been partially immunized by repeated doses of [that particular] snake-venom. Unfortunately this treatment will not often be avail­able. Several mammals and birds are supposed to be immune by nature against snake-venom. Some more or less immune creatures are the mongoose, the hedgehog and the pig, the secretary-bird, the honey buzzard, the stork and probably other snake-eaters.

Snakes are oviparous; they deposit from ten to eighty eggs of an ellipsoid shape, covered with a soft leathery shell, in places where they are exposed to and hatched by moist heat. The parents pay no further attention to them, except the pythons, which incubate their eggs by coiling their body over them, and fiercely defend them. In some families, as many freshwater snakes, the sea snakes, Viperinae and Grotalinae, the eggs are retained in the oviduct until the embryo is fully developed. These snakes bring forth living young.

The classification of snakes has undergone many vicissitudes.

J. Müller (*Zeitschr. f. Physiol.*, 1831, p. 265) divided them into *Ophidia macrostomata* and O*. microstomata.* A. Μ. C. Duméril *{Catal. méthodique, Mus. d’Hist. Nat.,* Paris, 1851, p. 199) distinguished between Opoterodonta, Aglyphodonta, Proteroglypha and Solenoglypha. H. Stannius (*Zootomie d. Amphib.,* 1856) made a further improvement by combination of the principles used by his predecessors, and he divided the Angiostomata or narrow-mouthed snakes into Tor- tricina, Typhlopina and Uropeltacea; the Eurystomata into Iobola or poisonous, and *Asinea* or innocuous snakes. Meanwhile J. E. Gray *{Cat. Snakes,* Brit. Mus., 1849) had distinguished only between Viperina and Colubrinia. A. Günther *{Cat. Colubrine Snakes,* Brit. Mus., 1858; “ Reptiles of British India,” Ray Soc., 1864; article Snakes, *Ency. Brit.,* 9th ed.) recognized at last four sub-orders:—Hopoterodontes, Colubriformes, Colu- briformes venenosi, Viperiformes; the most serious drawback being the merging of the Peropoda in the non-poisonous Colu­briformes. E. D. Cope (*Proc. Ac. Philad.,* 1864, p. 230) resorted to the modifications of the squamosal, ecto- and endopterygoid bones, the condition of the vestigial limbs, and the teeth:— Scolecophidia (Typhlopidae), Catodonta (Glauconiidae), Tor- tricina (Ilysiidae and Uropeltidae), Asinea, Proteroglypha and Solenoglypha. He adhered to this arrangement in his last comprehensive work (*Crocodilians, Lizards and Snakes of North America,* 1898, Smithsonian Inst., 1900), but combined the Asinea and Proteroglypha as Colubroidea, subdividing these into Peropoda, Aglyphodonta, Glyphodonta, Proteroglypha and Platycerca (Hydrophinae). In his last work he used, with doubtful success, the variations of the penes and the lungs as additional characters, chiefly for the grouping of the great mass of the Colubroid snakes. G. A. Boulenger (*Cat. Snakes,* Brit. Mus., 1893-1896) accepted Cope’s principles, and mainly by combining the Asinea of Stannius and Cope with the Protero­glypha as Colubridae—wherein he was followed by Cope, as mentioned above—and separating therefrom the Peropoda or Boidae, he has produced a logically-conceived system, by far the best hitherto proposed. It is followed in the present article.

Boulenger’s phylogenetic system stands as follows:—

This means that the Boidae retain most primitive characters. Likewise primitive, but in various respects degraded, mainly owing to burrowing habits, are the Typhlopidae with the Ily­siidae, and Uropeltidae asaterminal branch, and on the other hand the Glauconiidae. The solitary Xenopeltis is in several ways intermediate between Boidae and Ilysiidae. The rest of the snakes are supposed to have started from some primitive, non­degenerate, therefore boa-like group, leading by loss of the vestiges of the hind-limbs and loss of the coronoid bone of the mandible to the aglyphous or innocuous Colubridae, whence further differentiation in three new lines has taken place,—(1) the harmless Amblycephalidae as a side-issue, (2) the very poison­ous proteroglyphous Elapidae, (3) the moderately or incipiently poisonous Opisthoglypha, out of some of which seem to have arisen the venomous Viperidae.

