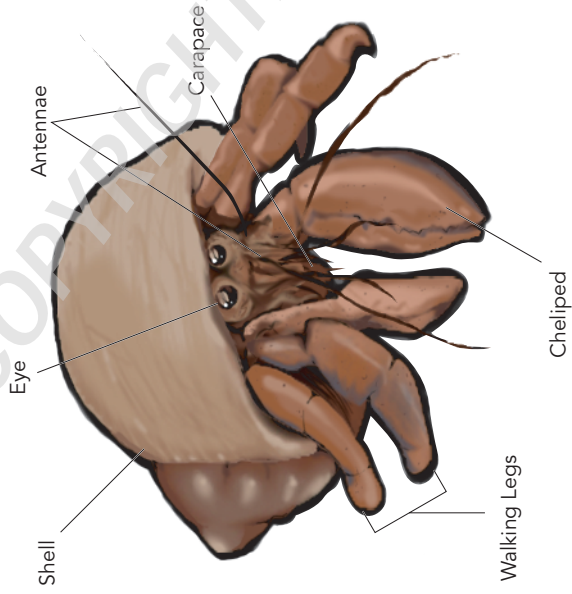
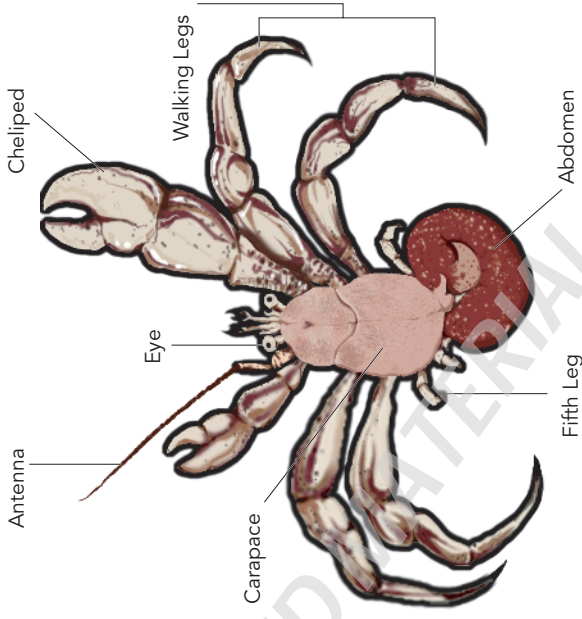


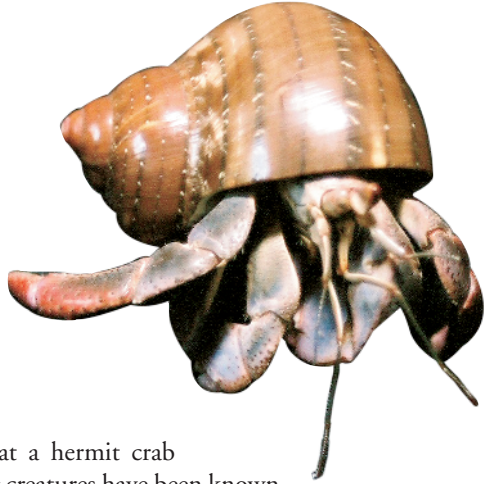
# The Hermit Crab





## Chapter 1

# What Is a Hermit Crab?



**N**early everyone knows what a hermit crab looks like. These charming creatures have been known by humans for centuries. Famous for their ability to inhabit the abandoned shells of other sea creatures, hermit crabs carry their homes around on their backs while prowling seashores and tide pools looking for morsels to eat. Wild hermit crabs have long been the subject of documentaries and cartoons, and are among the most beloved of all sea creatures.

Hermit crabs are not only fascinating as a species, they also make wonderful pets. Fun to watch and easy to care for, they are the first pet of choice for many children. They have also won the hearts of adults the world over.

## Scientifically Speaking

Hermit crabs are members of the *Arthropoda* phylum, which means they are related to spiders, insects, and lobsters. But unlike these other arthropods, hermit crabs are crustaceans and therefore have two sets of antennae instead of one.

