BALL PYTHON

COMPLETE CARE GUIDE

Python regius — For New & Beginner Keepers

20–30 YRS	3–5 FT	60–80%	88–92°F	BEGINNER
Lifespan	Adult Size	Humidity	Warm Side	Level

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1. QUICK FACTS

Scientific Name	Python regius (Shaw, 1802)
Common Name(s)	Ball Python, Royal Python
Family	Pythonidae
Origin	West & Central Africa (Senegal to Uganda)
Natural Habitat	Grasslands, savannas, open woodland, mammal burrows
Adult Size — Male	2.5–3.5 ft (76–107 cm), avg. ~800–1,200 g
Adult Size — Female	3–5 ft (90–150 cm), avg. 1,500–3,000+ g
Lifespan	20–30 years in captivity (well-cared specimens reported 40+)
Experience Level	Beginner to Intermediate
Activity Pattern	Nocturnal / crepuscular
Venom	Non-venomous constrictor — completely harmless bite
Temperament	Generally docile; may ball-up when stressed, rarely bites
IUCN Status	Near Threatened — always buy captive-bred

2. NATURAL HISTORY

Ball pythons are found across a broad sweep of sub-Saharan West and Central Africa, ranging from Senegal, Guinea, Sierra Leone, and Ghana in the west through Nigeria, Cameroon, and the Central African Republic, extending east into Sudan and Uganda. Within this range they occupy semi-open habitats — seasonally dry grasslands and savannas, sparsely wooded open forests, and agricultural margins where mammal populations remain healthy. They are absent from dense rainforest interiors.

In the wild, ball pythons are overwhelmingly terrestrial and secretive. They spend daylight hours coiled inside mammal burrows, termite mounds, or hollow logs, where temperatures are more stable and cool than the surface above. Males exhibit occasional semi-arboreal behavior during the dry season, but females are largely ground-bound. Hunting takes place after dark, with prey located using heat-sensing labial pits and chemical detection via the Jacobson's organ.

The species gets its common name from its primary defense response: when threatened, it tucks its head into the center of a tight coil, using its body as a protective sphere. This passive temperament is a large part of why Python regius became one of the most widely kept pet snakes in the world. Understanding this wild context — burrow-dwelling, nocturnal, sensitive to temperature swings — directly informs every husbandry decision a keeper makes.

Conservation note: Ball pythons are listed as Near Threatened by the IUCN. Wild-caught specimens suffer high stress, often carry parasites, and frequently refuse food. Always purchase captive-bred animals from a reputable breeder.

3. HOUSING

Enclosure Type

PVC enclosures are the current standard among experienced keepers. They are opaque on three sides (reducing visual stress), front-opening, and hold heat and humidity extremely well. **Glass terrariums** can work if ventilation is restricted to manage humidity, though they require more active management. **Plastic tub systems** — modified Sterilite or similar containers — are inexpensive and commonly used by breeders for hatchlings and juveniles.

Enclosure Sizing by Life Stage

Life Stage	Minimum Size (inches)	Recommended
Hatchling (under 300 g)	20"L × 11"W × 13"H	Tub rack or small PVC
Juvenile (300–800 g)	36"L × 18"W × 18"H	40-gal breeder or 3×2×2 PVC
Sub-adult / Adult male	36"L × 24"W × 24"H	3×2×2 PVC enclosure
Adult female (800 g+)	48"L × 24"W × 24"H	4×2×2 PVC — current standard

The 4×2×2 ft PVC enclosure has become the accepted modern standard for adult females. The older advice of a 40-gallon tank for all adults is now considered too small for fully grown females by most experienced keepers.

4. TEMPERATURE & HEATING

Ball pythons are ectotherms — they regulate body temperature entirely by moving between warmer and cooler zones. Providing a proper temperature gradient is the biological foundation of digestion, immune function, and metabolism. An enclosure with one uniform temperature forces the animal to live at a compromise it cannot tolerate long-term.

