

MICHAEL CHARLES FARADAY PROCTOR (1929–2017)

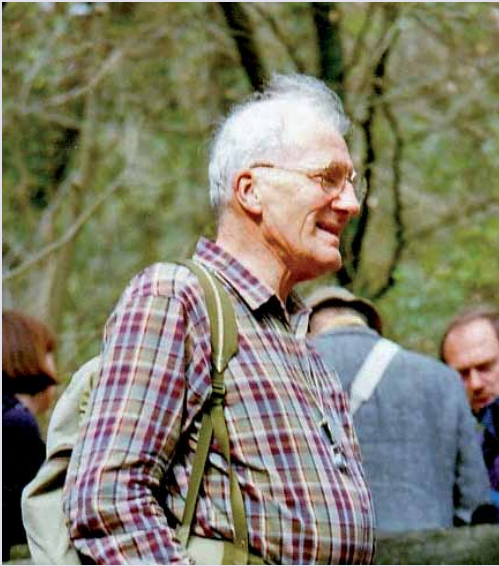


Figure 1. Michael Proctor at the BBS meeting in Torquay in April 1997. Ken Adams (BBS)

Michael Proctor (Fig. 1) was an outstanding botanical polymath with a huge range of interests, taxonomic skills and research expertise. He was a long-standing member of the BSBI, having joined in 1950. He edited *Watsonia* from 1959 to 1971, co-authored the BSBI Handbook *Whitebeams, Rowans and Service Trees of Britain and Ireland* (2010), and was elected an Honorary Member in 1971. He died on 24th October 2017.

Michael was born in Harrow on 21st January 1929, the son of Edith and Roland Faraday Proctor, a descendant of Michael Faraday. With his younger brother Robin, he was educated locally. Michael was always interested in nature and at an early age he avidly read his mother's copy of Bevis and Jeffery's wonderful book *British Plants: Their Biology and Ecology* (1911), one of the first books about plant ecology in Britain. Inspired by this, he explored the nearby 'commons' in Harrow and the Chiltern Hills and, from his aunt's house in Woking, the then more extensive Surrey Heaths. In 1946 the Proctor family moved to Hampshire and Michael was soon exploring by bicycle

the flora and fauna of the New Forest and the Isle of Purbeck. He won a Natural Sciences scholarship in 1948 to Queens' College, Cambridge, where he read Botany, Zoology, Organic Chemistry and Biochemistry in Part I of the Natural Science Tripos (1948–1950) and Botany in Part II (1950–1951), gaining a First. His direct contemporaries at Queens' included talented botanists Peter Yeo (also an entomologist) and Franklyn Perring. For his Ph.D. Michael studied the ecology, taxonomy, biogeography, cytology, pollination, history and variation of the three species of *Helianthemum* (rock-roses) in Britain and Ireland, under the supervision of Sir Harry Godwin. Michael was part of the outstanding group of ecologists and taxonomists in Cambridge in the early 1950s including Max Walters, Peter Sell, David Coombe, Donald Pigott, Franklyn Perring and Peter Yeo, and visitors such as the Norwegian ecologist Eilif Dahl. Michael discovered that the form of Hoary Rockrose growing on Cronkley Fell in Upper Teesdale was a unique endemic taxon, *H. canum* (now *H. oelandicum*) ssp. *levigatum* M. Proctor. (Hoary Rock-rose). He published thorough Biological Floras of *Helianthemum* (three species) and *Tuberaria guttata* (Spotted Rock-rose), wrote the *Flora Europaea* accounts of *Halimium*, *Tuberaria* and *Helianthemum* with Vernon Heywood, and compared the water-relations and shade tolerance of the rare *Helianthemum apenninum* (White Rock-rose) and *Koeleria vallesiana* (Somerset Hair-grass) with the common *H. nummularium* (Common Rock-rose) and *K. macrantha* (Crested Hair-grass). He maintained a strong interest in angiosperm taxonomy, for example of *Ulex*, *Sorbus* and *Carex*. As a student in 1950 he ventured to Abisko in Swedish Lapland with Keith Goodway and found and identified 96 species of *Carex* out of the 104 species known there. When he returned to Abisko with us in 1988, he remembered all 96 species and showed us several species that were new to us. His later publications included a series of five papers on scanning electron microscopy of leaves of British *Carex* species (2013–2015). One of his many contributions to *Sorbus* taxonomy and ecology is honoured in the name of a hybrid tree, Proctor's Rowan (*S. × proctoriana*), of which only one tree is known (in the Avon Gorge). He also described the

Footnote: A much abridged version of this obituary was published in the *Bulletin of the British Ecological Society* 49: 58–59 (2018).

