

## Species Care Series

Presented by the Alaska Herpetological Society

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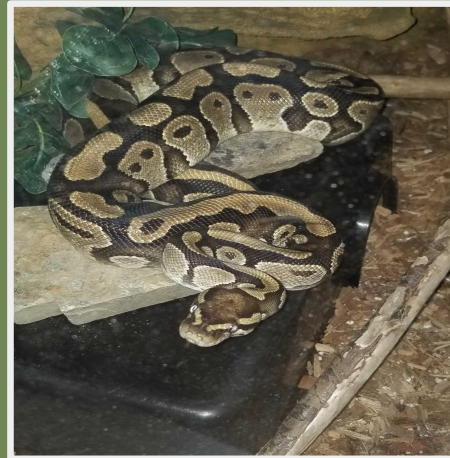
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# AHS Species Care Series presents- Ball Pythons (*Python Regius*)



Why are they called *Ball* pythons?

# Habitat and Facts

- Native habitat of ball pythons is regions of western and central Africa
  - Semi arid grasslands, forests, and near agricultural areas
  - Primarily terrestrial and burrow-dwelling, though males are more likely to be semi-arboreal

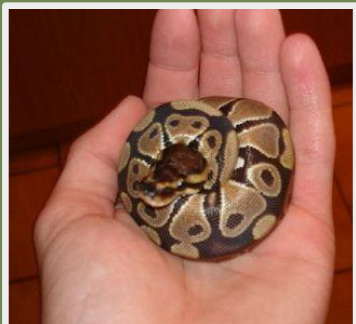


- Average lifespan of 20-30 years, with potential for longer!
- Maturity reached at 3 to 5 years old
- Males typically reach about 4" and females about 5". Some individuals can be even larger
- Smallest of the African python species!
- Crepuscular- ball pythons are most active around dawn and dusk



# Ball python enclosure size

- Hatchlings up to 300g (palm sized when curled up)
  - 10 gallon enclosure or tub measuring approx. 20"x18"x18"
- Juveniles under 3 feet long (fits in your whole hand curled up)
  - 36"x18"x18"(50 gallons) or larger
- Subadults and adults over 3 feet long (to big for one hand!)
  - Do best in a 4' x 2' x 2' (120 gallons) or larger





# Enclosure Types

## Glass

- Easy to get! Aquariums and front opening terrariums
- Heavy, especially full of stuff
- Modifications required to maintain heat and humidity
- Expensive



## PVC Enclosures

- Heat and Humidity easy to maintain
- Little to no modification needed for husbandry
- Lightweight
- Comparable prices to glass, but can be more difficult to source



## Grow Tent

- Heat and Humidity easy to maintain
- Low cost and easy to get
- Heavy modifications required for use for reptiles, more suited to advanced keeper vs new keeper



# Temperatures and Heating Elements

## Temperature gradient-

- Cool side of 75-80 degrees
- Warm side of 84-89 degrees
- A daytime basking spot of 90-94 degrees

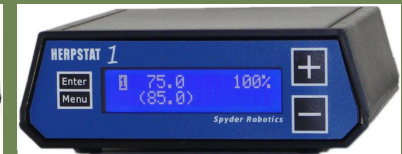
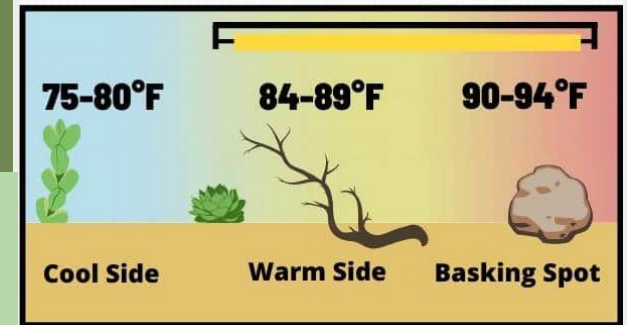
In a small hatchling enclosure, a basking spot can cause the cool side to spike to hot. Do not use a basking spot in a small enclosure.

## Heat Sources

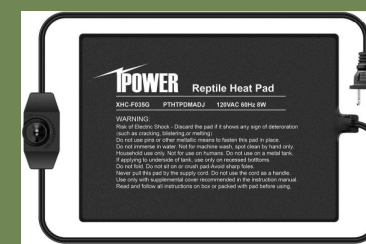
- Deep heat projector- very effective at heating large air spaces
- Ceramic heat emitter- effective at heating air spaces
- Radiant heat panel- used for mounting inside the enclosure and creating a centralized hot spot
- Heat mat- created belly heat/heats the substrate
- Heat tape- created belly heat/warms the substrate

Every heat source requires a thermostat to control the temp!

