. scient.) in geology (major) and botany (minor), Aarhus University (AU), Denmark

1980 Ph. D. (lic. scient.) in geology (AU) (supervisor B.E. Koch, Århus). Title: Microcarpological studies of Middle Miocene floras of Western Denmark.

### **Employment (including post doc experience 1980-1987):**

1971-75 Teaching Assistant, Departments of Botany and Geology, University of Aarhus (AU)

1975-80 Research Assistant, Research fellow, Teaching Assistant, Depart. Geol., AU

1980-81 Research Fellow (British Council) Botany Department, Bedford College, London

1981-83 Research Fellow (Danish Natural Science Research Council), Depart. Geol., AU

1982 Visiting Research Scholar, Depart. Biol., Univ. Indiana, Bloomington (summer 82)

1983-87 Niels Bohr Fellow (Royal Danish Acad. Sci. and Letters), Depart. Geology, AU.

1987- Professor of Palaeobotany, Swedish Museum of Natural History

1987-2013 Head of Department of Palaeobotany, Swedish Museum of Natural History

1995 Guest-professor, Inst. Syst. Botany, Univ. Zurich, Switzerland (summer term)

2006-2008 Deputy Director of Science, Swedish Museum of Natural History

2008 Acting Director of Science, Swedish Museum of Natural History

2013-April 2015 Head of Department of Palaeobiology, Swedish Museum of Natural History

2015-August-Dec – Visiting Professor, Yale School of Forestry & Environmental Studies

### **Other academic assignments:**

1989-90, 94-2000 Dean of Palaeontology, Swedish Museum of Natural History

1989-90 Board of directors of Swedish Museum of Natural History

1990-96 Danish Natural Science Research Council

1991-96 Nordic Board of Publication (vice-chairman from 1994)

1992-96 Committee for Biodiversity (chairman) (Danish Research Councils)

1994-96 Committee for Polar Research (chairman) (Danish Research Councils)

1994-95 Committee for Scientific Research in Greenland, Denmark

1994-95 Board of Governors, Geological Survey of Denmark

1995-2000 Board of Governors, Geological Survey of Denmark and Greenland

1996 Committee for The Agricultural Landscape (chairman) (Danish Research Councils)

1999-2004 Committee for Scientific Dishonesty (substitute) (Danish Research Agency).

1999-2005 Committee for Fossil Plants, Intern. Ass. Plant Taxonomy.

1999-2005 Board of the Danish National Research Foundation (vice-chairman 2001-2002)

2001-present Academic Committee for Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Nanjing, China

2001 Strategic-expert committee for larger interdisciplinary research programmes (Danish Research Agency)

2002-2004 Board of Museum of Evolution, University of Uppsala

2002-2004 Board of the Swedish Link Programme, Swedish Research Council and SIDA

2004-2007 Scientific Council for Natural and Engineering Sciences, Swedish Research Council

2005-2006 Evaluation panel Geological Survey of Denmark and Greenland (autumn 2005)

2006 Science Audit committee, Kew Gardens, UK

2012-2015 Beam Time Allocation Panel, European Synchrotron Radiation Facility, Grenoble, France

2013-April 2015 Member of board of directors of science, Swedish Museum of Natural History

2014 Committee for international postdocs, Swedish research Council

2019-2020 Panel member for the Evaluation of Charles University, Prague

### **Co-organiser of several international meetings and symposia**

### **Member of editorial boards of journals:**

1997-present Member of Editorial Board, Review of Palaeobotany and Palynology

1999-2009 Associate editor, Plant Systematics and Evolution

2000-2011 Member of the International Advisory Board, Acta Palaeobotanica Polonica

2001-present Editor, from 2003 Chief Editor, Grana

2005 Member of Editorial Board, Palaeoworld

**Invited speaker (including plenary and keynote) at many international meetings**

**Member of several scientific associations**

**Member of boards of scientific associations:**

1972, 82-83 Board (chairman 1982-83), Geological Society of Denmark (Aarhus Group)

1993-95 Board, Geological Society of Sweden

2000-2004 President, International Organisation of Palaeobotany, Chairman of Executive Committee

2002-2006 Vice President, International Paleontological Association, Executive Committee

