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# T.M. Harris Medal 1998

## Introduction by Professor A.K. Sinha

Dr David J. Batten was born on 26.4.1943 at Watford (London), England. He attained secondary education in London and after two years of schooling in Canada joined Queen's University (Kingston, Ontario) for graduation, first with a B.A. in liberal arts in 1964 and then with an Honours B.Sc. in Geology in 1965, with Biology as a subsidiary subject. This was followed by a year at University College, London where, among other things, he was introduced to palynology and palaeobotany by Professor Bill Chaloner. He graduated with M.Sc. from there in 1966 and was awarded a Ph.D. in Geology/Palynology by Cambridge University in 1969 under the guidance of Dr Norman Hughes.

Dr Batten spent further two years in Cambridge on a post-doctoral fellowship before working for Robertson Research International in North Wales as a palynologist/stratigrapher. Then he moved to similar position in British Petroleum in 1973 first in London, then in Aberdeen. He was appointed to the staff of the Geology Department of Aberdeen University in 1976 thus beginning his teaching career and here he remained for 15 years. During this period he was promoted to Senior Lecturer and then Reader. Subsequent move to the University of Wales, Aberystwyth in 1990, awarded a Personal Chair (Professorship) in 1992. He has supervised 23 M.Sc. and 14 Ph.D. students during his academic career. Here he is also the Director of the Palynological Research Centre at the University of Wales.

His research interests have been directed at all aspects of the morphology and occurrence of organic matter in sediments, regardless of age, but especially at Mesozoic palynology, palaeobotany and palaeoenvironments. Currently he is working on possible and probable early angiosperm 'mesofossils'. Dr Batten's publications are concerned with a variety of topics and organic walled fossils including small spores and pollen grains, megaspores, seeds, plant macrofossils, dinoflagellate cysts and non-marine algal palynomorphs. He has special interest in the stratigraphy and palaeontology of the Cretaceous Period and has been Editor of the International Journal *Cretaceous Research* for just over 10 years and is also on the Editorial Board of the Review of Palaeobotany and Palynology. He has been the Councillor and then the Vice- President of the International Federation of Palynological Societies. He was also the chairman of the Palynology Group, British Micropalaeontological Society.

Dr Batten's contribution on Palynofacies in palaeoenvironmental interpretation and petroleum potential published in *Palynology : principles and applications* (editors- Jan Jansonius & D.C. McGregor), American Association of Stratigraphic Palynologist Foundation, Vol. 3, pages 1011-1084 in the year 1996 has been adjudged to be the best for the award of Professor T.M. Harris Medal for the year 1998.

## Response by Professor D.J. Batten

**Professor Sinha, Ladies and Gentlemen**

I am honoured to receive the Professor T.M. Harris Medal 1998, and most grateful to the Expert Committee for having selected me for the award. I am sorry that I am unable to attend the Founder's Day Function, but look forward to coming to the BSIP at a later date.

I have visited the Institute once before, on the occasion of the very successful and enjoyable Fourth International Palynological Conference at the end of 1976/beginning of 1977. Among the many people, I met for the first time in Lucknow was Mrs Savitri Sahni, though to her I was probably just a face in the crowd. Both this conference, and the field trip led by G. 'Thani' Thanikaimoni to southern India in which I participated afterwards, are among the highlights of my career in palynology and palaeobotany. This began in 1965 when I started working for an M.Sc. in micropalaeontology at University College, London. I subsequently spent three years in Cambridge as a Ph.D. student, followed by two more there as a post-doctoral fellow before joining Robertson Research in North Wales and then British Petroleum in London and Aberdeen, Scotland. I returned to academia in 1976 when I was appointed to a lecturership in Geology at Aberdeen University. I transferred to the University of Wales, Aberystwyth in 1990.

