A diagram of a fish

Description automatically generated

Rhodopsin is crucial for dim-light vision, and its adaptation can reveal how flatfishes respond to varying light conditions in their environments. Flat fish species were chosen for the variety in their living environments and their diverse species distributed across the world. This is the first study to ever consider rhodopsin evolution in flatfishes that considered their extensive diversity.

[Esme S. B. Macpherson et al. in collaboration with the Lovejoy lab](https://onlinelibrary.wiley.com/doi/10.1111/jfb.15828), found that there is a positive selection in rhodopsin. Additionally, this positive selection is strongly correlated with migratory behavior, depth and freshwater/marine evolutionary transitions. Mutations that likely influence the wavelength of peak absorbance of rhodopsin were also identified. These mutations help flatfishes adapt to the light spectra in different habitats.