

Cat-Eye Conundrum

Due to the predictability of light reflection, natural selection has chosen the eyes of some animals to be a light reflective organ. Light reflection is very useful in animals with night vision whereby the light that is reflected by the eye is used for illumination in low light conditions. All vertebrates have simple eyes. A simple eye is a single eye that can transmit light into the retina with some focal and dispersal adjustments involving complex movements of the lens and muscles. When an image is presented to animals of different species using the same light source, the intensity of the light is of equal measure. However, the amount of light that can be detected by the retina varies, depending on the anatomy of the species. In nocturnal animals, whose general behaviour involves foraging for food at night, it is very necessary for their eyes to be able to process as much light as possible. To be able to do this, these animals have a reflective layer called *tapetum lucidum* behind their retina that rebounds undetected lights to be detected again. These reflections, when viewed from the front of the eye, can be seen in various colours and intensity, depending on the types and shapes of the cells on the *tapetum lucidum*.

Tengku Rinalfi Putra, Hafandi Ahmad, Mohd Hezmee Md Noor, Hasliza Abu Hassim, Mohd Azri Azmi, Muzammil Abd Halim Shah and Mohd Qayyum Ab Latip





