The Taming of the Dragon

by J.F.Taylor

Reptile Apartment Edition, License Notes

The Taming of The Dragon!

The Captive Care Report on Bearded Dragons (*Pogona* sp.)

By John F. Taylor

Acknowledgements

Thanks to Jo Taylor for the incredible cover, to you dear reader and a special thanks to all of our supporters of the Reptile Apartment Group. Also a very special thank you to Dr. Robert Sprackland for his editing and expertise.

Disclaimer

The purpose of the information in this report is to offer an account of methods, techniques, housing and protocols used by professional and private keepers. Any content displayed is **NOT** an instruction manual, and due to the wide variety of sources of this information, neither this report nor its contributors can guarantee its content's accuracy. The Reptile Apartment Group, its staff and contributors involved in the production of such articles and information hold no liability for damages, injuries, ailments or death resulting directly or indirectly from information contained herein. This information is for use as reference material, and a balance of viewpoints should be considered at all times. The Reptile Apartment Group and its staff strongly discourage free handling. Any person who engages in such activities does so of their own free will and at their own risk. The keeping and handling of venomous reptiles and crocodilians is inherently dangerous and carries with it risks of pain, disfigurement or death. The entire risk incurred from the performance of the information herein is assumed by the user, and in no event shall The Reptile Apartment Group be liable for any consequential, incidental or direct damages suffered in the course of using the information in any material produced by The Reptile Apartment Group.
***Special Note:** This is a very basic outline of captive care for the bearded dragons. We strongly encourage you to purchase the books recommended at the end of this document.

Contents

Introduction

Moving through the aisles of any pet shop selling reptiles and you've no doubt seen the "Poster Child" for the herpetoculture industry. Whether they're staring at you from labels on the shelves or the babies watch you walk by their enclosure hoping you're going to drop a few crickets inside, you have seen them. I am of course speaking of the Bearded Dragon (*Pogona vitticeps*) known to most of us as the Inland Bearded Dragon or just simply the Bearded Dragon.

Technical Taxonomy

Most people when speaking of Bearded Dragons on a whole are referring to *(Pogona vitticeps)* the Inland Bearded Dragon. Two other species of the genus that are also, but less frequently, encountered are the Eastern Bearded Dragon (*Pogona barbata*) and Lawson's Dragon (*Pogona henrylawsoni*). All of the bearded dragon species are in the family Agamidae, which includes other popular species such as *Uromastyx*, Chinese water dragons (*Physignathus cocincinus*), and the frilled lizard (*Chlamydosaurus kingii*). In the genus *Pogona,* there are a total of seven currently recognised species. The Eastern Bearded Dragon (*Pogona barbata*) is the largest of the species, measuring in at around 25" total length. Lawson's Dragons, which are today commonly called Rankin's Dragons (*Pogona henrylawsoni*) rarely reach a total length of more than 11" making them the smallest of the species. A side note: they have no "beard" to speak of as, do others of the genus. The most commonly sold species the Inland Bearded Dragon, reaches a total length of 22".

The Dragons Lair

When housing Inland Bearded Dragons, I recommend that you buy the largest enclosure possible that will fit into the space that you have set aside. Don't be fooled by the size of the babies. The Inland Bearded Dragon must have a minimum of a 55-gallon enclosure. If you can fit a larger enclosure into your apartment then by all means do so because this will allow for further expression of natural behavior by the lizards. When I was breeding Bearded Dragons I had a trio of one male and two females in a 6'x4'x3' enclosure and they used the entire enclosure regularly as it had multiple branches etc.

Now that I'm keeping a single Dragon I keep him in a 55-gallon enclosure and have had no care issues at all. You safely can use various types of enclosures for Bearded Dragons. I have seen both horse-watering troughs and

acrylic enclosures of appropriate size used. The prices vary depending on how elaborate you want the setup to be and what is visually pleasing for you. I consulted on a breeding project where the keeper bought 20 horse watering troughs and then placed these in a bedroom of his two bedroom apartment. With all the heating elements and other equipment it didn't look good by any means, but they served his purpose, and the lizards' needs.

I stay away from acrylic molded enclosures because they are easily scratched by an active lizard that may knock over limbs or loose rocks as they roam the enclosure. Glass reptile/fish enclosures with a sturdy screen lid that can be pinned or locked into place are the best to use. These can handle the lizard's activity and the materials used in creating an exceptional dragon enclosure. Once it is all put together with rocks, limbs, and the plants you will use in creating a vivarium, it will be significantly heavy. Even for a basic setup the tank and substrate will be heavy, so you will need a strong stand or have the enclosure on the floor.

