

Obituary

Edred John Henry Corner (1906–1996): a pioneer in tropical mycology

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In September 1996, with the death of Edred John Henry Corner, the mycological world lost not only a great mycologist but an original thinker whose interests covered a wide spectrum of disciplines. Indeed, a vacuum was not only left in mycology but in tropical botany as a whole.

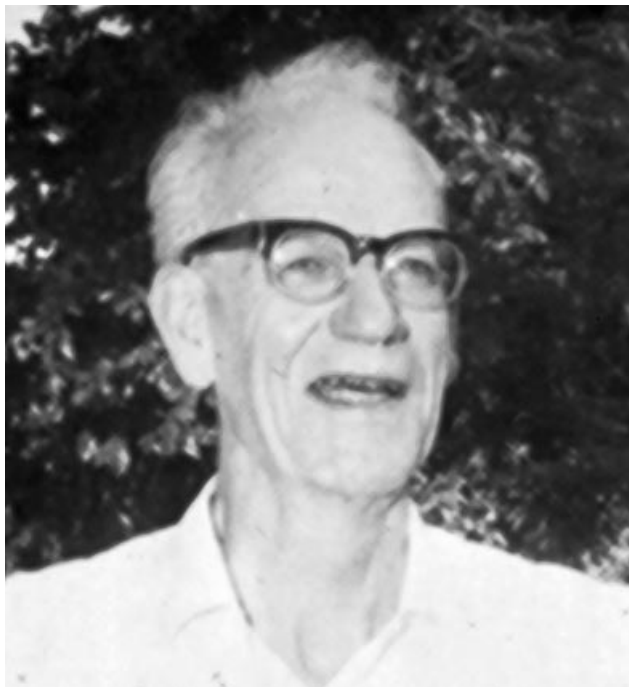
John Corner went to school at Rugby where he developed interests in both sport and natural history, especially the study

of beetles and fungi. Although an outstanding rugby union football player, as a student he opted to take up a career in science at Sidney Sussex College, University of Cambridge, spending his weekends collecting both macro- and microfungi. Corner's mycological talents caught the eye of F. T. Brooks, and it was because of him that the history of tropical mycology was to change through Corner. The result was nearly 70 years of often very thought-provoking publications in both mycology (e.g. on *Trogia*, Corner 1991a) and vascular plants (e.g. the Durian theory, Corner 1949), authoritative and user-friendly texts (e.g. *The Wayside Trees of Malaysia*, Corner 1940; *The Life of Plants*, Corner 1964¹; *The Natural History of Palms*, Corner 1966b), and monographs (e.g. on *Ficus*, Corner 1965).

Corner was appointed Assistant Director of what is now the Singapore Botanic Garden in 1929, with the additional brief of studying the diversity of fungi in what was then the Malayan Straits Settlements. But his first scientific papers had already appeared, on aspects of microfungi, something not always well-known although this theme continued in the first paper he published in Malaysia.

A survey of some of his own thoughts was presented in his Benefactors' lecture to the British Mycological Society in Liverpool in 1992 on the occasion of the Society's symposium on tropical mycology (Corner 1993).

His interest was first drawn to the evolution of ascomata and the marginal growth and structure of apothecia in various members of the *Ascobolaceae*, *Humariaceae*, and *Pezizaceae* (Corner 1929a, b, 1930a, b, c). He even postulated a relationship between the *Erysiphaceae* and bryophilous apotheciate fungi, an hypothesis now beginning to be supported by molecular data (Gargas & Taylor 1995). Corner then



John Corner

Fig. 1. Edred John Henry Corner (1906–96). Photograph: R. Watling 8 March 1982.

¹ This was a remarkable book that came out while I was a new undergraduate at the University of Leicester and fired my enthusiasm not only for botany in general but the importance of functionality, development and evolution in understanding our extant biota. – Executive Editor.

moved² his attention to the nectriaceous fungi and a fungus growing on liverworts (Corner 1929c, 1935). Indeed, he was probably one of the first to demonstrate unequivocally the intimate relationships between fungi and bryophytes – something since expanded beyond our wildest dreams by recent workers who estimate there are as many as 2 K such relationships (Döbbeler 1993). These critically prepared and carefully illustrated papers were the start of a long and distinguished career in using the written word to demonstrate the importance of mycology (and also of plant systematics).

