

STUDIES IN AUSTRALIAN SHARKS, No. 2.

By EDGAR R. WAITE, F.L.S. Zoologist.

GALEUS ANTARCTICUS, *Günther*.

(Fig. 19).

It was known to Aristotle, some 350 years B.C., that of two common "Hounds" of the Mediterranean, the embryos of one were developed by the medium of a placenta produced in the uterus, and that the embryos of the other were developed without such placenta. The condition in the former species, *Mustelus laevis*, is thus described by Balfour¹:—"The vascular surface of the yolk-sack becomes raised into a number of folds, which fit into corresponding depressions in the vascular walls of the uterus. The yolk-sack becomes in this way firmly attached to the walls of the uterus, and the two together constitute a kind of placenta."

In 1882, the late Prof. T. J. Parker made the interesting discovery that the embryos of *Galeus antarcticus* do not lie freely in the uterine cavity, but are each confined in a separate compartment. I quote the following passage²:—"I was considerably surprised to find, on dissecting a gravid female of *M. antarcticus*, that the relations between the mother and the foetus were nothing like so simple as I had expected, but that, just as the *Mustelus laevis* [*laevis*] furnishes a sort of foreshadowing of the true placenta of mammals, so *M. antarcticus* is provided with membranes which, although formed from the maternal and not from the foetal tissues, foreshadow in a remarkable manner the chorion and the amnion."

It was perhaps a careless reading of this passage which led me, in a recent work, to write as follows³:—"Parker has described how, in this species, the embryo is attached to the uterus with a placenta." This matter is again brought under my notice from the circumstance that on June 10th last, the Trustees received material which fell to my lot to examine.

On the previous day a man fishing in Maroubra Bay caught a Shark, and finding that it contained young, sent them, together with some viscera, to the Museum. I first picked out a young one for determination, and identified it as *Galeus antarcticus*. Turning to the other contents of the bottle, I saw that it included portions of the uteri, considerably torn. Each uterus is divided

¹ Balfour—Comp. Embryology, ii., 1881, p. 54.

² Parker—Trans. N.Z. Inst., xv., 1883, p. 219.

³ Waite—Aust. Mus. Mem., iv., Fishes, 1899, p. 33.