MIMICRY

Making oneself invisible in the marine environment.

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MIMICRY

Mimicry is the phenomenon whereby different animal species have developed morphological, chromatic, and behavioural characteristics to **increase their chances of survival**.

Being camouflaged allows indeed an animal **to catch its prey** and **escape the sight of a potential predator**.

There are **different types of mimicry**, let's discover the most common in the marine environment.

CRIPTIC MIMICRY is essentially based on:

- **homochromy:** when the animal's livery repeats the colours of its surroundings.

  Soles, flounders and other **flatfish** living on sandy bottoms, have the same colour as the sediment.

Flounder

- **homomorphy:** that is the tendency of animals to also take on forms that dominate the environment.

  The **red scorpionfish**, in addition to having a colouring that makes it barely visible, has excrescences on its skin that resemble the algae of the seabed on which it lives.

Red scorpionfish

BEING INVISIBLE ON THE SEAFLOOR

The shape of **pipefish** resembles the elongated leaves of the **marine plants** among which they hide.

The **common seadragon**, a fish related to seahorses and pipefish that inhabits the southern coasts of Australia, has leaf-like appendages resemble the swaying **seaweed** of its habitat.

Ph. Delaney Van Vranken

A MASTER OF DISGUISE

Octopus can very quickly take on the appearance of the surrounding environment, in **shapes and colors**, until they becomes invisible.

This is possible thanks to special cells, called **chromatophores**, containing different pigments that can be thickened or dispersed in the cell, in such a way as to create the colour variation desired by the animal.

Octopus

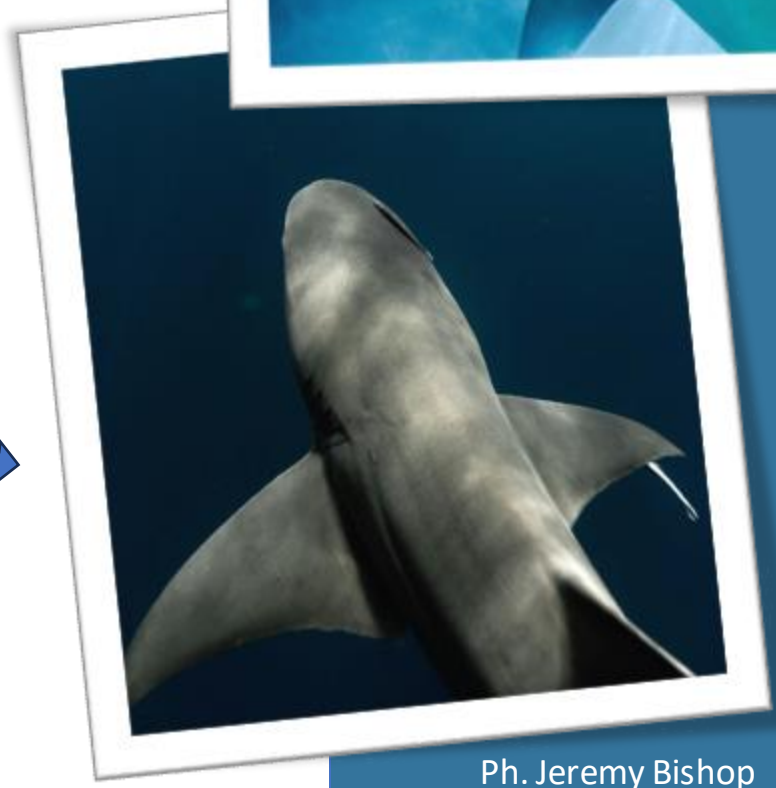
BEING INVISIBLE IN THE OPEN SEA

Animals which live **in the open sea** become "invisible" due to a particular colouration called **counterparts**, in which the back is darker in colour than the belly.

Observing, for example, **a shark from below**, the light abdomen blends in with the sunlit surface of the water;

while observing it **from above**, the back is barely visible against the dark colour of the deep water.

Ph. Los Muert



Ph. Jeremy Bishop

DISRUPTIVE MIMICRY

In many marine species, mainly in tropical environments, it is easy to observe what at first sight would appear to be the opposite of cryptic camouflage: liveries appear very conspicuous and bizarre, with evident spots and lines.

White banded triggerfish

Liveries of this type are called **disruptive**, as they are believed to make it difficult for the observer to perceive the shape of the body and alter his or her ability to correctly assess distance.

Moorish idol

DISRUPTIVE MIMICRY

Many tropical fish have a **band** hiding their eyes and a **'false eye'** drawn near the tail. This trick serves to disorient predators, who generally direct their attack towards the head of the prey, the site of the vital centres.

