What's in a Name? Turtles, Terrapins & Tortoises

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Have you ever wondered why there are three similar-sounding words—turtle, terrapin and tortoise—that are used to describe what may, at first glance, seem to be nearly identical creatures? In hearing these terms, have you ever questioned what the differences between them might be?

It may be surprising to find out that, from a linguistic perspective, the distinctions may not be clear-cut. In English-speaking nations, the agreed-upon definitions for these terms can vary from country to country. For instance, most Americans collectively refer to all three types of shelled creatures as turtles, with the term 'tortoise' applied only to fully terrestrial turtles and the word 'terrapin' rarely used. Jump across the globe to Australia, and you'll find that, with the exception of marine turtles, all these creatures are known as tortoises. In some other languages, rather than having these linguistic differences, one single word is often applied to all three animals, often set apart by descriptive endings. For example, in Spanish, the word *tortuga* is used to generally refer to all of these creatures, then they are differentiated on the basis of where the shelled reptile is found: a sea-dwelling turtle is a *tortuga marina*; a freshwater species, *tortuga de río*; and a tortoise, *tortuga terrestre*.

Setting aside any linguistic differences, the biological relationship between all three groups is firmly established: it has long been determined that turtles, terrapins and tortoises are closely related. All of these animals are grouped in the class of reptiles, falling within the taxonomic order of *Testudines*—a term based on the Latin word for tortoise, *testudo*—or *Chelonii*, which is derived from the Greek word *chelṓnē* for tortoise or land turtle. In fact, based upon these two terms, scientists and conservationists have taken to calling turtles, terrapins and tortoises "testudines" or "chelonians." Classifying this trio of species together makes sense, since they all share the major reptilian traits such as having scales, breathing air, laying eggs on land and being ectothermic. Once referred to as being cold-blooded, this latter trait more accurately means that their body temperature is based on the temperature of the air or water around them.

When reviewed from a basic anatomical perspective, the similarities continue. Their signature feature—the shell—which is believed to have developed as defense against predators, is securely attached to their body. On the inner layer of this carapace, numerous ribs and vertebrae connect the shell to the skeleton. The majority of turtle shells are made up of "scutes," which are hard layers of keratin; for soft-shelled turtles and leatherbacks, their carapaces are instead covered with thick skin. Interestingly, these vertebrates also completely lack teeth, instead having a beak. Herbivorous species have serrated edges that make it a cinch to cut fibrous plants, and the beaks of meat-eating varieties are ridged and sharp, ideal for tearing their food.

Given all the similarities, it's only natural to wonder how to scientifically distinguish turtles, terrapins and tortoises from one another. As a general guideline, the biggest first clue is the shelled creature's preferred habitat. Depending upon the species, a turtle will predominantly live in either a saltwater or freshwater environment such as ponds or lakes. Terrapins divide their time between the land and water, typically inhabiting brackish waters such as marshes. Tortoises are solely land dwellers; in fact, some species are completely at home in arid, desert zones, far away from major sources of water.

Turtle

Terrapin

Observing their behaviors and actions can provide other useful signs. Exhibiting great variation by species and habitat, turtles tend to eat plants, insects, and other small animals. Although the dietary habits of terrapins are still under study, it is believed that they are omnivorous. As land dwellers, tortoises generally eat a plant-based diet that includes grasses, shrubs, and even cacti. For turtles and terrapins, another important activity for them is basking, which helps them to regulate their body temperature. Freshwater turtles and terrapins will leave the water to soak up some sun on a log, rock, nice stretch of sand or other nearby surface. Although they generally spend their time in the water, sea turtles do make their way out of that environment so they can warm up on a beach, reef or similar spot. In addition to heating their bodies, species of turtles and terrapins that spend time both on land and in water, as well as sea-dwelling turtles, will all leave the water to lay their eggs. Already at home on the land, tortoises will find a nice place to dig a nesting burrow for this same purpose.

By taking a closer look at a chelonian's body, even more hints are revealed. All three have scaly skin and protective shells, but by focusing on that signature feature, some clear differences emerge. Aside from a few exceptions such as the leatherback, turtle shells tend to be hard and bony. While tortoise shells are usually rounded and domed, turtle and terrapin shells are typically flatter. Since both freshwater turtles and terrapins spend time swimming in the water, these types have flattened, webbed feet that aid them in these efforts. Species of turtles that prefer marine environments have adaptations such as streamlined bodies and long, flipper-like feet. As the landlubbers of the bunch, tortoises have stumpy feet that are ideal for walking on land, with elephantine rear legs to give them strength for climbing and other tasks, and shovel-like front limbs that help them in digging.

Now that you know the basic differences, you can have fun, trying to identify any of these creatures you may see while exploring the great outdoors. A word of caution, though: if you come across a turtle, tortoise or terrapin that you think may be in distress, herpetologists and other animal experts advise that it's best to not directly intervene. Misidentification could have critical consequences for the animal: in 2015, the Florida Fish and Wildlife Commission (FFWC) reported three instances of tortoises, which are land-dwelling creatures, being released into the ocean because people had mistaken them for turtles.


Photo by Luca Ambrosi

You may also be tempted to bring the intriguing creature home with you, particularly if you find a young or injured one. Authorities say, however, that the wisest course is to leave it alone because you would be removing it from the natural environment in which it is most likely to thrive. Also, a number of species found throughout Florida are at risk, so taking them home is not permitted by law. Sea turtles are protected under the Federal Endangered Species Act of 1973 and Florida's Marine Turtle Protection Act, so these turtles, nests and their eggs are not allowed to be disturbed in any way. Similarly, the gopher tortoise is listed as a threatened species and many types of freshwater turtles are considered imperiled species with FFWC rules set in place that prohibit possessing or taking them from the wild. Additionally, if you were able to take one of these shelled creatures home, it would require a substantial commitment on your part. Depending upon the species, you could have a pet that grows to be quite large and has a significantly long lifespan, since it's not unheard of for some types of chelonians to live for over 100 years.

That being said, if you do come across one that you think may need help, you could still play an important role in saving its life. Call the FFWC's 24-hour wildlife alert number at 1-888-404-FWCC (3922) or reach out to another wildlife professional for assistance. In doing so, you can help ensure that these uniquely beautiful creatures continue to enrich our coastal environment for many more years to come!