

bounded interiorly by the connective tissue pigment-bearing layer, no doubt of dermic origin, as in the organs of the Scopelidæ.

The most important point in which the organs of *Ipnops* appear to differ from the group of allied organs in fishes generally as yet described seems to be the nature of the rod layer. The rods in *Ipnops* are hexagonal in section and show no tendency to taper to fine filaments at either end. At the free end directed towards the exterior and the light, they are capped by very definite and distinct hexagonal nucleated cells, which easily become detached from them as a continuous membranous sheet. At their opposite extremities the rods abut on the concave surfaces of the hexagonal pigment-cells by broad hexagonal bases, as may be seen by viewing their ends through the substance of these cells. No arrangement of rods such as this has been described in any phosphorescent or allied organ from a fish. The absence of tapetal plates is a matter of less importance. They seem to be represented by the hexagonal pigmented cells. The brown pigmented network described as traversing the basal regions of the rod layer in *Ipnops*, and sending up fine branches which ramify at its surface, apparently corresponds with the "Fachwerk" traversing the grey body in the eye-like bodies of other fishes (Leydig, *loc. cit.*, p. 68). This network is the only structure which I have found in *Ipnops* which would in any way correspond with the structures figured by Ussow as ganglion cells in what he terms the retina of the eye-like bodies of *Chauliodus sloani* (Ussow, *loc. cit.*, Taf. ii. fig. 7).