



# Introduction to Large Snake Care

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This handout provides general information on the care, feeding, housing, and handling of large non-venomous pet snakes, including boas and pythons. While there are many similarities among large snake species, important differences exist. Proper husbandry is essential to long-term health and welfare.

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## Species Overview

### Boa Constrictors

Boa constrictors, often called “common boas,” are non-venomous snakes native to Central and South America and some Caribbean islands. Adult size varies by subspecies, but large individuals may reach 13–14 feet. In captivity, boas commonly live 20–30 years.



Young boas may climb trees and shrubs, but most adults become primarily terrestrial as they gain size and weight. Boas often use their tails to grasp objects.

It is strongly recommended to purchase boas from experienced, reputable breeders. Wild-caught boas frequently have parasites and chronic health issues and do not adapt well to captivity. Captive-bred boas are healthier and available in many color and pattern variations.

### Pythons

There are many species of pythons, but the ball python is the most commonly kept pet species due to its manageable size and generally calm temperament. Ball pythons are non-venomous constrictors native to sub-Saharan Africa.

Adult females are typically larger than males, averaging 4–4.5 feet in length. Some pythons have lived up to 40 years in captivity. Ball pythons are primarily ground-dwelling and prefer tight hiding spaces such as burrows.



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## Habitat and Enclosure

Large snakes require secure, spacious enclosures that allow normal movement and thermoregulation.

### Enclosure Size

As a general guideline:

- A 10-foot snake should have an enclosure approximately 5' x 5' or 6' x 4'
- A 12-foot snake should have an enclosure approximately 8' x 4'
- Boas benefit from vertical height (4–5 feet) due to climbing behavior

### Acceptable enclosure types include:

- Glass terrariums
- Plastic or PVC cages
- Rack systems
- Custom-built enclosures

### Substrate Options

Several substrates may be used, each with advantages and disadvantages:

- Newspaper: inexpensive and easy to replace, but not visually appealing
- Aspen shavings: visually appealing but dusty and harder to clean
- Cypress mulch: helps maintain humidity but requires frequent cleaning
- Carefresh or recycled paper bedding: mold-resistant but more expensive
- Dri-Dek rubber mats: easy to clean and resistant to bacteria but costly

**Never use pine or cedar shavings, as the aromatic oils can cause serious respiratory irritation.**

**If a particulate substrate is used, it is advisable to feed your snake in a separate enclosure to prevent accidental ingestion of bedding.**

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## Heating and Temperature

Snakes rely on external heat sources to regulate body temperature.

### Provide a temperature gradient:

- Cool side: 70–75°F
- Warm/basking area: 82–92°F

These temperatures should be maintained and your snake be able to move from one side to the other to thermoregulate.

### Heat sources may include:

- Overhead heat lamps (incandescent or infrared bulbs)
- Under-tank heating pads attached to the outside bottom of the enclosure

**DO NOT USE HOT ROCKS. Ball pythons and other snakes frequently sustain serious burns from these devices.**

### **Temperatures should be:**

- Controlled with a thermostat
  - Monitored with two thermometers
    - One placed on the warm end, about one inch above the substrate
    - One placed on the cool end, about one inch above the substrate
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## **Humidity**

Humidity supports hydration and proper shedding.

- Boa constrictors: ~60% humidity
- Ball pythons: 50–60% humidity

Humidity may be increased by:

- Lightly misting the enclosure substrate twice daily
- Providing a water container large enough for soaking

A healthy, well-hydrated snake should shed in one or two long pieces. Incomplete sheds may require veterinary assistance. If your snake is not shedding properly, it could be the humidity or care you are providing.

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## **Hiding Areas**

Snakes require hiding spaces to feel secure and reduce stress.

- Provide at least two hides
  - One on the warm side
  - One on the cool side
- Hides should be snug, enclosed, and only open at the entrance

Acceptable hides include:

- Plastic containers
  - Cardboard boxes
  - Half-logs
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## **Cleaning and Sanitation**

- Inspect the enclosure daily
- Remove feces, shed skin, and debris promptly
- Cleaning can be done with hot soapy water and rinsing well
- Perform a complete enclosure cleaning monthly

Disinfection:

- Use dilute bleach solution (1capful of bleach to 1 gallon of water)
- Remove all organic material before disinfecting

- Leave bleach solution on surfaces for 10 minutes
  - Rinse thoroughly and dry completely before returning the snake
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## Lighting

Boas and pythons do not require intense lighting but do benefit from a normal day–night cycle. The recommendation is 12 hours of light and 12 hours of dark.