The Dragons Fire

Heating a Bearded Dragon enclosure is simple enough once we understand that these agamid species are exposed to serious heat in the wild, and should have the same experience when in a captive environment. For whatever reason this seems to be a major hurdle for new keepers of most reptiles to comprehend, possibly because they have a tendency to become anthropomorphic. What may seem to us as humans as an uncomfortable temperature is actually needed by dragons, that are routinely active when the mercury is above 95 degrees F! This anthropomorphism will lead to health issues if the Bearded Dragon is not kept at optimal temperatures. This is further explained at www.allexperts.com Enter the search term "reptile" and see how many times I answer questions regarding illness, and how many times they relate to heat.

The optimal temperatures can be provided in a variety of ways, but you must be careful not to go overboard on the heat as well. This is what I term as the "Goldilocks Principle" of reptile heating. Too little heat and the Bearded Dragon will not be able to digest its food

(among many other physiological problems). Too hot and it may end up getting burned or staying completely away from the warm side of the enclosure. Again this will likely lead to issues with poor digestion, dehydration, loss of balance, and other serious problems.

In order to achieve this “Goldilocks Principle” I use two separate heating elements when heating a Bearded Dragon enclosure. Before going into details of the proper heating, let’s take a look first at the products that are available for heating reptiles. Most people would presume, and rightly so, that heating is done with some type of light element. This is one option; but which option is the best one is still a matter of debate among keepers and breeders alike.

Some would say white lights are the only ones to be use, as they could be turned off during the night replicating the normal temperature drop that the lizards would experience in the wild. Others say red incandescent bulbs are the best, at least according to the manufacturers of the bulbs, and that the red light doesn’t affect the normal circadian rhythm. Someone else would say that a “moonlight” bulb could be used for nighttime heat. So who is right? How do we know?

Well, the fact of the matter is this: reptiles should be given heat at night similar to what they experience in the wild. Yes, the white lights can provide a daytime heat source and there are many products that would do so. But replicating the “normal” temperature drop at night is tricky to accomplish by just shutting off the light. What if it’s a cold night and you don’t feel like turning on the heater and decide just to throw an extra blanket on the bed? What about the Bearded Dragons? What are they supposed to do, crawl in bed with you? I can assure you, that would be an uncomfortable nights’ sleep for both of you. Red incandescent lights claim to not disturb the normal circadian rhythms of reptile species as they cannot see the red wavelengths in the light spectrum. I believed this as this was what was taught by the industry at large. Then an article was

published in Reptiles Magazine by Frances M. Baines that stated that new research had shown that reptile species could in fact see into the light spectrum farther than once thought. Some reptiles could see into the red wavelengths of light better than humans. In essence this report told us that the reptiles we keep in captivity with red incandescent bulbs are being kept in a perpetual sunset setting. This obviously would mean that the normal circadian rhythm was being interrupted or at least altered because the reptile was never allowed to rest completely.

The moonlight bulbs are supposed to replicate a nighttime moon effect for the reptile. This again seems like a proper thing to do, it provides both heat and a way to observe our reptiles at night. In my experience of searching for reptiles in the field I became aware that reptiles avoid bright moonlit nights as this would expose them to predators.

Ceramic heating elements that emit no light whatsoever have been my heating element of choice since I read the aforementioned article. I have seen a change in behaviors in all the reptiles that I currently keep. They seem to be more active during the day, and the nocturnal species that I keep are more active at night. The ceramic elements are more costly but they are, in my experience, more durable as evidenced by their life spans compared to incandescent bulbs.

With any overhead heating element you must have a reflector to aim the heat onto the basking area; for this purpose the best reflectors to use are the ones that have ceramic sockets. The plastic sockets seem to be unable to handle the heat over long periods of time and they typically melt, warp, or crack after long use.

The second half of the heating regimen I employ is heating the actual substrate itself. To do this there a few choices. Only one of which I have personally used. I have used and had success with the U.T.H. or under tank heater. These are basically mats that have a sticky surface on one side and are prefabricated to fit specific enclosure sizes. There are other styles of the U.T.H. that require the use of double stick tape to make them stick to the underside of the enclosure. For whatever reason, I have not had as much success with models that are stuck directly to the surface of the enclosure.

