

JAMES WILLIAM KITCHING

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Figure 1. James Kitching doing what he likes best - scouring steep hillsides for fossils: Elliot Formation, northern OFS.

Photo: M A Raath, 1979.

This volume is dedicated by the authors and editor to a remarkable man, James Kitching, in recognition of a lifetime of dedication to palaeontology, and in admiration of his contribution in a career which, in one form or another, has spanned virtually his entire life (thus far!).

He was born on 6 February 1922 in the picturesque small Eastern Cape town of Graaff-Reinet, a town which won further palaeontological recognition locally

when it was proclaimed "Capital of a Re-united Gondwanaland" by the Palaeontological Society of Southern Africa when the Society met there in 1988. Appropriately, James Kitching presided over that meeting as President of the Society, and he inducted the Mayor of the town as "Mayor of Gondwanaland".

Kitching's long love-affair with fossils began in his childhood when the Kitchings - father and sons - fell



Figure 2. James Kitching (left), with two life-long friends and colleagues from the old days of the BPI: Edna Plumstead (Palaeobotanist, centre) and Raymond Dart (Anatomist and Palaeo-anthropologist), at the joint celebration of Dart's 90th birthday and the 60th anniversary of his announcement of the discovery of *Australopithecus* (February 1985).

Photo: C K Brain, 1985.

under the spell of the legendary Dr Robert Broom who had once lived not far away in the even smaller little "dorp" of Pearston, and still visited the district whenever he could. As Eve Palmer notes in her book, *The Plains of Camdeboo*, James' father was dubbed by Broom "the greatest fossil-hunter in the world"; but James he called "the greatest fossil-finder". That reputation has gone before him all his active life; he has been invited to find fossils on virtually all the world's continents. And find them he most certainly has. Nobody has yet tried to count the total number of individual fossil specimens found by James Kitching, and it is certainly a task well beyond the capabilities or energy of this chronicler.

All his working career has been spent in the service of the University of the Witwatersrand. He began work at the University in the newly founded Bernard Price Institute for Palaeontological Research immediately after his demobilization at the end of the 1939-45 World War. Initially appointed as a field collector, he split his time between the Karoo – where he concentrated on Permo-Triassic therapsid reptiles, and the Makapansgat caves – where he collected Plio-Pleistocene mammals including australopithecine hominids. He later won promotion to the academic staff of the Institute, where he was a respected researcher and teacher.

Based on his many years of work in the Karoo, and under the fatherly encouragement and scholarly guidance of the late S H Houghton, he compiled a doctoral thesis on the biozonation of the Beaufort Group, the degree being awarded in 1973. In 1981 the University of Port

Elizabeth honoured him with a DSc (*honoris causa*) in honour of his contribution to palaeontology, and in 1983 his own university honoured him by appointing him Reader in Karoo Biostratigraphy. During the period 1987 to 1990 he directed the activities of the Institute which he had joined as a junior technician four decades earlier. The metamorphosis was now complete – the little lad, Jim, from the unsophisticated, rural Karoo village of Nieu Bethesda near Graaff-Reinet had transformed into Professor James Kitching of the University of the Witwatersrand in cosmopolitan, sophisticated Johannesburg.

And always beside him, a loyal supporter in all he has ever done, has been his wife Betty – who, though sharing with him his deep love of the outdoors, has been content to be the home maker, remaining behind to make a secure and warm home base for their family of three children. Daughters Marie and Felicity are now off raising families of their own. Son Matthew has followed Father into earth science; what is more, he has inherited something of Father's eye for fossils in the field.

James Kitching's career has formed a living link with some of the legends of South African and world palaeontology: the Abbé Breuil, Robert Broom, Ned Colbert, Raymond Dart, S H Houghton, F R Parrington, Frank Peabody, Al Romer, S H Rubidge, D M S Watson, and many, many more. He knew them all, and could count most of them among his personal friends. Whenever foreign palaeontologists visit South Africa, James is virtually always their first port of call because

of his ability to orientate them and show them what's what, fossil-wise.