All arthropods have segmented bodies and jointed legs. Their bodies consist of a head, a thorax, and an abdomen. Hermit crabs also have four antennae, two eyes, a large left claw, and a small right claw. In addition to the claws, a total of eight jointed legs can be found on the hermit crab, four on each side of the body. Of those eight legs, only four are actually used for walking.

### Crab Science

Scientific classification of hermit crabs:

Phylum: *Arthropoda*

Class: *Crustacea*

Order: *Decapoda*

Family: *Coenobitidae*

Genus: *Birgus latro*

## A Crustacean

The hermit crab is a crustacean, which means it is part of the same class as shrimp, lobsters, and true crabs. (True crabs have short, hard abdomens, which set them apart from hermit crabs.) Hermit crabs are members of the *Coenobitidae* family, which has two genera: *Coenobita* and *Birgus latro*. *Coenobita* is made up of eleven species of land crab, but the hermit crab is in a genus all his own, *Birgus latro*.

As a crustacean, the hermit crab wears his skeleton on the outside of his body. This exoskeleton is made of areas of thick tissue and softer, more delicate tissue. In the hermit crab, the thick tissue can be found on the animal's claws and torso. The crab's abdomen is covered with the softer exoskeleton, which is why he needs the protection of a "borrowed" shell.

As the hermit crab grows, he must shed his exoskeleton to make room for the new tissue beneath it. This process is called molting.



Hermit crabs who live on land cannot survive underwater. In the wild, they find their food on the ground and in trees.

## Hermit Crab Anatomy

The body of the hermit crab is quite different from that of mammals.

- **Abdomen.** The abdominal area of the hermit crab is soft and requires protection from a borrowed shell. The abdomen is slightly curved when outside a shell, but will fold into a tight curve to fit inside a shell home. The digestive and reproductive organs of the crab are located inside his abdomen.
- **Antennae.** The hermit crab has two pairs of antennae that he uses to sense his environment. The antennae are located just below the eyes and consist of one pair of long feelers and one pair of short feelers.
- **Claws.** The hermit crab has two claws, called chelipeds. The left claw is known as the pincher, and is the larger of the two. It is used to close up the opening of the shell when the crab wishes to retreat inside for safety, and for defense. The smaller claw is used mostly for eating and drinking.
- **Eyes.** Hermit crabs have two eyes, which sit at the end of eye stalks that protrude from the front of the head. The stalks can move to enable the crab to see in different directions. The eyes are compound, which means they are made up of many small lenses. The images the crab sees are composed of tiny pieces.
- **Gills.** Although the hermit crab is not a fish, he does have gills on the sides of his body. These gills are usually tucked into the shell and are used for breathing air; hermit crabs cannot breathe underwater. However, the gills must be kept moist to enable the crab to breathe.
- **Legs.** Hermit crabs have four pairs of legs that are used for getting around. Two of these legs protrude from the front of the shell and enable the crab to walk. The back two legs stay inside the shell and help anchor the crab's body.
- **Mouth.** The mouth of the hermit crab is made up of three appendages. The crab uses these appendages to put food into an opening that leads to the digestive system. The appendages work like small hands, helping the crab hold and tear food.

Hermit crabs sometimes lose their legs or eyes in fights and when they are sick or stressed. If the environment is safe and secure and the crab survives the fight or illness, the missing appendage will likely grow back.

## Land Creatures

There are land hermit crabs and aquatic ones (see “Aquatic Hermit Crabs” on page 20). Land hermit crabs differ from their aquatic cousins in the obvious way that they live primarily on solid ground. Although they need proximity to the ocean to survive in the wild, hermit crabs will drown if they are kept in an aquatic environment.

Hermit crabs who live on land have small gills but cannot survive underwater. The gills should be kept moist, however, which is one reason it’s so important to provide a warm, humid environment for hermit crabs kept in captivity.

Land hermit crabs spend much of their time patrolling their environment for food. In the wild, they feed off the ground and in trees, shoveling food into their mouths using their claws. They are omnivorous scavengers, and their diet consists of decaying plant and animal material. This includes dried leaves, rotten fruit, carcasses, and even feces.

