Turtle, Tortoise, or Terrapin? Just What are the Differences?

Turtles, tortoises, and terrapins are among the oldest, and most familiar and well known groups of reptiles, with some of their earliest ancestors dating as far back as the late Triassic Period some 220 million years ago (or MYA). They are a familiar and instantly recognizable group of animals to nearly all, having a characteristic, hardened, bony or cartilaginous shell formed from the fusion of their vertebra column and rib cages to form the different parts of their shells we know as their carapaces (upper portion), plastrons (lower or underside portions, and bridges (the central connecting portions). They also consist of all members, extant (currently living) and extinct, belonging to the order Chelonia, or Testudines, which consist of at approximately 360 or more known, currently extant species found worldwide in our freshwater, terrestrial, and oceanic environments except perhaps Antarctica.

But just what exactly is a "turtle" versus a "tortoise" versus a "terrapin" when it comes to these colloquial, or everyday usage names? How, and/or perhaps what differentiates them? As it turns out, these common names can vary depending on which area of the world one happens to reside in, as well as the source of information, or even varying among English dialect, individual knowledge and preferences. As such, these common names often do not always precisely reflect the evolutionary, biological, and/or taxonomic distinctions between these names.

**Diamondback Terrapin (Malaclemys terrapin). © Todd Pierson.*

For instance, in Britain and elsewhere in the United Kingdom (U.K.), the term "tortoise" is used broadly to cover and describe all land-dwelling, or terrestrial members of the order Testudines, while the term "terrapin" is more commonly used to refer to the larger group of semi-aquatic turtles than does the more restricted meaning in the United States (U.S.) to describe primarily the semi-aquatic, brackish water members of the genus Malaclemys (or the Diamondback Terrapins) of the coastal southern and eastern U.S.

Likewise, Australian usage of these names also differ from the British or American usages. In Australia,

freshwater turtles are more often referred to as “tortoises”, even though by U.S. definitions, there are no native “tortoise” species found in Australia. Some sources herein prefer the term “freshwater turtle” in Australia to better describe the species which do occur in Australia while also still providing a useful distinction from the saltwater, or truly marine “sea turtles”.

**Blanding’s Turtle (Emydoidea blandingii). Sometimes confused with box turtles, or “true tortoises”. © SCOTT D. GILLINGWATER*

Some branches, or fields of study of veterinary medicine, conservation, and other scientists also use the popular term of “chelonian” as somewhat of a catch-all name any species or member of the order Chelonia, living and/or extinct, as well as their earlier ancestors. “Chelonia” is a Greek word for “turtles”, and “Chelone” for “tortoise”, while “Testudines”, on the other hand, is based upon the Latin word for “tortoise”, “testudo”. Likewise, the term “terrapin” comes from the Algonquian word for “turtle”.

However, for the purposes of this article, and perhaps most, the U.S., or “American” definitions of turtle, tortoise, and terrapin are what shall here be referred to. According to the American Society of Ichthyologists and Herpetologists, the use of the name “turtle” refers to all members of the order Testudines, and uses the term “tortoise” more specifically for slower moving, primarily terrestrial or land-dwelling members of the specific family “Testudinidae”. Some species, such as box turtles (genus *Terrapene spp*.) also tend to be more terrestrial, but are not considered “true tortoises”, being, taxonomically, in the same family as most other North American, semi-aquatic “turtles” in the family Emydidae. Consequently, the Spanish name for all turtles and tortoises happens to simply be “Tortuga”.

**Hermann’s Tortoise (Testudo hermanni). © Aikman Wildlife Adventure.*

With all of these potentially confusing and conflicting distinctions mentioned, here are some of the most common, and widely known physical, anatomy, and morphological differences between “turtles” and “tortoises” by our U.S. and American definitions thereof to reflect the differing habits, lifestyles, dietary preferences, and other forms of natural history between turtles and tortoises. These distinctions and

comparisons shall here be corresponding below between the 1). **Truly marine or saltwater sea turtles (family or superfamily Chelonioidea)**, 2). **Most freshwater aquatic to semi aquatic turtles (super family Testudinoidea)**, and 3). **Truly terrestrial "tortoises" (family Testinidae)**.

Carapace and Other Portions of the Shell:


**Flattened, streamlined carapace on a Green Sea Turtle (Chelonia mydas). © Armando F. Jenik.*
**Unusual, soft, cartiligenous carapace of a Leatherback Sea Turtle (Dermochelys coriacea). © NOAA.*

1.-Marine, or saltwater sea turtles, relatively, have the flattest, and most stream-lined shells, or carapaces for their almost exclusively aquatic, oceanic natural history and lifestyles used for quickly and efficiently moving themselves through the water.