**Ball Python Cage Temperature Gradient**  
(in Degrees Fahrenheit) By: **Reptile.Guide©**



Controlling the heat is essential to creating a safe environment for your ball python to thrive. Thermostats are a necessity!





# Humidity

Humidity levels for ball pythons should be kept between 50-70%

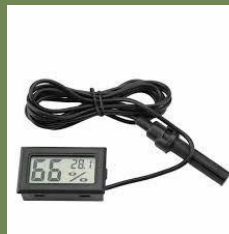
- Thick layer of moisture-retaining substrate, add water to the substrate to keep moist
- A water dish large enough for the snake to soak in, or even larger
- In screen top enclosures, modifications can be done to retain moisture and humidity
- Piles of sphagnum moss in the enclosure will help raise humidity if the moss is kept damp



50-60% humidity most of the time is ideal. When your snake is getting ready to shed, raising it to around 70% can aid in a successful full shed.



Monitoring your humidity should be done with a digital hygrometer. Analog/dial hygrometers are not recommended because they are notoriously inaccurate



Humid hides can be used to keep an area of constant higher humidity; your snake will use this humid hide as they need it.

# Substrate

A good substrate substrate that holds moisture without being waterlogged is the best way to help maintain humidity.

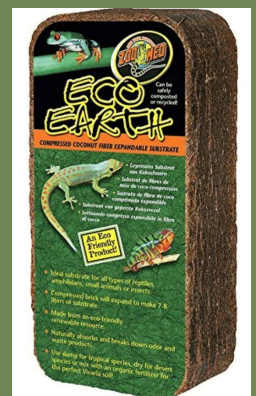


Cypress mulch and coconut husk chips are an excellent choice to be used alone.

Finer particulate substrates can be added to create a more natural substrate layer and help hold more moisture.



These finer particulate substrates should not be used alone to avoid excessive moisture and waterlogged substrate. These substrates can also get stuck in heat pits and under scales and cause irritation.



Bark substrates are not recommended for use in Alaska because it cannot retain moisture and help with humidity.



# Adding Clutter and Enrichment for your Ball Python

Ollie LOVES to climb at night while everyone is asleep. Adding enrichment and clutter helps your pet thrive.

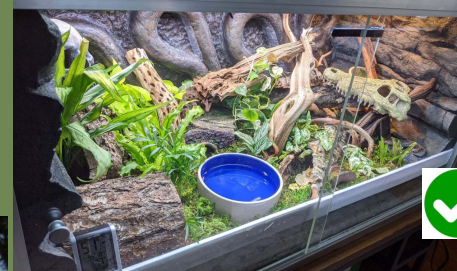
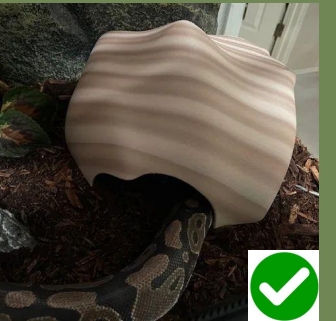


# Enclosure Clutter

Multiple hides, lots of foliage, climbing and basking opportunities are all good clutter!

Some things to look for in determining if the items are safe-

- Holes larger than the snake, they **will** get stuck if their head can fit through but their body can't! Watch for and avoid loops on fake foliage, any closed holes on hides
- Heat safe materials- prolonged exposure to warm temps can cause some plastics or other materials to release fumes. Be sure to use only materials that can withstand the warmth.
- Sharp edges. Check any clutter items to be sure there's no sharp edges that can cut or poke your snake.
- Choose hides that are only a little bigger than your snake. Snug and nearly fully enclosed is good!

