

black pigment (x,) probably connected with a choroid coat, which, from the delicacy of its texture, has hitherto escaped observation. There exists opposite to the centre, or axis of each corneule, a circular perforation (p,) which performs the functions of a pupil.* Dugès states, indeed, that he has witnessed in this part movements of contraction and dilatation, like those of the iris in vertebrated animals. He has likewise found that there is a small space (A) intervening between the extremity of each corneule and the iris, and filled with an aqueous humour. The compartments formed by the substance of the choroid (x) are continued inwards towards the centre of the general hemisphere, the cylindrical spaces which they enclose being occupied each by a transparent cylinder (v,) consisting of an outer membrane, filled with a viscid substance analogous to the vitreous humour. Their general form and situation, as they lie imbedded in the pigment, may be seen from the magnified sections; each cylinder commencing by a rounded convex base, immediately behind its respective pupil, and slightly tapering to its extremities, where it is met by a filament (n) of the optic nerve; and all these filaments, after passing for a certain distance through a thick mass of pigment, are united to the large central nervous bulb (o, Fig. 427,) which is termed the *optic ganglion*.†

* This pupillary aperture was discovered by Muller, after it had eluded all the efforts of former observers to detect it; and it was accordingly the prevailing notion that the black pigment lined the whole surface of the cornea, and interposed an insuperable barrier to the passage of light beyond the cornea. It was evidently impossible, while such an opinion was entertained, that any intelligible theory of vision, with eyes so constructed, could be formed.

† Numberless modifications of the forms of each of these constituent parts occur in different species of insects. Very frequently the vitreous humour (v,) instead of forming an elongated cylinder, has the shape of a short cone, terminating in a fine point, as shown in Fig. 426. Straus Durckheim appears to have mistaken this part for an enlarged termination of the optic nerve, believing it to be opaque, and to form a retina applied to the back of the corneule, which latter part he considered as properly the crystalline lens. In his elaborate work on the anatomy of the *Melolontha*, he describes the