Zone	Temperature (°F)	Temperature (°C)	Purpose
Warm Hide / Hot Spot	88–92°F	31–33°C	Thermoregulation & digestion
Ambient Warm Side	82–86°F	28–30°C	Transition zone
Cool Side / Cool Hide	75–80°F	24–27°C	Retreat & cooling
Nighttime Low	72–75°F min	22–24°C min	Acceptable overnight drop
NEVER EXCEED	**95°F**	**35°C**	**Injury / death risk**

Heat Sources

Radiant heat panels (RHP) and **deep heat projectors (DHP)** mounted inside the enclosure ceiling are widely considered the best primary heat sources, emitting the full infrared spectrum. **Under-tank heat mats (UTH)** are common and effective when paired with a thermostat — particularly in tub systems. **Ceramic heat emitters (CHE)** maintain ambient temperatures without visible light. **Always connect every heat source to a thermostat — no exceptions.**

■ **Never rely on heat lamps or heat rocks as a primary source. Heat rocks create dangerous hot spots. White light heat bulbs disrupt the day/night cycle and dry out the enclosure rapidly.**

5. HUMIDITY

Ball pythons are native to tropical and subtropical West Africa, and their skin and respiratory system are adapted to moderate-to-high ambient moisture. Chronically dry conditions lead to incomplete sheds, retained eye caps, respiratory irritation, and long-term health deterioration.

Baseline Humidity	60–80% relative humidity (RH)
During a Shed Cycle	Raise to 70–80% RH to support a clean, single-piece shed
Minimum Acceptable	50% — do not allow sustained drops below this threshold
Too High (caution)	Sustained 90%+ with poor airflow raises respiratory infection risk
How to Measure	Digital hygrometer — required equipment, do not guess

Managing Humidity

The most effective passive method is a moisture-retaining substrate such as cypress mulch, coconut coir, or a bioactive soil blend. A large water bowl on the warm side evaporates steadily and raises ambient humidity naturally. For enclosures that dry out quickly, cover part of the mesh lid with aluminum foil or acrylic to reduce evaporation. Light misting during shed cycles can bump humidity — allow the enclosure to dry slightly between mistings to prevent stagnant moisture buildup.

6. SUBSTRATE

Substrate serves three functions: humidity retention, hygiene, and behavioral enrichment. Ball pythons instinctively investigate and partially burrow, so a depth of 3–4 inches is recommended.

- **Cypress Mulch** — Excellent humidity retention, natural appearance, affordable. Most commonly recommended for beginners.
- **Coconut Coir / Fiber** — Great moisture retention, soft texture. Can be blended with topsoil for a bioactive setup.
- **Bioactive Soil Mix** — A blend of topsoil, coconut coir, and sand. Supports live plants and microfauna. Excellent long-term option.
- **Paper Towel / Newspaper** — Appropriate only for hatchlings or quarantine. Does not retain humidity well.
- **Aspen Shavings** — Acceptable only in low-humidity environments — molds rapidly at ball python humidity levels.

■ **Never use cedar or pine shavings, sand, gravel, reptile carpet, or fragrance-treated substrate. Cedar and pine emit aromatic compounds that are toxic to snakes.**

7. HIDES & ENRICHMENT

Hides are the single most important piece of furniture in a ball python enclosure. An inadequately hidden snake is a chronically stressed snake — and chronic stress is the primary driver of feeding refusal, immune suppression, and behavioral problems.

The Two-Hide Minimum

Provide at least two snug hides: one on the warm side (over the heat source) and one on the cool side. Both should fit the snake with only minimal extra space — body should lightly contact the hide walls. This replicates the tight burrow conditions ball pythons genuinely prefer. A hide that is too large provides no security benefit.

- **Half-log hides / cork bark tunnels** — Natural appearance, structurally solid, good in bioactive setups.
- **Plastic cave hides** — Inexpensive, easy to disinfect, widely available.

- **Humid hide (shed box)** — One hide containing damp sphagnum moss on the warm side during shed cycles. Dramatically improves shed quality.