**Membership of academies:**

1990 Royal Danish Academy of Sciences and Letters

1996 Royal Swedish Academy of Science

1998 The Norwegian Academy of Science and Letters

1998 Royal Physiographic Society, Lund, Sweden

2002 The Chinese Academy of Sciences (CAS)

2017 America Academy of Arts and Sciences

2020 The Royal Society of London

**Other academic distinctions:**

1985 Hans Gram Medal, Royal Danish Academy of Sciences and Letters

1992 Nils Rosén Linné Prize in Botany, Royal Physiographic Society, Sweden

1999 Honorary Vice President for the XVI Intern. Bot. Congr., St. Louis, USA

1999 Honorary doctor (filosofie doktor honoris causa), University of Uppsala, Sweden.

2003 Honorary foreign member of the Linnean Society of London

2003 "Excellent researcher 2003" award from the Swedish Research Council

2005 Rolf Dahlgren Prize in Botany, Royal Physiographic Society, Sweden

2007 "Geologist of the year" appointed by the Swedish Association of Scientists

2009 Corresponding Member, Paläontologische Gesellschaft, Germany

2012 Denmark's Geology Prize 2011 from the Geological Survey of Denmark and Greenland  
(with Kaj Raunsgaard Pedersen)

2014 Stora Linnémedaljen i Guld – Linneus gold medal from the Royal Swedish Academy of Sciences  
(*"för hennes epokgörande forskning rörande blomväxternas uppkomst och tidiga evolution"* – *"for her groundbreaking research on flowering plants origin and early evolution"*)

2023 Honorary Member, Portuguese Paleontological Society

2023 Lapworth Medal, The Palaeontological association

**Other distinctions**

2015 Ledamot av Nordstjärneorden 1. Klass (Knight 1st Class of the Order of the Polar Star)

**Teaching:** General palaeontology, universities of Århus and Stockholm; seed plant phylogeny and angiosperm evolution, universities of Stockholm, Uppsala, and Zurich, Kunming Botanical Institute (one course); Nanjing Institute of Geology and palaeontology (one course)

**Scientific supervisor:** Helena Westin (phd 1992); Jonas Hagström (fil lic 1997); Helena Eklund (phd 1999); Leng Qin (phd 2003); Il-chan Oh (fil lic 2004); Catarina Rydin (phD-2005); Cajsa Anderson (phd 2007); Mario Mendes (Phd 2011).

**Scientific host/supervisor for the following post docs/young researcher:** Paul Kenrick (1992-1993); Patrick S. Herendeen (1990-1991); Jürg Schönenberger (1998-2000); Caroline Strömberg (2004-2006), Maria von Balthazar (2004-2008), Yang Xiaoju (2006-2207); Christian Pott (2008-2010), Guido Grimm (2008, 2009, 2014).**Scientific host/supervisor for numerous short-term visitors at the Swedish Museum of Natural History.**



