

FEMALE ORGANS.

The Ovary (Pl. XVII. fig. 8).—As is the case in the majority of birds, the right ovary in the Penguins is entirely absent. That on the left side, on the other hand, is well developed. In *Eudyptes chrysocome* it measures 1 inch in length, and $\frac{1}{2}$ an inch in greatest breadth. It lies in contact with the lower surface of the left kidney, and to some extent overlaps the anterior margin of that organ. The ovary in its immature condition consists of a mass of capsules, which vary in size from that of a pin-head to that of a small garden pea. In the ovary of one specimen of *Eudyptes chrysocome* I counted 120 of these capsules. The ovary is covered on its lower surface by a layer of peritoneum, and lies in contact with the dilated extremity of the left oviduct.

The Oviduct of the right side, like the corresponding ovary, is functionally useless. In several species of Penguin, however, I was able to corroborate the observation of Stannius,¹ that in the Penguins, as in certain other birds, a portion at least of the right oviduct persists throughout life.

The extent to which atrophy takes place appears to vary in different species. In *Eudyptes chrysocome* I failed to distinguish the slightest trace of the right oviduct, while in *Eudyptes chrysolophus* that structure was represented by a fibrous cord, which extended from the cloaca forwards, as far as the posterior border of the kidney. In *Aptenodytes longirostris*, again, the right oviduct was represented by a slender fibrous cord, which was traceable from the cloaca to midway between the cloaca and the posterior border of the kidney. It would appear, therefore, that in the Penguins, as in other birds, the oviduct of the right side, although present in a fully-developed condition in the embryo, becomes gradually atrophied, and that this atrophy takes place from before backwards. This opinion is confirmed by the fact that in the female of every species of Penguin the place of entrance of the right oviduct into the cloaca is represented by a well-defined but small nipple-shaped papilla, which occupies a position in the cloaca similar to that occupied in the male by the vas deferens of the same side.

The left, or functionally active oviduct (Pl. XVII. fig. 8), lies in contact with the lower surface of the left kidney, to which, as well as to the superior abdominal wall, it is attached by means of a double fold of peritoneum. In the mesentery I failed to find any trace of muscular fibres.² In addition to this membranous fold, the anterior extremity of the oviduct is connected by means of a fibrous band or ligament to the connective tissue covering the base of the left lung. According to Owen,³ this ligament in the common fowl takes an attachment to the penultimate rib. Such is not the case in any species of Penguin, in every one of which it blends with the fibrous tissue surrounding the

¹ Stannius, quoted by Milne-Edwards, *Leçons sur la Physiologie Comparée*, vol. viii. p. 512.

² According to Owen (*Cyclopædia of Anatomy*, vol. i. p. 357), the mesentery of the common fowl is muscular in character.

³ *Loc. cit.*, p. 357.