Additional enrichment — cork bark flats, artificial or live plants, low-height climbing branches, and leaf litter scatter — reduces stress and encourages natural behavior.

8. LIGHTING

Ball pythons are nocturnal and do not require UVB lighting for basic survival. However, a consistent 12-hour on / 12-hour off light cycle supports circadian rhythm and wellbeing. For display enclosures, a low-output LED strip or 5.0 UVB tube is an increasingly common and beneficial addition. Any light source must be on a timer and should never serve as the primary heat source.

> Do not use bright white basking bulbs for heat. They disrupt the sleep cycle, dry out the enclosure, and are less effective at deep tissue thermoregulation than modern IR heat sources.

9. FEEDING

Ball pythons are obligate carnivores. In the wild their diet consists primarily of small mammals — rodents and occasionally small birds. In captivity, appropriately sized rodents (mice and rats) are the nutritional foundation of a healthy diet.

Prey Sizing

Offer prey approximately the same diameter as, or slightly larger than, the widest point of your snake's body. Oversized prey causes regurgitation and stress; undersized prey provides insufficient nutrition and prolongs feeding sessions unnecessarily.

Life Stage	Weight Range	Prey Size	Frequency
Hatchling	50–100 g	Pinky–fuzzy mouse	Every 5–7 days
Juvenile	100–500 g	Small mouse / hopper	Every 7 days
Sub-adult	500–1,200 g	Small rat / adult mouse	Every 7–10 days
Adult (male)	1,200–1,800 g	Medium rat	Every 10–14 days
Adult (female)	1,500–3,000 g+	Medium–large rat	Every 10–14 days

Frozen / Thawed vs. Live

Frozen-thawed (F/T) prey is strongly recommended. It eliminates injury risk from live rodents, eliminates parasites, and is more convenient to stock. Most captive-bred ball pythons from reputable breeders are already established on F/T prey before sale. To thaw: refrigerator overnight, or room-temperature soak in sealed bag for 1–2 hours. Warm immediately before feeding in warm water to ~100–105°F. Never microwave prey.

Feeding Refusal — The Ball Python Hunger Strike

Ball pythons are notorious for extended feeding refusals. A healthy adult refusing for 4–8 weeks — particularly in autumn and winter — is often a natural seasonal response, not a crisis. Before assuming a problem: verify temperatures, humidity, hide sizing, and prey temperature. Weigh monthly to track trends.

■ **If a snake actively loses more than 10% body weight or refuses food beyond 8 weeks, consult a reptile-experienced veterinarian.**

10. WATER

Fresh, clean water must be available at all times. Provide a bowl large enough for the snake to fully submerge — ball pythons soak, particularly before a shed. A heavy ceramic or stone bowl is preferable to plastic. Change water every 1–3 days, or immediately if soiled. Scrub and disinfect the bowl weekly.

11. HANDLING

Ball pythons are generally one of the most handleable snake species in captivity. Regular, gentle handling builds a confident, well-adjusted animal. That said, handling carries risk and the keeper does so at their own discretion.

New Snakes — Acclimation Period

For the first 10–14 days after bringing a new snake home, do not handle it at all. Allow it to settle, establish its hides, and begin eating consistently before introducing handling.

Handling Best Practices

- Limit sessions to 15–30 minutes, 3–4 times per week for adults.
- Never handle within 48–72 hours of feeding — this can cause regurgitation.
- Never handle during a shed cycle (eyes blue/milky) — the animal is visually impaired and more defensive.
- Support the full body — never dangle or grip tightly. Move slowly and predictably.
- If the snake balls up, return it to the enclosure and try another day.
- Wash hands before and after every session — snakes detect prey scent and may strike in feeding mode.

12. SHEDDING (ECDYSIS)

Shedding is the replacement of the outer skin layer in a single piece. Hatchlings shed every 4–6 weeks; adults shed every 2–4 months. A healthy shed comes off in one complete piece, including the eye caps.

