

## Camouflage and Mimicry

Heather Brennan 17K reads

Camouflage and mimicry are very common defensive and offensive weapons in an animal's arsenal.

### The Amazing Octopus

Camouflage refers to an animal's natural resemblance to another object or their ability to change their appearance to be similar to something else.

Mimicry occurs when animals of different species look alike. This can be a defensive mechanism but it can also be due to convergent evolution.



The banner features a bright orange background. At the top center is a white icon of a beaker with a flame, followed by the word "EXPLORABLE" in a white, sans-serif font. Below this, the phrase "Quiz Time!" is written in a white, cursive script. Underneath, there are three white-bordered square tiles. The first tile shows a pair of red roller skates on a wooden deck, with the text "Quiz: Psychology 101 Part 2" below it. The second tile shows a fan of colorful pencils, also with the text "Quiz: Psychology 101 Part 2" below it. The third tile shows a Ferris wheel at sunset, with the text "Quiz: Flags in Europe" below it. In the bottom right corner of the banner, there is a white text link "See all quizzes =>" with a right-pointing arrow.

## Camouflage

Camouflage occurs when an animal either looks like its surroundings, allowing it to blend in better, or changes its appearance altogether in order to fool a predator or even a prey species.

Many animals are masters of disguise and very difficult to see in their natural surroundings. Some, such as many species of katydid and stick insect, look exactly like foliage and branches unless you take a very close look.

Stripes, spots, and coloration patterns on fur and skin are all ways of blending in to the natural habitat. If you remove them from it, they may be quite conspicuous but at home, they are very difficult to see. Animals such as the arctic hare may change fur colour seasonally to better blend in with the scenery.

Other species, such as some crabs and sea anemones, will decorate their shells with pebbles, foliage and other elements to allow them to blend in with the sea floor more easily. In most cases this is to escape predation although some predators will use similar techniques to ambush prey as well.

The most talented species can actually change their appearance at will to camouflage themselves. Although many think of the chameleon as being such an animal, they are wrong.

Chameleons do not usually change to match their background. Instead, their change in coloration is linked to changes in mood and activity.

Some aquatic invertebrates though, including many species of octopus, squid, and cuttlefish, can change their actual appearance, including texture, pattern and color at will.

The exact mechanisms are not fully understood. Like the chameleon, they have chromatophore cells on their skin that aid in the change of appearance.

## **Batesian Mimicry**

Batesian mimicry is when a harmless species such as the syrphid fly, resembles a poisonous or dangerous species such as the honeybee.

Some poisonous species have many species that mimic it in an attempt to avoid predation. Although it is quite common in insects, it does occur in other groups as well such as snakes. A number of species of snake mimic the striped pattern of the dangerous coral snake.

## **Mullerian Mimicry**

Mullerian mimicry occurs when several species resemble one another despite being unrelated and all are unpalatable. Some species start out as being Batesian mimics only to have further research reveal that they are as distasteful as the perceived original.

One such example is the viceroy butterfly which for many years was thought to be a harmless mimic of the poisonous monarch butterfly.

New research has revealed that the viceroy is equally distasteful to birds and that the relationship is actually one of Mullerian mimicry. Having a group of poisonous species look alike can allow predators to avoid them as a general rule.

## **Other Visual Effects**

Eye spots are often referred to as aggressive mimicry, the use of a deceptive coloration or pattern to avert a predator or prey species' attention from the important area of the animal.

Eye spots can cause predators to go for them in an attempt to seriously wound the animal, only to cause minimal damage to a wing instead of the body of the butterfly or moth.

Animals have evolved many ways to avoid predators and catch their dinner. Camouflage and mimicry are only some examples, although they are very commonly used ones.

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