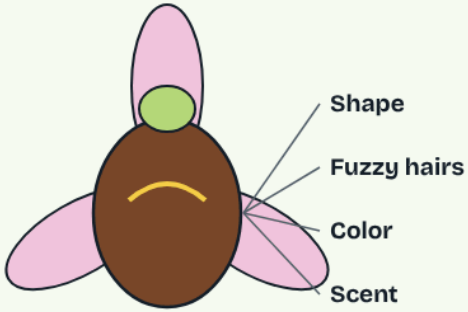
That is why

# Why do bee orchids look like bees?

In its cousin the early spider orchid, a fake female lures males that carry pollen away. The bee orchid itself mostly self-pollinates.

## A The forgery

Early spider orchid (Ophrys sphegodes)




**The lip (labellum) copies a female bee**

In the early spider orchid, more than 100 compounds in the lip; 24 of them make male bees' antennae fire.

**The fooled males gain nothing at all.**

## B The false mating

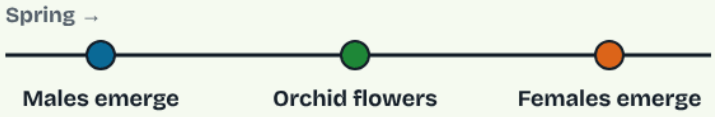
Early spider orchid and its mining bee

1. **Male lands and tries to mate** (pseudocopulation)
2. **A pollen packet is glued on** (pollinium)
3. **It slowly bends into place** the delay limits same-plant pollination
4. **He tries a flower on another plant** and the packet touches its stigma

Males learn to avoid a flower that fooled them, but each plant smells different. 67% of males tried a second flower on the same stalk.

## C A lie with a deadline

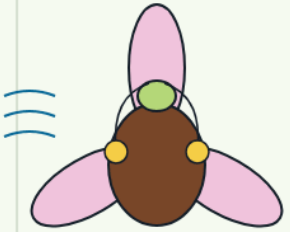
Early spider orchid




Modeled over 356 years (1659 to 2014) from English temperature records: the gap between males and females has shrunk, and wrong-way years are more common. In most years, success is very limited.

## D Plan B: the bee orchid itself

Bee orchid (Ophrys apifera), Britain



**Pollen packets hang on thin threads and are blown onto the flower's own stigma.**

Darwin (1860): in several years, he never found a pollen mass carried away by an insect.

**A fake date with a note stuck on, and a backup plan swinging on a thread.**

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