Corner remained in Singapore for 16 years, and was interned during the Japanese occupation. Even under extremely arduous conditions he continued to maintain his research interests. During this period he published on some of the more important Malaysian wood-rotting polypores (Corner 1931, 1932a), recognizing the importance of *Phellinus noxius* as a root-rot of *Acacia mangium* (Corner 1932b). He was also starting to formulate ideas on polypore structure with the description of what is now referred to as mono-, di-, or trimitic construction (Corner 1932a). Later he elegantly summarized and refined this research (Corner 1953a), and then went on to expand the idea to include the sarcomitic structures in agarics – first introduced in his work on cantharelloid fungi (Corner 1966a). The nature of the hyphal system has become standard in the description of agaricoid and polyporoid fungi and is recognized as something which not only assists our understanding of phylogeny but also is an aid in routine identification.

Corner's legacy to mycology centres on morphology and systematics, with nearly all his mycological publications apart from the earliest dealing with macromycetes. In particular, he contributed monographic treatments on tropical tricholomataceous agarics (Corner 1994a, 1996), and also boletoid (e.g. Corner 1972a), cantharelloid (Corner 1966a, 1969), clavarioid (Corner 1950, 1952a, b, 1953b), thelephoroid (Corner 1968), and polyporoid fungi. Corner's monographs have been milestones not only for tropical workers to which they were directed, but also temperate mycologists. They also proved to form a framework for the huge mycobiota of south-east Asia. In addition, he published with Bas on *Amanita* (Corner & Bas 1962), Cash on discomycetes (Corner & Cash 1958), Thind and his students and Heinemann on *Clavariaceae* (Corner, Thind & Anand 1956, Corner & Dev 1957, Corner, Thind & Dev 1958, Corner & Heinemann 1967), Hawker on hypogeous fungi (Corner & Hawker 1953), and myself on *Boletus* (Watling 1993a). His extensive material has also been used as the basis of monographs of stipitate stereoid fungi (Reid 1965), stipitate hydroid fungi (Maas Geesteranus 1971), *Entoloma* (Horak 1980), *Agaricus* and *Micropsalliota* (Heinemann 1980), and *Bolbitiaceae* (Watling 1993b).

With respect to the polypores, of most importance was the series *Ad Polyporaceas* spanning the years 1983–91 in which he described 288 new species, nearly as many new varieties, and

several new genera (Corner 1983, 1984a, b, 1987, 1989a, b, 1991b). The seven parts of the series cover: (1) *Ganodermataceae*, some members of which are important pathogens of palms; (2) *Polyporus* and its immediate neighbours; (3) the *Piptoporis-Merulius* consortium and *Bondarzewia* with amyloid and ornamented basidiospores recalling those of the *Russulaceae*; (4) and (5) address an array of genera, 16 and 21 respectively, of often unrelated elements with similarities in hyphal structure; and (6) and (7) *Trametes*, circumscribed by Corner as embracing many smaller genera generally considered independent by others, and also the hymenochaetoid polypores.

The importance of the biology of a fungus was always at the forefront of Corner's ideas emphasizing that the end-product we collect does not necessarily indicate the true relationships unless developmental and anatomical considerations are also taken into account. His conviction that development was an important criterion was revisited in his later years when he described the ontogeny of *Amanita* species based on line-drawings made in Malaysia (Corner 1992a, 1994b). His personal papers include scores of such line drawings and commentaries.

The colossal analytical skills of John Corner were first demonstrated in his work on the clavarioid fungi (Corner 1950) to which he added a supplement 20 years later (Corner 1970a). His ideas climaxed in these publications on clavarioid fungi where he drew parallels with algal branching patterns as demonstrated in the teachings of his other professorial mentor, A. H. Church. He defined a modern framework for the genera of clavarioid fungi showing that many species traditionally placed in *Clavaria* were quite unrelated. It was logical for Corner to follow these studies with a sister analysis of the cantharelloid fungi and their allies as he and others had speculated that some of these two groups of fungi were related, for instance *Gomphus* and *Ramaria* which both have brown and ornamented basidiospores. The monograph of *Thelephora* (Corner 1968) was also a logical step from club- to fan-shaped basidome configurations, and further from smooth hyaline spores and generally hyaline hyphae to those with ornamented and often angular brown spores and brown hyphae. Again, modern mycologists go even further and bring together clavarioid, hydroid, poroid, and resupinate basidiomes with such darkened structures into a single family – something not foreseen even 50 years ago.