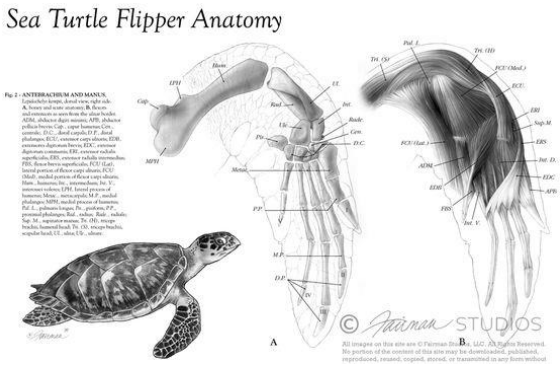

**The semi-streamlined, smooth shell of a typical semi-aquatic turtle species, in this case a Red-Eared Slider (Trachemys scripta elegans). © Alarmy Stock Photo.*
**Also, another example of a smooth, stream-lined shell in a West African Mud Turtle (Pelusios castaneus). © ReptileFact.com*

2.- Most species of aquatic to semi-aquatic freshwater turtles have intermediary flattened, smooth, and stream-lined shells and carapaces used to quickly and efficiently swim and propel, or maneuver themselves through the water, lending to their semi-aquatic lifestyles. Again, however, some groups of chelonians which are more terrestrial, and have comparatively more domed carapaces, for instance box turtles and Blanding's turtles (*Emydoidea blandingii*), are still commonly called "turtles", taxonomically. Many aquatic or semi-aquatic turtles, depending on the species, can also have serrated marginal scutes and/or dorsal keels or ridges as well.


**Highly domed carapace of a Leopard Tortoise (Stigmochelys pardalis). © Zoo Med Laboratories, Inc.*
**Second example, an Aldabara Tortoise (Aldabrachelys gigantea). © Plumpton Park Zoo.*

3.- Most "true tortoises" generally have the highest, most domed shells and carapaces, as well as typically sculptured scutes, although some "turtle" species may also possess such scutes. Generally speaking, a tortoise's shell is evolutionary designed for protection and defense rather than a quicker speed or agility of more aquatic or semi-aquatic turtles. As always, however, there are exceptions, and some species of tortoises, such as the Pancake Tortoise (*Malacochersus tornieri*) can have much flatter shells in which they have evolved and developed for specific niches, or purposes, such as being able to quickly retreat into narrower rock crevices or cavities to evade predators.

Feet, Digits, and Limbs:

**Loggerhead Sea Turtle Flipper with claws. (Caretta caretta). New England Aquarium.*
*Internal Anatomy of a Sea Turtle Flipper. © Fairman Studios.com

1. -Truly "marine" or saltwater sea "turtles" found globally in our tropical to sub-tropical seas and oceans have well developed, and powerful "flippers" used for strong swimming, and ver reduced evidence of external digits or claws on the fore and hind limbs.

**Partially webbed, clawed feet of a typical semi-aquatic turtle, a Painted Turtle (Chrysemys picta). © Austin's Turtle Page.*
**The hind foot of an Eastern Box Turtle (Terrapene carolina) showing the well developed toes and claws for digging, as an example that there oftentimes is no one single "rule of thumb" to go by when distinguishing what may be classified as a turtle or a tortoise. ThingLink.com*

2. -Most species of freshwater, aquatic to semi-aquatic "turtles" found throughout the world also generally have webbed, or partially webbed fore and hind feet and limbs used for strong swimming, however evidence of claws and/or individual toes or digits are usually still distinguishable.

**The blocky, "elephantine-like" limb of an African Spurred Tortoise, or Sulcata (Centrochelys sulcata) displaying no inter-digit webbing. © DepositPhotos.*
**Many (but not all) species of tortoises also have hardened and/or enlarged plate or scales on their forelimbs as well, which serve as additional protection and defense against predators when withdrawn into their shells.*

3. -"True" species of tortoises belonging to the family Testudinae have comparatively larger, much more "elephantine-like" or "blocky" fore and hind limbs more well-suited, and indicative of primarily terrestrial, or land-dwelling lifestyles. There is very little to no webbing. While "true" tortoises are

primarily terrestrial, they are still capable of buoyancy and swimming in water, although generally, they have less propensity to do so than more aquatic to semi-aquatic turtles.