I. No ectopterygoid; pterygoid not extending to quadrate; no supratemporal or squamosal ; prefrontal forming a suture with nasal ; coronoid present; vestiges of pelvis present.

Maxillary vertical, loosely attached, toothed; mandible toothless; a single pair of pelvis bones: *Typhlopidae.*

Maxillary bordering the mouth, forming sutures with the pre­maxillary, prefrontal and frontal, toothless; lower jaw toothed; pubis and ischium present, the latter forming a symphysis: *Glauconiidae.*

II. Ectopterygoîd present; upper and lower jaws toothed.

A. Coronoid present, prefrontal in contact with nasal.

1. Vestiges of hind-limbs; supratemporal present. Squamosal large, suspending the quadrate: *Boidae.*

Squamosal small, intercalated in the cranial wall: *Ilysiidae.*

2. No vestiges of limbs: squamosal absent: *Vropeltidae.*

B. Coronoid absent; squamosal present.

1. Maxillary horizontal; pterygoid reaching quadrate or

mandible.

Prefrontal in contact with nasal : *Xenopeltidae.* Prefrontal not in contact with nasal : *Colubridae.*

2. Maxillary horizontal; pterygoid not reaching quadrate or

mandible: *Amblycephalidae.*

3. Maxillary vertically erectile, perpendicularly to ectoptery­

goid, and reaching quadrate or mandible: *Viperidae.*

For ordinary practical purposes this synopsis is useless, most of the anatomical characters being visible only in the macerated skull. The following characterization of the families is based upon more accessible features.

Eyes vestigial or hidden; lower jaw toothless; without enlarged ventral scales: *Typhlopidae.*

Eyes vestigial; teeth restricted to the lower jaw; without en­larged ventral scales : *Glauconiidae.*

Eyes very small; head not distinct; teeth in the upper and lower jaws; ventral scales scarcely enlarged; tail extremely short, ending obtusely and covered with peculiar scales: *Uropeltidae.*

Eyes functional, free, with vestiges of the hind-limbs appearing as claw-like spurs on each side of the vent.

Ventral scales scarcely enlarged : *Ilysiidae.*

Ventral scales transversely enlarged : *Boidae*

Eyes free; with a pair of poison-fangs in the front part of the mouth, carried by the otherwise toothless, much shortened, and vertically erectile maxillaries; ventral scales transversely enlarged : *Viperidae.*

All the remaining snakes combine the following characters, the maxillaries are typically horizontal, not separately movable, with a series of teeth. The mandible is toothed but has no coronoid bone. There are no vestiges of limbs or of their girdles. The eyes are free.

Dentary movably attached to the tip of the articular bone of the mandible. Skin beautifully iridescent: *Xeno­peltidae.*

Without a mental groove; the ends of the pterygoids are free, not reaching the quadrate. Head thick and very distinct: *Amblycephalidae.*

With a median longitudinal groove between the shields of the skin: *Colubridae.*

Family 1. Typhlopidae.—Burrowing snakes, mostly small, which have the body covered with smooth, shiny, uniform cycloid scales. The teeth are restricted to the small maxillary bones. The quadrates slant obliquely forward and are attached directly to the proötics, owing to the absence of squamosals. The prefrontals are in lateral contact with the nasals. The vestiges of the pelvis are reduced to a single bone on each side, and there are no traces of limbs. The eyes are hidden by shields of the skin. The mouth is very narrow, and the halves of the under-jaw are not distensible. About 100 species of these rather archaic snakes are known; in adaptation to their burrowing life and worm and insect diet, they have undergone degradation. The tail is mostly very short and sometimes ends in a horny spine. They are widely distributed in all tropical and sub­tropical countries, even in such solitary places as Christmas Island, but they do not occur in New Zealand. The chief genus is *Typhlops,*