

PLATE XXXIII.A.

- Fig. 1. Horizontal median section through both eyes of *Genetyllis oculata*, showing their relation to the cerebral ganglion. (Somewhat diagrammatic.) Magnified about 150 diameters.
a, shows the junction of the anterior part of the sclerotic of the two eyes. The oval spaces are blood-vessels cut across. *b*, the cornea; a thin, transparent coat continuous with the outer chitinous covering of the sclerotic. *c*, finely granular, clear, structureless material, probably of the nature of vitreous. *d*, pigment-layer of retina, lining the inner surface of the sclerotic and reflected over the anterior surface of part of the ganglion. *e*, the large cerebral ganglion, showing a partial division into two lateral lobes. The large ganglion cells are found near the periphery, while the interior is occupied by finer cells and molecular substance (see fig. 4, *c*). (The ganglion cells are here represented as rather too large.)
- Fig. 2. Section through outer coat of eyeball at the periphery of the globe.
a, thin chitinous layer; *b*, epithelial cells and connective tissue stroma.
- Fig. 3. Small piece of cornea viewed from inner surface, showing outlines of endothelial cells.
- Fig. 4. Section through cerebral ganglion near its anterior part, showing part of both eyes.
a, single median blood-vessel cut across; *d.d.*, pigment-layer of retina of each eye; *e*, ganglion (imperfect) showing numerous ganglion cells; *f*, fibrous septum, continuous with sclerotic, separating the two lobes.
- Fig. 5. Antero-posterior section through eyeball near outer side.
a, sclerotic coat; *b*, cornea, accidentally bent inward; *d*, pigment-layer of retina; *c*, lobe of the cerebral ganglion occupying the posterior part of the globe.
- Fig. 6. Section through the pigment-layer of the retina. The (?) vitreous still adheres to it, but it has become detached from its other connections.
a, an appearance suggesting rods, but probably due to folds in the vitreous layer.
- Fig. 7. Tangential section through the ganglion near its inner end, showing the pigment adhering to it all round.
- Fig. 8. Similar to fig. 6.
- Fig. 9. A unipolar ganglion cell; the process is long and somewhat tapering. Found detached, but closely in relation with the columnar layer.
- Fig. 10. Pigment arranged in the form of large hemispherical bodies with the curvature outward; its colour is light reddish-brown (burnt-sienna). At its inner surface are several small vertically elongated deposits of dark *Sepia*-coloured pigment, each little aggregation corresponding with the outer or insertion-end of a rod. Between the outer end of this last small pigment aggregation and the outer rounded border of the large pigment body is a comparatively colourless linear area, in distinct contrast to the rest of the pigment-hemisphere.
- Fig. 11. Large, round, dark pigment masses occurring in the periphery of the retina; one of them is placed at the inner end of an elongated columnar nucleated cell.
- Fig. 12. Oblique section through pigment-layer. The pigment is seen here to be arranged in broad circles around clear areas, which latter seem to correspond to sections of rods. From their size and wide separation from each other these would appear to be club-shaped peripheral rods. Others are seen in section at *a*.
- Fig. 13. Peculiar appearance in an oblique section through the rod-layer. The doubly contoured rings are apparently sections through the narrow ends of rods.
- Fig. 14. Pigment arranged as in fig. 2, but here there is one large clear body in the midst of each pigment-hemisphere, probably nuclei.
- Fig. 15. Also like fig. 2, but cut obliquely. Here the non-pigmented linear areas are cut across and appear as small round clear bodies.
- Fig. 16. Section through peripheral part of retina. The pigment is in isolated masses, which are probably distinct cells. Along the inner border of the pigment is a thin transparent line, the representative of the rod-layer. Nuclei occur immediately to the outer side of the pigment. One of the pigment-masses has a long process (*a*) extending outward, pigmented for some distance, and then hyaline and wavy, like those represented in figures 15, 17, and 18. At the right hand extremity of the section is a large pigment body with cell attached (displaced).
- Fig. 17. Large nucleated cells in connection with the peripheral pigment bodies. Two of them have clear tapering structures extending inward, representing the rod-layer. Each pigment body is formed of numerous oval dark pigment granules, each about 1 mm. long by 0.5 mm. broad.
- Fig. 18. Section through peripheral part of retina. The general arrangement is similar to that shown in fig. 8. Several of the nuclei seem to belong to pigment-cells.
- Fig. 19. Piece of pigment-layer from near the periphery of the retina, viewed from its inner surface. The disposition of the small aggregations of pigment corresponding to the insertion of the rods is well shown. These are here placed with much regularity at considerable distances from one another.
- Fig. 20. Vertical section through pigment-layer with club-shaped rods attached. Fine pigment granules are seen extending for some way along the narrow outer ends of the rods, but evidently on the surface, not in the interior.
- Fig. 21. Section through pigment with small club-shaped rods attached. The general arrangement is similar to that in figs. 2, 6, and 7.
- Fig. 22. Section through centre of lens, showing cortex, nucleus, and intermediate crescentic spaces arranged concentrically with their concavities inward.