How to Sex Every Reptile and Amphibian! Is Your Pet Male or Female?-Snake Edition!

One of the most commonly asked questions, by both new and seasoned pet owners and reptile keepers alike, are the sex or gender of their pets. Unlike mammals, and even many other more familiar groups of animals in which their sexes are much more familiar to us, and can be much more readily distinguishable, reptiles and amphibians have vastly differing anatomies and physiologies, which oftentimes might make determining their sexes more challenging or difficult. Many can be sexually dimorphic in size between males and females, while others can be difficult to determine sex until their sub-adult or adult forms, being very difficult, if not impossible to determine in their younger forms, or as hatchlings or juveniles. Others yet can be parthenogenetic, consisting of primarily one sex, or even, in some cases, the ability to switch sexes depending on environmental and physiological conditions! Sometimes, the deposition of infertile eggs, ova, or other specific health and reproductive cues can also occasionally indirectly point to the likely sex of an animal as well.

While determining the sex of some animals can still be relatively easy once one learns what to look for and recognize, other methods should still be attempted only by veterinarians or other more experienced hobbyists or enthusiasts in order to prevent possible injury and undue stress to the animal. Many also display sexual behaviors characteristic of males or females, although there can often be overlap. Whether one is inquiring into the sex of their animal for the purposes of a new and exciting breeding project, or simply out of curiosity for one's own best knowledge and ability to provide the most tailored care and husbandry as possible, the following document shall be a great starting point for learning more about whether your pet is male, female, or in some cases, both!

Snakes:

These Techniques may be applicable to Boas, Pythons, and Colubrids-Sex determination for snakes can vary somewhat depending on the species and taxa. Some species can be sexually dimorphic in size, with females being larger or heavier bodied than males. Males can also sometimes have comparatively longer and more gradually tapered tails than females with slight hemipenial or cloacal bulges, while females, by comparison, may have comparatively shorter, more rapidly tapered tails. This technique however, also has the highest margin of error, and is often not always a reliable means when relied upon in of itself.

-"Popping" is a technique which relies upon the careful and gentle manipulation of a snake's cloacal or ventral scale to evert the presence of hemipenes (to determine males), or the absence of hemipenes (to determine females). Popping is a technique which requires some previous experience in order to be performed accurately and to prevent potential injury to the snake. This technique should be best performed by a veterinarian or other experienced reptile keeper or breeder. Popping, however, is not always the most preferred technique, however, when it comes to large pythons and boas, or other large, heavy-bodied, or muscular snakes.

 *Figure 1. Example of the "Popping" sexing technique for Snakes showing the hemipenes at the vent in males, or absent in females. Credited to Brian Gundy.*

-"Probing" is the other common technique used to determine sex of snakes, although this method may not always be suitable for sexing young, neonate, or hatchling snakes. This technique requires careful and previous experience, which should only be performed by a veterinarian or other experienced reptile keeper or breeder to prevent the possibility of injuring the snake and to gain an accurate reading. This technique involves using a lubricated, stainless steel rod (such as those available in commercially available probing kits) of appropriate size and length to be inserted into the snake's sub-caudal scale pockets (located on the underside of the snake's tail). The distance in which the probe can be inserted slowly and deliberately into these sub-caudal pockets while counting the number of sub-caudal scales is the main idea behind this method. Exact sub-caudal counts can vary somewhat depending on the species, although generally, females only have shallow, scent gland pockets consisting of only one to three sub-caudal scales, while males have much deeper hemipenial pockets consisting of at least three or more sub-caudal scale rows. It is very important to never force a sexing probe further than it can be gently inserted, or else doing so can cause internal damage to the snake.

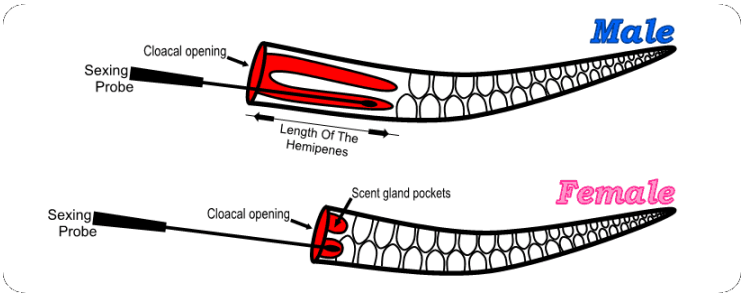

Figure 2. Example of the "Probing" sexing technique in Snakes using a probe to show the depth of the hemipene pockets and sub-caudal scales of male (top) and female (bottom). Credited to Cornsnake.co.uk.

-Some groups of snakes, most notably the boas and pythons, or boids, also possess some other sexual characteristics. These are most notably the presence of vestigial cloacal spurs near their ventral scale and tail, along with internal remnants of a pelvic girdle. The size and length of these spurs can sometimes be used to determine the sexes somewhat, as males generally may have longer and more prominent spurs, although females can also have prominent spurs as well. Some of these other methods

can be used in lieu of when a snake may be too large to be able to perform “popping” or “probing” upon. Parthenogenesis has also been documented in some species, although it remains to be common in snakes.

-Venomous Species, or “Hots”-Sexing methods and techniques, for the most part, are similar between venomous and non-venomous species of snakes, with the only major difference being venomous species must be safely and properly tubed or otherwise restrained prior to sexing to prevent an envenomation.

**Figure 3. The vestigial, or pelvic spurs near the vent in boas and pythons, or boids. Credited to Reptile.Guide.*