## Mobile Home

Hermit crabs are famous for carrying shells around on their backs that don’t belong to them. Because the hermit crab has a soft abdomen, he is vulnerable to predators if that part of the body isn’t covered. Hermit crabs solve this problem by occupying the shells of gastropods that have died. These may be the shells of sea snails, conches, or other animals. Some hermit crabs have been found wearing fossilized shells from marine creatures that lived eons ago.

Modern hermit crabs who live in the ocean have also taken to using human garbage to house their delicate abdomens. Hermit crabs have been seen wearing bottle necks, plastic containers, and other discarded items.

Hermit crabs use these shells by tucking their abdomens into the hollow space and then closing up the opening with their pincher claw. They sleep in this position and retreat this way when they feel threatened. When hermit crabs are eating, they extend their heads, their two front claws, and two legs on each side. They amble around using the four extended legs. The four legs that are hidden inside the shell are used to keep the shell in place over the crab’s abdomen.

Hermit crabs outgrow their shells as they age and must find new shells to protect their delicate abdomens. Crabs will fight one another for a desirable shell. More aggressive crabs will literally pull weaker crabs out of a shell, and in the wild, will sometimes remove dying gastropods from their shells to gain access.



*Hermit crabs find their shells in their environment and switch to bigger ones as they grow.*

## Hermit Crab Society

Hermit crabs are very sociable creatures, despite their name, and live in groups in the wild. They enjoy being with members of their own species and develop hierarchies within their group. Some crabs are more dominant than others and will show their dominance by pushing each other around.

Hermit crabs also have a voice and will make a chirping sound when the situation warrants it. They use this vocalization with other crabs and sometimes with their humans.

Evening is the most active time for hermit crabs, who prefer to eat and socialize after the sun goes down.

## Love Life

In the wild, all hermit crabs breed in the ocean. Male hermit crabs are known for dragging their mates around as they fight off other male crabs who want to mate with their female. When the female begins molting, the male breeds with her and fertilizes the eggs that she carries outside her body.

The female carries 800 to 1,200 fertilized eggs on the outside of her abdomen until they hatch. The young hermit crabs emerge from the eggs just before the full moon of the month after the eggs were fertilized, and only come out of their eggs when the female crab is submerged in seawater.

The baby crabs, known as larvae, must mature through several stages over a period of about two months. They start out as free-swimming creatures and eventually grow into crabs who can walk on the shore.

Hermit crabs have never been bred successfully in captivity, since their eggs will only hatch in the ocean.

## All Kinds of Crabs

About 500 hermit crab species can be found in various parts of the world, including the Caribbean, South America, and Australia. Each of these species is unique in appearance, and often in behavior.

Hermit crabs vary in size, from less than an inch to as big as 1 foot. Colors and markings are also varied in the hermit crab world; hermit crabs come in red, brown, purple, and other colors, and sometimes have stripes, spots, or other patterns.

### Most Common

The most popular pet hermit crabs are land crabs, which means they live mostly on land near seashores and tide pools. Several species of land hermit crabs are sold in North America. The two most common species sold in pet stores in the United States are from the Caribbean and Ecuador. The Caribbean species is also sold in resort areas in that part of the world.

Because individual hermit crab species are known by many popular names, I have listed them here by their scientific names.

#### ***Coenobita clypeatus***

The most common land hermit crab available in the United States is *Coenobita clypeatus*. Also known as the West Atlantic land hermit crab, Caribbean land crab, purple pincher crab, purple claw crab, tree crab, and soldier crab, this species can be found in many colors, including purple, red, and brown. They are native to the Bahamas, Belize, Venezuela, the Virgin Islands, the West Indies, and the Florida Keys, and are the species of crab most often sold at beachside stands.

*C. clypeatus* are nocturnal crabs and hide in leaves or under wet sand during the day to preserve moisture in their shells. Although they prefer living in beach areas, they may stray inland to look for food and search for snail shells. They also climb trees looking for food. *C. clypeatus* prefer to scavenge on the ground,



*Coenobita compressus* (top) and *Coenobita clypeatus* (bottom) are the two most common species sold as pets.

however, where they eat dead plants and animals, overripe fruit, and even the feces of other animals.

