

Husbandry, Bearded Dragons

Natural Habitat

Bearded dragons (*Pogona vitticeps*) live in the arid, rocky, semi-desert regions and the arid open woodlands of Australia and New Guinea. They are adept climbers, spending time on branches and in bushes, and are even found on fence posts when living near human habitation. They love to bask on rocks and exposed branches in the mornings and the afternoons. These diurnal lizards are omnivores, or voracious eaters of invertebrates and small vertebrates alike when not foraging for soft plant matter, including greens, fruits, and flowers. Like most desert dwellers, bearded dragons spend the hottest part of the day in underground burrows and are well adapted to the cool desert nights.

Housing

Despite their relatively modest size (adults grow to 20 inches [50 cm]), bearded dragons are still considered by many to be giant lizards that do require generous space. Because adult bearded dragons will cheerfully eat animals smaller than themselves, hatchlings should not be housed with juveniles or adults. Males tend to be territorial, which makes even 50-gallon tanks too small for them. Overcrowding, too, can lead to aggression and stress, which are compounded when the subordinate animal has no place to run off to hide. Not uncommonly, such conditions cause stress and fighting injuries, including lost toes and tails, and loss of appetite.

An enclosure should be large enough to provide a wide temperature gradient both horizontally and vertically. Adults require a minimum tank size of 120 gallons (4'x2'x2') and juveniles are usually comfortable in 40-gallon tanks. Bearded dragons can be surprisingly quick (trotting with their bodies raised well off the ground), making top-opening enclosures a must. A top to the enclosure is required; this will keep the dragon from taking off on its own and will keep the crickets inside the tank. Tanks must be well ventilated, yet able to retain heat. Tanks with parts of their tops or sides made of screen often work well. Make sure that the tank top is large enough and sturdy enough to hold a full-spectrum/ultraviolet (UV) light and a fixture for supplemental heating.

Debate about the best substrate for bearded dragons to live on is ongoing. In their native environment, bearded dragons live in sandy desert areas. Decomposed granite or large-grained sand (available as playground sand in hardware stores, as well as in pet stores and nurseries) is often used, although reports have described intestinal impaction. Other substrates include outdoor carpeting (trim, loose threads), butcher paper, unprinted newsprint, paper towels, and terry towels. Branches for climbing and basking, and rocky, ceramic, or wooden caves, and perhaps even some nonprickly succulents, make for an attractive and relatively easy-to-maintain vivarium. Do not use corn or walnut cob, alfalfa pellets, kitty litter, or wood shavings as substrates.

Temperature

Bearded dragons are ectothermic, meaning that they rely on their environment to regulate their body temperature. Bearded dragons need both basking and hiding areas. Ideally, the tank should be big enough to have a hiding place at both ends of the temperature gradient, plus a basking area closer to the heat source. Provide at least a hiding area on the cooler side, with branches and logs for climbing and basking on the warmer side. *It is important to establish a temperature gradient in the enclosure. The warm end should be maintained between 85 and 95°F (29 and 35°C). The cool end should be maintained between 77 and 82°F (25 and 28°C). Nighttime temperatures can drop no lower than the low to mid 70°F (21°C) on the cool side. A basking light or heating element should be positioned above the basking zone so that there is a vertical gradient, with the warmest end at the top. Place these lights/heaters in areas where the animal spends its time, not just where it is convenient for you. Please use thermometers to monitor the temperature at these sites; you may purchase an indoor/outdoor thermometer for about \$10. It is important to note that bearded dragons will regulate their body temperature on their own by migrating to various areas of their enclosure when needed. They tend to heat up quickly and cool slowly and will maintain a high body temperature for an extended time. Improper heat gradients are the major source of illness in reptiles.

Diet

Bearded dragons are omnivores, with plant material accounting for about 20% of their diet. Diet requirements have been shown to change with age; young dragons eat 50% plants and 50% animals; older dragons consume 65% to 90% plant material and only 10% to 35% animals. Because these lizards can consume a wide variety of invertebrates and small vertebrates in the wild, a variety of protein sources must be offered in captivity. Prey items such as appropriately-sized cultured crickets, cockroaches, Phoenix worms, and silkworms can be fed. Make sure that the invertebrates are freshly moulted, to reduce the amount of tough, indigestible exoskeleton that the dragon will ingest; exoskeletons can cause intestinal impaction, so the least amount ingested, the better. Because bearded dragons are more active during the day, more of their food items should be offered during this time. Offer only the amount of live prey that the dragon can consume in a 10-minute period, so prey such as crickets do not linger about the tank during the day. Roaming crickets deprived of food can injure younger dragons.

You must feed very small prey to baby bearded dragons. Although the rule of thumb for feeding lizards says that it is generally safe to feed prey that is $\frac{2}{3}$ the size of the lizard's head, this is not advisable with baby bearded dragons (0 to 4 months). When fed prey that is too large for them, serious physical problems often result: partial paralysis, seizures, ataxia (loss of motor control), inability to self-feed, gut impaction, and even death. Start with feeding small items, and work up to larger sizes very slowly.

