CAPTIVE CARE OF WATER DRAGONS

Physignathus cocincinus (Green Water Dragon)
P. lesueurii (Australian Water Dragon)
P. tempralis (Asian Water Dragon)

Natural History

Water dragons are native to the Southeast Asian mainland and Indo-Australian archipelago. Most imports arrive from Thailand or southern China.

Males typically reach 3 ft; females are somewhat smaller. Males develop larger heads, jowls and crest on the back of the neck, and their femoral pores are somewhat larger than on the female.

Always have new animals checked by a vet for internal and external parasites (bring a fresh fecal sample if you can - or get one to the vet at the soonest opportunity), hydration, nutritional status and overall health.

Housing

You need a *large* enclosure. The reason most are missing much of their faces, rubbed off from the snout back past the front teeth, is that they will literally rub their flesh off trying to get out of a too small enclosure. They need space at least 2 x their total length - so you are talking min 6 ft long (side to side), at least 2-3 feet deep and 4-6 feet high to do it right. Green and Australian can be kept together, with one to three males in a room-sized enclosure. Some females can be domineering and may not want any other females around...others can co-habit with 3-4 females. You must monitor to assure *all* are feeding and basking properly. If any aren't, you are seeing the results of intimidation and will need to increase the number of basking and feeding areas and/or increase enclosure size or separate them.

These are semi-arboreal - need enough water to submerge and swim in, and branches for climbing, and ground for roosting and feeding. They also need adequate heat and a UVB light.

Substrate

Mixture of 2/3 peat soil + 1/3 clean sand with areas of bark. Can also keep on fake Astroturf. Very active digestive systems so lots of messy poop if they don't go in their water.

Branches

Diagonal for climbing, horizontal for roosting.

Plants

Clean dragon plants (*Dracaena*), pothos (*Scindapsus aureus*), *Ficus benjamina* trees, *Monstera deliciosa* (philodendron) and staghorn ferns. Will need to be replaced as they are shredded by claws or eaten.

Temperature

Day time: 84-88 F with drop to 75-80 F at night. Must have a basking area going up to 90 F during day at one side of tank. Use thermometers! No hot rocks - use overhead basking lights and an under-tank heat pad or one under the indoor/outdoor carpeting substrate.

UVB Lighting

Must have direct sun or a suitable UVB-producing fluorescent (Vitalite by Durotest or Zoomed's Iguana or Reptile light). Plant grow lights do *not* produce UVB and most so-called 'full spectrum" lights do not either. Must produce wavelengths in the 290-320 nm range.

Water

Must be available at all times for full body emersions up to at least 1/2 their height. Must be cleaned and disinfected daily...two days okay if they don't poop in it! If they dive into their water from a shelf or branch, you need to make the tub deeper so they do not injure themselves.

Feeding

Hatchlings and Juveniles:

2-3 week old crickets which have been previously gutloaded (e.g., not right from pet store!) Also offer finely chopped vegetables and fruits (see iguana salad ingredients for a healthy salad). As the dragons grow, offer only slightly bigger crickets, and add in some mealworms and baby ('pink') mice, and occasionally a waxworm for a treat. Smaller food items are more nutitious and more efficiently digested than fewer bigger items. Feed every 2 days - or oftener if they look hungry.

Adults:

Small mice, 4 week old crickets, kingworms (*Zoophorba*) as well as plant matter. Feed every 2-3 days - or oftener if they look hungry. Also feed plant matter, such as greens and fruits (see iguana salad for recipe).

Health

Claw tips may be clipped. For how to do it, read the document claw trimming in the iguana page.

Water dragons, like sailfin lizards, can be held but they do not like to be clasped. Hold gently with your hand held loosely cupped around them.

