

Inland Bearded Dragon *Pogona vitticeps*

By James Adams



Bearded dragon basics

Bearded dragons are native to central Australia. These guys make wonderful pets for new and seasoned reptile keepers. They are readily available at just about all pet stores, exotic expos, and on many breeder websites. In addition to being easy to find and buy, they come in many different morphs, or coloring and patterns. However, depending on what morph you are looking for may increase the price. They have an average lifespan of about 10 years in captivity, but a very well taken care of dragon can live upwards to 20 years. Bearded dragons can reach lengths of up to 24 inches.

Bearded dragons reach sexual maturity around 1.5 to 2 years old. Males are bigger than females, have a broader head than female, and have noticeable femoral pores. Femoral pores are circular spots on the underneath of the dragon that run up the back leg from about the cloacal vent to shortly before the knee. These pores can get clogged but having the ability to soak, and a clean enclosure can keep them clean.

Handling your bearded dragon is easy in most cases. When you first bring your baby home, give them a day or two to adjust to their environment that you can begin handling for short periods of time. When getting your dragon out, always try to scoop them up from underneath. Reaching down on them can make them feel threatened as most predators in the wild would come from above. When handling, do not fully restrain your dragon as this can cause stress, you want to let them be able to move freely. They should be able to walk through your hands with ease, and just keep placing one hand in front of the other to ensure they don't fall or dash out of your hands. Start with about 5 minute sessions, and gradually work up the handling times. Once your dragon becomes an adult he/she should be very happy to come out and spend time with you. As adults many people will take their dragons to pet stores, and even walk them on leashes.

Unlike many reptiles, bearded dragons have a few ways of expressing them. Though rarely observed in captivity, some bearded dragons will make a wave motion. This is done by them lifting up a front leg and moving it forward, making it seem as though it's waving at you. This is done to show that the dragon is being submissive. Some will also bob their head up and down. This is often accompanied by a flattened out dark color beard, or the skin underneath their mouth. This is often associated with

more aggressive behavior, or the dragon saying “Hey, I'm the alpha here”. In captivity though they are very hardy lizards, and often very well-mannered and easy to handle and spend time with.

Bearded dragons tend to be semi arboreal, meaning they like to be up high. This helps with giving them a good high place to bask, and some branches to climb on and to lay on. They also like to hide underneath things. So making sure they have things in the enclosure they can hide in or under is also recommended, but we will cover these farther in the next section.

If you have any further questions that this guide does not cover make sure to conduct your own thorough research. Reading multiple care guides can help broaden your knowledge. There is a plethora of guides out there, so it is best to read multiple and follow what the care guides have in common. You can also reach out to your exotic vet, or breeders for more in depth information, and to answer any questions you may have. Make sure to never stop researching your pets care. New better ways of keeping and caring for bearded dragons are discovered all the time, and its best to try to keep up with what is best for your species.

Husbandry.

Like all reptiles, husbandry is the MOST important part to make sure your pet dragon is healthy and happy. Husbandry is the combination of enclosure, substrate, lighting, heating and everything that makes his home a home. When husbandry is lacking one or many of the essentials that a bearded dragon needs, it can cause many health problems that cause veterinarian help, or in severe cases can cause death. We will later cover common health concerns and signs. We recommend getting a thermometer for both the warm and cool side of your tank, a hydrometer to monitor humidity. You can also look into getting thermostats that you can place on timer to make it easier to give them day and night time cycles.

It is important that you have an actual enclosure for your bearded dragon. Some people allow their bearded dragon to freely roam their house, or a single room. This can be dangerous to you dragon. There are many things your bearded dragon could get into for hiding purposes, it could try to eat something harmful, or simply be unable to find adequate heat. In addition if you have other pets they could attack your dragon or cause much unneeded stress. A small child who is unsupervised could also accidentally harm your dragon.