### ***Coenobita compressus***

More commonly known as the Ecuadorian hermit crab, *Coenobita compressus* is the smallest of land hermit crabs. These crabs like salt water even more than other types of land hermit crabs kept in captivity. They enjoy digging and need deep substrate so they can burrow. They are native to the west coasts of North and South America. In the wild, they scour beaches at night looking for food.



## Aquatic Hermit Crabs

Land hermit crabs are the most commonly kept hermit crab pets because they are easy to care for. But aquatic hermit crabs can also be kept in captivity—in saltwater aquariums. These crabs may share their home with clown fish, damsel fish, and other tropical marine fish. Because aquatic crabs spend all their lives in the ocean, they fit right in as part of a marine community fish tank.

In the wild, aquatic hermit crabs are found all over the world. They are part of the ocean ecosystem and contribute by scavenging in tide pools, reef shallows, and on the ocean floor.

Aquatic hermit crabs feed on decayed plant matter, algae, and fish food that falls to the bottom of an aquarium. This behavior makes them welcome additions to many aquariums, because they help keep the water clean.

The intertidal hermit crab is another type of crab found in the wild. A member of the *Diogenidae* family, this crab lives in tide pools throughout the world. These crabs require a complex habitat and are not generally kept in captivity.

The pincher claw of *C. compressus* is smaller than that of most other common land hermit crab species, so these crabs prefer shells with narrower openings than those preferred by other species.

*C. compressus* will live peacefully with other types of hermit crabs, although he prefers living with members of his own species.

## Less Common

Hermit crabs that can be found in the United States but are not as common include several species that are native to the African coast and nearby islands.

### ***Coenobita brevip manus***

Another hermit crab sometimes found in the pet trade is *Coenobita brevip manus*, commonly referred to as the Indonesian hermit crab. Native to islands on the east coast of Africa and Indonesia, this crab is the largest of the *Coenobita* genus

and weighs about half a pound at maturity. In the wild, these crabs get big enough to use coconuts instead of seashells for their homes.

Very social with members of their own species, these crabs enjoy plenty of hiding spaces where they can camp out during the day.

### ***Coenobita cavipes***

Sometimes known as the concave hermit crab or the red hermit crab, *Coenobita cavipes* is native to the sandy beaches of eastern Africa. Because these crabs are on the large side, they prefer the abandoned shells of giant African snails.

These very active crabs make good pets. They enjoy climbing and come in a variety of colors.

### ***Coenobita perlatus***

Native to Madagascar, *Coenobita perlatus* is also known as the strawberry hermit crab because of its reddish orange colors. These crabs also have white spots on their legs.

These sociable crabs enjoy climbing and visiting with members of their own species. They also love to dig in their substrate.



Where there are tropical beaches, there are hermit crabs.

### ***Coenobita rugosus***

These white or gray hermit crabs are native to eastern Africa and the Indo-Pacific region, where they live on sandy beaches and depend on turtle carcasses for much of their diet.

Nicknamed ruggies because of their scientific name, they tend to be a little less active than other land hermit crabs. This species seems to get along well with other crabs and enjoys climbing.

### ***Coenobitidae birgus latro***

Also known as the coconut crab or robber crab, *Coenobitidae birgus latro* is the largest of the hermit crabs. They can grow to weigh as much as 10 pounds and reach 3 feet in diameter. *C. birgus latro* is known as the coconut crab because these big guys can crack coconuts with their pinchers. These crabs also use their claws to climb coconut trees to get at the fruit.

Besides coconuts, this crab eats rotting leaves and other fruit.

*C. birgus latro* is native to tropical islands in the Pacific and Indian Oceans, and lives in coconut groves and in beach vegetation in the wild. *C. birgus latro* has been known to wander far from the ocean, and has been found in areas as high as several hundred feet above sea level.

*C. birgus latro* likes to dig in substrate. They come in red or black.