How to Care for Bearded Dragons

By Audrey Shene

Adopted bearded dragon from Adams Animal Encounters Rescue enjoying some natural sunlight
Credit: Audrey Shene

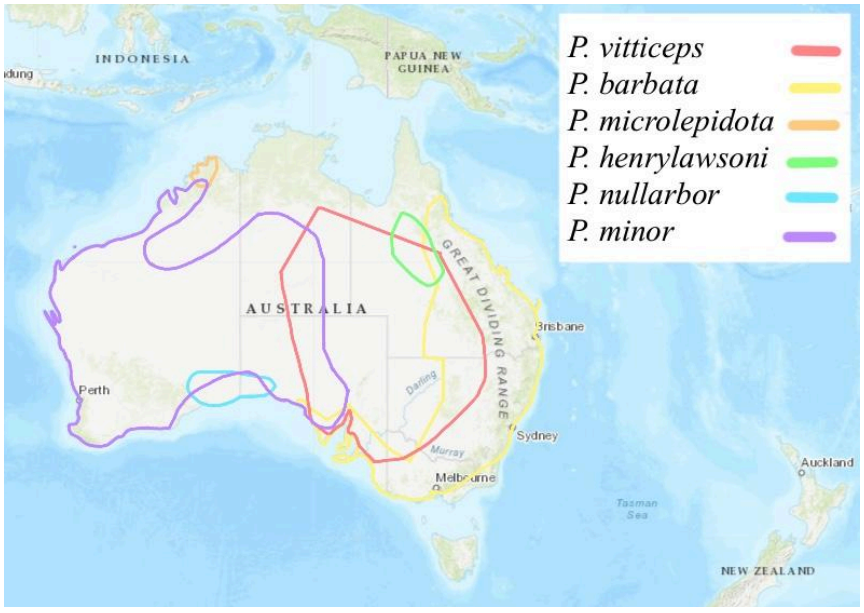
Background Info

There are six recognized species of Bearded Dragons (Genus Pogona) [8]; however, the most common one found in the pet trade is *Pogona vitticeps* [1].

Although popular in the pet trade, bearded dragons are not domesticated [15, 16]. In fact, there are no reptiles that are domesticated [16]. Most reptiles in the pet trade, if released back into their native habitats, would do just as well as those that are wild-born. Some are even illegally caught from the wild and then brought into the pet trade [15]. The ones that would not do well are those that have been overbred and inbred and, therefore, have varying physical and/or neurological conditions that would make it much more difficult or even impossible for them to survive. Some may argue that this counts as domestication; however, we take the stance that it does not, as stated before, most of the reptiles in the pet trade would do just fine if they could be released into their native habitat.

Geographic Range

Bearded Dragons are native to Australia and found in various biomes such as shrublands, deserts, woodlands, and coastal dunes [2].



Geographic range of all six bearded dragon species [9]
Credit: Audrey Shene

Lifespan

When looking up the average lifespan of these lizards in captivity, you will get a variety of answers. These answers generally range anywhere from 5 to 15 years, but 10-12 years seems to be a good average [1, 11, 12]. But of course, they can live much longer. According to Guinness World Records, the longest living bearded dragon recorded was 18 years and 237 days old [10].

Conservation Status

According to the International Union for Conservation of Nature (IUCN) [9]

Species	Last Assessed	Population Trend	IUCN
Pogona microlepidota	2017	Stable	Least Concern
Pogona barbata	2017	Stable	Least Concern
Pogona henrylawsoni	2017	Unknown	Least Concern
Pogona nullarbor	2017	Stable	Least Concern
Pogona vitticeps	2017	Unknown	Least Concern
Pogona minor	2017	Stable	Least Concern

Average Size and Weight

Species	SVL (Snout to Vent Length)	Weight
Pogona microlepidota	18 cm [14]	
Pogona barbata	25 cm [14]	
Pogona henrylawsoni	15 cm [14]	160 g [13]
Pogona nullarbor	14 cm [14]	
Pogona vitticeps	25 cm [14]	250 g [11]
Pogona minor (3 subspecies)	11.5 to 16.3 cm [14]	