North Devon and Somerset *Sorbus margaretae*, named after his second wife, Margaret Bradshaw.

In 1954 Michael was appointed Scientific Officer in the newly formed Nature Conservancy (NC) and was based in Bangor. He enjoyed exploring Snowdonia and met his future wife Jean Nobbs, daughter of the Professor of Forestry in Bangor. Sadly, Jean died in 1983. Michael found NC work too bureaucratic and in 1956 he moved to be a Lecturer in Botany at the then University College of the South-West, later the University of Exeter. He remained in Exeter until he retired as a Reader in 1994. He continued as an Honorary Research Fellow there until his death. He was a very stimulating teacher, especially in the field, and taught a wide range of botanical topics, including plant ecology, anatomy and systematics. Peter Marren, in his book *The New Naturalists* (1995), accurately summarises Michael's undergraduate lecturing when he commented that he 'took an over-optimistic view of the intelligence of his students'.

Michael maintained a very wide and active range of research interests at Exeter. These included descriptive vegetation ecology of the Burren, Alderney and the Malham area ('plant sociology'), plant geography, the vegetation and water chemistry of bogs and fens, the ecology and distribution of bryophytes, and epiphytic bryophytes and lichens. He made in-depth studies of the ecology, history and dynamics of several Devon habitats such as the Exe Estuary, Otter Estuary, heathlands and hedges at Chudleigh, Dartmoor mires and Wistman's Wood. He retained his amazing taxonomic breadth and memory for plants and animals, especially insects, throughout his life.

In 1956 Michael published the first detailed bryophyte flora of Cambridgeshire, which laid the basis for careful and systematic bryophyte recording, as well as a more recent flora by Harold Whitehouse (1964) and a forthcoming flora by Mark Hill and Chris Preston. The latter will document recent changes in the flora. He prepared the first modern key to British *Sphagnum* species and was interested in all aspects of bryophytes, especially their growth, ecology and physiology. He pioneered several aspects of bryophyte, fern and lichen eco-physiology and made many notable contributions to our understanding of their desiccation tolerances, climatic responses, and photosynthesis.

In the summers of 1958 and 1959 Michael and his

Exeter colleague Brian Ivimey-Cook, with support from the Burren Survey Committee of the British Ecological Society (BES) and the University of Exeter, conducted a thorough plant-sociological survey of the Burren in County Clare. Despite its famous floristic interest, Burren vegetation had largely been ignored, especially after the fathers of continental phytosociology Josias Braun-Blanquet and Reinhold Tüxen visited the Burren on the Ninth International Phytogeographical Excursion to Ireland in 1949 and declared to David Webb, after a few hours of recording relevés, that 'there is something wrong here, we must go somewhere else'. Their continental system did not allow for calcifuge plants such as *Antennaria dioica*, *Hypericum pulchrum* and *Calluna vulgaris* growing together with the calcicole *Dryas octopetala*! After his work on the Burren, Michael's interest in vegetation extended to preparing a major revision (1968) of Sir Arthur Tansley's classic *Britain's Green Mantle*, illustrated by many of his own outstanding photographs. Michael naturally became a key member of the National Vegetation Classification (NVC) project, financially supported by the Nature Conservancy Council (1974–1981), along with Donald Pigott, Derek Ratcliffe, David Shimwell, Andrew Malloch, John Rodwell and others, including ourselves. The end result was the five-volume *magnum opus* on *British Plant Communities* (1991–2000). Michael played a major role in the NVC and took charge of synthesising all the NVC data from mires, as well as sharing his vast knowledge of British flora and vegetation. NVC meetings were to us, as young researchers at the time, a great learning experience as we heard Donald, Derek and Michael discuss in detail critical aspects of British vegetation, based on their vast field knowledge and observations.

In 2013, at the age of 84, Michael published his masterly 516-page book on the *Vegetation of Britain and Ireland* in the New Naturalist series. It distils his life's observations and studies and contains nearly 400 excellent colour photographs taken by him. After the book was finished, he returned to scanning electron microscopy of *Carex* leaves (2013–2015) and was working on a bryophyte manuscript when he died.

