

# THE RECENT CRINOIDS OF AUSTRALIA.

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## INTRODUCTION.

The Trustees of the Australian Museum have done me the honour of entrusting to me for study their entire collection of Australian Crinoids.

The Crinoid fauna of the Australian coasts is of the greatest interest, not alone from the abundance and variety of its component species, but from its similarity in certain ways to that of the Jurassic and later horizons of Europe. Previous to the receipt of this collection I had only been able to examine occasional specimens, representing, however, numerous species, from Australia, mostly from Sydney, together with the collection made by the German ship "Gazelle" at various points on the west and north-west coasts. It was therefore with the greatest anticipation that I undertook the study of the collections of the Australian Museum, a study which has assisted in elucidating a number of hitherto obscure points and in giving me a much clearer idea of the Crinoid fauna of Australia as a whole.

I wish to record my appreciation of the kindness shown me by the Trustees of the Australian Museum and by the Curator, Mr. R. Etheridge, Junr., and to thank these gentlemen for the privilege I have enjoyed in being permitted to examine their very extensive and valuable collections.

At the time this collection was received I had at hand the Crinoids belonging to the University of Copenhagen, those of the Berlin Museum, including several of Professor Johannes Müller's types, those of the Indian Museum, the specimens collected by the German steamer "Gazelle," and by the Indian steamers "Investigator" and "Golden Crown." In addition the enormous collections of the United States National Museum were under my care, as well as the large mass of material brought together by the United States Fisheries steamer "Albatross," when working among the Philippine Islands. Altogether the available material comprised some dozens of Australian specimens, and some hundreds of specimens of species occurring in Australia, so that I had ample facilities for making comparisons between the individuals in the Australian Museum collection and valuable material belonging to other institutions.

I happened to be in Cambridge, Massachusetts, at the time that my friend, Dr. Hubert Lyman Clark, was studying the

Echinoderms collected by the "Thetis" and, with his usual kindness, he permitted me to take one from the Crinoids which were among them, and I shall take the opportunity of including it in the present paper.

While this paper was in press I visited all the Museums of Europe which I had reason to think contained Australian Crinoids. In London, thanks to the courtesy of Professor F. Jeffrey Bell, I was permitted to examine the collections upon which his list of the Crinoids of North-western Australia was based, the historic "Alert" collections, and a considerable amount of unrecorded material. At Paris, thanks to the kindness of MM. E. Perrier and L. Joubin, I was enabled to examine the Australian specimens—all in a wonderfully perfect state of preservation—described nearly one hundred years ago by Lamarck, as well as those described at a later date by Johannes Müller. Drs. F. A. Jentink and R. Horst, at Leyden, most generously allowed me to study the historic specimens under their care, while Professors K. Kraepelin and G. Pfeffer extended similar courtesies to me at Hamburg.

Upon my return to the United States, Professor W. Michaelsen, of Hamburg, sent to me the Crinoids which he, together with Dr. R. Hartmeyer, of Berlin, had collected on the west coast of Australia. Though a large collection, it does not alter the generalizations herein expressed to any appreciable degree.

Thus in the preparation of this Report I have personally examined the type specimen of every species of Crinoid recorded from Australia, and also practically every specimen which, so far as can be ascertained, has ever been sent abroad from that country.

In certain cases the examination of the types has shown that the present conception of the species is entirely erroneous, and it has frequently happened that species have been recorded under incorrect names. The rectification of these errors has necessitated a somewhat extensive revision of the proof, and for the trouble caused thereby I offer to the Editor of these Memoirs a sincere apology.

Among the Crinoids sent to me were a few from the Solomon Islands, taken mostly at Ugi. I have thought it best to consider these apart from those from the Australian coasts, as the faunal relations of the Solomons are somewhat different from those of Australia. These are therefore treated in a paper which will appear in a forthcoming number of the Museum "Records," and, though short, represents the sum of our knowledge regarding the Crinoid fauna of those Islands, and is accompanied by a bibliography which includes all the papers I have been able to find where Solomon Island Crinoids are mentioned.