Care For Hermit Crabs
Big Apple Pet Supply
800-92-APPLE

Provide new shells for crabs to grow into.

Hermit crabs love to switch shells but need larger shells as they grow to maintain adequate body moisture. Your kit comes with extra shells but other shell styles and sizes should be offered as your hermit crab grows. For a proper fit, the new shell should be larger than the present shell, and the shell opening should be approximately the same size as the crab's large pincher.

Not all shells are suitable for crab homes.

To ensure that tree crabs function in their homes, shells should be properly cleaned, processed and chosen by a knowledgeable hermit crab distributor.
Bathe crabs twice a week.

Crabs will clean themselves if you provide them with fresh water in their bowls, however it is necessary to bathe crabs twice a week. Submerge them in room temperature water for about 30 seconds and then allow them to air dry. Your kit comes with a mister, please mist your crabs daily.

Create a social, healthy environment.

Crabs thrive on company and are the most active and entertaining when they co-exist in pairs or in a tree crab community. When increasing the number of hermit crabs, be sure to provide more space for them. They also need a warm and humid environment, 70-75 degrees F.

Promote exercise by creating a playground.

Crabs love to climb and Coral and cholla wood will encourage activity so be sure they have plenty of things to crawl on and play! Your kit comes with several items that encourages climbing.

Serve a balanced diet and fresh water in shell dishes-daily.

Crabs need calcium and they thrive on pre-mixed hermit crab food and treats along with a variety of vegetables and fruits. They will bury their food, so make sure you remove all uneaten food prior to their daily feeding.
HOW TO CARE FOR YOUR LAND HERMIT CRAB
(Coenobita Clypeatus)

Hermit crabs in their native environment live inland away from the water and the beach. Their diet consists of leaf litter, fruits and vegetation. They also enjoy chewing and eating bark and have a special preference for decaying wood (except pine or cedar.) When they have been domesticated it is recommended that they be fed a good commercial food and on alternate days treats may be fed, or coconut, romaine lettuce, apple, white bread, popcorn with or without sea salt, etc. It is recommended to offer oyster shell, egg shell, calcium block or cuttlebone for a calcium source. Land hermit crabs eat very slowly and very little so all uneaten food which lies outside of the food dish should be removed daily to avoid spoilage.

Water Quality is a must. To provide the necessary moisture for your hermit crabs, it is important to bathe this little friend. In climates which are humid, once a week, in summer, twice a week, in winter bathing once a week will be sufficient. In climates that are arid or when very dry heat provides warmth for your house, bathing every other day is preferable. Misting your hermit crabs on a daily basis outside the tank may be substituted for the bathing routine. Providing water in which the crab may climb is important. Use a non metallic container. A small sponge should be placed in the container to provide safety and prevent possible drowning. Water quality is a must. Our rule of thumb is, if the available water supply is acceptable for keeping aquarium fish, it is acceptable for hermit crabs. If you must treat the water for fish, treat the water for hermit crabs. Hard water with high iron content can do the most damage to your hermit crab. Bottled spring water is the safest.

Crabs can be kept in a plastic terrarium or aquarium with a 2 inch base of gravel or sand. The temperature should be maintained between 70 and 75 degrees. A heater can be purchased and placed under the aquarium to maintain the temperature above 70 degrees when one’s home is programmed to remain in the 60’s. We do not recommend using a full spectrum lights or heat bulbs on the aquarium or the use of corn cob or cedar shavings. This tends to dry out the hermit crabs and/or dehydrate them. If temperatures consistently are allowed to rise to the high 70 degrees or 80 degrees F, fresh air flow is needed. This can be provided by the use of an aquarium air pump accessory.

