"Platypus: the Extraordinary Story of How a Curious Creature Baffled the World" by Ann Moyal is superb. Its author is a historian of Australian science. She has held research and teaching positions at several Australian universities.

Moyal recounts the scientific turmoil created by the shy platypus. Previous to the discovery of the platypus or water-mole, scientists had catalogued all animal life along a chain. They presumed that each link was immutable, of equal age, and created another step towards the perfection ultimately achieved in man.

Platypi have anatomical features which had been previously thought only to occur in reptiles, or mammals or birds. A new category of animals, the Monotremes, was therefore created to accommodate the baffling platypus and the equally enigmatic echidna. Debate ensued as to where on the chain Monotremes belonged with their apparent common ancestry to three types of animals. This upset the linear evolutionary chain theory.

Focusing on the platypus, Moyal traces the history of western scientific thought from the close of the eighteenth century. Initially, comparative anatomists reigned. They were confounded by the platypi's reptilian skeleton, duck-like beak and mammalian fur. Later surgeon-naturalists dissected specimens and determined the function of structures. Where, they asked, were the platypi's mammary glands and what was that spur on the hind leg alleged to be venomous?

One riddle, not resolved for decades, was their birth. Were offspring born live or did they hatch from eggs? Further, were the eggs hatched inside or outside the mother? Understanding the platypus pitted empires in a scientific competition. The French were the first to observe platypi mate. The English discovered mammary glands and a Scot, William Caldwell, settled the egg question.

Caldwell reported by telegraph to the 1884 meeting of the British Association of the Advancement of Science, held for the first time outside of Britain, in Montreal, the famous phrase, "Monotremes oviparous, ovum meroblastic." this means that platypi lay eggs, but the eggs possess a reptilian or bird-like and not a mammalian yolk.

Embryologist then started to fiddle with the puzzle. They prepared microscopic sections of eggs in various stages of development. They discovered differences between Monotreme and bird eggs. Once shells are formed around a bird's egg, the egg no longer changes in size and the embryo obtains all of its nutrients from within the egg. With Monotremes, after the egg shell is formed and prior to being laid, the shell increases in size. Stranger still, the embryo is nourished while inside the egg from the uterine wall - a mammalian characteristic!

The evolutionist were the next to bat. Charles Darwin noted that bones of extinct Monotremes had been found in Australia and nowhere else. He noted that bones of extinct species similar to animals unique to South America were found in South America and nowhere else. Likewise for Eurasia. He broke the chain by theorizing that geographic isolation and natural selection cause the emergence of new species.

The story doesn't end with Darwin. Molecular biologists have demonstrated that the platypi's duck-bill is in fact an acutely sensitive sensory organ. The snout detects the electric field emitted by its prey. Platypi do not hunt by sight, smell or sound. Their form of electro-location has only been observed in platypi. No longer a hodge-podge of bits and pieces of others the platypus is unique and evolving.

This book isn't just about the platypus, it's about us, and it can be enjoyed by everyone.