Feeding Mechanism in Snakes and Venom

All Snakes are Carnivorous, with over 2900 different species some Snakes have highly specialized diets (eggs, lizards, frogs, fish, fish eggs or invertebrates such as slugs or Leeches.

Snakes donot chew their food and prey is eaten whole including upto 30% predigested vegetable matter which comes from the prey animal.

Since Snakes are Capable of swallowing very large animals through the mouth gap which can be widened enormously. This is possible because of the peculiar structure of the skull. The gastrointestinal tract of the Snakes is simple and relatively short compared to other reptiles. Due to this aspect of comparative physiology, it's vital that these animals are given a high quality diet in Captivity to maximise the absorption of essential nutrients.

Size and type of prey

The size of the prey can be about the same diameter as the Snakes head. Snake can be fed whole prey in order mimic a Snake diet in the wild. The feeding of pieces of prey can lead to diet related to diseases. In general Snakes only eat whole animals and nutritional problem are relatively uncommon.

Frequency of feeding

(1) young growing Snakes may require food every 2 to 3 days
(2) Active Snakes such as garter Snakes require several feed per week.
(3) Small adult Snakes may eat weekly or more often
(4) Giant Snakes may only eat 4 to 6 times yearly

Snakes may not feed during ecdysis and some snakes do not feed during the breeding season.

Structural adaptations

(1) The two rami of lower jaw are loosely connected anteriorly by an elastic ligament which permits lateral expansion

(2) The lower jaw is also loosely attached posteriorly to the quadrate bone which in turn are loosely attached to the skull

(3) Bones of the palate are also movable. These features allow the mouth to expand several times the diameter of the snakes itself.

(4) The pectoral girdle is absent

(5) There is no sternum so that the ribs are free ventrally. As a result the throat and body are also capable of great distention

(6) The glottis is located far anterior in the floor of mouth opening just behind the lower front teeth. Thus breathing is not interfered with while swallowing.

(7) The cartilage of trachea of tracheal prevent it from being closed so that air passage remains open for breathing while swallowing.

During swallowing, their sharp recurved teeth which curve inward prevent the prey from slipping forward. By moving the two sides of jaw alternately, the snake gradually pushes the prey down into the oesophagus which it passes by peristaltic movement into stomach. The absence of pectoral girdle and sternum also facilitates the process of swallowing.

Snakes Swallow Longer Snake too.

After the king snake constricted and subdued the prey, it began the exhaustive 'transport cycle' to get the slithering snack into its belly. Called 'Pterygoid walk', the king snake opened up its jaw and alternately ratcheted toothy part of its upper jaw over the surface of the prey. in turn 'walking' its mouth over and around the prey

To help pull in its prey, the king snake Compressed its own vertebral column into a series of concertina like waves that shortened and lengthened its body.

The king snake forced the preys vertebral column to bend into waves and compress as if on accordion. Even tho' eyes bigger than its stomach, the king snake could package its meal to ensure a perfect fit inside its gastrointestinal tract.

With all that work, most of the king snakes regurgitated partially digested prey. Just one snake snake completely digested its prey a feat that took 15 days.

Snakes Venom

The poison which is secreted by the poison glands in poisonous snake is called venom and is injected into the body of the victim by means of fangs, which act as sharp needles. It is clear straw coloured or greenish liquid containing a complex mixture of powerful enzyms. Even dried venom keeps its poisonous properties for an indefinite period and can be readily dissolved in water. Strong most poison have no taste! The cobra poison is reported to taste much better. On the basis of the

action in the body of the victim there are two main types of venom which are as follows:—

(I) Haemotoxin - This causes tissue destruction, inviting haemorrhage and local swelling. Blood vessels and blood cells are also destroyed by it. This type of venom is found in vipers and krait.

(II) Neurotoxin - It affect various nerve tissues and nerve centre. It caus paralysis of muscle which control respiratory movement and the victim may die of asphyxia or suffocation. Clotting power of blood is reduced and so there is profuse bleeding. It also proves low blood pressure and heart failure.

It also destroys the endothelium of blood capillaries and blood cells. It is found in Cobra, coral snake and some viperids. Cobra's poison is more virulent than that of vipers, and caus asphyxia and profuse bleeding.

The degree of virulence of Snake venom may differ in the same snake under different condition and it of course varies in different types of snake.

To kill the victim, it is necessary that the killing dose be injected. The victim recover if timely treatment is undertaken. The antivenom serum or antivenin is the blood serum of horse which have been immunized against snake venom.

Different antivenins are used for different snake bits. Snake venom is used in the preparation of some medicine also.
