

electrometer or suitable apparatus was available to test the electro-motive force in a Skate of such enormous dimensions. The Sting Rays, with a tail exhibiting one or more strongly developed spines, and the Eagle or Whip Rays with a slender whip-like tail, appear to be wholly destitute of electric organs.

Turning now to the South American electric eel, *Gymnotus*, we find electric organs differing much from those described. In these large creatures, five or six feet in length, they are lodged along each side of the body towards the under side, and mainly in the tail. Two pairs occur, the upper much larger than the more central pair. Each organ is divided into vertical plates by fibrous septa, and again into a countless number of small cells, arranged horizontally, instead of vertically as in the torpedo. The shock passes laterally from the head to the tail, and no less than two hundred pairs of spinal nerves send electric rami into the organs. The combined result is exceedingly powerful. A captive *Gymnotus* exhibited in London some time ago, was able to kill its victims at a considerable distance. It fed upon fish, and when one of the victims was dropped into the tank, the *Gymnotus* simply curved slightly, stiffened its body, and a shock was communicated through the water which struck the introduced fish lifeless with lightning rapidity.

Another form of electric organ is that found in the African siluroid, *Malapterurus*, a fish not remotely related to our mud-pouts and cat-fishes, to which it bears much external resemblance. A layer of cells, lozenge-shaped and about one-sixteenth of an inch in diameter, extends between the skin and the underlying muscles except in the region of the head and the fins. Just as in *Gymnotus*, the current passes from the head to the tail. It is comparatively feeble, and probably only defensive. Instead of a nerve supply consisting of many thousands of fibres, a single nerve trunk passes from the spinal cord to the organ on each side of the body. The Nile is the home not only of the electric Siluroid *Malapterurus*, but of the electric Nile pike *Mormyrus*. There are many species of *Mormyrus* and, in all, the electric organs are somewhat feeble and located mainly in