First up on the list is enclosure. Adult bearded dragons need a decent size enclosure, we recommend a minimum size of 120g, or 4ft long by 2ft tall and 2ft wide. However an enclosure this size can make a small bearded dragon uncomfortable and anxious leading to a lack of appetite. To combat this response we recommend the size up method. This means that as a baby you put them in a smaller enclosure and upgrade the tank size once they have outgrown the one they are in. We recommend a 20 gallon terrarium or equal dimensions. Once the bearded dragon has outgrown that they should be able to be placed into an adult enclosure.

The enclosure needs to have some sort of substrate, or bedding. This can range from paper towels, newspaper, tile, or coco fiber and or a 75% coco fiber 25% sand mixture. We do NOT

recommend pure sand, or calci-sand substrates. Pure sand does tend to have a higher impaction rate than other substrates. Calci-sand and other “easy to digest” reptile sands can cause an imbalance in the body’s intake of minerals causing health issues. Please note that with proper heating, humidity and overall good health, a bearded dragon should be able to pass any substrate that it ingest, and that any substrate that is ingested could cause an impaction to an unhealthy animal. Along with the substrate you should put in a few places on both the warmer side and cooler side of the cage for your dragon to climb in or under. If you use a loose substrate they may even burrow underneath. The places to hide can be store bought hides, or you can build hide using slate or stones. The enclosure should also have stuff to climb on such as reptile safe branches, cork bark, reptile hammocks and so on. If you get branches or stones from outside, make sure any wood you use is reptile safe. Many woods secrete oils that are harmful to reptiles. In addition you want to boil or bake anything that you bring in from outside to kill any potential parasites. There are many guides online on how to safely do this.

If you do not want to do a loose substrate we do recommend that you make a digging section of your enclosure. This can be accomplished by getting a decent sized plastic tub that fits inside the enclosure and filling it with loose substrate. Make sure your dragon can easily climb in and out of the dig box. This will give your bearded dragon the ability to dig like they would naturally, and if you have a female that happens to develop eggs, entice her to lay them.

Lighting for a bearded dragon is important as well. They need a specialized bulb called a UVB bulb. These bulbs can be somewhat pricey but are essential to proper health. UVB bulbs create UVB waves similar to the sun. UVB is essential for bearded dragons to fully synthesize vitamin D3 which helps with absorption of calcium. UVB is not able to go through glass, so putting your dragon next to a window, in a glass enclosure will not give them the proper UVB that they need. We also recommend giving your bearded dragon the ability to have natural sunlight. You can do this by buying a mesh cage for them to be placed in while outside unattended, or sit outside with them on warm sunny days. We recommend about 30 minutes sessions a couple times weekly if weather permits. It’s important that you change out your UVB bulb every 6-8 months even if they aren’t burnt out. The ability to actually produce UVB fades after 6-8 months depending on the type of bulb. In addition to UVB bearded dragons also need a basking light, with a basking spot of around 100 degrees Fahrenheit. We recommend pairing the UVB and basking light to be in the same spot as the dragon may spend a decent amount of time in that spot. The basking spot can be easily done with a rock, or branch that is set closer to the light so the dragon can easily climb and rest their soaking in the heat. Make sure that the branch or rock formation is set so the temperature doesn’t exceed 100 degree Fahrenheit, and so that the bearded dragon cannot make direct contact with the light. The tank will also need a good heat gradient. The warmer side of the cage should be in the 90s whereas the cool side should be in the mid-80s. Dragons should be on about a 12 hour day cycle and night. It’s ok for the temperatures to drop into the higher 70s at night, and you can use a ceramic heat emitter to keep the heat up when the lights are off. We also recommend you do NOT get a heat rock. Heat rocks cause burns to many lizards, Dubiaroaches.com did a wonderful explanation on how this happens, and you can look on their website or Facebook page to read all about it.

Another big aspect to bearded dragon care is their humidity needs. Bearded dragons come from a rather dry location naturally. We recommend that you keep your humidity levels around 30-40%.

Lastly bearded dragons can be social however we don’t recommend cohabitating bearded dragons. If you do wish to cohabit, or keep multiple in an enclosure together, never put 2 males

together. Multiple male can fight and badly injure each other or kill each other. You can house multiple females together if the enclosure is big enough, we recommend an additional 40 gallons of space per dragon in the enclosure. In addition, make sure that all dragons are relatively the same size, as adults can and will eat babies.