If you're building a true vivarium then this type of heating element will most likely not work as it will not get hot enough to warm the dense substrate; other methods will have to be used.

Heat cables are something that I have seen but have never used. They are allegedly safe to use under a vivarium setting as they will heat the substrate to the desired temperatures if used with a rheostat or dimmer switch. You can also use what is known as heat tape in the same manner as the U.T.H. is used. In my experience this element is best used with a commercial breeder setup, consisting of racks and drawers.

Letting the Sun Shine In

You would get no argument from anyone who has kept or bred Bearded Dragons that natural unfiltered sunlight is the very best light and heat source for the lizards. Natural sunlight allows lizards to obtain the needed ultraviolet light B-range (UVB) that most animal species require. Living in an apartment setting, however, this can prove to be a difficult chore to handle. To provide a Bearded Dragon with UVB light you must have a bulb capable of producing adequate UV radiation. Here again there is considerable debate on which ones provide the best output of UVB. I use the fluorescent tubes manufactured by Zoo Med or the Vita-lite series. In my experience these provide enough UVB without having to worry about the overheating you would have when using mercury vapor style bulbs. To get the most out of the UVB lighting most manufacturers recommend that the light be situated no more than twelve inches away from the reptile itself. These fluorescent lights come in various sizes so that you may buy the appropriate size for any enclosure that you might be using. When buying the fixtures for these bulbs I always recommend and use the "shop light" fixtures available from most home improvement and hardware stores. Important note: these bulbs will stop producing adequate UV light long before they stop providing visible light, so they need to be replaced at three-to six-month intervals. Read the manufacturer's labels to be sure when to switch bulbs.

Substrates

The substrates available for reptiles today are basically broken down in four categories: sandy, carpet, barks, and organic potting soil (absent of perlite, but that is for more advanced vivarium construction and will not be covered here). Rather than go through each individual one I am going to save you some

reading and be extremely blunt. First of all, bark type substrates are not suitable for the Bearded Dragon, which come from a dry arid area. Reptile bark holds too much moisture to replicate the arid environment that they are native to.

Cage carpets and Astroturf have also been made available or recommended by some persons within the industry. Cage Carpets eventually become fouled beyond the point of cleaning and they are not conducive to the emulating the natural environment of a Bearded Dragon either, because they cannot hold heat as well as other substrates. There is also the fact that with Astroturf the loops could and have previously caught toes, limbs, and in some cases necks of lizards and led to serious damage if not death. Unless cleaned very frequently, Astroturf is also a prime breeding site for dangerous bacteria.

Sandy soil types are the only substrates that you should be using with any species of *Pogona* because this would more closely resemble their natural arid environment's substrate. I know what people say about digestive tract impaction-that sandy substrates increase likelihood of impactions and I challenge that statement with the following question: Was your Bearded Dragon given a proper diet dusted or supplemented with a quality calcium on a regular basis? Truth be told, we would often discover that this was, in fact, not the case. Therefore the dragon began to try to supplement his diet. They ingested small amounts of sand/soil to absorb the necessary calcium and vitamins that are missing.

Feeding the Dragon

No, you cannot feed the neighbors' mammals to your dragon, no matter how tempting that may be. (Did anyone catch how I said mammals and not cats or dogs? Just checking.) Anyway, feeding your Bearded Dragon should not be a chore. For whatever reason, this seems to be another one of the major hurdles for most new keepers. It's easy folks, I assure you. Babies will not eat large greens or large crickets. They will eat small ones. They will also eat appropriately sized mealworms.

An easy way to tell the size of cricket you should be offering is measuring the width of the lizard's head, and if the cricket is longer than that, it's too big. You need to provide a food bowl so that the Dragon is not eating directly off the substrate. Hatchlings, up to about six months of age, should be fed finely chopped regular greens and small crickets.

From around six or eight months of age they can be fed mealworms of appropriate size (regular or small mealworms). The chopped vegetables can be a little coarser for older lizards as well. For Dragons of about one year of age I just give them the mixed greens as they come directly from the box. (When I speak of greens I am referring to the prepackaged organic mixed spring greens which you can find at any grocery store. There is no benefit to actually buying the individual greens and then chopping them separately only to mix them together yourself.) You can now begin feeding them large mealworms.