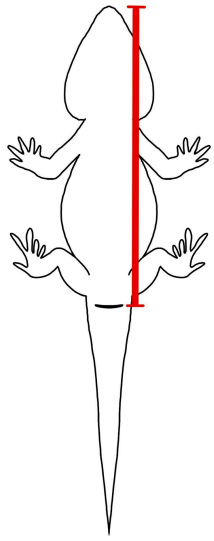


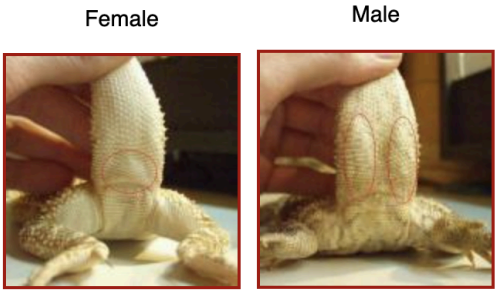
Diagram of Snout to Vent Length
Credit: Audrey Shene

Sex & Reproduction

This section will not be discussing the mating process of bearded dragons, since, as a rescue, we do not support the pet trade

Most reptiles are difficult to sex when they are young, and many of them are visually hard to tell apart between males and females. After about 8-24 months of age, sexual maturity is reached, and it is easier to sex them [3, 11]. Sexing before maturity is not recommended as hemipenal eversion (i.e., pushing at the cloacal area to expose the male sex organs) can injure the animal [7].

They do have some sexual dimorphism, which are differences in visual and physical characteristics between



Underside of tail showing female vs. male
Credit: Tosney, K. W. (2004) [7]

males and females. In adult males, the hemipenis forms bulges on either side of the base of the tail [3, 11]. Males tend (not always true) to be larger overall and have a larger head to body ratio, whereas females have a large body with a medium head and are often smaller overall [7, 11, 12]. Adult males also tend (not always true) to have larger femoral pores (i.e., rounded pores on the undersurface of the thigh in a line above the femur bone) [7, 11, 12]. Femoral pores are glands that produce a thick, waxy secretion that plays a role in scent marking and other pheromone-based communication [11].

Anatomy

While we won't point out their obvious anatomy, i.e., the eyes, legs, and torso, there are a few unusual anatomical parts that are good to know.

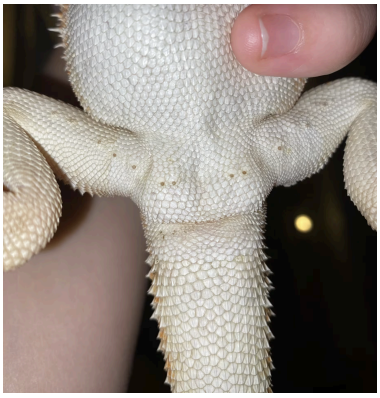
The Ears: Unlike humans, bearded dragons' ears lack an external protruding structure. Rather, they just appear to have a hole in the side of their head. Within their ear, you can see the tympanic membrane (i.e. ear eardrum) [17].

Close up of ear; Adopted bearded dragon from Adams Animal Encounters Rescue
Credit: Audrey Shene

The Pineal/Parietal Eye: Some vertebrates have a parietal or pineal eye, also sometimes referred to as the third eye. Despite being referred to as an eye, it does not form images. It is located on top of the head and has various functions [18]. It is often thought that the parietal eye helps them see when something like a bird of prey flies overhead; however, I could not find any research that supported this idea. Rather, it serves as a warning mechanism against desiccation, as an indicator of solar heat radiation, for thermoregulatory function, or to discern changes in the color of the sky [18, 19].

Close up of pineal eye; Adopted bearded dragon from Adams Animal Encounters Rescue
Credit: Audrey Shene

The Cloaca/Vent and Femoral Pores: All reptiles have a cloaca, which is the common chamber and outlet into which the intestinal, urinary, and genital tracts open [20]. The cloaca leads to the vent, which is the external opening at the base of the tail, from which they defecate and urinate (defecation and urination occur at the same time) [21, 22]. The femoral pores are part of the holocrine gland and are located on the inner thigh in bearded dragons [25, 26, 27]. These pores produce a waxy secretion and are more developed in males, aiding in sexual determination [25, 26]. They tend to be larger/more prominent in males [26].



Femoral pores (small dots along legs and base of tail above the vent) and the vent (horizontal slit along base of tail)
Credit: Huffman, T. (2024) [25]

Shedding

Bearded dragons shed their skin as they grow. They do so periodically, and the frequency of shedding varies due to different factors such as specific species, age, temperature, and food availability [23]. They tend to shed approximately every 2-3 months as adults, and more often as juveniles [24]. As they shed, they do so in pieces [23], one section at a time, such

as the head, then legs/arms, torso, and then tail (this is merely an example of the order they could shed in). It is important to have some rough surfaces in their enclosures so they can rub off their shedding [23].