Ball pythons are nocturnal, but it is recommended to provide a 5.0 ReptiSun UVB bulb during daylight hours. While snakes absorb calcium from whole prey, UVB and UVA lighting may provide additional health benefits and promote natural behaviors.

Use a timer to maintain consistent lighting cycles.

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## Feeding

Large snakes eat whole prey items.

Feeding Schedule

- Juveniles: every 5–7 days
- Adults: every 7–10 days

Prey size should be no wider than the widest part of the snake's body.

Prey Options

- Mice and rats
- Hamsters or gerbils
- Guinea pigs or rabbits (for very large snakes)

Frozen-Thawed Feeding

Frozen-thawed prey is strongly recommended:

- Freezing kills parasites
- Safer than live prey, which can injure snakes
- Convenient for storage

If frozen-thawed prey is refused, freshly killed prey may be used as a compromise.

Frozen prey should be used within six months of freezing.

Feeding in a separate enclosure helps prevent accidental strikes during routine handling.

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## Water

- Provide fresh drinking water at all times
  - Use a bowl large enough for soaking
  - Clean and refill the bowl at least twice weekly
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## Handling

New snakes should be allowed 5–7 days to acclimate before handling. After feeding, avoid handling for 24–48 hours to allow proper digestion. Do not handle snakes during shedding.

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## Quarantine

Quarantining new snakes is critical, especially in multi-snake households.

- Minimum quarantine period: 90 days
  - Monitor appetite, fecal output, and behavior
  - Schedule a veterinary exam at the start and end of quarantine
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## Medical Problems and Signs of Illness

Respiratory disease is common in captive snakes.

Watch for:

- Difficulty breathing
- Wheezing
- Discharge from mouth, nose, or eyes
- Regurgitation or vomiting
- Skin lesions
- Refusal to eat at normal feeding times

Common contributing factors include improper temperatures, excessive feeding, and handling too soon after meals. If any of these signs occur, seek veterinary care promptly.

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## Preventive Care

To support long-term health:

- Check enclosure temperatures daily
- Maintain cleanliness
- Ensure enclosure security
- Keep feeding records (prey size, acceptance or refusal)



Annual veterinary wellness exams are strongly recommended for all large snakes.

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*This handout provides general guidance for large non-venomous snakes. Individual species and individual animals may have specific needs. Always consult a veterinarian experienced in reptile medicine with questions or concerns.*



# Ferguson Zones: Matching UVB to Your Reptile

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## Zone 1: Crepuscular or Shade Dwellers

### Very low UVB exposure

These species spend most of their time in shade, dense cover, or are active at dawn and dusk. They receive little direct sunlight in the wild.

### Examples:

- Crested geckos
- Gargoyle geckos
- African fat-tailed geckos
- Corn snakes
- Ball pythons



### Key point for owners:

These species still benefit from **low-level UVB**, but excessive UVB can be harmful.

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## Zone 2: Partial Sun or Occasional Baskers

### Low to moderate UVB exposure

These reptiles move between shade and sunlight and bask intermittently rather than continuously.

### Examples:

- (juveniles and non-dominant adults often fall here)
- Blue-tongue skinks
- Uromastyx (when not actively basking)
- Green anoles
- Some box turtles



### Key point for owners:

UVB should be available, but animals must always have shaded areas to self-regulate exposure.

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## Zone 3: Open or Partial Sun Baskers

### Moderate to high UVB exposure

These reptiles bask regularly and are adapted to brighter environments, but still retreat to shade.

#### Examples:

- Adult bearded dragons
- Veiled chameleons
- Panther chameleons
- Red-eared sliders and other basking aquatic turtles
- Spiny-tailed lizards

#### Key point for owners:

These species **require reliable UVB** to remain healthy and are at high risk for metabolic bone disease without it.



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## Zone 4: Full Sun Baskers

### High UVB exposure

These reptiles live in very bright, open environments and bask for prolonged periods under intense sunlight.

#### Examples:

- Uromastyx species
- Desert tortoises
- Sulcata tortoises
- Rock agamas

#### Key point for owners:

Strong UVB is essential, but enclosure setup must still allow distance and shade to prevent overexposure.