Hermit crabs are not aggressive like many of the sea crabs and can be handled. They climb on the outstretched palm of your hand without difficulty but avoid the large purple pincher claw which is used for defense and for holding onto limbs for climbing and balancing. If one is unfortunate enough to have a crab pinch the skin, place the area where the pincher and the skin meet under hot water. The pincher will normally turn lose immediately. The smaller claw is used to pass food and water to the mouth. The name "Hermit" is misapplied, for in the wild they live and travel in colonies of a few dozen to over a hundred. It is recommended that in captivity they be kept in the company of other crabs for their own contentment. They communicate by sound and it
is not uncommon to hear them "talking" to each other. They seldom fight, except occasionally over a shell or gender dispute. They are clean and odorless and may be released in the home for exercise and for observation of their comical antics if desired. They are good climbers and will enjoy coral or any type of non-resinous wood placed in their aquarium to exercise on. Like most other creatures, they respond to gentle care and learn to trust their keeper. It is known that some crabs have been kept in the home as pets for over 30 years.

Land hermit crabs have not reproduced in captivity. Their eggs need to be fertilized by salt water. Hermit crab enthusiasts are optimistic propagation in captivity will allow for reproduction. Like other crabs they grow by shedding their outer exoskeleton. This is the most important step toward growth a small crab will make. During this time they shed all their skin (which looks like an empty skeleton of a crab.) They need to be kept extra moist and in a medium into which they can burrow themselves. It also may be necessary to isolate the crab for a couple of days because they are very soft, vulnerable and inactive. However this is an important stage of development for it is in this period that any missing legs, etc., are regenerated by the crabs. Older crabs molt less frequently but require the same care. As the crabs grow they will need spare shells to grow into and they also seem to enjoy moving into empty shells to select the home that feels best. It is advisable to NEVER attempt to remove a crab from its sea shell because it will allow itself to be torn apart rather than give up it's protective home.

Stress is the most common problem seen with hermit crabs. Ramifications of stress are lethargic crabs, loss of appendages (legs and claws), and those which leave their shell without returning to it. If these symptoms occur, a tetracycline solution must be administered to the crab.

It is also comforting to know that hermit crabs do not carry or transmit any known diseases to mankind and they are hypo-allergenic, great as a pet for those with or without allergies.

A Full History of the Hermit Crab

The name Coenobita Clypeatus (usually pronounced seen-oh-bit-a cly-pe-ait-us) may be translated as "shield-bearing monk or cloister brother," which conjures up a truer image of this often gregarious and variously cloistered resident of tropical East American shores than does "hermit crab." But, like most common names, "hermit crab" or "soldier crab" in native parlance, will certainly endure. The animal so called belongs to a small family of terrestrial decapod crustaceans quite distinct from the marine hermit crabs. The family Coenobitidas is composed of two genera: Birgus and Coenobita. Birgus is represented by a single species, Birgus latro (Linnaeus, 1767), the Robber Crab or Coconut Crab of Indo-Pacific islands. Birgus has discarded the protection of an appropriated shelter except for a brief juvenile period. Coenobita contains seven species that inhabit tropical regions throughout the world and that live in discarded snail shells for their entire adult lives, changing to larger shells as they grow.

The terrestrial hermit crabs and a few true land crabs of the family Gecarcinidae are the
only decapod crustaceans (shrimps, lobsters, crabs, etc.) that have successfully migrated from the sea directly to dry land. Most land animals gradually evolved from the marine environment through brackish and fresh water to marshes and land. The direct route taken by Coenobita presents many adaptive problems, especially in the hot and dry climates that seem to be favored by the terrestrial hermit crabs.

Coenobita Clypeatus ranges in size from tiny but sexually mature individuals weighing little more than a gram to old males as large as a man's fist. It occurs naturally from Bermuda, where it is now rare, and southern Florida to Venezuela and perhaps Brazil. It seems to prefer dry, hard soil at some distance from the sea and it is known to live at altitudes of at least 2,300 feet (887 meters.) Although high humidity is desirable, Coenobita seems to avoid areas of dense vegetation or permanently humid habitats, such as marshlands and the muddy banks of brackish or freshwater pools. Hermit crabs can survive in coastal areas but they encounter stiff competition for food there from quicker and more active semi terrestrial grapsoid crabs. The hermit crab populations in these regions are consequently made up of small individuals and a few larger ones that usually carry inadequate snail shells and appear the worse for wear in comparison with those living in inland situations, where there are freshwater drinking places, shade trees, and a better 'food supply.' The inland populations often occupy the heavy West Indian Top Shell, (Cittarium-Livona) pica.