Brumation

Brumation is like hibernation but for reptiles. In the wild, bearded dragons brumate; however, it is common for them not to do so when in captivity. Some say brumation is okay in captivity, and others say not to [7]. Full brumation in captivity is generally dangerous as they are not adapted for it [1]. Make sure they continue to eat year-round, and if you notice something off, contact your exotic vet.

Enclosure

Like any animal, bearded dragons need adequate space to move around as well as proper equipment to ensure they are comfortable and have an enriching life.

Size

Bearded dragons should have at least a 75-gallon tank[1, 3, 11, 12]. A bigger enclosure is always better if possible. Some owners let their beardies walk around their houses (with supervision), which provides enrichment and more opportunities for them to move around. Providing them with an outside enclosure is also good, as they get natural UV. However, it is important to make sure they always have the option of shade, it's warm enough outside (80-90 degrees Fahrenheit), the weather is clear, and to set a timer to make sure they are brought back inside. You could also provide them with a small, shallow container filled with water so they can go in and bathe if they want [29].
The following is a link to a good outside protective enclosure: Amazon.com: Animal Tent

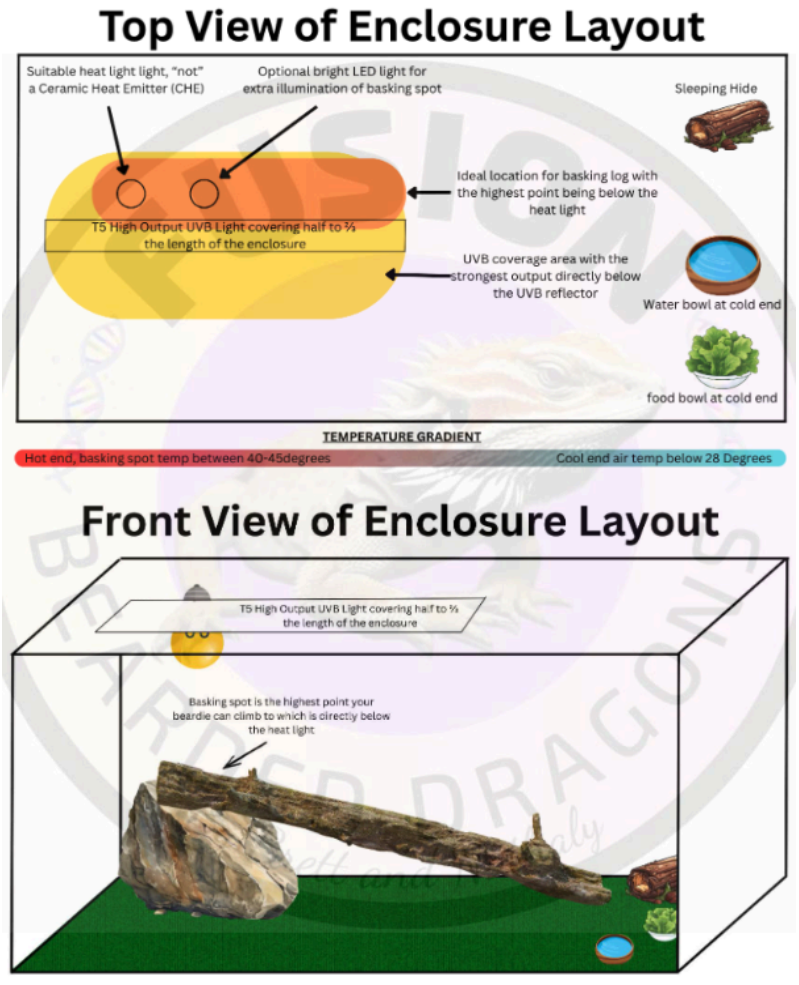


Diagram of a proper enclosure set up for bearded dragons
Credit: [27]

Temperature (Lighting) and Humidity

Beardies come from a very warm and dry place, and making sure the temperature and humidity are accurate is important [28]. Humidity is easy, as they do not like much humidity, so there is no need to add any humidifying things to their enclosures [1]. Getting the temperature correct is more complex. The intensity of the heat lamp you need will vary depending on where you live and what the temperature inside your house is. Generally, somewhere between a 60-100 watt heat lamp is a good start [1, 3, 29]. You can use a temperature gun to make sure their basking spot (one side of the enclosure) is between 90-105 degrees (Fahrenheit) [1, 3, 29]. Do not use heated rocks, as they can get much too hot and potentially burn your beardie. The opposite end should be the cool end where their food and water go, and it also provides an area for them to cool down if needed [1, 29]. They also require a UVB light [1, 12, 29]. They need UVB to stay healthy, as they can end up with health issues without it. Their lights should go off at nighttime, about 12 hours on and 12 hours off [29].