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## Important Reminder for Clients

These zones are **general guidelines**, not rigid rules.

Factors that influence UVB needs include:

- Species
- Age
- Behavior
- Enclosure design
- Distance from the bulb
- Screen tops and materials

**Always research species-specific needs before acquiring a reptile**, and consult a veterinarian experienced in reptile medicine to confirm proper lighting for your individual pet.



# Reptile Lighting: Why It Matters

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Proper lighting is one of the most important parts of reptile care, yet it is also one of the most misunderstood. Inadequate lighting is a leading cause of metabolic bone disease and other serious health problems in reptiles.

This handout explains what ultraviolet (UV) lighting is, why reptiles need it, and how to choose and maintain the correct lighting for your pet.

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## Understanding UV Light

Ultraviolet (UV) light is radiation that exists beyond the visible light spectrum. It comes in three forms:

- UVA
- UVB
- UVC

Only UVA and UVB are relevant and safe for reptiles.

### UVA

- Helps regulate daily biological rhythms and behavior
- Important for normal activity, appetite, and reproduction

### UVB (Most Critical)

- Essential for calcium metabolism
- Allows reptiles to properly absorb calcium from their diet
- Prevents metabolic bone disease, a painful and often fatal condition

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## How UVB Works in the Body

UVB light activates vitamin D precursors in the skin, allowing reptiles to produce vitamin D3 naturally. Vitamin D3 is required for calcium to move from the gut into the bloodstream and into bones.

Research shows that:

- **Naturally produced vitamin D3** (via UVB exposure) is safer and more effective than oral supplementation in diurnal (day-active) reptiles
- **Some nocturnal species**, such as leopard geckos and corn snakes, can also benefit from low-level UVB exposure

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## Sunlight vs Indoor Lighting

Reptiles living outdoors receive UVB directly from the sun.

However:

- UVB does NOT pass through glass
- Placing a reptile near a window does not provide UVB

Indoor reptiles must be provided with artificial UVB lighting using bulbs specifically designed for reptiles.

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## Choosing the Right UVB Bulb

High-quality reptile UVB bulbs are essential. Brands commonly recommended include:

- Zoo Med
- Arcadia
- Reptisun

The type and strength of bulb needed depends on the species and natural habitat of your reptile.

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## Ferguson Zones: Matching UVB to Your Reptile

Reptiles are grouped into **Ferguson Zones** based on how much sunlight they naturally receive in the wild:

- **Zone 1:** Crepuscular or shade dwellers
- **Zone 2:** Partial sun or occasional baskers
- **Zone 3:** Open or partial sun baskers
- **Zone 4:** Full sun baskers

Knowing your reptile's Ferguson Zone helps determine:

- UVB intensity
- Bulb type
- Distance from the basking area

Ask your veterinarian if you are unsure which zone your reptile falls into.

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## Proper Placement of UVB Lighting

Correct placement is just as important as the bulb itself.

### Fluorescent UVB Bulbs

- Reptile should be able to get within 12–18 inches of the bulb
  - Use branches or logs to allow climbing closer if needed
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### **Mercury Vapor Bulbs**

- Must be placed at least 12 inches from the basking area
- These bulbs produce both heat and UVB and can overheat reptiles if too close

### **Screen Tops Matter**

- Dense screen lids can block up to 50% of UVB
- Enclosures with heavy screening may require stronger bulbs or multiple fixtures

### **Measuring UVB**

- Solar meters can be used to accurately measure UVB output and ensure proper exposure
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## **Bulb Replacement Schedule**

UVB bulbs must be replaced regularly, even if they still look bright.

- Replace every 6–12 months, depending on the bulb model
  - UVB output declines long before visible light burns out
  - Date bulbs when installed to track replacement timing
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## **Key Takeaways for Reptile Owners**

- UVB lighting is essential for bone health and calcium metabolism
  - Windows do not provide usable UVB
  - Proper bulb type, placement, and replacement are critical
  - UVB needs vary by species and natural habitat
  - When in doubt, ask your veterinarian for guidance
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If you need help selecting the correct lighting for your reptile or want your setup reviewed, please contact your veterinary team. Proper lighting is one of the most powerful tools you have to keep your reptile healthy.