Common Ailments in Captivity - caused by captive environment

- Internal Parasites (filthy import and pet trade conditions)
- Metabolic Bone Disease (Calcium Deficiency)- poor diet, inadequate UVB and/or heat
- Rostral/Snout Damage - too small enclosure
- Stomatitis (Mouthrot) - snout damage, systemic infection due to improper environment or stress
- Swollen/Infected Limbs - fractures due to MBD or getting caught in inappropriate tank set-ups.
- Articular/Periarticular/Pseudo Gout - improper foods and insufficient hydration
- Respiratory Infection - inadequate heat; stress
- Gastroenteritis - protozoan, bacterial or worm infections

Diet-related Parasitic and Protozoan Infections

Gastrointestinal parasites may inhabit the mouth, coming from infected prey or from regurgitated prey that brings up parasites from lower down in the intestinal tract. The parasites live out parts of their life cycle within the intermediate or primary host, taking up residence in and migrating through different organs and systems. Many such parasites come from fish and amphibians that are used by the parasite as intermediate hosts during their life cycle. Some of these parasites, such as *Rhabdias* spp. may cause abscesses within the mouth or may migrate to the lungs. These are commonly found in garter snakes (*Thamnophis* spp.), grass snakes (*Natrix* spp.), and water snakes (*Nerodia* spp.), and other reptile species fed primarily on fish. The reptiles themselves may be treated with levamisole at 10 mg/kg sq. Feeder fish may also be treated, left to swim for 24 hours in a gallon of water mixed with 250 mg of levamisole.

Protozoan infections due to amoebæ is a problem worldwide and can cause serious health complications and mortality, including in captive reptiles. The cysts are ingested either through eating an infected reptile's feces or that of some other infected animal, such as wastes from feeder animals. Once in the gastrointestinal tract, the amoebæ become active (trophozoites), and start reproducing by binary fusion. They start invading the mucosal lining of the GI tract, get into the blood, and spread through out the body through tissues and organs. Some trophozoitesr are transformed into cysts which are then excreted in the feces, awaiting to be ingested by another host. Fecal smears are required to visualize cysts and trophozoites; cysts can be found using fecal flotation, with fecal samples containing mucous or blood being the most likely to contain the cysts.

> *An interesting note...* The most common - and pathogeic - amoeba in reptiles is *Entamoeba invadens*. Some reptiles (crocodiles, box turtles, garter snake, Northern black racer) may serve as a reservoir for this protozoan, carrying it and spreading cysts through their feces but not themselves showing any signs of illness. Certain reptile families seem to be particularly susceptible to dysentery from E. invadens infections (boids, crotalids, elapids, viperids, varanids), with giant tortoises as water snakes being most susceptible. This can be a problem in captive collections where enclosures are set up to house aquatic or terrestrial turtles and semi-aquatic or terrestrial lizards, such as sliders and water dragons. Accurate amoeba identification is essential as other amoebæ are not pathogenic in reptiles. If a fecal sample is not available, a colonic wash may be used to acquire a specimen for testing.

Postmortem exams of reptiles killed by *E. invadens* and other pathogenic amoebæ reveal inflammation, ulceration, or necrosis of the gastrointestinal tract or colon. The intestinal wall may be thickened with necrotic membranes. The bowel may be so involved that it is apparent that ingesta was not passed through in some time, which would be consistent with antemortem wasting, anorexia, and bloating. If spread through the blood stream, the liver, kidneys and other organs may contain abscesses, necrotic areas, and evidence general inflammation.

Amoebic infections are treatable once they are identified as such and the infection is detected and treatment started before tissue and organ damage is advanced. Maintaining proper environmental temperatures, exercising proper hygiene and quarantine procedures, and ensuring the infected reptiles are adequately hydrated will help increase survival rates.

Sources

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Related Articles

Food & Feeding - more information on plant food selection (http://www.anapsid.org/aafoodfeed.html)

Check out Tricia Powers' Water Dragon Homepage (http://www.icomm.ca/~dragon/) and the Water Dragon email list (http://www.anapsid.org/lists.html#lizard) for more detailed information on the care of water dragons.