Substrate

The type of covering for the floor of the enclosure, i.e., substrate, is a complex subject. Some will tell you to use a sand and/or soil mixture [1]. However, this can sometimes cause health issues like impaction [1, 12]. We would recommend using a wipeable plastic carpet or a felt carpet [12, 29].

Nutrition

Bearded dragons are omnivores and should get a variety of plants and insects. They also need proper nutrition, such as vitamin D (see Lighting), calcium, and phosphorus [4]. This can be provided through reptile powders that you put on their food. For bearded dragons, a calcium and D3 reptile vitamin powder is needed and should be sprinkled over their food [29].

Some people say adult beardies should have 80 percent greens and 20 percent insects; however, the RSPCA recommends 60 percent greens and 40 percent insects [1]. This is also backed up by a research paper that reviewed wild bearded dragon diets, where about 55% of their diet was plant material, and 45% was insects [4]. Young bearded dragons should be fed more insects, but should still be offered various greens [3]. These percentages may simply be because wild beardies need more protein, whereas pet beardies do not need as much, as they are not moving as much, nor do all beardies brumate. Regardless of these conflicting percentages, we do know they are omnivores and need plants and insects in their diet.

Food should be offered earlier in the day so that they have time to digest it under their heat lamps.

Adult beardies can be fed every other day to 2-3 times a week, whereas young beardies can be fed 1-2 times a day. It depends on how much they eat. They can become overweight, so it is important to observe their bodies. If they are too skinny, their bones will protrude from their tail or on their head.

Diet

Safe Insects [1, 4] (Insects should be gut loaded prior to feeding i.e., give the insects some food [3])

House crickets, yellow mealworms, locusts, discoid roaches

Safe Veggies and Fruits (fruit in moderation) [1, 3, 5]

Greens - collard greens, dandelion, Swiss chard, escarole, endive, romaine, chicory, mustard greens, beet tops, bok choy, cilantro, clover; kale and cabbage are okay in moderation; Avoid spinach

Veggies - carrots, broccoli, zucchini, cactus, bell peppers

Fruits - bananas, apples, strawberries, blueberries

These are just some options. Many resources online show more options.

Water

You should provide beardies with a bowl of water [29]. While some beardies don't often drink much water, it is still important to give them the option.

Common Health Issues

Good hygiene is essential, not only to your dragon's health, but to your own. Reptiles can be non-symptomatic carriers of Salmonella, so be sure to wash your hands after handling your beardie [1].

One of the most common health issues for bearded dragons is metabolic bone disease [1, 30]. This is a disease that affects the skeletal system, causing weak and easily broken bones [30]. It also causes abnormal muscle twitching or movement. It occurs when your reptile has abnormal calcium, phosphorus, and vitamin D3 levels, often caused by poor diet or poor care [1, 30].

Impaction occurs when a solid or semi-solid mass collects and becomes trapped in a bearded dragon's intestinal tract [32]. This condition is much more serious than constipation or bloating and can be fatal in severe cases.

Tail rot occurs when an injury to the tail and its tissues becomes infected. Physically, the end of the tail turns black, appears shriveled, and feels squishy [31].

Female bearded dragons can get something called dystocia, or egg-bound. This occurs when they develop eggs (regardless of being with a male or not) and are unable to lay them [1, 31].

Mouth rot, also known as infectious stomatitis or periodontal disease, can occur in bearded dragons secondary to bacterial or fungal infections [33].

Gout is caused when there is too much uric acid for the kidneys to handle, and so it crystallizes in the joints or around the organs [34, 35]. This causes gout, an extremely painful condition that takes the lives of many bearded dragons every year.

Yellow fungus is a contagious fungal infection that causes yellow to yellow-brown skin color in patches [36].

Behaviors

Sometimes a bearded dragon's beard (underside of the chin) turns black and the beardie may also puff its chin out. This is most often caused by discomfort/stress, fear, or territorial aggression/seeing their own reflection [37].

Something I like to call pancaking is when a bearded dragon puffs out its torso and almost becomes flat, kind of like a pancake. This often happens when you put them outside for natural heat and UV, as they are increasing the surface area on their body to absorb more heat.

