*Kris Brown/Vital Exotics

Asian Water Monitor *(Varanus salvator ssp.)*

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. 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 is also generally long and narrowly built. 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. Asian water Monitors and some other large monitor species are a controlled, regulated, or prohibited species in some states. Always check any applicable federal, state, and local laws and ordinances that may pertain to the specific possession of this species.

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.

Conservation Status

IUCN Red List Least Concern (LC).

Legal and Regulatory Status(*Subject to Change)

Varanus spp. are CITES Appendix II (Except the species included in Appendix I) as of October 2017. Also consult with your local, municipal, and state ordinances and regulations for any ownership restrictions.

Experience Level Required

Advanced.

Size

Water monitors range from about 7 to 12 inches as hatchlings, 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 to 78 inches on average, but the largest specimens have been recorded at up to 9 to 10 ½ feet in length and weigh anywhere from 30 to 50 lbs. **This is why it is important to consider the potential size and space, and housing requirements of a Water Monitor prior to obtaining one.**

Housing and Enclosure

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. Adult water monitors will require a minimum of a six to eight foot by three foot terrarium or enclosure or larger. Very large, custom designed pens or 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.

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. 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 by no means a beginner's pet, and have long held a reputation for being a species requiring more experienced care and handling. When they are agitated, a water monitor may tail whip, inflate their throats by hissing to appear larger and more intimidating, and/or attempt to scratch or bite if handled or restrained incorrectly. Nevertheless, it is possible to end up with an adult water monitor that is accustomed to people and being handled, but this takes considerable time, patience, and effort on the keeper's part in order to achieve. Water monitors, and other monitors in general, are animals that require considerable amounts of regular time, patience, and commitment in order to become docile, handleable adult animals. Many different techniques and mindsets are out there with regards to handling and working with these reptiles, which can certainly go into far greater depth than the scope of this basic care sheet. Many believe a more hands off approach is more successful overall, and allowing the animal to gradually and routinely become accustomed to their keeper's presence, to being

touched, and handled. Others may choose to practice a more direct, routine handling approach, which may or may not be effective, but often unfortunately causes greater stress and/or injury to the keeper and the animal. Once in the hand, hatchling monitors can be handled with both hands cupped with care not to drop or restrain them tightly. An adult monitor (as well as other species of large lizards) should always receive adequate bodily support from underneath using the hand, and arm for support. Additional restraint can be made by tucking or pinning the animal's tail or hind quarters between the arm and body as well. Each animal is an individual, and these techniques may not be effective for all monitors, but are nonetheless the most commonly utilized. Monitors in general certainly are not for everyone, but with the right techniques and husbandry, can make for very intelligent and personable pets.
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 the Madison Area Herpetological Society at info@madisonherps.org

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