## Publications

### Popular science and conference proceedings not included

- Friis, E.M., Crane, P.R., Pedersen, K.R. and Marone, F. 2024. Cretaceous chloranthoids: early prominence, extinct diversity and missing links. *Annals of Botany* (in Press February issue; invited review)
- Friis, E.M., Crane, P.R. and Pedersen, K.R. The Cretaceous diversification of angiosperms: Perspectives from mesofossils. Geological Society of London, Special Publication - Cretaceous 200 (revision submitted).
- Shi, G., Friis, E.M., Pedersen, K.R., Fu, Q. and Crane, P.R. A new *Harrisiothecium* pollen organ from the Upper Triassic of South Central China. *Review of Palaeobotany and Palynology* (revision submitted).
- Bomfleur, B., Hedenäs, L., Friis, E.M., Crane, P.R., Pedersen, K.R., Mendes, M.M., and Kvaček, J. 2023. Fossil mosses from the Early Cretaceous Catefica mesofossil flora, Portugal - a window into the Mesozoic history of bryophytes. *Fossil Imprint* 79: 103-125. DOI 10.37520/fi.2023.006
- Bomfleur, B., Hedenäs, L., Friis, E. M., Crane, P. R., Pedersen, K. R., Mendes, M. M., Kvaček, J., Marone, F. 2023. Synchrotron radiation X-ray tomographic microscopy datasets for Early Cretaceous mosses from the Catefica mesofossil flora, Portugal. PSI Public Data Repository, <https://doi.org/10.16907/4d7143fa-21c4-4f3c-8e62-0ffa1720b2ae>
- Friis EM, Crane PR, Pedersen KR. 2023. Multipartite flowers with a distinct floral cup and multiovulate carpels: an Early Cretaceous angiosperm of probable lauralean relationship. *International Journal of Plant Sciences* 184: 87-105. <https://doi.org/10.1086/723682>.
- Friis, E.M., Crane, P.R., Pedersen, K.R., Marone, F. 2023. Synchrotron radiation X-ray tomographic microscopy datasets for Early Cretaceous chloranthoid flowers, fruits and seeds. PSI Public Data Repository <https://doi.org/10.16907/b0e8ef2b-836a-4e29-90bb-38bfebe26685>
- Friis, E.M., Crane, P.R., and Pedersen, K.R. 2022. Extinct seed plant diversity in the Early Cretaceous: An enigmatic new microsporangiate fossil with *Decussosporites* pollen in situ. *Review of Palaeobotany and Palynology* 304: 104716. <https://doi.org/10.1016/j.revpalbo.2022.104716>.
- Friis, E.M., Crane, P.R., and Pedersen, K.R. 2022. Early and mid-Cretaceous aristolochiaceous seeds from Portugal and Eastern North America. *International Journal of Plant Sciences* 183: 587-603. <https://doi.org/10.1086/721259>.
- Friis, E.M., Crane, P.R., Pedersen, K.R., Marone, F., 2022. Synchrotron radiation X-ray tomographic microscopy datasets for microsporangiophors with *Decussosporites* Brenner pollen from the Early Cretaceous (early – mid-Albian) Puddledock mesofossil flora, Virginia, U.S.A. PSI Public Data Repository, <https://doi.org/10.16907/990d0856-a655-4365-9673-7728ee207381>.
- Friis, E.M., Crane, P.R., Pedersen, K.R., Marone, F., 2022. Synchrotron radiation X-ray tomographic microscopy datasets for aristolochiaceous seeds from the Early Cretaceous of Portugal and North America. PSI Public Data Repository, <https://doi.org/10.16907/bacdd377-981b-4934-8938-7eb9d8006224>.
- Friis, E.M., Crane, P.R., Pedersen, K.R., Marone, F., 2022. Synchrotron radiation X-ray tomographic microscopy datasets for multipartite and cupulate flowers from Early

