

Abstract

The structure of the capillary endothelium in the pecten oculi of the domestic fowl was investigated by scanning and transmission electron microscopy. Scanning electron microscopy results demonstrated the existence of a vast array of irregular microplacae that projected from the luminal surface of the capillary endothelium. In between these microplacae were numerous crevices. The microplacae were closely packed and showed no preferred orientation regarding either the longitudinal or transverse plane of the capillaries. Transmission electron microscopy revealed the section profiles of the microplacae: their tortuosity, branching, interdigitations and the magnitude of the crevices contained. The endothelial cytoplasm exhibited a few mitochondria and micropinocytotic vesicles. The apparent set-up of the luminal plasmalemmal infoldings seemed to be designed for effecting impedance to the pectineal blood flow and thereby facilitating passive permeation of blood-borne nutrients to the inner neural retina. The reasons of such passive transport operation mediated by the endothelial microplacae of the avian pecten oculi are discussed in the perspective of the existing literature.