On Curacao, the hermit crabs are usually least active about noon; they normally reach their peak of activity between sunset and 8:00 P.M. and gradually become less active from then until the following noon, but a sudden increase in humidity, as from a shower, tends to promote activity at any time. The optimum temperature range is probably between 72 degrees and 93 degrees Fahrenheit. All movements become slower at 68 degrees to 72 degrees and hermit crabs maintained at 65 degrees become more or less lethargic. Populations of Coenobita on Bimini in the Bahamas are more active in the daytime, possibly because nighttime temperatures are lower than they are farther south, but this reversal of the activity cycle was not observed in those inhabiting the Florida Keys.

When the hermit crabs are active and encountering each other in their travels, they often make croaking sounds, but the source of this apparent means of communication is still uncertain. Some species of the Coenobitahave prominent stridulating ridges on the outer surface of the major claw, but no such structure is to be found in Coenobita Clypeatus.

As an adaptation for extracting oxygen from the air rather than from the water, the gills of Coenobita are reduced in number and stiffened, and the inner walls of the gill chamber are vascularized to promote the exchange of gases. Also, ventilation of the gill chamber is enhanced by the reduced side walls of the carapace or head shield of the crab. Moistening of the gills is abetted by well-developed glands in the bronchial region.

The danger of drying out or of over concentrating the body fluids through evaporation is the most critical problem confronting any animal that migrates from water to land. Coenobita has an advantage in this respect over the true land crabs, for it can store water in the appropriated snail shell, and this water may be used secondarily for drinking. One reason that hermit crabs so frequently try on different abandoned snail shells is to find one that fits the delicate abdomen closely, thereby minimizing evaporation. The same explanation probably accounts for the nocturnal habits of
Coenobita Clypeatus in the southern part of its range, where daytime activity could result in severe evaporation. Experiments have shown that animals in well-fitting shells can subsist without food and water six times as long as those removed from their shells. When the crab withdraws into its shell in the daytime, the claws and walking legs form a reasonably effective seal in the shell mouth against evaporation. The parts of the animal that protrude farthest from the snail shell are most heavily calcified, and this undoubtedly helps to prevent the evaporation of body fluids.

Coenobita takes up water by dipping the tips of the claws in it, transferring drops to the mouthparts or maxillipeds and thence to the mouth and gill chamber. Very small amounts of water, such as raindrops and dew, can be utilized in this way. An alternate method is to hold both claws close together and dip them in the water; by shoveling motions, the water is forced to rise by capillary action along the fringe of hairs on the lower surfaces of the claws, and the maxillipeds, direct it to the mouth. Coenobita has a highly developed sensory perception for water; it prefers water of low salinity and it is able to discriminate well between different salinities. The animals seem to remain in best condition when a small amount of salt is present in the drinking water. Full-strength sea water can be used for drinking, but not for shell water-, the latter must be constantly diluted with nearly fresh water to prevent adverse concentration of the body fluids. During the dry season on Curacao, even limestone containing moisture is consumed by the hermit crabs as a source of water.

Land hermit crabs are omnivorous. They feed on all kinds of vegetable matter, as well as on protein-rich food, especially decaying flesh. On Curacao, native fruits, such as cactus fruits and the supposedly poisonous "apples" of the Manchineal Tree are devoured eagerly, and fresh droppings of horses and cows are used as a source of both food and water.

Local fisherman who use "soldier crabs" for bait claim that they can be obtained most easily by attracting them with coffee grounds. The animal obviously performs a useful function as a scavenger in tropical countries, not only along the waterfront but also around human habitations and refuse dumps. De Wilde tells of a dead donkey on Curacao that kept a group of hermit crabs busy for several weeks. Even when nothing remained of the carcass but the empty dried hide, the crustaceans continued to rattle loudly around inside of what served as a very effective sounding box. In captivity, cannibalism may result from inadequate care but, if sufficient food and water are supplied, mortality is very low, even when several hundred medium-sized animals are crowded together. The crabs were maintained in excellent condition in captivity on Curacao on a diet of cooked rice, bread and fruit- and sometimes fish or other protein-rich food.

