

# HERMIT CRAB

By Catherine Love, DVM

## HOUSING (AKA THE CRABITAT)

This guide will cover the husbandry of the most common species of land hermit crabs in the pet trade and is not comprehensive for aquatic species.

Small or medium crabs should have at least 10 gallons per crab, with larger or jumbo sized crabs doing better with at least 15 gallons per crab. Hermit crabs require high humidity, so full wire or mesh cages are not recommended. Glass aquariums with mesh tops are the enclosure of choice for most keepers. The screen top may need to be partially covered to maintain humidity. Deep substrate can also help maintain humidity, and also allows the crabs the opportunity to dig and burrow. Substrate should be at least 3x the height of the largest crab in the enclosure. A mixture of play sand and Eco Earth (ground coconut) at a 5:1 ratio creates a humidity holding substrate. The substrate should be kept moist, at the consistency that would allow building sandcastles. Some keepers use brackish water (higher salinity than fresh water) to moisten the substrate, as the higher salt content may reduce the risk of molding.

Hermit crabs should also have various hiding and climbing areas. Plants (real or fake) can offer cover and enrichment, though live plants may be destroyed by the crabs. Coconut hides, vines, driftwood, branches, coral, caves, and other similar items provide great climbing and exploration opportunities.



## WATER

Hermit crabs need access to both fresh and saltwater. Tap water treated with a dechlorinator (such as SeaChem Prime) is preferred over distilled water. The saltwater source should be marine grade aquarium salt (such as Instant Ocean), not table salt or freshwater aquarium salt. Both pools should be large enough to allow the biggest crab in the enclosure to fully submerge. Make sure to provide some kind of ladder or climbing structure to allow easy in and out access and prevent crabs from getting stuck. Many keepers choose to utilize plastic craft mesh for ladder construction, which can be molded and shaped when heated. Bubblers can help keep water in the pools fresh, but they will still need to be cleaned regularly to prevent waste build up.

## ADULT SIZE

Most species in the pet trade will grow to 1-4inches.

## LIFESPAN

The oldest known captive hermit crab was named Jonathon Livingston Crab, AKA Jon. He lived with his caretaker from 1976 until his death at age 45 in 2021. Jon is likely an outlier, with most hermit crabs living 5-15 years with proper care.

## LIGHTING

Ambient lighting is generally sufficient to provide 12 hours of light and 12 hours of darkness. It is unclear if UVB provides any benefit to hermit crabs.

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## FEEDING

Hermit crabs are omnivorous scavengers, meaning they will eat just about anything they find. In captivity, this means we want to make sure to offer a variety of foods to prevent nutritional deficiencies and also to provide enrichment. Wild hermit crabs have been documented eating an extremely wide variety of foods including seeds, nuts, fruits, flowers, stems, husks, algae, fungi, animal feces, eggs, and carrion of various species (mammals, fish, crustaceans, jellyfish, reptiles, etc). They are thought to have one of the most diverse diets of any crustacean and may even preferentially choose less abundant foods that become available in their habitat, ensuring they continue to consume a broad diet.

Crabs should be fed fresh food daily, removing anything uneaten so it doesn't spoil (crabs may also bury uneaten food, allowing it to rot). A nutritionally balanced diet should always be available so the crabs can choose what to consume. Many commercial hermit crab diets are not healthy and should be avoided, but there are a few that make great additions to a hermit crab's diet. The Crab Street Journal has a variety pack with many healthy foods. All foods should be pesticide and preservative free. Avoid artificial sweeteners, seasoning, or added salt or sugar. Hermit crabs should be fed food from each category every day. Molting crabs will not eat.

**Animal protein:** Various chicken and beef cuts and organs, egg, insects, shrimp, krill, bloodworms, sliversides, salmon, sardines, crab, bone marrow, other non-processed meats and fish.

## FEEDING (CONT.)

**Veggies:** Squash, peppers, beets, corn, carrots, broccoli, sweet peppers, peas, okra, pumpkin

**Leafy greens:** Seaweed, dandelion greens, turnip greens, radish greens, collards, parsley, cilantro, chard, romaine, grape leaves

**Fruits/flowers:** Rose petals, hibiscus, melon, banana, berries, dandelions, sunflower petals, mango, papaya, figs, tomatoes, oranges, kiwi, apples, pears, grapes, peaches

**Fats:** Nut butter without preservatives or sugars, tree nuts, coconut, oils (olive, coconut, sunflower, pumpkin seed), avocado meat, fish skins, sunflower seeds

**Seeds/grains:** Pumpkin seeds, quinoa, oats, flax, millet, wheat germ, chia, rice

**Other:** Bee pollen, honey, cuttlebone, oyster shells, worm castings, egg shells, crab/lobster shell, algae, bone meal, legumes, mushrooms



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## MOLTING

Molting is the process of shedding the old exoskeleton as the animal grows larger. The old exoskeleton is usually eaten by the crab after the molt, and the new exoskeleton hardens over time. A molting crab will burrow underground and not emerge until molting is complete. They generally do not leave their shells during the molting process. It is normal for a molting crab to not eat. They can also regrow appendages during this process. The entire molting process from pre-molt burrowing to emergence can take as little time as 2 weeks, or as much as a year. Most hermit crabs go through a molt at least once per year. Signs that a hermit crab is getting ready to molt include gorging food followed by a sudden drop in appetite, behavior changes and restlessness, color changes, and increased time spent in or around water. It is very important to never dig up a molting hermit crab. The only reason to change the bedding in your tank or disturb your buried crab is if you note a very foul odor, which could indicate that the crab has died.

