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Henry Pearson (1870–1916) was an English botanist specialising in research on the Gnetophyta division of woody plants. In 1903 he was elected to the Henry Bolus Professorship of Botany at the South African College, Cape Town (now known as the University of Cape Town), and he was elected a Fellow of the Royal Society in 1916 shortly before his death. In 1915 Pearson was commissioned to write this volume for the Cambridge Botanical Handbooks series. Published posthumously in 1929, it was the first extensive study on the Gnetales order and the only such study in English published during the twentieth century. In it, Pearson investigates the morphology and reproduction of the three Gnetophyta genera and examines their relation to the angiosperms (flowering plants). His research on Gnetophyta was later used together with genetic studies to provide theories explaining the evolution of seed plants.

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H. H. W. Pearson  
Frontmatter  
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# Gnetales

H.H.W. PEARSON  
EDITED BY A.C. SEWARD



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H. H. W. PEARSON (1870-1916)

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# GNETALES

*By the late*

H. H. W. PEARSON, Sc.D. (Cambridge), F.R.S.

HARRY BOLUS PROFESSOR OF BOTANY AT THE SOUTH AFRICAN  
COLLEGE, CAPE TOWN, 1903-1916

CAMBRIDGE  
AT THE UNIVERSITY PRESS  
1929



## PREFACE BY THE EDITOR

NOT many months after his election to the Harry Bolus Professorship of Botany at the South African College, Cape Town, Prof. Pearson wrote to me in 1904: "I thought of you a good deal in January last when I spent two glorious days in the heart of the Damaraland Desert in the company of the most magnificent array of flowering *Welwitschias* that man ever saw. You must know that when I was first appointed here I had a dream the prospect of which was that *Welwitschia* was delivered into my hands." Two years later he again visited the *Welwitschia* country and in 1916 in the course of an arduous journey he was able "to trace the change in the flora from the Kalahari plateau right into the desert." The work on *Welwitschia* led him to undertake an expedition into Angola in 1908–9 for the purpose of collecting material of *Gnetum*: he wrote in November, 1915: "I have at last settled the question of the resemblance of the endosperm of *Gnetum* to that of *Welwitschia*; it is formed in exactly the same way, which pleases me mightily." It was about this time that Pearson consented to write a general account of the Gnetales as a volume of the Cambridge Botanical Handbooks. In a letter dated 20 April, 1916, he wrote: "A large part of the book on the Gnetales is written, though it will need some revision." This revision was never completed: the author died at Cape Town on November 3rd, 1916.<sup>1</sup>

On receiving the unfinished manuscript I asked Mrs Thoday, who was then living at Cape Town, to revise the text and assist me in its preparation for printing: this difficult work she very willingly undertook. For various reasons the completion of the manuscript was long delayed, and, though this was to a certain extent inevitable, the responsibility is mine. In view of the importance of Prof. Pearson's researches it was decided to publish, with as little alteration as possible, such parts of the manuscript as seemed to be in their final form. Sections interpolated by Mrs Thoday are enclosed in square brackets. The last chapter was unfortunately never completed by the author: its present form is based on odd notes and on two papers by Prof. Pearson, which were published after his death.

Mrs Thoday has increased my debt of gratitude to her by reading the proofs: these have been read also by Prof. W. P. Thompson, of the University of Saskatchewan, whose notes are followed by the initials W.P.T. To Mr T. M. Harris, of Christ's College, I am also indebted for much assistance in the revision of the text. A grant of £100 was made by the Council of the Royal Society towards the cost of publication.

<sup>1</sup> A biography of Prof. Pearson was published in the *Annals of Botany*, Vol. xxxi, 1917; also in the *Annals of the Bolus Herbarium*, Vol. II, Pt. iii, 1917.

Had Prof. Pearson lived to complete the manuscript the volume would have been a memorial worthy of an accomplished botanist and a man who was beloved both by his scientific colleagues and by a wide circle of friends in South Africa and in England; as it is, I can only express the hope that my fellow-botanists will share the view that even at this late date the publication of a contribution to our knowledge of an exceptionally interesting group of plants, by one who was particularly well qualified to speak with authority, is amply justified. It was the cooperation of Mrs Thoday which enabled me to add this volume to the Cambridge Series.

For permission to reproduce figures published in various Journals a grateful acknowledgment is made to the following: The Council of the Royal Society (Figs. 30, 31, 37, 38, 44, 45, 46, 47, 48, 66, 67, 68, 74, 75, 76, 77, 78, 79, 80, 81, 82); the Council of the Linnean Society (Figs. 16, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 86*A*, 87, 88); the Council of the Royal Society of South Africa (Figs. 60, 85, 86*B*, 90); the Council of the Royal Horticultural Society (Fig. 3); the Delegates of the Clarendon Press, Oxford (Figs. 1, 2, 5, 7, 9, 10, 11, 13, 14, 15, 33, 35, 39, 40, 41, 42, 50, 51, 53, 54, 55, 58, 59, 62, 63, 65, 83, 84, from *Annals of Botany*; Figs. 4, 6, 8, 23, from *The Quarterly Journal of Microscopical Science*); the Curator of the Bolus Herbarium (Figs. 56, 57); the Editor of *The New Phytologist* (Fig. 64); the University of Chicago Press (Figs. 69, 70, 71, 72, 73); the late E. J. Brill, Ltd., Leyden (Fig. 34); the Editor of *The Gardeners' Chronicle* (Fig. 17).

I am indebted to the Director of the Botanic Gardens of Buitenzorg for the photographs of *Gnetum* (Plate II) and for Fig. 61, and to Prof. Thompson for the two photomicrographs reproduced in Figs. 10 and 11; also to Mr Edwards, of the Geological Department of the British Museum, for supplying the photographs reproduced in Fig. 32. It is a pleasure to record my thanks to the Staff of the University Press for much valuable help, particularly with the illustrations.

A. C. SEWARD

BOTANY SCHOOL, CAMBRIDGE  
 16 May, 1929

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PLATE I



FRUITING BRANCH



EPHEDRA NEBRODENSIS : Botanic Garden, Cambridge