

## SNAKE DENTITION (from Wikipedia ©2013)

In most snakes, teeth are located on the dentary of the lower jaw, the maxilla, the palatine bone and the lateral pterygoid plate. The latter form an "inner row" of teeth that can move separately from the rest of the jaws and are used to help "walk" the jaws over prey. While most snakes are not hazardous to humans, several lineages have evolved venom which is typically delivered by specialized teeth called fangs located on the maxilla.

Most snakes can be placed into one of four groups, based on their teeth, which correlate strongly with venom and lineage. Common names for the various types of snake dentition originate largely from older literature, but still are encountered in informal publications. Aglyphous snakes are commonly called **fangless**; opisthoglyphous snakes **rear-fanged** or **back-fanged**; and both Proteroglyphous and Solenoglyphous snakes are referred to as **front-fanged**.

### Aglyph

Aglyphous snakes (*lacking grooves*) have no specialized teeth; each tooth is similar in shape and often size. When teeth vary in size, as in some bird eaters, they do not vary in shape. Most aglyphous snakes are non-venomous, however some, like *Thamnophis*, are considered mildly venomous, but generally not harmful to humans.



### Opisthoglyph

Opisthoglyphous snakes (*rearward grooves*) possess venom injected by a pair of enlarged teeth at the back of the maxillae which normally angle backwards and are grooved to channel venom into the puncture. Since these fangs are not located at the front of the mouth this arrangement is vernacularly called *rear-fanged*. In order to envenomate prey, an opisthoglyphous snake must move the prey into the rear of its mouth and then penetrate it with its fangs, presenting difficulties with large prey although they can quickly move smaller prey (or a human handler's finger) into position. Opisthoglyphous snakes are found in family Colubridae. An example of a rear fanged snake is the hog-nose snake *Heterodon platyrhinos*.



## Proteroglyph

Proteroglyphous snakes (*forward grooved*) have shortened maxillae bearing few teeth except for a substantially enlarged fang pointing downwards and completely folded around the venom channel, forming a hollow needle. Because the fangs are only a fraction of an inch long in even the largest species these snakes must hang on, at least momentarily, as they inject their venom, the most toxic of all snakes. Some spitting cobras have modified fang tips allowing them to spray venom at an attacker's eyes. **This form of dentition is unique to Elapidae.**



## Solenoglyph

Solenoglyphous snakes (*pipe grooved*) have the most advanced venom delivery method of any snake. Each maxilla is reduced to a nub supporting a single hollow fang tooth. The fangs, which can be as long as half the length of the head, are folded against the roof of the mouth, pointing posteriorly. The skull has a series of interacting elements which ensure that the fangs rotate into biting position when the jaws open. Solenoglyphous snakes open their mouths almost 180 degrees, and the fangs swing into a position to allow them to penetrate deep into the prey. While solenoglyph venom is typically less toxic than that of proteroglyphs, this system allows them to deeply inject large quantities of venom. **This form of dentition is unique to Viperidae.**