Molting is a necessary but hazardous procedure for all arthropods, especially under other than natural conditions. All are vulnerable to attack until the new integument hardens, and they must protect themselves from all kinds of assailants and predators during this period. In captivity, hermit crabs often burrow into soil when ready to molt and remain out of sight for a month or more, during which time they consume the cast integument, presumably for its calcium content. When several individuals are kept together in captivity, slabs of some material under which the animals may retreat for privacy should be provided. A source of calcium, such as egg shell is also desirable. Some shell water is retained during molting to forestall desiccation. On Curacao, molting seems to be especially prevalent during April and May.
The sex of hermit crabs usually cannot be determined without removing the animals from the shell. Males of Coenobita Clypeatus are distinguished by the presence of tufts of hair concealing openings on the first segment of the last pair of legs and by the absence of appendages on the abdomen. Females have bare openings on the first segment of the third legs (counting the claws as the first pair) and three forked appendages on the left side of the abdomen for this attachment of eggs. The sex ratio of the Coenobita population on Curacao seems to vary with age--in very small animals (weighing less than 10 grams), there are usually from 4 to 25 females to every male--in medium-sized crabs (20-50g), there is considerable variation from slightly more than one female to every male to three males to every female; and in large and very large individuals (501 00 g), there are more than three males to every female.

The annual migrations of Coenobita toward the sea are well known to inhabitants of the Caribbean region. They are always made at night and they generate such a clatter that they are said to have scared off human invasions of some of the islands in the past. Contrary to general opinion, the migrations apparently do not coincide with readiness to liberate the eggs in the sea. The hermit crabs on Curacao first migrate from island areas to locations near, but not necessarily on, the coast, where there are sources of fresh water with which to dilute the shell water. What are assumed to be mating activities--although actual copulation has not yet been observed--seem to occur in these breeding areas about a week before the full moon in August, September and October.

As the eggs are spawned, they are attached to the abdominal appendages by the pincers on the last pair of legs. The number of eggs varies from 800 to 1,200 in young females and may reach 40 or 50 thousand in large ones. Freshly spawned eggs are dark reddish brown. During the following month, they gradually become paler, changing to gray or light blue, and the egg mass becomes less compact. Before the full moon of the month following the one that apparently attended breeding activity, the eggs are mature and will burst immediately when placed in sea water, releasing the zoeal larvae. For that reason, females keep less water in the shell when they are carrying eggs than otherwise--enough water to maintain maximum humidity but not enough to cover the eggs.

No individuals of the Curacao population of Coenobita were seen entering the sea to release the eggs, as they were believed to do. One might assume that such immersion is avoided so that the carefully maintained salinity of the shell water will not be upset, yet the Pacific American Coenobita Compresses H. Milne Edwards, 1837, has been observed to approach the shore deliberately and permit the waves to wash over it. Females of Coenobita Clypeatus on the other hand, mount low prominences along the shore and follow a procedure for releasing the eggs that may be unique among crustaceans. The eggs are removed in small clusters by the last legs, passed forward to the maxillipeds where they are formed roughly into balls and deposited on the tip of one of the claws- they are then "shot", by a short forward movement of the claw, onto intertidal rocks from which they are washed into the sea by the incoming tide. There is some evidence that the entire egg mass does not mature simultaneously, and parts of it are deposited on the shore on successive nights.

This breeding cycle may be repeated twice during successive lunar periods on Curacao, but the first event is the most important and the third one the least. In the northern part of its range, Coenobita has only a single breeding period annually.
The larval stages consist of four to six free-swimming zoeal stages, lasting for 40 to more than 60 days in the laboratory but probably less than that under natural conditions. The post larval glaucothoe stage persists for more than a month, during the last week or more of which it is non swimming and crawls ashore. It is believed that many of the larvae remain in eddies near the island where they were released and that local populations are therefore probably self perpetuating to a considerable degree. Also there is some indication that young and inexperienced crabs are guided to breeding areas by older, experienced ones. Individuals of the species are known to live in captivity for at least 11 years.