**Kris Brown*

Crocodile Monitor *(Varanus salvadorii)*

Crocodile Sized Tree Monitors!

Crocodile monitors are large, arboreal to semi-arboreal monitor species with many different common names including but not limited to crocodile monitor, crocodile tree monitor, Salvadorii's monitor, and Papua(n) monitor. As with most monitors, crocodile monitors are highly versatile animals that use their strong claws, limbs, and tails for digging, swimming, and climbing. Crocodile monitors are a semi arboreal species, with large and powerful claws, limbs, and strongly prehensile tails for climbing. These large and impressive monitor species are found in New Guinea, and more specifically, within the state of Papa New Guinea, to the Indonesia region of West Papua.

The crocodile monitor is a large to very large, moderately built semi arboreal monitor species with a dorsal and base ground coloration ranging from blackish, dark olive green, to dark olive brown. There are also a series of paler whitish, cream colored, to yellowish rings, spots, flecks, and/or ocelli along the back (dorsum) and sides of the animal. The head is relatively long, ending in a large, bulbous snout unlike any other monitor species found in the Indonesian/Papuan region of Southeastern Asia. The tail is also very long and semi prehensile, is banded in black and yellow, and is oftentimes more than twice to two thirds the animal's SVL (or snout-to-vent length). These monitors are one of the most well known and awe-inspiring species of varanids in the pet keeping and herpetocultural hobby, but are certainly only for the most experienced and dedicated, advanced reptile keepers willing to only provide this large species not only the respect they deserve, but very large, arboreal to semi-arboreal conditions and enclosure with ample access to water, heat, and UVB lighting.

Taxonomy

Life: All living, physical, and animate entities
Domain: Eukaryota
Kingdom: Animalia
Phylum/Sub Phylum: Chordata/Vertebrata
Class: Reptilia
Order: Squamata
Suborder: Lacertilia
Infraorder: Platynota
Family: Varanidae
Genus: Varanus

Subgenus: Papusaurus
Species: *Varanus salvadorii**
**Taxonomy subject to change and revision.*

Lifespan and Longevity
If provided the proper care, crocodile monitors can attain longevity of 15 to 25 years or more.

Distribution and Habitat
Crocodile monitors are a large, highly arboreal to semi-arboreal species of monitor indigenous to New Guinea. More specifically, this large species occurs within the state of Papa New Guinea, to the Indonesia region of West Papua. Within its range, crocodile monitors occupy the humid, tropical to sub-tropical lowland rainforests and other tropical forests and woodlands, and costal mangrove swamplands and other forested wetlands. This species occupies a fairly remote and inaccessible range, and thus the full extent of its possible range and habitat preferences remain under-examined, although this species is highly arboreal, and utilizes the high and low canopies of its preferred habitats within its range.

Origin/History
Varanus salvadorii (W. Peters & Doria, 1878).

Endemic to the dense tropical rainforests of New Guinea, the crocodile monitor was a legendary species which had historically been rarely known or observed in the wild. Legends of "New Guinea "dragons" up to 20 feet in length had long existed, although it was unlikely that these monitors would actually attain such sizes. Nonetheless, a fully grown adult specimen would be an impressive animal to see. Since the 1990's through early 2000's, crocodile monitors become imported and available in the pet trade and in herpetoculture.

Up until 2001, these monitors would be imported from Indonesia after logging and mining operations, as well as deforestation would make these monitors more accessible to collecting. Once this collecting was legally ceased in 2001, however, several European countries would continue to receive wild-collected specimens through intermittent sources from the United States. Until recently, successful reproduction of V. salvadroii in captivity had been limited to only a few zoos, including the Honolulu Zoo (1997-1999), Fort Worth Zoo (1997-1999), and Gladys Porter Zoo (1992), but in the last few years, reports on the husbandry and breeding of V. salvadorii became more widely known when it came to the captive-breeding of this giant varanid species.

Experience Level Required
Advanced.

Size
Crocodile monitors range from about 12.0 to 16.0 inches in snout to tail length as hatchlings, but will quickly grow much larger. Adult crocodile monitors can vary in size depending on their bloodlines, subspecies and locality, but in general, are a large monitor species. They can range from 6 to 8 ½ feet, or 72.0 to 102.0 inches in snout-to-tail length, with a maximum recorded length of nearly 12 feet, or 122.0 inches snout to tail length and weigh anywhere from 30 to 50 lbs. Mature adult females may remain smaller at around 4 to 4 ½ feet or larger, or about 48.0 to 54.0 inches snout to tail length. Snout to vent length ranges from about 19.6 to 23.0 inches snout-to-vent length (SVL). **This is one major reason why it is important to consider the potential size and space, and housing requirements of a Crocodile Monitor prior to obtaining one.**


Example Ideal Enclosures for Crocodile Monitors, or Other Large Arboreal Monitors.