He is an ideal person with students, because of his affinity for young people, especially those with even a vague liking for fossils or the great outdoors. He himself likes few things better than a camping trip into the bush, and none can pick a better, more comfortable, or more appropriate camp-site – even in the apparently inhospitable, treeless, vast emptiness of the Karoo. In his highly organized camps, around the camp-fire at night, he is a tale-teller without peer; out on the veld, youngsters less than half his age struggle vainly to match the pace of his long, striding, biltong legs – and usually it is *he* who is carrying all the heavy finds in the bulging rucksack on his back! When others are wilting from heat or are parched from thirst, thankfully flopping into the merciful shade of whatever is handy, James is off up the mountainside in pursuit of another tantalizing rock exposure or a harvest of tempting prickly pears. And if he goes there, you can be sure he will not come

back empty-handed.

This phenomenal man has served palaeontology with humility and great distinction for more than five decades. From his pen have flowed more than 40 scientific papers and one book, as well as numerous informal articles, reports, contributions to guide-books for field excursions, and the other sort of necessary but unacknowledged writings which the busy working scientist is called upon to produce. Countless students from countless institutions have benefitted from his advice and guidance, as have countless colleagues from countless countries – sometimes, let it be said, without adequate acknowledgement of the help they have received from him. But he is always there to help them next time ...

By dedicating this collection of papers to him, we his colleagues and friends salute him at the time of his formal “retirement” from the University. Retirement, though, never stopped a Kitching, and many more productive years lie ahead. We all look forward to what is yet to come.

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INTRODUCTION

Hyoliths were a group of marine invertebrate animals that occupied calcareous, probably aragonitic, bilaterally symmetrical elongate conical shells commonly 15 mm–30 mm long. They are present in pre-trilobite faunas of the USSR (Rozanov *et al.*, 1969) and were abundant during Cambrian and Ordovician times. They occur less commonly in younger Palaeozoic rocks, finally becoming extinct in the late Permian (Downie *et al.*, 1967).

The exact taxonomic position of these creatures has been the subject of debate for more than a century. Early workers included them among the pteropod gastropods along with such diverse forms as conulariids and tentaculitids. Others viewed them as cephalopods or operculate worm tubes (Fisher, 1962). More recently the tendency has been to regard them as an extinct class of molluscs (Downie *et al.*, 1975; Marek and Yochelson, 1964, 1976) or, alternatively, as a separate phylum of their own (Runnegar and Pojeta, 1974; Runnegar *et al.*, 1975). In a recently published text-book, the hyoliths are indeed treated as being sufficiently different from the molluscs to warrant their inclusion as a separate phylum that is thought to share a distant common ancestry with molluscs (Pojeta, 1987).

The South African specimens are not well enough preserved to add to this debate so this author takes the more conservative approach and regards hyoliths as an extinct class of molluscs that can be divided into two orders: Hyolithida (Marek, 1899) and Orthothecida (Marek, 1966).

Morphologically the two orders are quite similar:

both possess a bilaterally symmetrical exoskeleton consisting of a tapering conch with an aperture at the larger, anterior end, and an operculum that closes the aperture. The main difference between the orders is found in the form of the aperture and operculum, but in addition the hyolithids possess a pair of thin scimitar-shaped calcareous appendages, called *heloens*, placed between the operculum and the conch (fig. 1a).

At the anterior end of the hyolithid conch is a shelf-like extension of the ventral surface, the *ligula*, so that the aperture is not in a single vertical plane but has a marked angulation. The operculum that fits over this aperture also has an angulation so that it extends to the anterior margin of the ligula. In contrast, the orthothecid conch lacks a ligula so that the aperture does lie in a single more-or-less vertical plane. The orthothecid operculum fits within the aperture rather than butting against the peristome as in hyolithids (fig. 1b). Aspects of the biology of hyoliths have been described and discussed by Runnegar *et al.* (1975) and Marek and Yochelson (1976).

They were almost certainly deposit-feeders as evidenced by the gut fillings preserved in a number of occurrences (see Pojeta, 1987). The general consensus is that they lived unattached epifaunally and were essentially sedentary although they may have been capable of very slow, inefficient locomotion (Marek and Yochelson, 1976).

HYOLITHS IN SOUTH AFRICA

Hyoliths have been recorded from the Gye Formation and the Voorstehock Formation of the Bokkeveld Group