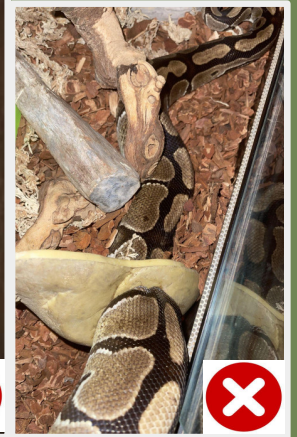
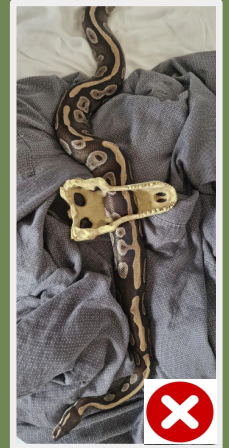
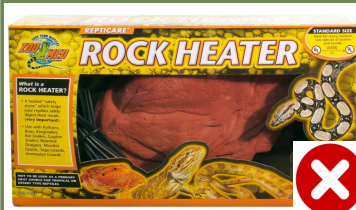
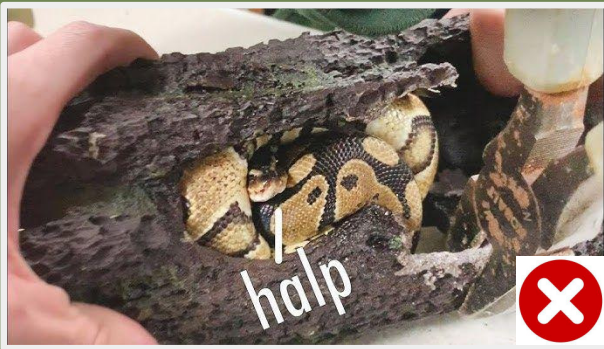




# Dangerous Clutter

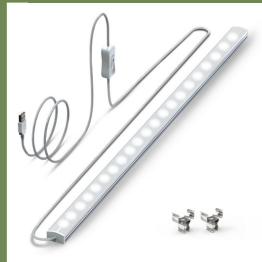
- Anything with sharp or jagged edges should be avoided. Rocks, broken branches, broken decor should not be used.
- Anything with holes bigger than the snake's head but smaller than the rest of the body should not be used. Snakes will try to go through these holes or loops and get stuck.
- Any decor that needs tape or adhesive to stay in place. Somehow, some way, reptiles will get stuck on anything sticky eventually!

- Avoid non-heat safe materials
- Avoid porous materials that can harbor bacteria. Some natural materials are bacteria resistant, but others provide a bacteria breeding ground.



# Lighting and UVB

Providing a daytime and nighttime cycle is beneficial to all animals, even when the animal is crepuscular or nocturnal.



A simple LED bulb or strip light on a 12 hour timer is all that's needed. The intensity of the lighting will be determined on whether or not there are live plants in the enclosure.

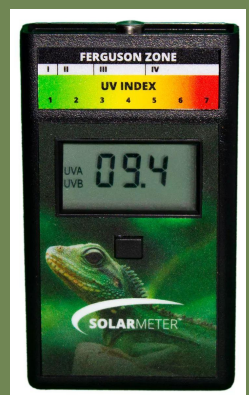


While Ball Pythons don't need UVB to survive, UVA/UVB light has been shown to greatly improve the immune system, health, and wellness of all reptiles, both diurnal and crepuscular.

To provide UVB for ball pythons in a 4x2x2 enclosure, use a 22" long, low-intensity T5 HO fluorescent tube (not coil).



Solarmeter Model 6.5R UV Index Meter can be used to ensure that the UVA/UVB is at an effective height above the basking spot.





# Bioactive Overview



A *bioactive* enclosure is a self-sustaining, miniature ecosystem that mimics a natural environment for the animal it houses.

The most important part of a bioactive enclosure is the substrate layer. Mixing in rotting white wood and leaf litter is essential for an additional food source for the clean-up crew.

A good insect clean-up crew is what makes an enclosure bioactive. Springtails and isopods are the most commonly used. The clean-up crew is there to aid in cleaning up poop and urates from the inhabitant.



Most bioactive enclosures have live plants, but they don't *have* to be made with live plants. Fake foliage works just as well, and they don't get crushed under the heavy-bodied ball pythons.



# Shopping List for an Adult Ball Python

	Basic	Advanced
Enclosure	\$200-400 for a new glass enclosure	\$300-500 for new PVC enclosure
Heat & Light	Bulbs start around \$20+ea, domes \$10-20ea LED light \$20+	RHP \$50-120. UVB Fixture and bulb \$100. Solar Meter \$265+
Temp & Humidity Controls	Digital thermo/hygrometer \$5-20+ea Manual IR Temp Gun \$20-40 Basic Thermostat \$20-50	High-end proportional thermostat starts at \$120+
Substrate & Clutter	2-4 packages of substrate needed for a 4x2x2 enclosure- expect \$20-35 per package Hides, logs, branches, rocks, foliage, ect. Expect \$10+ each item and totalling over \$150	
Misc	Water dish, spray bottle, feeding tongs, \$50+ for all	

# Feeding

Finding the correct size prey for your ball python is pretty easy.

