

# **The Ball Python (*Python regius*): A Practitioner's Approach**

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## **INTRODUCTION**

Ball pythons have proven to be highly desirable to the pet trade and to the average person purchasing a snake as a pet. They are small, docile, and best of all - cheap! In 1991 over 65,000 ball pythons were imported into the U.S. alone, making them one of the most commonly acquired pet snakes<sup>1</sup>. Unfortunately for the consumer (and the snakes), these imported specimens are not among the easiest to care for in captivity and a staggering number of those imported each year die within a 2 yr time frame<sup>1</sup>. One might say that ball pythons are to other snakes as the poodles are to other dogs; it's one darn thing after another.

While offering the practitioner some job security, these snakes also have the potential to frustrate and defeat those unfamiliar with their numerous ailments and propensity to linger on. Hopefully, the following practical advise will allow the practitioner to formulate a comprehensive plan and stick with it until success is achieved.

### **Client education**

It is imperative that an in depth history is taken about the husbandry practices of the ball pythons owner. This is one snake that will not tolerate sub-optimal conditions that a Burmese python or boa constrictor might continue to thrive under. The husbandry requirements are very basic, but there are absolute requirements for privacy (hiding areas) and proper heat gradients. One of the most common mistakes made by owners is to provide a hiding area that isn't included in the thermal gradient of the cage. Most ball pythons, if given a choice, will choose security over warmth. This can be corrected by using an understand heater that heats part of the hiding area while not heating the entire area. In their native habitats these are burrowing snakes in a hot environment. For a good review of the husbandry requirements of ball pythons the reader is encouraged to read the husbandry sections of The Ball Python Manual by Philippe de Vosjoli<sup>1</sup>.

### **Ball python ailments**

The significant point here is that most of the common maladies that afflict ball pythons are really no different from those in other snakes. Infectious stomatitis, necrotizing dermatitis, incomplete sheds, upper respiratory infections, etc. are essentially the same in the ball python as they are in boas or other pythons. The key to treating ball pythons is that the level of supportive care required to achieve success is much greater than that required in other snakes. The wild-caught and imported ball pythons appear to be more severely affected by the stresses inherent in captivity. They are often overwhelmed by captive conditions in which other reptiles readily flourish. Perhaps the most significant physiological process to suffer is the suppression of the immune system. Current veterinary knowledge places great emphasis on supporting the immune system both to prevent medical problems and to augment treatment when they do occur<sup>2</sup>. The emphasis of this paper will be on these supportive care techniques.

## Supportive care

**Heat:** The most important and perhaps the easiest way to support the immune system is to provide a thermal gradient that reaches the upper preferred optimal temperature zone. Numerous studies have demonstrated that reptiles with access to such thermal gradients produce a better coordinated immune response - including improved antibody production<sup>3</sup>, improved cellular mobilization<sup>4</sup> and better suppression of pathogens - in that reptiles create a behavioral fever by selecting warmer areas when they are ill<sup>5</sup>. Mader illustrated that the performance of certain antibiotics (amikacin) administered at these higher temperatures was improved due to enhanced drug distribution and lower bacterial resistance<sup>6</sup>. Safety with this antibiotic was also improved due to a more rapid and efficient elimination from the body at higher temperatures<sup>6</sup>.

Ambient daytime temperatures of 78-86 °F (25-29 °C), with a nighttime drop to no lower than 73 °F (22.8 °C). Instruct your clients to place a thermometer in various locations in the cage and most will find that they are much too low. Ideally, a basking site reaching temperatures of 90-95 °F (32-35 °C) should be provided for several hours each day.

**Dehydration:** Dehydration and malnutrition are commonly seen together in debilitated ball pythons, but fluid and electrolyte concerns supersede nutritional concerns. The easiest way to correct dehydration is administer Gatorade (The Gatorade Co., Chicago, IL) or Pedialite (Ross Labs, Columbus, OH) by means of a red rubber urethral catheter (Sherwood Medical, St. Louis, MO) whose end has been cut to adapt to a syringe. The fluids are administered at a rate of 10-20 ml/kg q 24-48 hr<sup>7</sup>. Subcutaneous and intracoelomic fluids can also be administered at similar rates if the snake is too debilitated to take oral fluids.

**Nutritional supplementation:** Emaciated and underweight ball pythons that are not capable of feeding or refuse to feed, need to be force-fed. While many of these snakes are anorexic secondary to underlying diseases, many ball pythons are anorexic simply due to captive stress. This author has had excellent results using Hill's a/d administered in the same manner as fluids are at the rate of 30 ml/kg q 7-21 day. Mildly dehydrated snakes benefit from mixing Normosol, Gatorade, or Pedialite in with the a/d initially. While this will result in a diluted nutritional content, it aids in correcting the hydration status of the snake.

Recently, it has been suggested that Hill's a/d is not a good force feed mixture for reptiles<sup>8</sup>. While providing proper ranges of proteins, carbohydrates, and fats for carnivorous reptiles, a/d is largely made from liver which could provide excessive vitamin A levels. It also has higher levels of purines which can lead to hyperuricemia. Due to these concerns, an alternative mixture as suggested by Dr. Mary Allen can be made by mixing one 6 oz can of cat food and one can of Ensure which is then blended to make it syringeable<sup>8</sup>.

The goal of force feeding is sustain the python, not to maintain it. Accomplishing natural feeding is the ultimate goal and natural feeding should be attempted as soon as possible.

### Anorexia in ball pythons

As was mentioned earlier, anorexia is considered to be a symptom and not a disease. However, the practitioner will be faced with ball pythons that have had all medical conditions and husbandry practices corrected and they will still refuse to feed. In this situation, the anorexia can be considered to be secondary to captive stress.

These snakes should be force fed (as discussed earlier) every 7-21 day to sustain body weight. The client needs to be advised to provide increase privacy which includes handling only to force feed or clean the cage. Finally, potential occult parasitism should be addressed by administering praziquantel at 5-8 mg/kg p.o. or i.m. for potential tapeworms. If tapeworms are passed, an additional dose should be given in 2 wk<sup>9</sup>.

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