

Care of the Thai Water Dragon, Physignathus cocincinus

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The Thai water dragon, *Physignathus cocincinus*, originates from the forests of India and eastern Asia, and often remains close to fresh water. This member of the family Agamidae may reach 90 cm in total length of which more than half is tail. Coloration varies from brown to bright green with males often the brightest during the breeding season. Captive bred specimens are far preferable over wild caught imports. Water dragons require large spacious enclosures for the inclusion of climbing branches and a large bathing area. One to three animals can be kept in an enclosure of at least 2 m high x 1.8 m long and 1 m deep. Exhibits can be constructed from fiberglass, plastic or melamine-coated wood. Wooden materials must be treated or coated with non-toxic paints to prevent moisture damage and all internal edges sealed using non-toxic silicone sealants. Ventilation should never be reduced to maintain temperature and humidity, and 0.125 m² ventilation area per cubic meter of enclosure is advised. One-way glass or dark tape on clear glass helps to improve barrier perception by lizards, and prevents snout abrasions. A large water container and sprinkler/water drip system are essential to maintain humidity at 60 - 90 %. The floor should be covered with paper or outdoor carpeting that can be cleaned whenever soiled. If bark chips or other particulate material is used, remove soiled material immediately and change the entire substrate frequently. Hideouts or retreats must also be provided in sufficient numbers and in various locations so that all animals have opportunities to hide from lizards and humans. Air temperatures should vary from 25 degrees C (77 degrees F) at night to 30 degrees C (86 degrees F) during the day. Daytime basking areas should reach temperatures of 35 degrees C (95 degrees F). Heating requires both basking and background sources. Infrared heat lamps and incandescent spotlights can be used for daytime basking sites, but they must be screened from the lizards to prevent burns. Mercury halide lamps (Active UV heat lamp, Westron Corporation, 3590-C Oceanside Road, Oceanside, NY) may be used to provide heat and broad-spectrum light. Ultraviolet light is essential for proper vitamin

D3 synthesis and bone production. Regular access to unfiltered sunlight is best, but when not possible, the inclusion of broad-spectrum mercury halide lamps (e.g. Active UV heat lamp) or fluorescent tubes (e.g. Reptisun 5.0, Zoo Med Lab Inc., 3100 McMillan Road, San Luis Obispo, CA) is crucial. Fluorescent tubes must be positioned within 30 cm of the basking areas, and replaced every 6 to 12 m. Metal halide lamps may be placed up to 1 m away and replaced every two years. Environmental parameters should be closely monitored using accurate thermometers and hydrometers. Water dragons should be offered a wide selection of insects including crickets, mealworm larvae, waxworm larvae, locusts, and earthworms. All insects should be gut-loaded and dusted with a reptile multivitamin and mineral supplement high in calcium and low in phosphorus (e.g. Ca:Pa ratio greater than 8:1). Water dragons can also be offered fruits and vegetables as they mature, again supplemented with a high calcium (zero or low phosphorus) reptile specific supplement. Small fish and pinkie mice can also be fed but great care is required to avoid obesity for their energy-dense items. Juveniles are fed daily, and adults once or twice weekly. Care is required to avoid obesity in adults. Fresh water must be available at all times. Sexual maturity occurs when animals exceed 40 cm in length (usually in their second or third year). Male courtship includes prominent positioning within the enclosure, head bobbing and the pursuit and biting of females. Gravid females enlarge in girth. Females require a large nesting chamber (90 cm x 90 cm x 45 cm deep) containing sandy soil. Eggs are removed and incubated in damp sandy soil at 28 - 30 degrees C (82-86 degrees F). Incubation periods vary from 60 to 101 d depending upon temperature. Newly hatched juveniles, measuring 15 cm in total length, can be reared in small groups under similar conditions to adults. Secondary nutritional hyperparathyroidism (nutritional metabolic bone disease) caused by low calcium diets and lack of ultraviolet light is the most common disease in captivity. Affected animals are usually off food, less mobile, may tremor, and may easily break their bones. Female water dragons are prone to egg retention that often requires surgery to correct. Inflammation and infection of the mouth is less common but can be seen in lizards fed a poor quality diet. Toes and tails may be lost due to fighting or poor handling - never grab a lizard by the tail. Abscesses, particularly of the head and legs are frequent in lizards kept in overcrowded and unhygienic conditions. Surgical removal is usually necessary. FURTHER READING 1.) Barnard SM. 1996. Reptile Keepers Handbook. Krieger, Malabar, FL 2.) Coborn J. 1996. The Guide to Owning a Water Dragon: Selecting, Feeding, Housing, Breeding, Hygiene, Basilisks and Sailfin Lizards. TFH Pub, New Jersey 3.) Mattison C. 1991. Keeping and breeding lizards.

Blandford, London 4.) Vosjoli PD. 1997. Green Water Dragons, Sailfin Lizards and Basilisks. Bowtie Press, CA