Pre-Shed Signs

- Eyes turn hazy, milky blue, or opaque (the "blue phase") — typically 4–7 days before shed
- Skin color dulls, losing its usual sheen
- Reduced appetite or complete food refusal
- Increased soaking in the water bowl
- May be more defensive or reclusive than usual

During & After the Shed

During the blue phase, do not handle. Raise humidity to 70–80% RH and add a humid hide with damp sphagnum moss. Eyes clear approximately 3–5 days before the actual shed event.

After the shed, inspect it as one complete piece. Confirm both eye caps are present. Eyes should be clear and glossy. If retained shed remains, soak the snake in shallow lukewarm water for 15–20 minutes, then gently roll the shed off with a damp cloth. Retained eye caps require veterinary attention — do not attempt to remove them yourself.

13. HEALTH & COMMON ISSUES

The majority of health problems in ball pythons trace directly back to husbandry errors. Correct parameters from the start prevent most of what beginners encounter. Find a reptile-experienced veterinarian before you need one.

Respiratory Infection (RI)

- **Signs:** Wheezing, mucus at nostrils, labored breathing, head tilted up, lethargy
- **Cause:** Sustained low temperatures, chronically high humidity with poor airflow, stress
- **Action:** Correct temperatures and ventilation immediately. Veterinary antibiotics required — RIs do not resolve on their own.

Scale Rot (Necrotic Dermatitis)

- **Signs:** Dark, soft, or discolored belly scales; blistering
- **Cause:** Sustained contact with wet, soiled substrate; poor ventilation
- **Action:** Veterinary care required. Increase ventilation, improve substrate hygiene.

Mites (Ophionyssus natricis)

- **Signs:** Tiny black or red specks on snake or in water bowl; excessive soaking; rubbing against decor
- **Cause:** Introduction from infected animals or untreated second-hand equipment
- **Action:** Quarantine immediately. Full enclosure strip-down and disinfection. Veterinary-recommended treatment.

Incomplete Shed / Retained Eye Caps

- **Signs:** Shed comes off in pieces; dull patches; eyes still cloudy after shed
- **Cause:** Low humidity, dehydration, underlying health issues
- **Action:** Soak 20 minutes in shallow lukewarm water; gently remove retained shed with damp cloth. Retained eye caps — veterinary care only.

Regurgitation

- **Signs:** Vomiting partially digested or whole prey
- **Cause:** Handling too soon after feeding; prey too large; temperatures too low; illness
- **Action:** Wait 10+ days before offering food again at a smaller size. Repeated regurgitation — veterinary care.

Inclusion Body Disease (IBD)

- **Signs:** Neurological signs: stargazing (head/neck arched backward), loss of righting reflex
- **Cause:** Retroviral infection; spread via mites and direct contact
- **Action:** No cure. Fatal. Isolate immediately. Veterinary confirmation required. Never skip quarantine for new animals.

Quarantine all new animals for a minimum of 60–90 days in a completely separate airspace before introducing them to any existing collection. This applies even to animals from trusted sources.

14. PURCHASING ADVICE FOR BEGINNERS

- **Always buy captive-bred** — from a reputable breeder or established reptile vendor. Wild-caught animals carry parasites, extreme stress, and feed unpredictably.
- **Ask for a feeding history** — confirm the animal has eaten frozen-thawed prey at least 3–5 consecutive times before purchase.
- **Inspect before purchase** — clear eyes, clean nostrils, no retained shed, healthy body weight, no mites or open wounds.
- **Ask for the hatch date** — a snake that hatched 6–10 weeks ago and is feeding reliably is an ideal beginner candidate.
- **Set up the enclosure before the snake arrives** — run at correct temperatures and humidity for at least 48 hours first.
- **Consider a normal (wild-type) morph first** — before working with morphs that carry known health concerns such as spider wobble.

Sources

This guide was compiled using commonly accepted husbandry practices from experienced keepers and industry-standard reptile care resources.