

## POLLINATION BASICS

**Wildflowers bloom for only one reason--to produce seeds**, which are the next generation of their kind. To produce seed, most flowers need pollen from another flower of the same species. The huge variety of flowers reflects a huge variety of ways to achieve this.

**Pollination** is the transfer of pollen from the stamen (specifically, the anther) of one flower to the pistil (specifically, the stigma) of another. Since flowers cannot move, animals, wind, or water must carry the pollen for them.

**Wind pollination.** Some flowers shed so much pollen into the wind that some of it lands on the waiting pistils. These flowers generally lack petals. They don't need them! They are commonly small and numerous, grouped into clusters. Grasses, corn, oaks, alders, and pines are examples.

**Animal pollination.** Many flowers attract animals to carry their pollen by offering a food reward, sweet nectar and protein-rich pollen. The flower's color, shape, and fragrance advertise this reward.

Most pollinators are flying insects. The domestic honeybee is the most familiar, but the many native, wild bees and wasps, flies, large and tiny, beetles, butterflies, and others are essential as pollinators of wildflowers. Any insect you see in a flower is potentially pollinating it.

Some kinds of bats and birds are also important pollinators in some places of the world. Here, hummingbirds are.

To reach the nectar deep in a flower, the pollinators must push past the stamens and pistil. The pollen grains from the stamen stick on the animal's body and can then be rubbed off on the pistil of another flower the animal visits later.

**After pollination** the pollen grain on the stigma of the pistil grows a tiny tube downward through the style into the ovary, where it connects with the ovule and fertilizes it. The ovule can then ripen into a seed.

## **MORE ABOUT POLLINATION**

### **FIVE TYPES OF FLOWERS**

Flower shapes match the abilities and interests of the pollinators. Here are five basic types.

**Simple flowers** have nectar and pollen easily reached by most kinds of insects. In some the petals are joined to form a bell or cup. Examples: California poppy, trillium, lilies, buttercups.

**Bee flowers** have petals joined to form a tube with a definite upper and lower side, the lower extended as a "landing pad." The bee must crawl down the tube to reach the nectar. Bees can see yellows and blues, so bee flowers are these colors and often have lines or dark spots to guide the bee to the nectar. Bees also are attracted to flowers' fragrances. Examples: violets, snapdragons, mints, clovers.

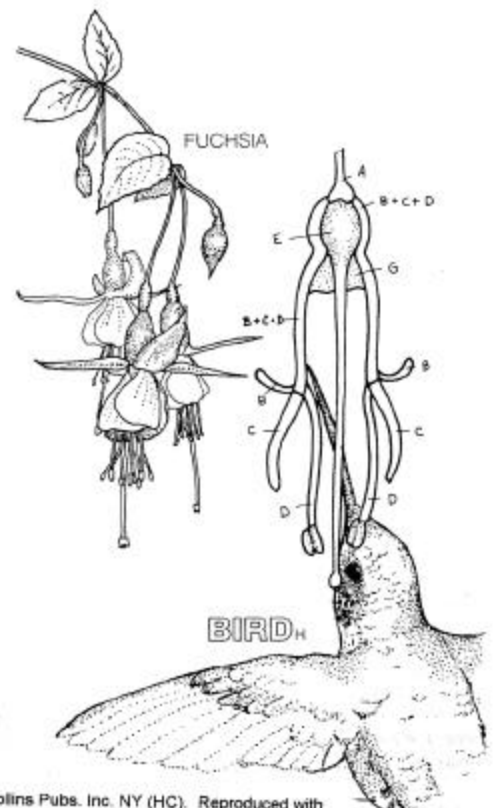
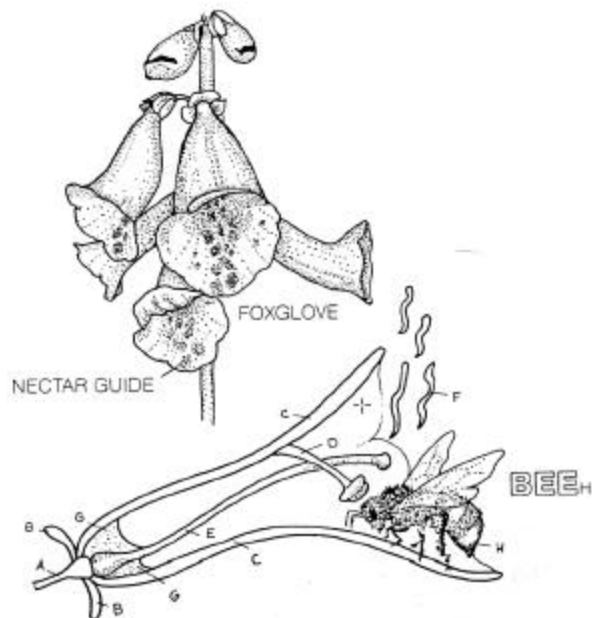
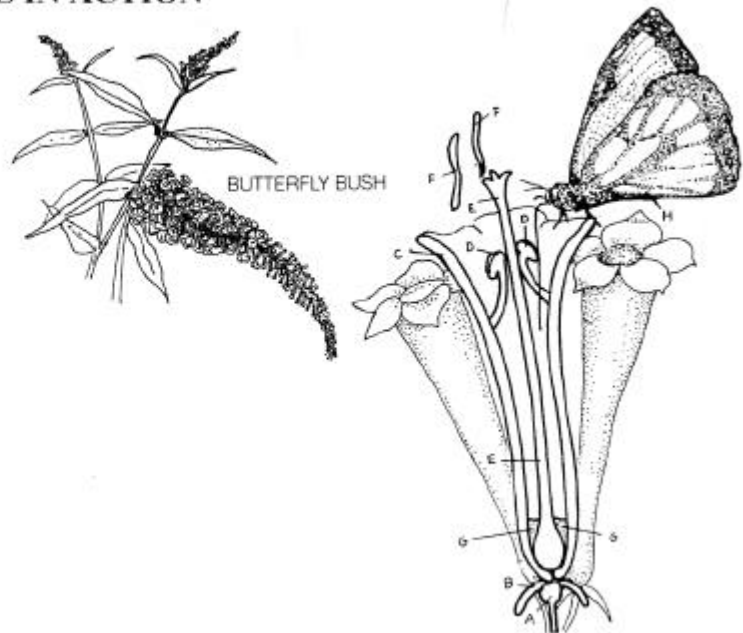
**Composite flowers** are flat or rounded heads of many tiny flowers crowded together. They offer a sturdy platform on which an insect can sit to sip nectar out of the shallow, tiny flowers. Butterflies like this kind of flower. Examples: sunflowers, dandelions, daisies.

**Hummingbird flowers** are long, red tubes, often hanging down. Hummingbirds are attracted to red. The nectar in these flowers is safe from most insects, but hummingbirds can hover in front of them and stick their long bills in to the base of the tube to reach the nectar. Examples: columbine, firecracker flower, paintbrush, and fuchsia.

**Wind pollinated flowers** lack petals and are usually clumped together into "catkins." Examples: alders, oaks, pines.

## POLLINATORS IN ACTION

D = stamen  
E = pistil  
F = aroma  
G = nectar



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