Treats consist of changing the diet at least once a week by adding blueberries, watermelon, cilantro, parsley, or radicchio. Just something with a different flavor for them; you will quickly discover which ones most appeal to them and you can safely add this treat once a week to their regular daily fare.

Keeping it in Focus

While on the subject of feeding greens to Dragons, there are rampant statements of don't feed this or that vegetable. Spinach and kale are the two that most come to mind. First of all it's worth mentioning that people who are stating this refer to those vegetables as calcium blockers, and they are getting their information from the USDA (which I think is funny because last time I checked *Homo sapiens* weren't ever classified as reptiles). Anyway, I am here to tell you that yes there are some greens that have secondary elements to them that block calcium absorption. If you were to feed these exclusively then your Bearded Dragon might experience negative health issues, but that would be the case with any vegetable matter being fed exclusively. For more on this you can read our other report Solving the Calcium Conundrum with Dr. Robert Sprackland.

Décor

Sand blasted grapevine that leads from the floor to just below the basking area is the best

piece of décor. The vines assist in shedding and give the Bearded Dragons an area and place to climb, which is normal behavior in the wild. You can also employ slate or flagstones that have been glued together with aquarium silicone, and these could be used to create caves and basking areas within the enclosure. You may choose to go the route of buying plastic or molded epoxy type hides from the reptile shop, and these are fine as well. Giving the Dragons multiple climbing sites is great as long as you have an enclosure large enough to provide the needed floor space.

I leave 50% of the enclosure's floor open for the lizards to roam through without being impeded by décor. You can also provide a water bowl for babies and juveniles. Once they hit about a year to 18 months of age I actually just soak the Dragons once a week in the bathtub then bleach it afterwards.

Waking the Dragon

Handling your bearded dragon is not difficult. We must understand that while we may enjoy interacting with our reptiles, generally speaking they have more of an attitude of tolerating our existence. They have no "desire" to interact with us, except that they may understand that we are the ones who provide them food. They may be recognizing us either by our scent or maybe even our body or facial structures. Whatever the case may be handling your *Pogona* is a practice that many people want to do.

Handling begins with how to pick up your Dragon. You can't just reach and grab the lizard because this may lead to an unpleasant surprise. I first open the enclosure and make

sure that this has awakened the lizard before gently placing my hand onto its back to let it know that I am there and have no intention of eating it. In the wild anything bigger than you is considered a threat.

Gently place one hand on each side of the mid body region, between the front and rear legs and lift slightly then shift the bearded dragon's body to rest in your palm, with the tail pointed towards you and the head away

from you. This allows the dragon to grasp your forearm and hand as it would grasp a branch. By supporting a dragon in this way you can carry it to an area where you can be seated and then further interact with it. Bearded Dragons can be very fast moving when they want to be, so I therefore advise against taking them out into public or carrying them on your shoulders. The potential for an accidental fall is too great, and concrete from that distance is bound to do some serious damage to your lizard pet. Then there is the public at large, which may not be into reptiles like you, and you run the risk of frightening someone and then causing further incidents of distaste for reptiles. Keep the Dragons in your house and handle them over soft surfaces to prevent injuries.

To wrap all this up, Bearded Dragons in captivity are rated as the number two lizard pet (based not on their popularity, but their complexity of care and needs) by many reptile magazines for people interested in keeping reptiles as pets. They aren't for everyone, and they do require a substantial amount of care and equipment to maintain. If you're considering keeping a Bearded Dragon do yourself and the dragon a favor. After reading this guide **go buy a book about the species**! I personally recommend buying The Bearded Dragon Manual, it contains all the basic and in depth information that you will need to provide excellent care for bearded dragon (Pogona sp.) Also look for the upcoming book produced by Reptile Apartment specifically written for Bearded Dragon Keepers.

Further Resources

Bearded Dragons by Philip Purser, TFH Publications (2006) ISBN 0793828872.

Bearded Dragons (Reptile and Amphibian Keeper's Guides) by R.D. Bartlett, Barron's Educational Series (2009) ISBN 978-0764140945.

For more complete discussion of substrates, nutrition, temperature and UV needs:

Giant Lizards: The Definitive Guide to the Natural History, Care, and Breeding of Monitors, Iguanas, Tegus, and Other Large Lizards by Robert G. Sprackland, TFH Publications (2009) ISBN 978-0793805815.