In this case, however, the eyes are hidden, and the attack will be directed towards the tail, less delicate, where the false eye is evident, thus allowing the prey to run away in a fraction of a second!

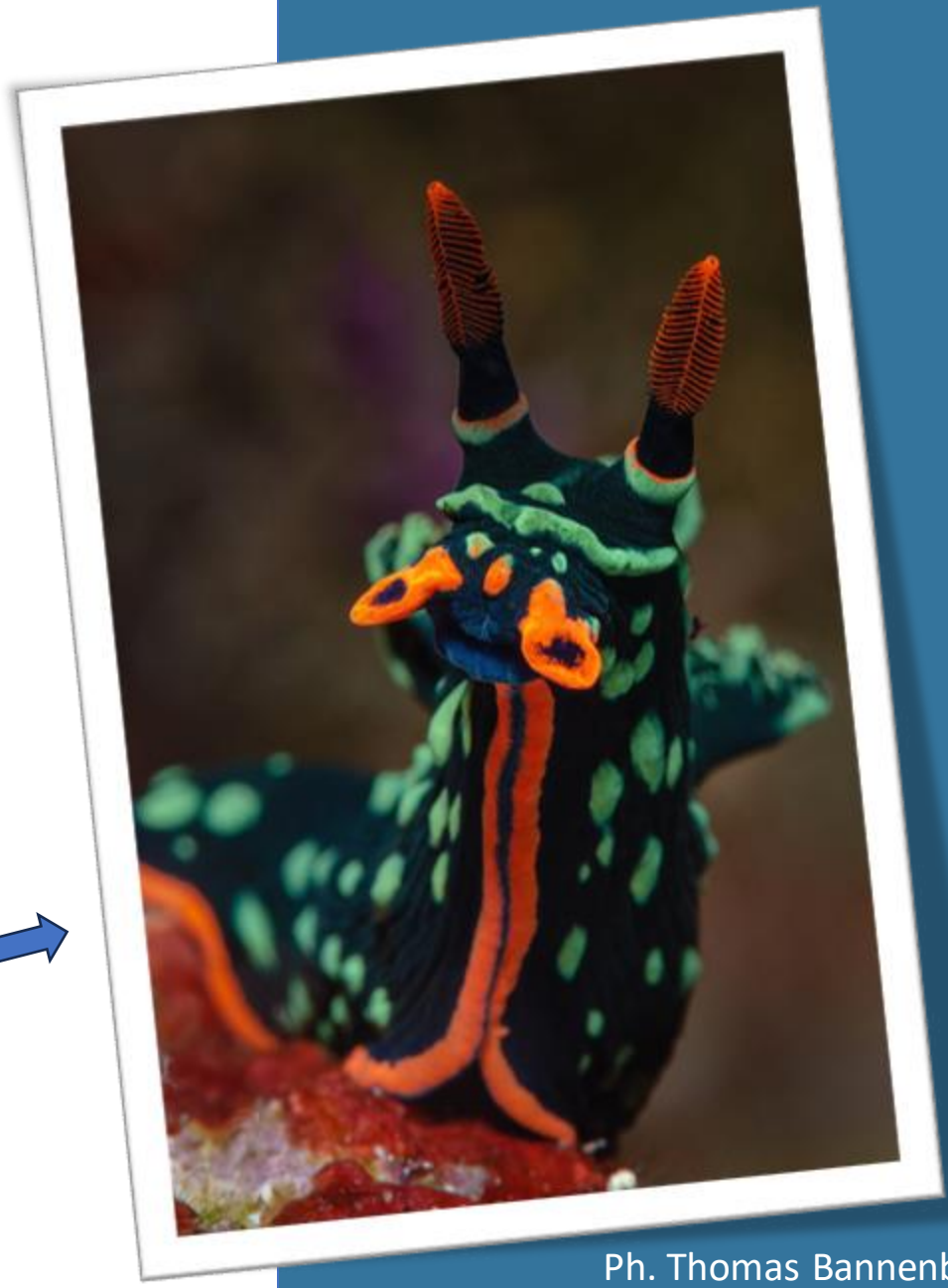
Butterflyfish

WARNING COLOURINGS

Some animals are **conspicuously coloured** to warn the predator that they have an unpleasant taste or are poisonous.
Thus, the colouring has the function of warding off the predator even before it begins its attack.

The most common warning colours are **yellow**, **red**, **orange** and **blue**, often on a black or white background.

A lot of **nudibranchs**, small marine molluscs without a shell, which are toxic due to their diet, use this 'trick'.



Ph. Thomas Bannenberg

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