Remember to feed your invertebrate prey before feeding it to your dragon. Prey bought from pet stores are generally in dire need of a good meal, having subsisted on cardboard or bran for several days at least. Sprinkle or dust prey with a calcium supplement just before feeding them to your lizard (more for baby and pregnant dragons), and use a multivitamin supplement 1 time a week (more for babies and pregnant females). Prepare an enclosure for your insects, furnishing it with pieces of egg crate or cardboard cores from paper towels and toilet paper. Pieces of fruits and vegetables, as well as foods such as high-protein baby cereal mixed with reptile vitamins, tropical fish flakes, and rodent chow, make suitable foods for invertebrates. Because smaller crickets are more nutritious than larger crickets (proportionately less exoskeleton), it is better to feed out more of the smaller ones than fewer of the big ones.

Plant matter for your bearded can include a variety of shredded or torn vegetables and fruits such as green beans, orange-fleshed squash, carrots, escarole, parsley, mustard, dandelion and collard greens, and cantaloupe.

Always provide fresh water for your dragon. Water should be provided in a bowl or dish shallow enough for your lizard to see easily into and drink out of; deeper bowls can be half-sunk into the substrate. Because of the corrosive action of hot water on copper pipes in hard-water systems, use only cool or cold water if using tap water for drinking water. Light misting with water will help keep skin humidified to make it easier to shed; however, never make the tank damp, or mold may begin to grow.

Handling

Dragons are social animals. This is one of the reasons why they are engaging and interested in their surroundings in captivity. They are wonderfully tempered, intriguing in appearance, and quizzical in countenance; they require little in the nature of active training or taming to make them calm and handle-able. They are aptly referred to as the Labradors of the reptile world!

Although generally quite friendly, if they feel threatened they have been known to scratch or bite their handlers; caution should be taken if your bearded assumes a defensive posture such as puffing out or "displaying his beard," pressing his body flat into the substrate, and opening his mouth.

Proper handling should include supporting the body with the palm of your hand and securing the tail tucked under your arm—this helps the bearded feel secure and allows the handler to be in control. Bearded tend to be very trusting of their handler and may not hold on to you as you are handling them, so care must be taken to not accidentally drop your pet.

Behavior

Bearded dragons are social animals that enjoy exploring their vivarium, so having substrate that they can burrow in and tree branches and rocks that they can climb on and explore will help put your bearded at ease. They easily become comfortable in their environment and usually stop

displaying their beards fairly quickly. Bearded dragons can become bonded to their caretakers and can be amenable to handling.

Lifespan

Bearded dragons have a lifespan of approximately 10 years (5 to 15 years).

Common Medical Conditions

1. *Intestinal impaction.* This can occur when the bearded accidentally ingests substrate (usually sand and finely grained substrates that get attached to food). Intestinal impaction can also occur if bearded dragons are fed multiple invertebrates with tough, indigestible exoskeletons. It is recommended that you feed your bearded invertebrates that are freshly moulted to reduce the amount of exoskeletal material ingested. Also, multiple smaller invertebrates contain less exoskeleton than fewer larger invertebrates. As the bearded grows, it is better to feed him rodents rather than insects because this decreases the risk of intestinal impaction.
2. *Fighting injuries.* Overstocking terraria should be avoided because it leads to aggression and stress. Because overcrowding prevents subordinate animals from running off and hiding, injuries such as lost toes and tails and loss of appetite can occur. Males tend to be territorial, making even 50-gallon tanks too small for them. As already mentioned, adults will eat animals smaller than themselves, and hatchlings should always be housed away from juveniles and adults.
3. *Metabolic bone disease.* Diets that are deficient in calcium or vitamin D3 may lead to a specific type of metabolic bone disease called nutritional secondary hyperparathyroidism. This can be caused by feeding diets low in calcium or high in phosphorus and by lack of exposure to UVB light. Symptoms reflect the demineralization of bone and include fractures, skeletal deformities, weak eggshells, and possibly muscle tremors and seizures. This is most common in juvenile bearded dragons whose diets are not properly supplemented with calcium. Sprinkle or dust prey with a calcium supplement just before feeding them to your lizard 3 times a week (more for baby and pregnant dragons), and use a multivitamin supplement 2 times a week (more for babies and pregnant females). This disease is less common in adults fed whole adult prey (rodents) that are rich in calcium. If feeding salads that contain a lot of beans, it is recommended that extra calcium is sprinkled on top to offset the high phosphorus content of beans.

This handout contained excerpts from www.anapsid.org. This is a great webpage; use this as a great resource to read up on the husbandry of these animals. Another great publication is *The Bearded Dragon Manual*, published by Bowtie Press. It is available in pet stores and on amazon.com

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*Minor adjustments made (temperature requirements adjusted per Dr. Jay. D. Johnson's current recommendations).