Feeding and water

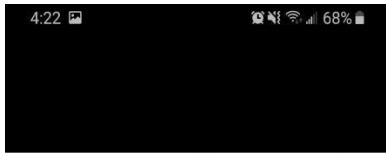
Bearded dragon dietary needs change as they grow and get older. Baby dragons eat about 75% live insects, such as small crickets, mealworms, and dubia roaches and 25% leafy greens. It is important that baby bearded dragons get live insects, for the protein to help them grow. Feeding live also causes them to hunt and gives them exercise and enrichment. We do not recommend catching wild insects as they are more likely to carry parasites or have been through harmful chemicals that could kill your dragon. It is also important to offer them leafy greens to ensure that they are used to eating greens for when their diet needs change. Feeding them freeze dried options lack some of the important nutrition's of live insects, and can have preservatives that make them similar to humans eating chips, so we recommend not using them at all. You should feed your babies live insects daily to every other day, and should also offer a small dish of fresh greens. When feeding insects you want to feed them prey items that are no larger than the space between their eyes to ensure ease for swallowing. Feeding prey that is bigger than that can cause issues with them chewing or swallowing. We also recommend feeding a variety of different prey items, as certain insects offer different nutritional values. We will include a wonderful diagram created by dubiaroaches.com that tells you what insects to feed, how often to feed them, and their nutritional values. As far as leafy greens you want to cut them up small enough for the dragon to eat them, but do not mince them up. Leave them intact enough the bearded dragon can bite and tear the leaves. Dragons that eat minced veggies, have been seen to develop periodontal disease (teeth and gum disease). Certain vegetables should be avoided, such as iceberg lettuce, spinach, kale, and carrots; a full chart of vegetables and how often they should be fed will be placed later as well. Again with vegetables we recommend varying what you feed, and getting them fresh, no frozen or canned.

Once your dragon reaches about 4-6 months of age, you can start to transition them to a 50/50 diet. As they grow, they need less protein so less insects. At this point we would recommend feeding them live insects every 2-3 days with a fresh dish of greens daily. You can also begin offering your bearded dragon small amounts of fruits, however this should be used as a treat and accommodate for less than 5% of their diet. Fruits are naturally high in sugars which can cause your dragon to become obese if fed too often.

Once they are about a year old their diet should be at least 75% greens and no more than 25% insects. Again the chart for what greens will be shown below. An adult bearded dragon should be offered insects one to two times weekly, and a dish of greens should be offered about every other day to every 3 days. Feeding a high amount of insects into adulthood can cause kidney issues as adults cannot process the insect protein like they could as babies. Feeding greens daily could lead to an obese lizard, which would come with potential health complications as well. Feeding fruits as a treat is an option as well, but again it should accommodate for less than 5%. It is important to never feed mice pinkies. Some care guides mention that you can occasionally offer them as food, but they can be harmful as bearded dragons aren't designed to process animal protein efficiently, in addition, rodents can be high in fat contents.

It is also important to add calcium supplements to their food. We recommend calcium powder WITHOUT vitamin D3. Since bearded dragons like to bask and get UVB they do not need the extra vitamin D3, and supplementing them with it can cause an overdose. We recommend lightly dusting insect prey in calcium powder or gut loading them by feeding them nutrient rich food about 12 hours before offering them to your dragon. Another easy way to make sure your bearded dragon is receiving calcium powder is by lightly dusting their greens every feeding instead of the insects. If you accidentally get calcium with D3 in it, just dust greens every other feeding.

Because of their natural environment being so dry, bearded dragons rarely drink from a standing water source. However, during the rainy seasons they do often hide under rocks that pool with water where they can soak and drink. We recommend offering a shallow water dish big enough for your dragon to fit in. This is so your dragon can drink if needed, and soaking also helps the dragon relieve themselves, so make sure to check water daily and change it every day if soiled, or every other day if not. Since bearded dragons rarely drink from standing water, to help make sure they get an adequate intake of water, we recommend that you sprinkle water on the greens each feeding. We also recommend that you soak your dragon in a tub of lukewarm water a couple times a week for about 30 minutes to an hour to also help with water intake, any stuck shed, and to relieve themselves.