Michael was a most talented photographer, not only of plants and their habitats but also of vegetation, landscapes and insects (Fig. 3). He had the gift of being able to recognise what he described as an 'acceptable' or 'pleasing' photograph. As a student he acquired



Figure 2. Six of the seven books that Michael Proctor authored or co-authored, along with their publication dates. The seventh book (not shown) is BSBI Handbook 14 on *Whitebeams* by Tim Rich et al., published in 2010.

an old German plate camera, held together by tape and wire, and used ex-RAF film to produce prints of superb quality, some of which were reproduced in the New Naturalist volumes *Wild Flowers* (1954) and *Mountain Flowers* (1956). He quickly progressed to a single-lens reflex Praktica camera and colour film as they became available and then later migrated to Pentax and Olympus equipment. He rapidly embraced digital photography as it developed in the early 1990s. He published many outstanding pictures (e.g. *Quarterly Bulletin of the Alpine Garden Society* 59: 60–72, 1991) and wrote an invaluable chapter about plant photography in Turner Ettlenger’s important book on *Natural History Photography* (1974). Michael became a Fellow of the Royal Photographic Society in 1973. Peter Marren notes, in his autobiography *Where the Wild Thyme Blew* (2016), that Exeter ‘students will remember his illustrated lectures, full of slides of the most dazzling quality’.

Besides being an outstanding botanist and plant photographer, Michael was a very keen and knowledgeable entomologist, and was fascinated by pollination biology, interests he shared with his Queens’ contemporary Peter Yeo. As students, they frequently went plant-hunting and collecting Hymenoptera. About 1960, Peter and Michael were asked by John

Gilmour, an editor of the New Naturalist book series, if they would write about pollination. They agreed and Michael took on the task of photographing pollinating insects. Michael initially used a home-made flash bracket to support his flash-gun and subsequently a ring-flash to produce shadow-free images of insects collecting pollen. Michael reckoned that about one image in 20 was ‘acceptable’, and about one image in 40 was ‘pleasing’. In the days of colour film, photographing pollinating insects required immense patience and skill and was an expensive business. The resulting book *The Pollination of Flowers* (1973) quickly became a classic, and Michael, Peter and Andrew Lack (a former Ph.D. student of Peter’s) combined forces to produce a new and much revised version, *The Natural History of Pollination* (1996).

Michael published over 160 scientific papers and chapters and seven books (Fig. 2). He was a very modest, self-effacing person who never sought the limelight. He joined the BSBI and the British Bryological Society (BBS) in 1950, the BES in 1951 and the British Lichen Society in 1958. He co-edited the BES’s Biological Flora of the British Isles for over 20 years and helped edit the *Journal of Bryology* from 1980 to 1982. He was elected an Honorary Member of both the BSBI and BBS, a rare distinction. He was the President of the BBS 1984–85. He was a trustee of Paignton Zoo (1969–81; 1991–96) which specialised in the conservation of rare species, and was a founder of the Devon Wildlife Trust. He was elected a Foreign Member of the Norwegian Academy of Science and Letters in 1997 and an Honorary Member of the Hungarian Society for Plant Physiology in 2000. He was well travelled, especially in Scandinavia, eastern Europe and the Alps. He suggested key areas in the Alps for us to explore on our first botanical trip there in 1969.

Michael had a dry, rather academic sense of humour in the style of the Cambridge Botany School *Tea Phytologist*. He loved making puns, and possessed a genuinely inquisitive mind, interested in almost everything – plants, animals, fossils, geology, landscapes, history, folk-traditions, languages, aeroplanes, vintage cars, locomotives, steam engines and music, especially choral music. He had a prodigious memory and could cite long passages from A.A. Milne, Hilaire Belloc, Gilbert and Sullivan, Flanders and Swann, and even



Figure 3. One of Michael Proctor's favourite photographic challenges, a Bluebell wood in full flower in south-west England, here at Pen Hill, Somerset, on 12th May 1977. *Michael Proctor*

Virgil! Being in the field with Michael was always a great learning experience, as he was knowledgeable about almost every organism, from seaweeds and flies to birds and trees. He generously shared this vast knowledge with anyone that was interested. For example, while we were students we joined his Field Studies Council course on mosses and liverworts at Malham Tarn Field Centre in 1963 and 1965. This stimulated our life-long interest in bryophytes and also

started our extensive photographic activities. Thank you, Michael! He was devoted to his family of two sons and a daughter (sadly deceased), his grand-children and his partner Janet Betts.

Michael Proctor was a truly great botanist, bryologist, plant ecologist, eco-physiologist, photographer, teacher, mentor and friend. He will be missed by many.

H. John B. Birks and Hilary H. Birks