

reproductive system being the most prominent and permanent in all forms of life, it is justly selected as a basis. UNGULATA, for instance, is recognized as a generic order among animals possessing non-deciduous uteri, and its name further signifies that all of this class have all the toes or digits protected by a case forming or approaching to a hoof. Now, the possession of hoofs, of itself, is not of sufficient evidence on which to base an order; but taken, with the peculiarities of diffused or cotyledonary placenta, of milk teeth, absence of clavicles and other concomitant anatomical idiosyncracies, it has a firm basis; but people at large are not supposed to be familiar with these, while a hoof or a hoof-like tendency is patent to all—hence the title.

By dividing the order *Ungulata* into two sub-orders, we have, PERISSODACTYLA (odd-toed) and ARTIODACTYLA (even-toed), and approach a step nearer the desired result. The former is further recognized by the possession of not less than twenty-two (22) dorso-lumbar vertebra, a simple stomach, large caecum, udders in the groin or inguinal region; and when horns are present, as being entirely epidermal and devoid of bony core, and placed in the centre of the skull; there are also other minor characteristics too numerous for mention in this connection. This order embraces the *Equidae*, or horse family, *Rhinocerotidae*, or rhinoceros family, and *Tapiridae* or tapirs.

The ARTIODACTYLA, or even-toed, has two sub-orders, the *Rumantia*, or those provided with compound stomachs, and the *Non-Rumantia*. The former have but one pair of incisor teeth in the upper jaw of the adult, and those the outermost; canine teeth may, or may not be present above, they almost always exist below and are frequently so approximated and inclined forward as to be mistaken for true incisors, which they closely resemble in form; the third and fourth digits are consolidated into one, vulgarly known as the "cannon-bone," and there is an extra metatarsal or ankle-bone, appearing as if the detached distal end of the

fibula; the stomach is compound—"all chewing the cud"—with not less than three more, commonly four, divisions. Of this sub-order we hold the sheep, deer, or ox as a type.

While *Rumantia* might very properly be held as a family instead of sub-order, for convenience sake, and greater ease of approximation, it is divided into the families of *Tragulidae*, *Cotylophera* and *Camelidae*, the former with the false musk deer as a type, the second with deer, antelope, and oxen, and the last embracing camels, llamas, etc.

In turn, *Cotylophera* may be divided into sub-families as *Bovidae*, *Cervidae*, etc., though the anatomical differences are not sufficient to absolutely warrant it; to prevent confusion, however, it is perhaps better so. Next we have the genera *Cervus*, *Bos*, *Ovis*, *Antilocapra*, etc.

As classification now prevails, we have another order, *Rumantia*, embracing families of *Cervidae*, and *Caricornae*, etc. The latter is usually again divided into sub-families of *Orindae*, *Bovinae*, *Aplocerinae*, etc., and the former given the sub-family of *Cervinae*. The *Cervinae* embrace the following genera: *Alces* (elk or moose), *Rangifer* (reindeer or caribou), *Cervus* (wapiti or stag), and *Cariacus* (Virginia, black-tailed, mule deer, etc. The characteristics of the family *Cervidae* are given as "Incisors,  $\frac{1}{1}$ ; canines,  $\frac{1}{0,0}$ , or wanting; molars,  $\frac{6}{6}$ ; antlers solid, deciduous not encased by horns, sometimes wanting. Foot bifid."

Sub-family, *Cervinae*—"Horns solid, always present in males, sometimes in females, not covered with skin; foot bifid, with two small hoofs behind and above the large ones."

Genus *Alces*—"Horns in male only, broadly palmated at tip; nose broad, hairy except small spot between nostrils."

*Rangifer*—"Horns in both sexes, broadly palmated at tip; nose hairy."

*Cervus*—"Horns on male only, rarely sub-palmate, curved backward, snags forward, one immediately above the burr; tail short; hoofs broad and rounded."

To be Continued.