Sometimes a beardie will "wave" its hand. They do this as a form of communication. An arm wave combined with a slow bob usually shows submissiveness [38]. It is a way for your beardie to communicate that they are not a threat. They also tend to wave to acknowledge the presence of their owners, visitors, and other pets [38]. Bearded dragons sometimes wave at their own reflection in the glass because they confuse it for another beardie.

Head bobbing is a way of communicating for beardies, whether they're feeling excited, showing dominance, or trying to impress a mate [39].

References

1. RSPCA. (n.d.). *How To Care For Your Bearded Dragon*. RSPCA. https://www.rspca.org.uk/adviceandwelfare/pets/other/beardeddragon

2. Bush Heritage Australia. (n.d.). *Bearded Dragons*. Bush Heritage Australia. https://www.bushheritage.org.au/species/bearded-dragons#:~:text=Bearded%20dragons%20are%20found%20across,Queensland%2C%20South%20Australia%20and%20Victoria

3. Raiti, P. (2012). Husbandry, diseases, and veterinary care of the bearded dragon (Pogona vitticeps). *Journal of Herpetological Medicine and Surgery*, *22*(3-4), 117-131. https://cdn.ymaws.com/members.arav.org/resource/resmgr/Files/Proceedings_2011/2011_007.pdf

4. Oonincx, D.G.A.B., van Leeuwen, J.P., Hendriks, W.H. and van der Poel, A.F.B. (2015), The diet of free-roaming Australian Central Bearded Dragons (Pogona vitticeps). *Zoo Biology, 34*: 271-277. https://doi.org/10.1002/zoo.21209 https://onlinelibrary.wiley.com/doi/full/10.1002/zoo.21209?saml_referrer

5. Rich, G., Hess, L., & Axelson, R. (2023). *Feeding Bearded Dragons*. VCA Animal Hospitals. https://vcahospitals.com/know-your-pet/bearded-dragons-feeding

6. Black, I. R., & Tattersall, G. J. (2017). Thermoregulatory behavior and orientation preference in bearded dragons. *Journal of Thermal Biology*, *69*, 171-177. https://www.sciencedirect.com/science/article/abs/pii/S0306456517302176

7. Tosney, K. W. (2004). *Caring for an Australian Bearded Dragon*. Tosney's Bearded Dragon Care. https://web.archive.org/web/20050625024722/http://www.biology.lsa.umich.edu/research/labs/ktosney/file/BDcare.html

8. Utez, P., Hošek, J., Kudera, J., Reyes, F., Aguilar, R., & Freed, P. (eds.) (2025). *Search results: Pogona*. The Reptile Database. https://reptile-database.reptarium.cz/advanced_search?genus=Pogona&submit=Search

9. International Union for Conservation of Nature and Natural Resources. (n.d.). *IUCN Red List Search: Pogona*. ICUN Red List. https://www.iucnredlist.org/search

10. Guinness World Records. (2016, February 25). *Oldest bearded dragon in captivity ever*. Guinness World Records. https://www.guinnessworldrecords.com/world-records/116317-oldest-bearded-dragon-ever

11. Pollock, C. (2012, May 30). *Basic Information Sheet: Inland Bearded Dragon*. LafeberVet. https://lafeber.com/vet/basic-information-for-the-inland-bearded-dragon/

12. Mede, E. (n.d.). *Bearded Dragon Care*. Exotic Pet Vet. http://www.exoticpetvet.com/bearded-dragon-care.html

13. Turner, G., & Valentic, R. (1998). Notes on the occurrence and habits of the Downs Bearded Dragon Pogona henrylawsoni. Gondwana Reptile Productions. *Herpetofauna, 28*: 12-18 https://australianreptileimages.com/article-henrilawsoni

14. Wilson, S., & Swan, G. (2013). A Complete Guide to Reptiles of Australia, − New Holland Publishers. *London, United Kingdom*. https://archive.org/details/completeguidetor0000wils/page/326/mode/2up?q=pogona

15. World Animal Protection. (2021, April 26). *5 myths about the Reptile Pet Trade*. World Animal Protection. https://www.worldanimalprotection.org.au/news/5-myths-reptile-pet-trade

16. Warwick, C. (2024, May 2). Are any animals truly domesticated?. Veterinary Practice. https://www.veterinary-practice.com/article/are-any-animals-truly-domesticated

17. Tucker, A. S. (2017). Major evolutionary transitions and innovations: the tympanic middle ear. Philosophical Transactions of the Royal Society B: Biological Sciences, 372(1713), 20150483.

