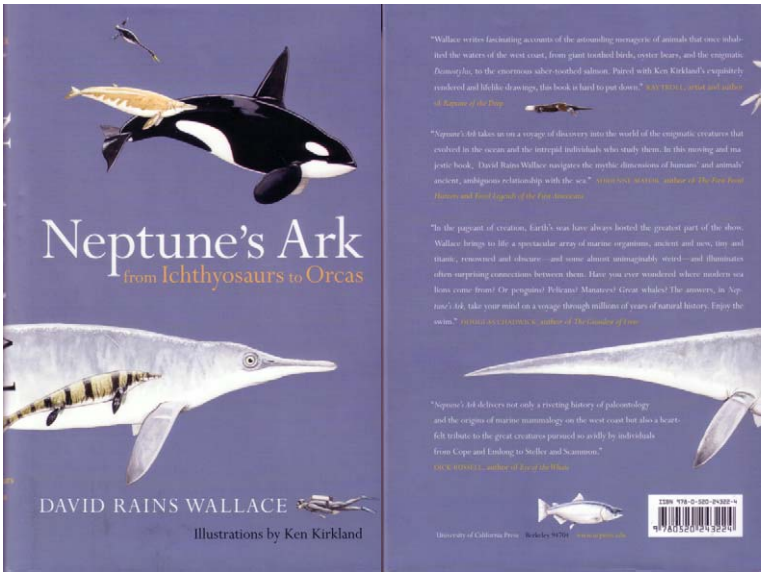
Wallace, D.R. 2007. Neptune's Ark, from Ichthyosaurs to Orcas - Berkeley, University of California Press

Book review by B.L. Beatty



Most aspects of palaeontology that receive attention in today's media are topics concerning dinosaurs, hominids, or, if the find is really spectacular, the public may even be interested in the origins of tetrapods. But one of the richest stories of vertebrate evolution that we have at hand is that of marine vertebrates, in part because in many cases (but not all), they live in the ideal depositional environment. This said, in a random sample of vertebrate palaeontologists you would be more likely to find one with an interest in terrestrial animals like dinosaurs, than to find one focused on marine amniotes or fishes. But why? It is simply easier to study land-based animals because we are land-based ourselves. Marine animals are simply logistically harder to study, and for this reason we still know relatively very little about even modern marine animals, particularly open ocean taxa. It certainly is easier for most people to accept lack of knowledge about the open ocean than it is the land, and much of the oceans are obviously unexplored. I suppose it is easier to relate and wonder about animals walking or flying about us, rather than the seemingly distant sea. Perhaps it is this 'out of sight, out of mind' attitude that has caused it to take this long for a book about the evolution of marine amniotes and the history of their study to come about. David Rains Wallace's 'Neptune's Ark' fills in this gap in the public's awareness of the richness of marine amniote evolution, and the historical record of the study of them.

While 'Neptune's Ark' does not claim to focus on the whole of marine amniote evolution, its coverage of the history of these animals focusing on the Pacific coast of North America covers a significant amount of it. That is perhaps because of a small number of people that have devoted their lives to the collection and study of these fossils, in particular, Douglas Emlong. It would be wrong to simply refer to this excellent book as a history of Emlong's influence on the history of marine mammal palaeontology, but this portion of the book should be acclaimed. Wallace does devote a good portion (the first five chapters) of this book to non-mammalian groups, particularly Mesozoic marine reptiles and an excellent discussion of the evolution of snakes (chapter 5). But it is his subsequent chapters (6-14) that steal the show, and that show is very much the result of the collections of one man, Douglas Emlong.

I do not want to spoil the joy of reading about this mysterious, unusual, and superhuman fossil collector, but suffice it to say that Emlong's collections of fossils from the coasts of Washington, Oregon, and California in the 1960's and 1970's changed what we understand about the origins and evolution of virtually every group of marine mammals, including seals, sea lions, walruses, bear-dogs, baleen whales, toothed-whales, seacows, and my favorite, desmostylians. In fact, I believe that outside of some rare instances in the Japanese media, this is the only text written for the general public that has a chapter devoted to the Desmostylia (albeit a brief one). Along with stories of the bizarre toothed mysticete *Aetiocetus* and the semiaquatic bear-dog, *Kolponomos* (which Wallace calls the 'oyster bear'), the attention to the rich history of the story of marine mammals evolution from Pacific rocks is colourful.

Wallace's coverage of Pleistocene and historical accounts of Pacific coast marine mammals (chapters 15-20 + Epilogue) is also extraordinary, and would certainly be of interest to those with a focus on indigenous peoples, hunting, anthropogenic extinctions, and conservation. Though I'll admit to have started these chapters

still wanting for more Tertiary details, Wallace's writing style and attention to details make these romps into Pleistocene overburden a rich experience. I am particularly fond of a passage in chapter 17 that tells the story of 'Pileated Woodpecker's Boat', a Yuki tale that may be an oral tradition identifying how these people made it to North America from Asia by boats along the coast.

Over the years, during graduate school and since, I have had the pleasure of hearing stories about, meeting, and really knowing some of the people Wallace refers to in this book, and I appreciate his reference to their part in the history of marine amniote palaeontology. I do not mean to suggest that marine mammal palaeontology should get the same treatment and popular press as that of dinosaurs (after all, I would hate to demean marine mammals by subjecting them to the popularized disfigurement that dinosaurs have had), but I am glad to see the history, richness, and oddity of marine amniotes and those that study them, written and available for others to marvel at. I hope that others will take his lead and write about all of these other fascinating groups of fossil vertebrates and the history of their study.

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