
Sometimes, when people are outdoors, they hear the rapid-fire tapping of a woodpecker on a nearby tree. Woodpeckers actually communicate by drumming their bills on trees. Of course, they are also using this process to make a hole in the tree.

There are several kinds of woodpeckers, most of them stocky, short-legged birds with strong tails and dagger-like bills. In appearance, many are rather plain, whereas others display a variety of colors, some almost gaudy. Woodpeckers are diurnal, and though a few are migratory, most are sedentary, living the majority of their lives in one place. Most species are monogamous, but a few live communally.

Woodpeckers are found in many environments all over the world, their greatest diversity being in South America. They are also found in many emblems and coats of arms, as well on postage stamps of numerous countries. Ecologists refer to woodpeckers as “keystone species,” organisms playing a major role in an ecosystem, helping to sustain its structure, and affecting other organisms in the environment. They are also known as “indicator species,” whose presence demonstrates environmental quality. Many woodpecker species are becoming scarce and endangered due to deforestation in several areas of the world.

Woodpeckers are spoken of as “unrivalled master carpenters of the avian world.” They excavate holes in trees for nest sites, and they chop into bark and wood to locate prey. The Ainu people of Hokkaido refer to the woodpecker as a boat-making bird, their folklore stating that woodpeckers taught people how to make canoes by hollowing out logs. Some Central American tribes believe that people who excel at making canoes are “touched by the woodpecker.” The reason that woodpeckers make such outstanding carpenters lies in their anatomical adaptations: a chisel-tipped bill made of hard but flexible impact-absorbing bone that is attached on the lower part of a thick skull structured to prevent the shock of drumming from impacting the brain. Many other skeletal, muscular, and sensory adaptations assist in reducing the force of impact. Woodpecker skull adaptations are being studied to see what can be learned that would be useful in helmet design for athletes.

Woodpeckers are also compared to drummers. Like some ancient peoples whose use of drumming communicated information, woodpeckers, which can’t sing like other birds, communicate with rivals and potential mates using rhythmic drumming sounds.

Most know that in Roman mythology the infants Romulus and Remus, founders of Rome, were nursed by a mother wolf. But how many of us have heard that it was a woodpecker who fed them by dropping food into their mouths? Woodpeckers are also a significant part of interesting myths and folk tales in Persia, Greece, Mesopotamia, indigenous America, and other cultures, often being associated with fertility rites, deities, religions, and magic.

Readers of this book will find many fascinating woodpecker stories: their intelligence in their use of anvils to work on food items; their use in predicting weather and why they are sometimes called “rainbirds”; the manner in which they caused a month-long postponement of a launch of the Discovery Space Shuttle; and the reason a pesky woodpecker inspired cartoonist Walter Lantz during his honeymoon to create Woody Woodpecker, the world’s best known woodpecker, who is also a Hollywood Walk of Fame star.

The author summarizes woodpeckers as “a complex subject, portrayed as both kind and cruel, clever and navel, harbingers of good and bad luck, and associated with life as well as death.”

Part of Reaktion Books’ ambitious Animal series, which presents various animals from a natural and cultural history perspective, this exhaustively researched volume is appropriate for college or advanced high school readers. It would be a valuable addition to a classroom library. It is profusely illustrated with captivating photographs and includes a timeline of woodpeckers, a list of woodpeckers mentioned in the text, extensive end note documentation of the text, a bibliography, a list of associations and websites, and an index.

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EDIBLE SERIES


Shrimp Scampi. Fried Shrimp. Shrimp Cocktail. They sound so scrumptious, but this isn’t
a cookbook, though twelve pages of recipes, including Lady Bird Johnson’s Shrimp Squash Casserole, are included.

Shrimp, sometimes called prawn, usually depending on the circumstances and location, is the most consumed crustacean in the world. Like lobsters and other relatives in the Order Decapoda, shrimp have five pairs of legs under the carapace and five more swimmers under the abdomen. They thrive in salt water as well as fresh water, both warm and cold.

People are attracted to shrimp in many ways, not just for their flavor. They are also significant in symbolism in the arts and literature. The shrimp has even had an impact on religion. Many Jews believe that the Old Testament nutrition laws stated in Leviticus forbid the consumption of shellfish. Many Muslims consider shrimp consumption to be permitted by the Quran, but some believe that only shrimp may be eaten, whereas prawns are forbidden. A 19th century Christian minister got around the Old Testament laws by reasoning that the sea is loaded with organisms, many of which die every day. He felt that it would be better to use them for food, rather than having dead bodies polluting the water.

Part of Reaktion Books’ ambitious Edible series, dedicated to food and drink, which documents various edible items related to plants and animals, from a natural and cultural history perspective, this exhaustively researched volume is appropriate for and may appeal to college or advanced high school readers. Though engagingly written and full of interesting information, the book may not be one for which there would be a good reason to include in a biology class library. It is profusely illustrated with captivating photographs and includes a timeline of beetles, endnote documentation of the text, a bibliography, a list of websites and associations, and an index.

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Toward High School Biology is an entire unit of curriculum connecting the concepts of matter cycling with growth and repair of living structures. The teacher edition contains thorough plans, with chapter overviews, background knowledge, prerequisite knowledge, common misconceptions, and a storyline. Times for each portion of a lesson are provided down to the minute. For teachers who are less familiar with NGSS-aligned lessons and the use of phenomena, the plans are well scaffolded. Students are given the tools to construct complete explanations that include claim, evidence, and reasoning. Teacher Talk and Actions are broken down into minutes and include instructions about what students should be doing and how they might respond. For example: ‘Key Question (1 min) Introduce the Key Question: How are changes in the matter that makes up living and nonliving things similar? Usually, you will use the Key Question to elicit and probe student ideas’ (p. 11). The contents of the book are broken into four chapters with a total of 19 lessons. The first chapter focuses on changes in matter and using models. Chapter 2 is about chemical reactions and conservation of mass. The third chapter brings in Life Science Standard LS1 as it connects monomers, polymers, and carbohydrate synthesis with photosynthesis. Chapter 4 balances this by relating amino acid to protein formation with growth and repair in animals.