The most accurate way is with a simple kitchen scale. Weigh your snake in grams, and feed a prey item that is 10-15% of your snake's weight. This rule can be followed for hatchlings up to about 1000 gram subadults. Ball pythons are prone to obesity. Once they reach 1000 grams, they can be kept on small or medium-sized rats for the entirety of their life.

Frequency of feeding depends on the size of the snake.

Hatchlings require a more frequent feeding to maintain a healthy rate of growth. One appropriately sized prey item weekly or every other week for young snakes will maintain a healthy growth rate and help prevent obesity. Larger adult snakes require much less frequent feeding because they aren't growing.

## Ball Python Feeding Chart

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Snake Size:	Feeder Size:	How Often?
First 3-5 meals	8-12g	Every 5 days
< 200 grams	13-19g	Every 7 days
200-350 grams	20-35g	Every 7-14 days
350-500 grams	35-50g	Every 10-14 days
500-1500 grams (also appropriate for larger snakes)	50-150g	Every 14-21 days
>1500 grams	~150g	Every 28-56 days



This chart is intended to give a general understanding of an average feeding schedule for pet ball pythons — not a strict feeding regime. Keepers should feed their animals based off of the individual snake's age, body condition, and other needs. Understanding healthy body weight and fluctuations in nutrition is vital to the proper keeping of any animal. Do not rely strictly on any chart, as individual needs may vary.

## Live or pre-killed prey?

Live prey comes with the risk of biting and injuring your snake. Live food is much more enticing to picky feeders and is useful for kickstarting the appetite of hatchlings. In prey smaller than wean size, the risk of the snake being injured by the prey is much less.

Pre-killed prey like frozen/thawed will always be safer because there is no risk of prey injuring your snake. Pre-killed prey will usually require a "zombie dance" to entice your snake to eat.

To prepare frozen prey, thaw in the fridge overnight and heat with a hair dryer- focusing the heat on the face and shoulders.

Rat				
				
Mouse				
				
	Age	Weight	Length*	Equivalent
Mouse Pinkies	1-5 days	0.5-3 grams	0.5-1"	
Mouse Fuzzies	6-13 days	3-6 grams	1-1.5"	Rat Pinky
Mouse Hoppers	2-3 weeks	7-12 grams	1.5-2"	Rat Fuzzy
Weaned Mice	3-4 weeks	13-18 grams	2-2.5"	Rat Fuzzy
Large Mice	4-6 weeks	19-25 grams	2.5-3"	Rat Pup
X-Large Mice	6 months +	30 grams +	3" +	Weaned rat
Rats:				
	Age	Weight	Length*	Equivalent
Rat Pinkies	1-5 days	3-8 grams	1-2"	Mouse Fuzzy
Rat Fuzzies	7-13 days	9-20 grams	2-2.5"	Hopper or Weaned Mice
Rat Pups	2-3 weeks	21-30 grams	2.5-3.5"	Large Mouse
Weaned Rats	3-4 weeks	31-45 grams	3.5-4.5"	X-Large Mouse
Small Rats	4-6 weeks	46-79 grams	4.5-6"	
Medium Rats	6-8 weeks	80-149 grams	6-8"	
Large Rats	8-10 weeks	150-265 grams	8-9"	1/2 lb Rabbit
X-Large Rats	Adult Rat	266-360 grams	9-11"	1 lb Rabbit
XX-Large Rats	Adult Rat	Over 361 grams	11" +	1.5 lb Rabbit

# How to Troubleshoot

Although extremely popular and said to be easy keepers, ball pythons can be very finicky in improper husbandry.

Some tell-tale signs that something is incorrect-

- Not eating consistently
- Roaming the enclosure constantly, not just at dawn/dusk or overnight.
- Scale rot and respiratory infections are usually caused by improper husbandry

