*A&B Exotics

Asian Water Monitor *(Varanus salvator)*

Water Loving Behemoths

Water monitors can have many different common names depending on their subspecies, locality, and appearance including Sulphur Monitor, Black Dragon or Black Water Monitor, and many other names. As with most monitors, Asian water monitors are highly versatile animals that use their strong claws, limbs, and tails for digging, swimming, and climbing. The Asian water monitor is a large to very large, moderately to heavily built monitor species that can vary in color and pattern depending on subspecies and locality. A common and widespread species of monitor, water monitors ranges from Sri Lanka, through northeastern India, Bangladesh, Myanmar, Cambodia, Laos, Vietnam, southern China, and Thailand. They also occur from Malaysia and Singapore, to Indonesia, including Borneo, Sumatra, and other regions of Indonesia. Several subspecies of water monitors are also noted, and may occupy differing areas within this broader range.

Ground color for the nominate subspecies and most other commonly seen subspecies however, ranges from blackish, olive, to olive gray or olive brown with a series of several lighter colored yellowish to cream colored dorsal rosettes grading into distinct banding on the tail. The ventral surface, as well as the chin, neck, and throat are lighter cream colored or yellowish as well. The head and neck are also generally elongated and narrowly built, but still shorter and more rounded than the sometimes confused-with Nile Monitor (Varanus niloticus). The Black Water Monitor, or Black Dragon (*Varanus salvator komaini/macromaculatus*) is another frequently sought after subspecies, and tends to be solid, uniformly black in color. The water monitor is one of the best suited “large monitor” species among herpetoculture and the pet keeping hobby, but are very intelligent, keen, and perceptive animals, and 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, terrestrial enclosures with ample opportunities to dig and burrow and 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
Species: *Varanus salvator**
**Taxonomy subject to change and revision.*

Lifespan and Longevity

If provided the proper care, water monitors can attain longevity of 15 to 25 years or more.

Distribution and Habitat

The Asian water monitor is a large, heavy bodied semi-aquatic to semi-terrestrial species of monitor that is indigenous to a wide distribution of southern to southeastern Asia and Indonesia. More specifically, this common and widespread species of monitor ranges from Sri Lanka, through northeastern India, Bangladesh, Myanmar, Cambodia, Laos, Vietnam, southern China, and Thailand. They also occur from Malaysia and Singapore, to Indonesia, including Borneo, Sumatra, and other regions of Indonesia. Several subspecies of water monitors are also noted, and may occupy differing areas within this broader range. Water monitors are semi-aquatic, and can occupy a variety of habitats and environments within their range, including tropical to sub-tropical rainforests and other forests and woodlands, to dry, or scrub forests, savannahs, agricultural and irrigated plantation areas, and residential or suburban areas. In some areas, these monitors can even occupy heavily urbanized areas as well. These monitors are also most often found along semi-aquatic environments such as rivers, streams, and their banks, canals, coastal wetlands, lakes, and swamplands, where they are very capable swimmers.

Origin/History

Varanus salvator (Laurenti, 1768). Subspecies would have other authors and years attributed to first describing them.

Water monitors have historically been a heavily exported species out of Asia, not only for the live pet trade, but also for the skin and meat trades. It is unclear as to when exactly these large monitors first were kept or imported for the live animal trade specifically, but it was most likely that it was during the same time with the same animals destined for the skin trade during at least the 1970's or 1980's. Water monitors became Indonesia's largest reptile export commodity, both in the form of their skins, and for the above-mentioned pet trade.

Many specimens which became available for the pet trade were, as a result, wild-collected or "farmed" at best in their native Asian ranges, although by the 1990's or early 2000's, a small subset of reptile breeders in the U.S. would begin captive-breeding water monitors. These efforts would produce melanistic specimens from some localities from Thailand known as "black dragons", and other locality-specific color and pattern phenotypes, as well as even a small number of genetic color morphs or mutations in captive water monitors.

Importation of water monitors from some Asian nations such as from the Philippines also became illegal under both U.S. law and the Convention on International Trade in Endangered Species Treaties. It has been estimated that the average annual export of water monitor lizard in the periods of 1983 to 1999 was over 600 specimens/year.

Experience Level Required

Advanced.

Size

Water monitors range from about 12.0 to 18.0 inches as hatchlings in total snout to tail length, but will quickly grow. Adult water monitors can vary in size depending on their bloodlines, subspecies and locality, but in general, are a large monitor species. They can range from 4 ½ to 6 ½ feet, or about 54.0 to 78.0 inches in snout to tail length on average, but the largest specimens have been recorded at up to 9 to 10 ½ feet in length, or 108.0 to 126.0 inches snout to tail length and weigh anywhere from 30 to 50 lbs. Snout to vent length ranges from about 22.2 to 23.2 inches snout to vent length (SVL) but with a maximum SVL length of up to 46.0 inches. **This is why it is important to consider the potential size and space, and housing requirements of a Water Monitor prior to obtaining one.**

Example Ideal Enclosures for Water Monitors, or Other Large Monitors.

Housing and Enclosure

Enclosure System: Primarily Terrestrial-Semi-Aquatic. Housing must also be sealed and escape proof. Hatchling water monitors can be started out in a roughly 40 gallon long 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 room-sized enclosures are perhaps the most suitable housing for most mid to large sized monitors. As with other monitors, water 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. Water monitors are primarily a terrestrial species, but 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 or 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. Water 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. Most monitors are able to tolerate a wide gradient of overall relative humidity levels within their enclosures ranging from lows within the 30 to 50% range, to highs as much as 70 to 75% or more, through means of providing them with the correct and suitable substrates, as well as other humid hides and retreats. These husbandry components are perhaps the best ways of ensuring the proper humidity levels for your monitors in captivity.

Feeding, Diet, and Nutrition

Insectivorous to Carnivorous; In the wild, water 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. Water 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, but avoid feeding them too many high fat foods. 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

Water 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 water 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

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