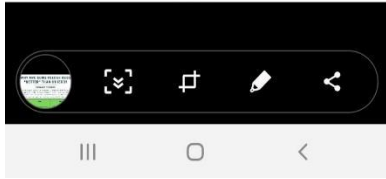
WHY ARE SOME FEEDER BUGS "BETTER" THAN OTHERS?

SECONDARY FEEDERS

It's not a good idea to use the same 1-2 feeder insects for your reptile's entire life. 'Secondary' feeder insects should be offered in addition to 'primary' feeders as a way to add dietary variety. However, because they're not as nutritionally 'neutral' and/or cost-effective as 'primary' feeders, they should be offered on more of an occasional basis.

Feeder	Pros	Cons
Superworms	high protein, cheap, readily available, long "shelf-life"	high in fat, high in phosphorus, gutloading is optional but recommended, calcium tends not to stick
Silkworms	moderate protein, high-moisture	extremely low in fat, expensive, can be difficult to source, may cause diarrhea in high quantities
Hornworms	low protein, high-moisture, relatively common, high in calcium on the right diet	extremely low in fat, short "shelf-life", expensive, may cause diarrhea in high quantities

Dubia.com

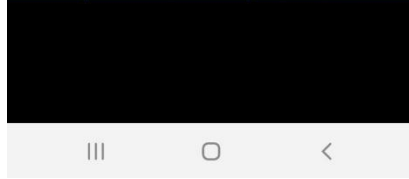


WHY ARE SOME FEEDER BUGS "BETTER" THAN OTHERS?

PRIMARY FEEDERS

It's not a good idea to use the same 1-2 feeder insects for your reptile's entire life. However, 'primary' feeder insects can be offered the most frequently because they have a fairly 'neutral' balance of macronutrients and are cost-effective.

Feeder	Pros	Cons
Dubia (nymphs)	high protein, moderate fat, affordable, readily available	adults can get dangerously high in protein if fed a high-protein diet
Discoids (nymphs)	high protein, moderate fat, available in states where dubia are illegal	less affordable and harder to find, adults are also extremely high in protein
Crickets	high protein, moderate fat, cheap, have been used successfully for decades	noisy, short lifespan, extremely low nutrition if not gutloaded first
CalciGrubs (BSF)	high protein, moderate fat, high calcium, long "shelf-life", don't need to be gutloaded	may not get chewed properly, resulting in incomplete digestion
Mealworms	high protein, moderate fat, cheap, readily available, long "shelf-life", easy to gutload	gutloading is optional but recommended, calcium powder tends not to stick





HOW OFTEN SHOULD I FEED...?

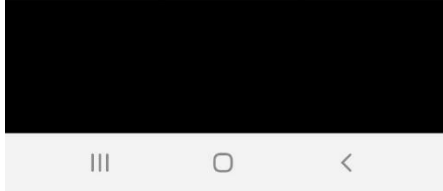
There's no such thing as a 'bad' feeder insect for your pet (aside from the poisonous ones, obviously!). **Variety is key to a balanced diet**, after all! However, there are some bugs that are safer to feed more frequently than others:

● = primary ● = secondary ● = treats

 Dubia roaches 15.6% protein - 6.7% fat 2.9% fiber	 Superworms 19.1% protein - 16.0% fat 4.2% fiber
 Discoid roaches 17.0% protein - 8.2% fat 2.6% fiber	 Silkworms 15.3% protein - 1.3% fat 4.0% fiber
 Crickets 18.4% protein - 6.6% fat 1.9% fiber	 Hornworms 9.5% protein - 2.7% fat 2.5% fiber
 Soldier fly larvae 17.1% protein - 10.6% fat 6.4% fiber	 Waxworms 14.2% protein - 22.1% fat 0.8% fiber
 Mealworms 17.6% protein - 9.3% fat 2.3% fiber	 Butterworms 15.6% protein - 29.6% fat 1.4% fiber