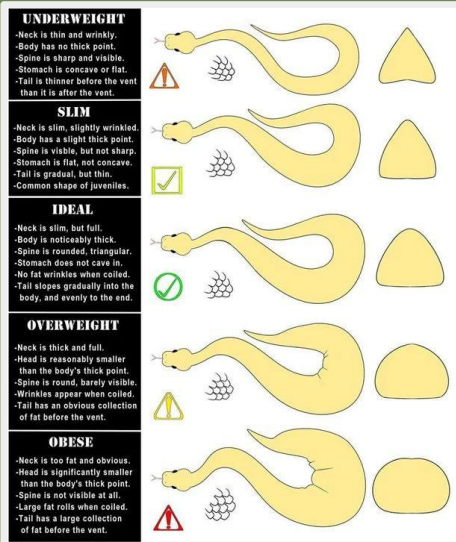
What steps to take next-

- Check your temperatures with a thermometer or infrared heat gun. Be sure the cool side and warm side are within correct temperature ranges. If there is not a thermostat to control the heat sources already, be sure to get one.
- Use a digital hygrometer to check humidity. Two is ideal to check humidity on the cool side and warm side of the enclosure.
- Ensure there are multiple hides and plenty of clutter. Ball pythons are notoriously shy and do not enjoy large open spaces.



# Common Issues and Illnesses

Stuck shed or shed coming off in small pieces.  
Shedding should be done quickly and all in one



It can be common for ball pythons to refuse food. In nearly all cases this is because husbandry is incorrect- temperatures and insufficient clutter is the first place to start looking. Reduce handling check husbandry, and monitor your snakes weight with a kitchen scale(weigh in grams) to be sure there isn't a significant weight loss.

Scale rot is a blanket term for a symptom of a variety of issues-usually a bacterial infection. Scale rot is caused by substrate being too wet and temperatures being too cold. A vet visit and checking/correcting the enclosure husbandry is needed.



Reptiles will be far too hot before their body realizes they are too hot. Thermal burns are a major risk. Using a thermostat on all heat sources will prevent burns. A vet visit is needed to reduce risk of infection in burns.



Respiratory infections can be spotted by excessive drooling and the snake constantly holding its head up. RI's can be bacterial or viral- a vet visit and mouth swab culture is required to determine how to treat.

# Alaska Rescue Stats

Jonathan's Reptiles took in 64 surrenders in 2022.

77% of those 64 surrenders had health concerns.

Of those with health concerns, 53% were surrendered in poor condition, 18% in moderately poor condition, and 29% in extremely poor condition.

30% of the surrenders in extremely poor condition passed within hours or days of being surrendered.

The most significant stat is that 90% of the reptiles surrendered had health concerns directly related to improper husbandry.

Reason for Surrender	#	Health of Surrender	#	Husbandry Related?	
No longer able to care	22	Good	15	Yes	44
Health concerns	15	Fair	9	No	5
Surrendered from AC	10	Poor	26		
Moving/Living situation	7	Extremely Poor	14		
Lost interest	5				
Found	4				
Temperament	1				



Some of the health concerns of surrenders include

- 20 were malnourished or starving.
- 12 had dehydration and/or stuck shed.
- 7 were missing all or part of a limb.
- 6 had mouth rot/stomatitis
- 4 had respiratory infections.



# Morphs



One of the reasons ball pythons are so popular is because of all the different colors and patterns they come in! Called *morphs*, there are thousands of different morphs and these can be bred together for a nearly infinite number of combinations.



# Emergency Preparedness



Loss of power is a factor for Alaska that you have to be prepared, and to be able to evacuate your pet in these situations. You cannot just put a reptile in a bin and take them outside when temps fall below safe levels- under 40 degrees. They need to be put into something with heat and that will hold heat for them.

An emergency kit consists of a few key items

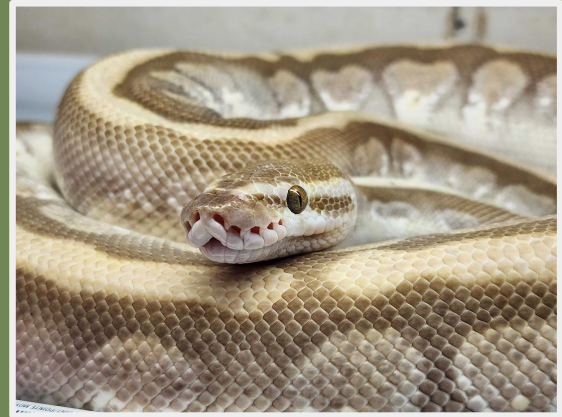
- Insulated container such as a styrofoam box or even a cooler
- A reptile-safe heat pack
- A digital thermometer with a probe to monitor temps without having to open the container
- Any inner container such as a kitter keeper, small tote, or pillow case

HotHands brand heat packs and other brands meant for people are NOT reptile safe! These get FAR too hot and will overheat and/or burn your reptile.





## Questions?



We hope you enjoyed this presentation on helping your ball python thrive under your care!