

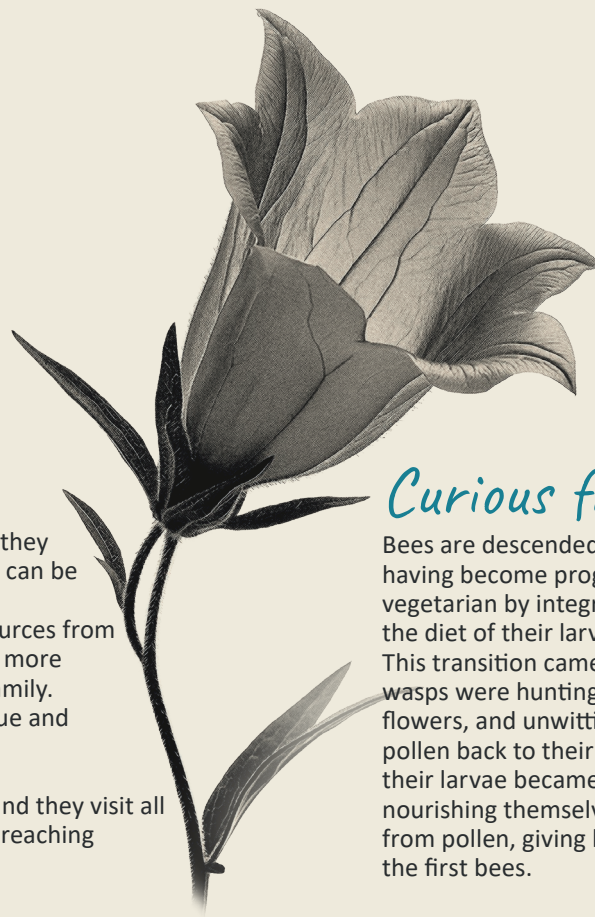
# POLLINATING INSECTS AND FLOWERS

## General Information

Over 250 million years ago, flowering plants and pollinating insects were very different. Since then, they have co-evolved and created various relations that can be exclusive or the very opposite!

**Monolectic** pollinators specialise in gathering resources from a single species of plant. Oligolectic pollinators are more flexible, and use several species within the same family. These pollinators optimise their collection technique and transport the pollen in a targeted manner.

Conversely, **polylectic** pollinators are generalists, and they visit all flowers. The pollen transported has less chance of reaching the pistil of a flower of the same species!



## Curious fact

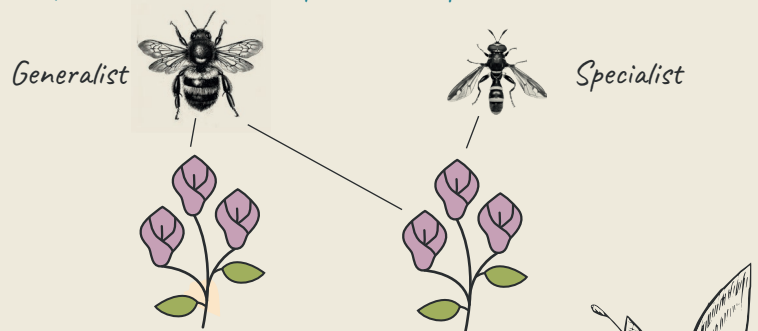
Bees are descended from wasps, having become progressively vegetarian by integrating pollen into the diet of their larvae.

This transition came about when wasps were hunting thrips in the flowers, and unwittingly brought pollen back to their nest. Over time, their larvae became capable of nourishing themselves exclusively from pollen, giving birth to the first bees.

Ivy bee  
(*Colletes hederæ*)



The interaction networks show the links and dependencies between plants and pollinators.



## Ecology

In stressed environments, it is the generalist pollinators, capable of adapting, who are at an advantage compared to the specialists who depend on one or a few species. For example, the ivy bee (*Colletes hederæ*) feeds its larvae exclusively on ivy pollen. The diversity of the plant-pollinator interactions underlines the importance of preserving every species, to maintain the resilience of the ecosystems.

## Quiz

True or false: The diversity of forms, colours and scents of flowers came about thanks to pollinators?

True! Plants and pollinators have mutually influenced each other: that's co-evolution. The flowers have evolved to attract specific pollinators. Tube-shaped flowers allow access to pollinators with a long tongue or proboscis, blue and purple are more attractive to bees, and certain scents are given off especially for nocturnal pollinators... In parallel with this, the pollinators have also adapted to the flowers they visit.