Dubia.com

Reference available at <https://dubiaroaches.com/blog/feeder-insects/dubia-roaches-vs-common-feeder-insects>



Every day	Occasional	Rarely/Never
Collard Greens	Carrot Tops	Kale
Mustard Greens	Green Beans	Chard
Turnip Greens	Sweet Potatoes	Turnips
Dandelion Greens	Asparagus	Rutabaga
Broccoli Leaves	Yams	Iceberg Lettuce
Parsley	Okra	Mushroom
Endive	Daisies	Broccoli Tops/stems

Water Cress	Carnations	Brussel sprouts
Butternut Squash	Geraniums	Spinach
Yellow Squash	Zucchini	Carrots
Acorn Squash	Pumpkin	Celery Stalks
Parsnip		Tomatoes
Snap peas		Radish
Snow Peas		Beets
Hibiscus		Cucumber
Rose Petals		Cauliflower
Despined Cactus Pad		Frozen Vegetables
Bell Peppers		

Health concerns

Before getting a bearded dragon or any exotic pet, it is important to find a source of veterinary care. Not all veterinarians see exotic animals and finding care in the midst of a sickness can be difficult. Although bearded dragons don't need vaccines and frequent health checks it is recommended that you take your dragon to the vet at least once yearly just for a general checkup and fecal to check for any intestinal parasites. This sounds simple enough, but many vets do not see dragons or exotics pets at all. It's important to do research for vet care before bringing home an exotic pet to make sure you are able or willing to travel to the closest exotic vet. Many people have to travel several hours one way to get to an exotic vet and it would be best to know where to go and be established with an exotic vet before something serious occurs. Bearded dragons can take longer than dogs or cats to show signs of sickness, and it may have been going on several days or weeks before you noticed. So getting them in ASAP is crucial. Below we are going to cover a few of the more common health concerns, and there will be some pictures.

One of the most common ailments for bearded dragons is intestinal parasites. When feeding live insects it is very easy for them to pick up intestinal parasites. Getting your insects from a pet store, exotic show or reputable online source such as dubiaroaches.com or rainbowmeal.com. There are other good online

sellers as well. In addition to getting your insects from a good source, a dragon that is healthy and has good husbandry should be able to fight off any parasites. Signs of intestinal parasites are loose stool, weight loss, and lethargy.

Metabolic bone disease (MBD) is a huge problem in bearded dragons who do not receive proper calcium or UVB. MBD is a disease that causes softening of the bones and weakening of the muscles. This can cause deformities to legs, tail, spine, jaw, and any bone structures. A dragon with MBD can easily break bones if they fall or jump off of something high. Metabolic bone disease is not curable, however it is manageable and can be kept from getting worse after being diagnosed. Prevention is best when it comes to MBD and it's easy to do so by making sure to supplement them with calcium powder on their food, and giving them proper UVB. in the picture below you can see the deformity in the dragon's legs.



Egg binding is a common concern if you own a female. Female dragons can still fully form eggs without a male present. Having a dig box in the enclosure help entice a female to lay eggs, however if you don't have a dig box, they may retain the eggs and become blocked. Once your dragon is egg bound the only fix is surgery. Sign of egg binding can be lethargy, lack of appetite, swollen abdomen. If you notice any of these signs contact your exotic vet quickly, because egg binding is lethal if untreated. To prevent egg binding you can get your dragon spayed.

Periodontal disease is becoming a bit more common as well. Periodontal disease or disease of the mouth occurs when your dragon doesn't have to tear at the leaves of its greens. Easily preventable by leaving larger bits of its greens for it to rip and tear to consumable sizes.



Lastly for common health concerns is obesity. Many dragons become obese from being overfed, or given too many insects and fruits. A bearded dragon's belly should not drag the ground or look bloated. Obesity can shorten your dragon's life, cause joint problems, kidney disease and other health concerns. In the image below you can see all three stages of bearded dragon health. The picture on the left is an obese dragon, the middle dragon being ideal weight, and the one on the right being underweight.