- Cretaceous mesofossil floras of Virginia, USA. PSI Public Data Repository, <https://doi.org/10.16907/721beb60-0db2-4875-93bb-5329d52f68ac>
- Friis, E.M., Crane, P.R., Pedersen, K.R., Mendes, M.M., and Kvaček, J. 2022. The Early Cretaceous mesofossil flora of Catefica, Portugal: angiosperms. *Fossil Imprint* 78 (2): 341–424. DOI 10.37520/fi.2022.016
- Friis EM, Crane PR & Pedersen KR 2021. *Catanthus*, an extinct magnoliid flower from the Early Cretaceous of Portugal. *International Journal of Plant Sciences* 182 (1): 28-45. DOI: <https://doi.org/10.1086/711081>.
- Friis EM, Crane PR & Pedersen KR 2021. Early flowers of primuloid Ericales from the Late Cretaceous of Portugal and their ecological and phytogeographic implications. *Fossil Imprint* 77(2): 214–230, Praha. ISSN 2533-4050 (print), ISSN 2533-4069 (on-line). DOI 10.37520/fi.2021.016.
- Friis EM, Crane PR & Pedersen KR 2021. Microsporangioophores from the Early Cretaceous (Berriasian) of Bornholm, Denmark, with comments on a pre-angiosperm xerophytic flora. *Review of Palaeobotany and Palynology* 293: 104487. <https://doi.org/10.1016/j.revpalbo.2021.104487>.
- Friis EM, Crane PR, Pedersen KR & Marone, F. 2021. Synchrotron radiation X-ray tomographic microscopy datasets for primuloid flowers from the Late Cretaceous of Portugal. – PSI Public Data Repository, operated by Paul Scherrer Institute, Villigen, Switzerland. <https://doi.org/10.16907/b97fe9b1-27f0-44ff-ab63-76c6054fbab9>.
- Friis, EM, Crane, PR, Pedersen, KR, Marone, F 2021. Synchrotron Radiation X-Ray Tomographic Microscopy Datasets for a Putative Cycad from the Earliest Cretaceous (Berriasian) of the Isle of Bornholm, Denmark. PSI Public Data Repository. <https://doi.org/10.16907/5f65290a-f282-486b-b0ea-8c4ab2dbeeff>.
- Heřmanová, Z., Kvaček, J. & Friis, EM 2021. Plant mesofossils from the Late Cretaceous Křiváček Formation, the Czech Republic. *Fossil Imprint* 77(2): 256–270, Praha. ISSN 2533-4050 (print), ISSN 2533-4069 (on-line). DOI 10.37520/fi.2021.018.
- Crane PR & Friis EM 2020. Water lilies, loss of woodiness, and model systems. *Proceedings of the National Academy of Sciences* 117: 9674-9676.
- Friis EM, Crane PR & Pedersen KR 2020. *Melloniflora*, a new extinct multiparted flower from the Early Cretaceous of Virginia. *International Journal of Plant Sciences* 181(9): 887–897. DOI: 10.1086/710490.
- Friis EM, Crane PR & Pedersen KR 2020. Multiparted, apocarpous flowers from the Early Cretaceous of eastern North America and Portugal. *Fossil Imprint* 76 (2): 279–296. DOI 10.37520/fi.2020.023
- Friis EM, Crane PR, Pedersen KR, Marone F 2020. Synchrotron radiation X-ray tomographic microscopy datasets for the Early Cretaceous flower *Catanthus dolichostemon* E.M.Friis, P.R.Crane & K.R.Pedersen from Portugal. PSI Public Data Repository <https://doi.org/10.16907/977bdad7-6b3b-4a85-bf0c-f4cfc30a4aa7>
- Friis EM, Crane PR, Pedersen KR, Marone F 2020. Synchrotron radiation X-ray tomographic microscopy datasets for *Atlantocarpus*, *Lambertiflora* and *Mugideiriflora* from the Early Cretaceous of eastern North America and Portugal. PSI Public Data Repository <https://doi.org/10.16907/c01b594e-e42e-45f9-913e-5001fd283aee>
- Mendes MM, Pedersen KR and Friis, EM 2020. *Battenispermum hirsutum* gen. et sp. nov., a new Early Cretaceous seed from Portugal with chlamydospermous organisation. *Cretaceous Research* 109 <https://doi.org/10.1016/j.cretres.2020.104376>.