## HUMIDITY

Maintaining proper humidity is incredibly important for hermit crabs. If the air is too dry, a hermit crab's gills will dry out and they won't be able to breathe. Humidity should be measured with a digital hygrometer, as the analog varieties are often inaccurate. The relative humidity in the crabitat should be around 70-80%. The occasional high humidity spike is ok, but dropping below 70% is dangerous. A deep layer of moist substrate will greatly help with humidity, as will daily misting. Molding can occur with poor ventilation, waterlogged substrate, or prolonged high humidity. Adding sphagnum moss to burrows or hides may also be helpful for maintaining humidity.

## HEAT

An under tank heater (UTH)/heat pad attached to the back of the enclosure, rather than the bottom, is a good choice for land hermit crabs. Make sure to have the heater hooked up to a thermostat to ensure the temperature is consistent and does not spike too cold or too hot. Basking lights are generally not necessary and usually end up just drying out the crabitat. The UTH should only cover around  $\frac{1}{3}$ - $\frac{1}{2}$  of the back of the enclosure to allow a temperature gradient for the crabs. Digital thermometers should be used to measure the warm ambient air temperature and the cool ambient temperature. The cool side should be around 75F, and the warm side around 85F. There may be some variation in ideal temperatures for each species, but this range is appropriate for most.



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## NATURAL HISTORY

Hermit crabs are invertebrates (animals lacking a backbone) and arthropods (animals with jointed legs i.e. insects, arachnids, crustaceans). They are considered crustaceans, which means they are related to animals like shrimp, lobsters, crayfish, and crabs. There are around 800 species of hermit crabs, most of which are not seen in the pet trade. Most hermit crabs are primarily aquatic and live in saltwater. However, the most common species in the pet trade are considered terrestrial or semi-terrestrial. There are many different species of hermit crab available in the pet trade, which come from coastal regions all around the world. The two most common species are *Coenobita*\* clypeatus (purple pincher or Caribbean) and *Coenobita* compressus (Ecuadorian or E crab). \*Coenobita is pronounced see-no-bit-a.

## CHARACTERISTICS & BEHAVIOR

Despite the name, hermit crabs are not solitary at all! Hermit crabs should always be kept with at least one other crab, with enough space/resources to support all animals to reduce injury and stress from competition. Hermit crabs are generally not aggressive toward their human caretakers and prefer hiding in their shell when threatened. However, their pincers (chelae) can be used for both defense and for gripping. A hermit crab may pinch if they feel threatened, and larger crabs are strong enough to draw blood, while smaller crabs may be barely noticeable if they pinch. Hermit crabs may pinch and hold on until they feel that the threat has passed. They may also use their pincers to grip if they feel insecure, which could inadvertently pinch skin.

## CHARACTERISTICS & BEHAVIOR (CONT.)

The life cycle and behavior of the hermit crab is quite complex. Until fairly recently, attempts at captive breeding hermit crabs were unsuccessful. Now, there are a handful of dedicated individuals that are working on breeding a healthy, humanely raised population of captive hermit crabs. Unfortunately, the vast majority of hermit crabs in the pet trade are wild caught and do not survive long in captivity. Most crabs (particularly those at carnivals, beach-side shacks, etc) don't even live long enough to make it to sale. Those that do are often very sick or stressed. Hermit crabs are marketed as easy/beginner pets, but proper care can be fairly complicated. They also do best as a hands-off pet. Excessive handling can cause injury or stress, and remaining outside of their optimal humidity range for too long can cause their gills to dry out. Their defensive pinches may also be painful or startling for some people, which could lead to further injury from dropping.

Consider adopting from a rescue or purchasing from a reputable breeder to help prevent further harvesting of wild hermit crabs for the pet trade.

Northwest Indiana Hermit Crab Rescue:  
<http://www.nwihermitcrabs.net/>

Land Hermit Crab Owners Society:  
<https://lhcos.org/adoption/>



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## BIOLOGY

Hermit crabs have 5 pairs of legs; 2 pairs are hidden away in the shell, where they are used to help anchor the hermit crab in place, 2 are used for walking, and the final pair are a set of pincers used for defense and climbing. Hermit crabs are unique from other crustaceans because they have a very soft abdomen, which they protect by moving into increasingly larger empty shells as they grow. These shells act as armor for the hermit crab to help protect them from predators and from drying out in the sun. Hermit crabs need to move into new shells as they age and outgrow their old ones. Without a shell, a hermit crab will not survive very long. Hermit crabs, including the primarily land-dwelling species, also have gills. Their gills need to be kept moist to allow them to breathe properly.