Comparative study of light perception in two cephalopod species: *Sepia officinalis* and *Idiosepius paradoxus*

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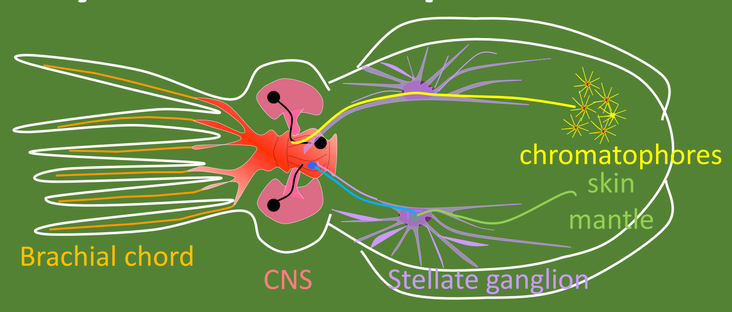
My PhD : Development of the central nervous system of *Sepia officinalis* and influence of light

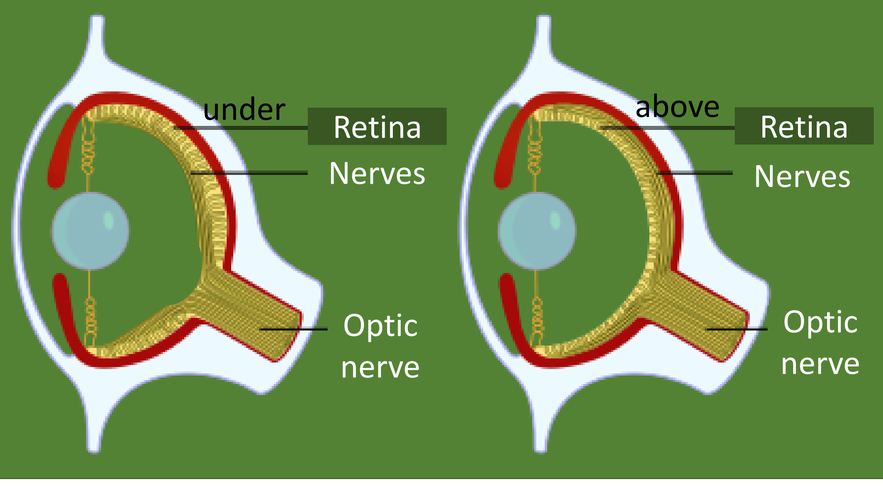


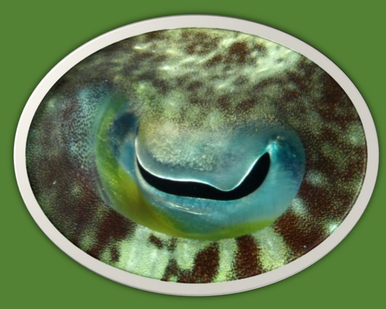
Nervous system of *S. officinalis*

High centralization of the nervous system in Cephalopods

Linked to their important cognitive abilities? Role of light on the setting-up of this central nervous system?

Context: Convergence between the eyes of vertebrates and coleoid cephalopods





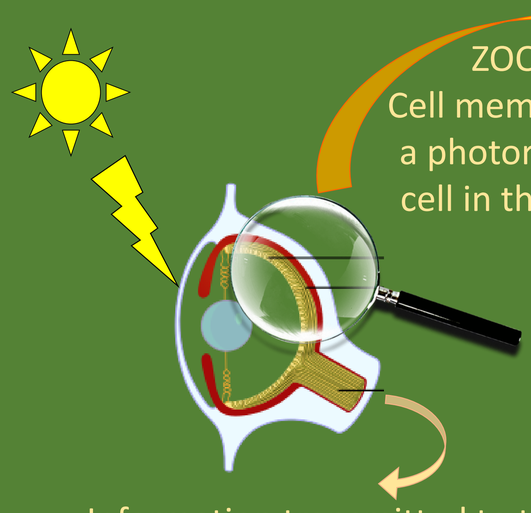
Great visual abilities of coleoid cephalopods

What are the molecules involved in light perception?

Introduction : Rhodopsin a receptor involved in light perception

Rhodopsin: photosensitive G protein coupled receptors found in most animal groups.

What are their functions?
How do they set-up during development?

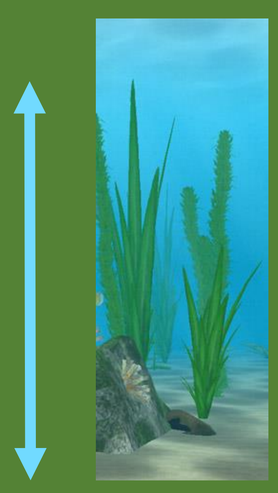


Information transmitted to the brain through the optic lobe

Comparative study : cuttlefish (*Sepia officinalis)* versus squid (*Idiosepius paradoxus)*

Necto-benthic lifestyle

S. officinalis mating and dark eggs



Benthic lifestyle

I. paradoxus laying white eggs

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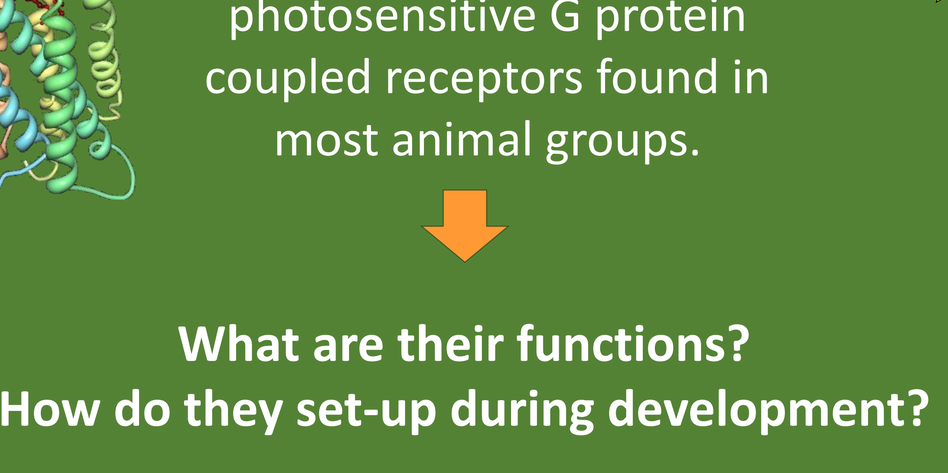

Eye Development in *Sepia officinalis*

Two species of Cephalopods with different lifestyles

Aim : study the expression of photosensitive receptors in both species (molecular level)

How different lifestyles can influence the expression of photosensitive receptors?

Acknowledgments :

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