- Friis EM, Crane PR & Pedersen KR 2019. *Hedyosmum*-like fossils in the Early Cretaceous diversification of angiosperms. *International Journal of Plant Sciences* 180 (3): 232-239.
- Friis EM, Crane PR & Pedersen KR 2019. Extinct diversity among Early Cretaceous angiosperms: mesofossil evidence of early Magnoliales from Portugal. *International Journal of Plant Sciences* 180 (2): 93-127.
- Friis, EM, Crane, PR & Pedersen, KR 2019. The endothelium in seeds of early angiosperms. *New Phytologist*, 224: 1419-1424.
- Friis, EM., Crane, PR & Pedersen, KR 2019. Chlamydospermous seeds document the diversity and abundance of extinct gnetalean relatives in Early Cretaceous vegetation. *International Journal of Plant Sciences* 180(7): 643-666.
- Friis, EM., Crane, PR & Pedersen, KR 2019. The Early Cretaceous mesofossil flora of Torres Vedras (NE of Forte da Forca), Portugal: a palaeofloristic analysis of an early angiosperm community. *Fossil Imprint* 75(2): 153-257.
- Friis, EM., Crane, PR & Pedersen, KR 2019. *Geminispermum*, an Early Cretaceous (early-middle Albian) cupulate unit from the angiosperm dominated Puddledock flora of eastern North America. *Acta Palaeobotanica* 59(2): 229-239.
- Friis EM, Mendes MM & Pedersen KR 2018. *Paisia*, an Early Cretaceous eudicot angiosperm flower with pantoporate pollen from Portugal. *Grana*, 57 (1-2): 1-15.
- Friis EM, Crane PR & Pedersen, KR 2018. *Tanispermum*, a new genus of distinctive hemi-orthotropous to hemi-anatropous angiosperm seeds from the Early Cretaceous of eastern North America. *American Journal of Botany*, 105: 1369-1388.
- Friis EM Crane PR & Pedersen KR. 2018. Fossil seeds with affinities to Austrobaileales and Nymphaeales from the Early Cretaceous (early-middle Albian) of Virginia and Maryland, U.S.A: new evidence for extensive extinction near the base of the angiosperm tree. In M. Krings et al. (eds), *Transformative Paleobotany: Papers to Commemorate the Life and Legacy of Thomas N. Taylor*. Elsevier, Amsterdam, 417-435.
- Friis EM Crane PR & Pedersen KR 2018. Extinct taxa of exotestal seeds close to Austrobaileales and Nymphaeales from the Early Cretaceous of Portugal. *Fossil Imprint* 74: 135-158.
- Friis EM, Crane PR & Pedersen KR 2018. *Rightcania* and *Kvacekispermum*: Early Cretaceous seeds from eastern North America and Portugal provide further evidence of the early chloranthoid diversification. *Fossil Imprint* 74: 65-76.
- Manchester, SR, Golovneva, LB, Sokoloff DD and Friis EM, 2018. Early eudicot reproductive structure: Fruit and flower morphology of *Ranunculaecarpus* Samyl. from the Early Cretaceous of eastern Siberia. *Acta Palaeobotanica* 58(2): 121-133.
- Mendes MM and Friis, EM 2018. The Nossa Senhora da Luz flora from the Early Cretaceous (early Aptian-late Albian) of Juncal in the western Portuguese Basin. *Acta Palaeobotanica* 58(2): 159-174.
- Friis EM, Iglesias A, Reguero M & Mörs T 2017. *Notonuphar antarctica*, an extinct water lily (Nymphaeales) from the Eocene of Antarctica. *Plant Systematics and Evolution* 303:969–980.
- Friis EM, Crane PR and Pedersen KR 2017. *Saportanthus*, an extinct genus of Laurales from the Early Cretaceous of Portugal. *International Journal of Plant Sciences*, Vol. 178 (8): 650-672.
- Friis EM, Pedersen KR & Crane PR 2017. *Kenilanthus*, a new eudicot flower with tricolpate pollen from the Early Cretaceous (early-middle Albian) of eastern North America. *Grana*, Vol. 56 (3): 161-173.

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## Botanical Society of America Professional Conduct Disclosure Form

Completed by (your name) Susanne S. Renner

In reference to (nominee's name or speaker's name) Else Marie Friis

Your relationship to nominee Admirer from a distance

Circle one **answer** for each statement)

To the best of my knowledge,

1. ~~Yes~~ **No** **Abstain** I attest that the nominee has strong scientific integrity.
2. **Yes** ~~yes~~ **No** **Abstain** I attest that the nominee treats students, mentees, staff, and colleagues with professional behavior, both within and outside the discipline of Botany.
3. **Yes** ~~yes~~ **No** **Abstain** I attest the nominee does not practice nor allow discrimination or harassment in any form, and when they perceive it in the action of others, they take appropriate corrective steps.
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By completing this form, I consent to being contacted for follow up questions.

SIGNATURE Susanne Renner DATE 25 Jan 2024

Preferred contact information (phone or email): srenner@wustl.edu

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I affirm that I have read, understand, and agree to abide by the Botanical Society of America Guidelines for Professional Ethics <https://botany.org/home/governance/guidelines-for-professional-ethics.html>. By signing this document, I certify that, to the best of my knowledge, the above response and all information provided by me related to this Professional Conduct Disclosure Form are truthful, accurate, and complete, and I agree to notify BSA promptly of any material changes required in my responses to the above question. I acknowledge that failure to comply with BSA's policies may result in my ineligibility to receive, or revocation of, any BSA award, honor, other type of BSA recognition, or governance position, and is grounds for potential sanctions against me.

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