

NORTH AMERICAN HERPETOLOGY.

INTRODUCTION.

REPTILES form the third great class of vertebrated animals. They are beings provided with lungs, a simple heart, low temperature, slow digestion, and oviparous generation; having neither hair, feathers, nor mammæ.

Naturalists have experienced much difficulty in giving an appropriate name to this great class of animals. Linnæus, observing some of the most remarkable phenomena in the economy of Reptiles—as their being able to live on land or in water—called them amphibia. The term is inappropriate; for it can be applied but to a very small number; as many never approach the water, and few, like the Sirens, can respire in this element;—breathing with lungs, others must approach its surface for atmospheric air. The respiration of young Batrachia is indeed only in water; but they have gills, and when the animal arrives at its perfect state of development, these disappear, and are succeeded by lungs. An animal, to respire equally well on land or in water, must have both gills and lungs; gills to breathe in the water, as Fishes, and lungs to respire atmospheric air, as Birds and Mammalia. The Sirens of our rice-fields, and the Menobranchi of the great northern lakes, are the only North American Reptiles that have this structure;

and are consequently our only really amphibious animals. However inapplicable the term amphibia may be to these animals, many writers have followed the example of the great Swedish naturalist. Brisson* was the first who arranged them under the name Reptiles;† which term will be adopted in this work as more indicative of their habits than the word amphibia.

The science which treats of the form, organization, habits, and history of Reptiles, is named Herpetology;‡ and has been more neglected than all other branches of Zoology; for the study of Reptiles offers difficulties more numerous and insurmountable than those presented by any other class of vertebrated animals. Inhabiting, for the most part, deep and extensive swamps, infected with malaria, and abounding with diseases during the summer months, when Reptiles are most numerous, time is wanting to observe their modes of life with any prospect of success. Regarded, moreover, by most persons as objects of detestation, represented as venomous, and possessed of the most noxious properties, few have been hardy enough to study their character and habits.

Though wanting the gracefulness of form of some Mammalia,—though without the beauty of plumage of some Birds, or the intelligence of others,—though they lack the brilliancy of colour and wonderful instinct of the insect tribe,—still the Reptiles offer many striking points of interest to the student of nature. To one who would trace the chain of organized bodies, their connexion, their relation with each other, and with the great whole, the study of Herpetology is highly interesting and important. The Reptiles occupy a prominent place in the scale of creation. Neither the highest, nor yet the lowest of vertebrated animals, they fill a space between the Birds and Fishes, and without them a vast link in the chain of animated beings would be wanting. Elevated above the Fish by the

* *Regne Animal. divisé, &c.* Paris, 1756.

† Dumeril observes the term had been previously used by Lyonnet. *Hist. Nat. des Rept.*, tom. i. p. 2.

‡ From ἑρπετον, a reptile, λόγος, a discourse.

presence of lungs and articulated members, yet inferior to Birds from having cold blood, a simple heart, and a less degree of sensibility, these animals, by their multiplied and extremely diversified forms, make the medium of connexion between beings of the most opposite character. The Testudo connects them with the inferior Mammalia, as with the Armadillo, on the one hand, while the Siren approximates them to the cartilaginous Fishes on the other. Serpents form a link of another series, connecting this class with osseous Fishes, as with the Eel; and the Flying Lizard connects them with the Birds.* In order to estimate properly the rank these animals hold in the scale of creation, it is necessary to examine the general and principal points of their organization—to study the number of their senses, and their degree of perfection. Without this, we cannot understand the diversified forms and the shades of life that present themselves in such infinite variety among them. Their conformation and modes of life are so different—some being organized for creeping, others for walking, for swimming, and even for flying, that it would be impossible to generalize their anatomical forms or structure. We cannot give the structure of one as the type of organization in all the others; for their variation in shape and figure is attended with modifications of their internal organs. These differences of structure will be fully described in the anatomical part of this work; at this time, according to the plan proposed above, it can only be said that the difference of organization observed in different species, led Brogniart to arrange them all in four great orders—I. Chelonia. II. Sauria. III. Ophidia. IV. Batrachia.

* Carus, Vergleich. Zoot. Erst. Theil., p. 25.



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