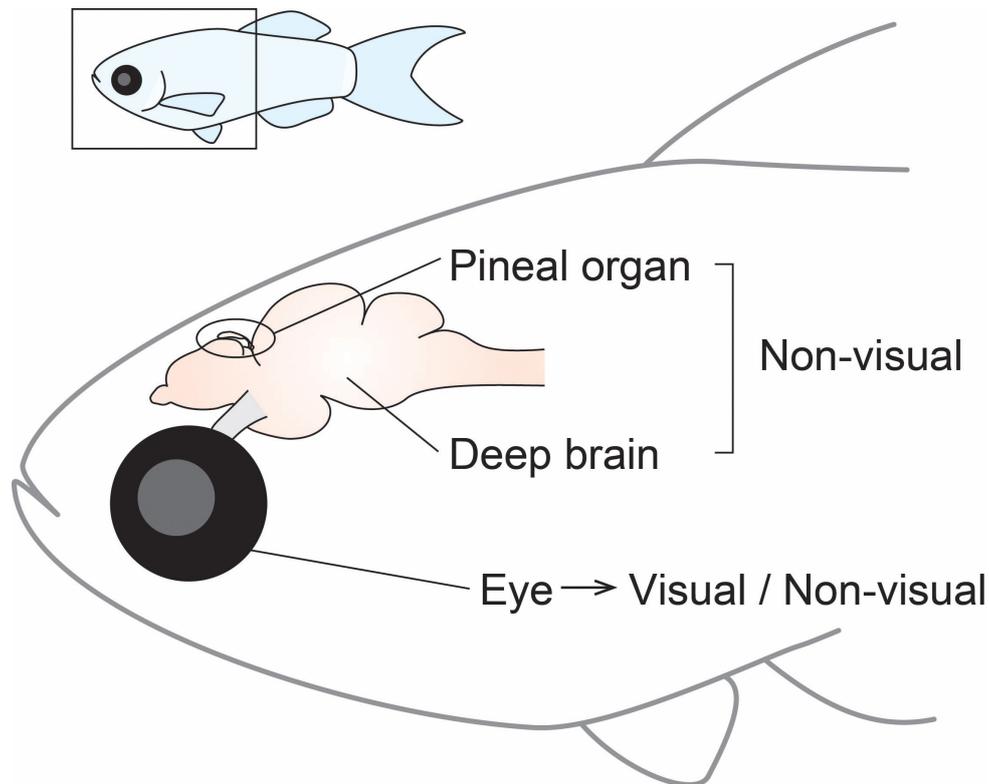


Physiological studies on non-visual photoreception in lower vertebrates

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The extraocular photoreceptors of nonmammalian vertebrates

Animals use light in the various scenes. In addition to the photoreception that contributes to vision, animals can receive the environmental light utilized for non-visual functions, that is, the photoregulation of various physiological functions such as the biological clock. It is widely accepted that nonmammalian vertebrates have the photoreceptor cells that regulate the non-visual functions in the pineal organs and the deep brains. We are interested in understanding the mechanisms of the extraocular photoreception, the signal transduction and the neural network, in the pineal organs and the deep brains. We are also interested in how animals use the environmental light received by the extraocular photoreceptors.

Keywords : Photoreception, rhodopsin, pineal organ, non-visual, deep brain photoreceptor