I have been keen on plants ever since I was old enough to dig, with a small hand-fork, a patch of ground the size of a postage stamp outside my parents' ground-floor flat in south

London. This was a couple of years before Professor Birbal Sahni's untimely death. As a teenager I used to get cross with my mother if she 'interfered' with my work in the rather bigger garden we had at that time, especially because she liked to prune things and I preferred a more natural look. Not being a keen gardener my father was happy to leave me to it! Together with an enthusiasm for the countryside outside London, which I would often explore on my bicycle, and the opportunity I had to visit some of the wilder parts of North America in my late teens, the seeds of a life-long interest in vegetation, and the soils, sediments and rocks beneath it, were sown.

I began my university studies at Queen's University in Ontario, Canada, intending to study biology, with emphasis on botany and ecology, but was sufficiently inspired by the first year course I took in geology that I decided to concentrate on it, relegating biology to a subsidiary subject. It was quite by chance that I returned to London to pursue the M.Sc. course in micropalaeontology I have mentioned. I knew very little about microfossils and absolutely nothing about those derived from plants, but it was during this important period of study that I found I could get back to my roots, so to speak, and think about vegetation and habitats again, albeit mainly in a geological context. Three things in particular that year inspired me to continue in palynology : (1) Dr, now Professor, Bill Chaloner's enthusiasm for the subject, and his encouragement; (2) the fact that the 'mystery sample' I had to process and write up proved to contain some very pretty Early Cretaceous spores and pollen grains; and (3) the possibility of using sedimentological and palaeontological data as a basis for imagining dim and distant but exciting ancient worlds. I especially liked to think about dinosaurs and early mammals roaming amongst exotic subtropical vegetation in southeast England where there are now farms, towns and the sprawl of London.

The desire to interpret sedimentary successions from a palaeoenvironmental viewpoint led me to collect several hundred samples from the Lower Cretaceous, Wealden, succession of southern England for my Ph.D. project, and to examine not only the spores and pollen grains I recovered but also all the other organic bits and pieces that made up my assemblages. During the 1960s most palynologists, including my supervisor Dr Norman Hughes, considered that the main purpose of studying pre-Quaternary palynomorphs was to provide a basis for dating and correlating rocks. With few exceptions, published palaeoenvironmental interpretations based on palynological data were broad generalisations that relied largely on relative abundances of only major groups of spores and pollen grains, and on the presence or absence of marine dinoflagellate cysts and/or acritarchs. Less well-characterised organic matter, such as cuticles, wood fragments and amorphous detritus, was regarded as a nuisance to be removed, if possible, from preparations by oxidation or other means.

The fact that from the start I tried to take into account the entire palynological content of rock samples in my studies has paid dividends in the long run. It proved to be particularly useful when British Petroleum began to develop organic geochemical studies in connection with its oil exploration programmes during the 1970s. At that time, the geochemists involved were keen to know whether their conclusions regarding maturation and source potential for hydrocarbons could be correlated reliably with data on the colour and physical characteristics of palynological matter recovered from the same samples.

In recent years, many biostratigraphic jobs in the major oil companies have been lost, and at times the future of palaeopalynology as a discipline has looked a little bleak. Fortunately it has survived because palynostratigraphy not only continues to have a role to play in the exploration for hydrocarbons but also, when combined with intelligent use of palynofacies data, can be of considerable value in sequence stratigraphic analyses, interpretations of sedimentary environments of reservoir successions, and other geological studies. The key to survival has been the willingness of the majority of palynologists to collaborate with specialists in other disciplines. This applies also to those involved in the many multidisciplinary investigations of Quaternary environmental changes that are currently being undertaken.

Although my palynological work was somewhat removed from the palaeobotanical endeavours of Professor Harris, our paths crossed during the early 1970s when I had the good fortune to benefit from his wisdom in my attempts at drawing palaeoenvironmental conclusions from my Ph.D. and postdoctoral studies on the Wealden flora. He was critical but also encouraging, and I learned a lot from our correspondence of several years and from my one visit to his home where I was made very welcome. I especially appreciated the fact that, whereas some of my palynologist acquaintances were rather dismissive of palynofacies studies, he could see that they had considerable potential. It is, therefore, a particular pleasure for me not only to be awarded a medal by the Birbal Sahni Institute of Palaeobotany but also that it is named after someone I knew and whose work I have admired and often cited. I thank you again.

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