



ANIMALS

The following four books are part of Reaktion Book's ambitious *Animal* series, which presents various animals from a natural and cultural history perspective. These exhaustively researched volumes are appropriate for college or advanced high school readers. They would be valuable additions to a classroom library. Each volume is well-illustrated with captivating photographs and includes timelines, extensive end note documentation of the text, a bibliography, a list of associations and websites, and an index.

Beetle. By Adam Dodd, 2016. Reaktion Books. (ISBN: 9781780234885). Paperback. \$19.95.

Beetles, among the oldest, most diverse, and most abundant species on Earth, are really not among the most understood. Classified in the Order *Coleoptera* (sheath wings), beetles possess chitinous forewings that guard the more fragile

hindwings. About 25 percent of all known living species are beetles, with an average of four new species being discovered daily for the past 250 years. Entomologists think we are not even close to uncovering all the beetle species in the world. Biologist J.B.S. Haldane, when asked what nature showed about the preferences of the Creator, answered "an inordinate fondness for beetles."

Following the Permian-Triassic mass extinction of insects, beetles were among the first to make a comeback. Today, beetles inhabit numerous terrestrial and aquatic environments. Beetle anatomy is not unusual for insects. Covered with a chitin exoskeleton, they have a pair of antennae that help detect food and pheromones. Their eye structure depends on their environment, with some cave-dwellers having no eyes at all and others have large compound eyes. Mouthparts are adapted for defense, killing prey, and gnawing. They reproduce sexually with some species being parthenogenetic, and they go through a complete metamorphosis.

Beetles have appeared in scientific works for over 2000 years. Aristotle's *History of Animals* discusses numerous beetles, and Pliny's *Natural History* noted the wing structure and the facts that beetles don't have stingers but often have long horns. By the sixteenth century, British naturalist John White documented and illustrated many beetles including some he discovered on voyages to America. His description of the firefly was "a flye which in the night semeth a flame of fyre." As natural history progressed, new beetles were found worldwide. The last attempt to account for every beetle in a single volume was William Junk and Sigmund Schenckling's 1940 *Coleopterorum catalogus*, which documented nearly a quarter million species.

Many beetles are pests of humans. A couple of excellent examples are the Colorado potato beetle and the boll weevil. The potato beetle lived on buffalo bur, a grassy weed in Colorado. It was inadvertently introduced to the potato plant, an important crop. It was so successful that it migrated in large

numbers to the eastern United States. At one point, a railroad track was covered with the beetles, causing train wheels to lose friction and slip. Another important American crop, cotton, was attacked by the boll weevil, which led to financial ruin in southern plantations. Plantation workers even wrote a song, "Ballet of the Boll-Weevil," which has been performed by many twentieth-century artists, including Woody Guthrie, Patti Page, and Brook Benton.

Beetles are frequently found in cultural settings. The scarab beetle is found in many cultures as a symbol of creation, renewal, and rebirth; the "lady" in ladybug represents the Virgin Mary in several cultures; in Irish folklore, the rove beetle is described as the Devil incarnate; Egypt has a sculpture of a giant scarab; in Albrecht Dürer's *Adoration of the Magi*, a stag beetle is depicted; the lady-bird is mentioned in Shakespeare's *Romeo and Juliet*; a Sega video game is called *King of Coleoptera: Bug King*; the Disney film, *The Love Bug*, features the Volkswagen Beetle; there is a Beetle Bar in Brisbane, Australia; and *The Beatles* musical group was originally named *The Silver Beetle*.

This book is packed with fascinating material, including many interesting stories such as this one from Charles Darwin's autobiography: Darwin wrote about removing some bark and finding two rare beetles. Holding one in each hand, he then saw a third new kind. So he put the beetle from his right hand into his mouth. It immediately produced an "intensely acrid fluid," which burned his tongue. Promptly spitting it out, he lost it as well as the new beetle he had found.



Moth. By Matthew Gandy, 2016. Reaktion Books. (ISBN: 9781780235851). Paperback. \$19.95.

People typically don't know a lot about moths, thinking that they are only evil creatures