skeleton. Thus it appears that in Sphargis the trunk is inclosed in a dermal bony girdle which is circumscribed in front, behind, and on the two sides; under this solid envelope follows a coarse felt of soft corium without lime deposits, and under this finally lies the true skeleton. In Sphargis, the ossifications of the skin have thus least to do with the skeleton proper, while the connection of the dermal and the true skeleton is carried furthest in land Turtles. We may say, therefore, that if the type of Turtles is carried out the furthest in the genuine Testudinina, it is the least so in Sphargis.

SECTION V.

THE SKIN.

The epidermis, the Malpighian layer, the corium, and the ossifications of the latter, are to be found in all Turtles, but they show the greatest variety in different families. We will analyze these different strata, proceeding from the outside inwards.

The Epidermis. The epidermis of the head is of great importance in characterizing the order, the sub-orders, families, genera, species, and even the sexes of Turtles. The practised observer may, from the sheath of the jaw alone, recognize at least the genus. In all Turtles, the jaws are covered by a thick epidermis, which gives them the appearance of a genuine bill, more or less rounded in front, with sharp margins either smooth or denticulated. Such a bill is not found in any other Reptile, nor in any order of Vertebrata, except in two Mammalia, in all the Birds, and in the Tadpoles of the Batrachians. This horny sheath is erroneously said to be wanting in some Turtles. We find it in all, even in the Trionychidæ, where the jaws are covered by fleshy lips, but it varies greatly in thickness; while it is rather thin in the Emydoidæ, it forms in the Cinosternoidæ a strong, sharp hook, which is stronger still in Chelydra, and strongest in Sphargis, which is very likely a carnivorous Turtle. In this last genus it has the form of a hook bill, more powerful than even the bill of the South American Harpyia.

On the top and on the sides of the head the epidermis forms either one continuous layer, as in the Emydoidæ, Cinosternoidæ, Chelydroidæ, and Trionychidæ, or it is divided into a pavement of thicker plates, disposed either symmetrically, as in Chelonia, or more irregularly, as in Testudo. On the under surface of the head, on the chin and upper neck it is seldom thickened into distinct plates, but, no doubt in order to provide for its greater movability, it is usually only divided by wrinkles