The boletes are a rather distinctive, well-defined group of fleshy fungi lending itself to monographic treatments. When Corner started work on these fungi, he retained a very wide concept of *Boletus*. In this group, unlike many of those he tackled, he had an earlier publication to build on (Patouillard & Baker 1918), although he still had to add many new taxa (Corner 1972a). With a small supplement (Corner 1974) and an article on paxilloid and merulioid relatives (Corner 1970b, 1971), he described 123 new lamellate and non-lamellate boletes; many of these species are now known to occur throughout south-east Asia.

Corner's study of the role of the basidium as a charged ampoule (Corner 1948, 1972b, 1991c) and on basidiospore ontogeny and variation (Corner 1947) is considered the most significant contribution made in this area of mycology. Several

² This should not be misconstrued as implying Corner lost his interest in discomycetes. He corresponded with me on various taxa he had an interest in after publication of *The British Ascomycota: an annotated checklist* (P. F. Cannon, D. L. Hawksworth & M. A. Sherwood-Pike, 1985, CAB International, Farnham Royal). – Executive Editor.

pages of his bolete monograph (Corner 1972a) are devoted to spore development, and this was expanded by studies he had made earlier during the Japanese occupation of Singapore. Even in his last writings on tricholomataceous fungi, Corner always placed great emphasis on the shape of the basidium as it occurs within the hymenium.

Corner (1966a, 1991a) also redefined the long-forgotten genus *Trogia*, introducing the sarcomitic terminology and drawing together lamellate and non-lamellate umbrella-shaped basidiomes under this single generic name – an issue still hotly debated today.

Most people who attain the age of 75 years slow down or indulge in activities more usually associated with retirement. Not so Corner, who published over 2200 pages in mycology alone after his 75th birthday. These focussed on polypores and allied agarics such as *Panus* and *Pleurotus*, based principally on collections and notes he made during his period in Singapore and later in Brazil. In his 80th year he brought together his thoughts on tricholomataceous agarics in Malasia in two complementary volumes (Corner 1994a, 1996). Alas he was not to see the distribution of the last which appeared a few weeks after his death; that covered marasmioid fungi, illustrated as we have come to expect by colour and line drawings, and also his own photographs.

Prior to his death, Corner bequeathed to the Royal Botanic Garden Edinburgh (E) his fungal collections, annotated books, manuscripts, and illustrations – including scores of paintings some of which have only recently come to light amongst folders of field notes. All but the collections of fungi are now housed in a special section of the new herbarium/library extension and can be consulted at any time. In contrast, the dried material and specimens preserved in liquid are in desperate need of organization and cataloguing. However, it must be emphasized that some of Corner's type specimens, *viz* those cited up to and including those in his monograph of *Boletus* in Malaysia (Corner 1972a), are not in Edinburgh but in the herbarium of Cambridge University (CBGE); a few specimens also still await transfer to Edinburgh. Other collections are housed in the US National Fungus Collection in Beltsville (BPI) and in other major collections. The material in Edinburgh also includes some algae and lichenized fungi.

In recognition of Corner's contributions to mycology, in addition to many other awards, both the British and American Mycological Societies made him honorary members. The British Mycological Society awarded him the Benefactors' medal, and he was the recipient of the first de Bary medal struck by the International Mycological Association (IMA) and presented during the British Mycological Society's centenary dinner in Sheffield in April 1996. The presentation was made by the IMA's President, Franz Oberwinkler, who asked: 'who better a person could it be given to?'

Corner married twice, and is succeeded by a son and daughter. He was cared for in his later years by Wendy How and her husband, to whom we are all grateful.

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BIOGRAPHICAL NOTICES

A full account of Corner's publications and life will appear in a special volume based on the Corner/Stone symposium held in Kuala Lumpur in July 1998 and organized by the Flora Malaysiana Committee. In that work, the tremendous contributions Corner made to our understanding of tropical plants and basidiomycetes is dramatically demonstrated. An almost complete bibliography up to 1976 was published in the *Gardens' Bulletin Singapore* **29**: 4–11 (1977); Mabblerley (1999) brings that listing up to date. See also the personal reflections in Corner (1981, 1992b, 1993).

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SUDDEN DEATH OF BMS PRESIDENT, STEPHEN MOSS

It is with deep regret that we announce the sudden, tragic, and unexpected death of Dr Stephen Moss, President of the British Mycological Society for 2001–2002. Stephen, aged 58 years, died at his home in Portsmouth on Friday 26 October 2001. He was a caring and conscientious person who dedicated his

life to mycology, and in particular the Society, throughout his career. Our thoughts are with his wife Jan and all the family at this difficult time. A full obituary will appear in a future issue of *Mycological Research*.