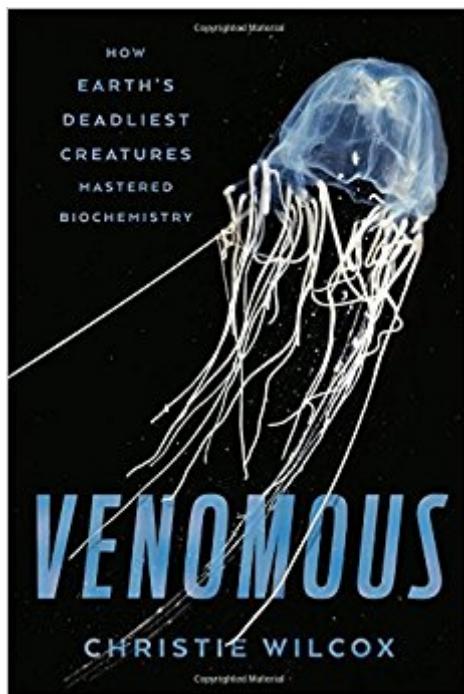


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Venomous: How Earth's Deadliest Creatures Mastered Biochemistry



Synopsis

A thrilling tale of encounters with nature's masters of biochemistryFrom the coasts of Indonesia to the rainforests of Peru, venomous animals are everywhere and often lurking out of sight. Humans have feared them for centuries, long considering them the assassins and pariahs of the natural world. Now, in *Venomous*, the biologist Christie Wilcox investigates and illuminates the animals of our nightmares, arguing that they hold the keys to a deeper understanding of evolution, adaptation, and immunity. She reveals just how venoms function and what they do to the human body. With Wilcox as our guide, we encounter a jellyfish with tentacles covered in stinging cells that can kill humans in minutes; a two-inch caterpillar with toxic bristles that trigger hemorrhaging; and a stunning blue-ringed octopus capable of inducing total paralysis. How do these animals go about their deadly work? How did they develop such intricate, potent toxins? Wilcox takes us around the world and down to the cellular level to find out. Throughout her journey, Wilcox meets the intrepid scientists who risk their lives studying these lethal beasts, as well as themselves who deliberately expose themselves to snakebites. Along the way, she puts her own life on the line, narrowly avoiding being envenomated herself. Drawing on her own research, Wilcox explains how venom scientists are untangling the mechanisms of some of our most devastating diseases, and reports on pharmacologists who are already exploiting venoms to produce lifesaving drugs. We discover that venomous creatures are in fact keystone species that play crucial roles in their ecosystems and ours and for this alone, they ought to be protected and appreciated. Thrilling and surprising at every turn, *Venomous* will change everything you thought you knew about the planet's most dangerous animals.

Book Information

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Customer Reviews

Two things. One, this is a very good book on an important subject(more on that later). Two, it has substantial aspects of biochemistry that may be slow-going for some readers. Wilcox does an excellent job of explaining the chemistry, which is usually the impact of venom on one or another bodily system of the organism (or person) bitten or stung. Venoms turn out to be extraordinarily complex mixes with hundreds of kinds of molecules in them (many of which little to nothing is known about). Some contain anti-coagulants to prevent clotting and keep blood flowing. Venoms may attack the circulatory system, blood cells, the nervous system. The specific actions of venom components make them of unusual interest to medical science. There are many thousands of venomous creatures. They deliver venom through spines, fangs, stinging cells, stingers and the platypus' spur. Obviously snakes, but also the American Southwest's Gila monster, scorpions all over the world, Australia's platypus, but also ticks, vampire bats, and the famous blue-ringed octopus (whose venom is remarkably potent, the more so from a creature the size of a golf ball). And many more: some shrews, the slow loris (!!), jellyfish, hundreds of species of cone snails and yet more, such as Komodo dragons, caterpillars, ants, and a huge number of bees and wasps. Venom is in an evolutionary race between predator and prey, particularly for defensive venoms. Some species easily cope with poisonous snakes, for example--mongooses, hedgehogs, honey badgers, some possums, and snake eagles. 48 species of mammals eat poisonous snakes, their own bodily system biochemistry able to cope with venoms, or some other adaptation such as very thick fur or extreme quickness.

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