18. Dodt, E. (1973). The Parietal Eye (Pineal and Parietal Organs) of Lower Vertebrates. In: Jung, R. (eds) Visual Centers in the Brain. Handbook of Sensory Physiology, vol 7 / 3 / 3 B. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-65495-4_4

19. Solessio, E., Engbretson, G. Antagonistic chromatic mechanisms in photoreceptors of the parietal eye of lizards. Nature 364, 442–445 (1993). https://doi.org/10.1038/364442a0

20. Merriam-Webster. (n.d.). Cloaca definition & meaning. Merriam-Webster. https://www.merriam-webster.com/dictionary/cloaca

21. Pruett, H. (2023, October 27). Lizard poop: What does it look like? - A-Z animals. https://a-z-animals.com/blog/lizard-poop-what-does-it-look-like/

22. Lock, B. (2017, May 8). *Constipation in reptiles*. VIN. https://veterinarypartner.vin.com/default.aspx?pid=19239&catId=102919&id=7996830

23. Doneley, B. (2006). Caring for the Bearded Dragon.

24. Johnson, R., & Adwick, S. (2018). Central bearded dragons (Pogona vitticeps). *Companion Animal Care and Welfare: The UFAW Companion Animal Handbook*, 395-411.

25. Huffman, T. (2024, September 12). *Bearded Dragon Femoral Pores and How to Care for Them*. PetHelpful. https://pethelpful.com/reptiles-amphibians/bearded-dragon-femoral-pores-and-how-to-care-for-them

26. Femoral pore - an overview | sciencedirect topics. (n.d.). https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/femoral-pore

27. Steward, T. (2023, November 3). *Care & cleaning of bearded dragon femoral pores - a practical guide*. Beardie Bungalow. https://beardiebungalow.com/bearded-dragon-femoral-pores/

28. *Outback Australia - the rangelands*. DCCEEW. (2021, October 3). https://www.dcceew.gov.au/environment/land/rangelands

29. Bounden, B. (n.d.). *Bearded dragon care sheet: Fusion bearded dragons*. FUSION. https://www.fusionbeardeddragons.com.au/care-sheet

30. Jones, L. (2024, January 23). *Metabolic Bone Disease (MBD) in Reptiles*. PetMD. https://www.petmd.com/reptile/conditions/musculoskeletal/metabolic-bone-disease-mbd-reptiles

31. Rich, G., Hess, L., & Axelson, R. (n.d.). *Bearded dragons - problems: VCA Animal Hospitals*. VCA. https://vcahospitals.com/know-your-pet/bearded-dragons-problems

32. Petco's Animal Care, Education and Compliance Team. (2025, October 22). *Bearded Dragon Impaction: Spot Signs, Causes, & Prevent It Now*. Petco. https://www.petco.com/content/content-hub/home/articlePages/health-wellness/bearded-dragon-impaction.html

33. Perry, S. (2023, December 21). *Mouth Rot in Bearded Dragons*. PetMD. https://www.petmd.com/reptile/conditions/mouth/mouth-rot-bearded-dragons

34. Rich, G., & Axelson, R. (n.d.). *Reptiles: Gout: VCA Animal Hospitals*. VCA. https://vcahospitals.com/know-your-pet/reptiles---gout

35. Healey, M. (2021, December 9). *Bearded dragon gout: Reptifiles' bearded dragon care guide*. ReptiFiles®. https://reptifiles.com/bearded-dragon-care/bearded-dragon-illnesses-health/gout/

36. Lock, B. (2017b, May 12). *Fungal Disease (Yellow Fungus Disease) in Bearded Dragons*. VIN. https://veterinarypartner.vin.com/default.aspx?pid=19239&catId=102919&id=8006102&ind=1251&objTypeID=1007

37. Shinryu. (2023, April 15). *Why is my bearded dragon's Beard Black? | bearded dragon care Q&A*. Bearded Dragon.org. https://www.beardeddragon.org/threads/why-is-my-bearded-dragons-beard-black.266713/

38. Shinryu. (2021, November 6). *Why do bearded dragons wave? | bearded dragon care Q&A*. Bearded Dragon.org. https://www.beardeddragon.org/threads/why-do-bearded-dragons-wave.260890/

39. Villasenor, Y. (2025, July 31). *Why Do Bearded Dragons Bob Their Heads? Is This Normal?*. Chewy. https://www.chewy.com/education/reptile-and-amphibian/bearded-dragon/why-do-bearded-dragons-bob-their-heads