

class Amphibia; but some of them approach in certain important characters, as in the development of the ribs and chest, and therefore of the respiratory and circulatory power, to the true reptiles. In the Permian, the newest system of the Palæozoic, true reptiles have been found in Europe and in the United States; but not as yet in Canada, though footprints of reptiles or amphibia occur in the upper member of the Carboniferous.

The Canadian species have all been grouped for the present in the order *Stegocephala*. In general form, those hitherto found in Canada are lizard-like, with four limbs, often well developed, and usually with five toes. The arrangement and division of the cranial bones resemble those in modern batrachians. The ribs are usually long and curved. The vertebræ are often only imperfectly ossified, but their processes are well developed. The body is protected below by bony plates and overlapping bony scales, and in some species the back has spines, tubercles and horny scales. The order has been divided into sub-orders, based on the more or less perfect ossification of the vertebræ, viz., (1) *Leptospondyli*, or those having the vertebræ merely crusted with bone; (2) *Lemnospondyli*, or those with the vertebræ in separate bony pieces; (3) *Stereospondyli*, or those with perfectly ossified vertebræ. There is, however, good reason to believe that this arrangement is somewhat arbitrary and provisional, and a number of imperfectly known species cannot be placed with certainty in either group. The Canadian genera may all be arranged in two families, *Microsauria* and *Dendrerpetonida*.<sup>1</sup> It may be remarked, however, that the former may prove to be entitled to the rank of an order; and that in the case of the latter, the species included in it approach so nearly to the Labyrinthodonts that they have hitherto been included by me in that family, into which, indeed, they appear to graduate.

Class—AMPHIBIA.

Order—STEGOCEPHALA.

Family—*Microsauria*,<sup>2</sup> Dawson.

The *Microsauria* are lizard-like in form, with limbs usually well developed and five toes, and a long but not flattened tail. Cranial bones smooth. Maxillary and mandibular teeth numerous, simple. In some many small vomerine or palatal teeth. Vertebræ ossified externally, bi-concave, with well developed articular, spinous, and in the trunk, lateral processes, ribs long and curved, generally with two heads, chest and abdomen protected by a sternal plate and by bony scales or rods. Skin above with horny scales sometimes developed into tubercles, spines or lateral lappets.

Genus *HYLONOMUS*, Dawson.

Teeth numerous, small, conical, sharply pointed, vomerine teeth small and numerous, skull ovate, smooth; hind limbs and pelvis remarkably well developed; tail long, abdominal scales oval. In some species an ornate arrangement of tubercles and spines on the back and lappets on the sides.

<sup>1</sup> Zittel, *Palæontologie*, 1893, uses the term *Gastrolepidoti*; but as the *Microsauria* also have abdominal bony scales, this is not distinctive.

<sup>2</sup> Order *Microsauria* of my "Air-breathers of the Coal Period," 1863. I still think these animals ordinarily distinct.