Housing and Enclosure

Enclosure System: Primarily Arboreal. Housing must also be sealed and escape proof. Hatchling crocodile monitors can be started out in a roughly 40 gallon tall enclosure, but will soon require larger accommodations. Enclosure size should be increased accordingly depending on the animal's size. If standard glass terrariums with screen tops are used at any point, ensure that adequate humidity and temperatures are maintained using additional steps to retain it. Very large, custom designed pens or enclosures are perhaps the most suitable housing for most mid to large sized monitors. As with other monitors, crocodile monitors also powerful diggers, and should also be provided with substrates that enable burrowing and retain humidity well such as chemical and pesticide free potting soil, cypress mulch, orchid bark substrates. Be sure to provide at least 18 to 24 inches of substrate. Monitors in general are very intelligent, alert and perceptive animals, and will require sufficient levels of safety, security, and stimulation and enrichment in order to do well in captivity. Provide a hide box and artificial foliage, driftwood, rocks, slabs, or logs for ample basking and hiding opportunities. A large enough water bowl or dish that they can readily enter and exit from that can work with one's enclosure setup and arrangement is also strongly recommended for maintaining adequate longer term hydration, humidity, and quality of life for these monitors. Water should be changed or filtered regularly at a minimum of every other day to maintain cleanliness and sanitary conditions. Crocodile monitors are a strongly arboreal terrestrial species, and will climb readily if given the opportunity.

Temperature, Lighting, and Humidity

For basking, create a thermal gradient (or a warm side) in the cage/enclosure with an appropriate sized under tank heating pad, ceramic, or radiant heat emitter. In general, the preferred ambient temperatures within the enclosure should be within the mid 70's to 80's, to even 90's. Basking and warm side temperatures can be allowed to reach up to 120 to 150 degrees F on the warm, basking side. Crocodile monitors also require overhead UVA, UVB incandescent and fluorescent lighting using the appropriate wattage bulbs or other heating elements. Spot clean the enclosure for urates, feces, or uneaten food at least twice per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months. More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well. Unlike many other monitors, these very large species of arboreal monitors require higher humidity levels, and relative humidity for these arboreal species should be around at least 60 to 80%.

Feeding, Diet, and Nutrition

Insectivorous to Carnivorous; In the wild, crocodile monitors are primarily carnivorous to insectivorous, and will feed on a wide variety of food including insects and other invertebrates, crustaceans, mollusks, and other invertebrates, as well as many small vertebrates including small mammals, birds, bird and reptile eggs, amphibians, and other smaller reptiles. They will also eat carrion, or dead and decaying plant and animal matter as well.

In captivity, variety is essential to a proper and adequate monitor diet. Crocodile monitors can be fed a variety of feeder insects of appropriate size including crickets, roaches, mealworms, superworms, and waxworms supplemented with vitamin D3 and calcium. Frozen-thawed rodents of appropriate size and raw food items such as turkey, beef, or eggs can also be offered, but sparingly, if at all, as these food items are high in fat and protein for monitors. It is also important to remember not to overfeed any monitors, as they can become very prone to obesity. Feeding schedules can depend on the age, size, and overall health of your monitor, but typically, an appropriate feeding regime for young and hatchling monitors should be two to three times weekly. Most monitors are very alert, intelligent and personable species that can become food aggressive when in the presence of food, and therefore require additional care when handling. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Handling

Crocodile monitors are a species that may initially be nervous and skittish, particularly newly acclimated specimens or those that have otherwise been only recently acquired. They may bite, claw, tail whip, defecate, or otherwise attempt to flee or escape from what they perceive to be a potential threat or predator. However, with regular handling, interaction, captive born crocodile monitors can become more tame and personable pets to maintain provided that they are handled and interacted with regularly in a calm and deliberative manner.

Most monitors are very different than many other reptiles in terms of their intelligence and perception, and each individual animal may differ in their temperament or personality. Some will come to acclimate with humans and being handled within a matter of a few months, while others may take many years. Two different trains of thought are out there when it comes to handling or "taming" one's monitors. The first is to handle and interact with them daily until they become used to or acclimated to handling. This method sometimes works, and sometimes does not, and depends on the individual animal and one's circumstances. This can also lead to the opposite desired effect, and make an animal further stressed. The other method, or train of thought is to simply leave them alone, and an added or increased trust among one's monitor may come over time with regular cage and enclosure cleaning, maintenance, or other routine duties. Over time, slow steps may be taken to continue to gain trust with, and eventually become able to handle and interact with them. With this second train of thought, many monitors will become more bold and curious, and interactive naturally on their own than if they are forced out of their hiding places or other areas in order to be handled. Moving slowly and deliberately is always better to help make the animal feel secure, rather than fast, rapid, or jerky movements.

Always keep in mind with regards to the second method, however, that large monitors especially, can still be potentially dangerous, or can be capable of delivering serious bites or scratches, and so some proper precautions when it comes to handling and interacting with them are always recommended. Even animals that can normally be considered "tame" can unexpectedly become threatened, or if one's hands and arms smell like their normal food. Any new animal should of course also be allowed to acclimate to its environment and surroundings before handling attempts are made. Overall, each animal is an individual, and these techniques may not be effective for all monitors, but are nonetheless the most commonly utilized. **Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens**

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding

this animal, group of animals, or this care sheet, please email and contact: Eric.S.Roscoe@gmail.com

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