

Lesson 5: Pollination Partners

Information adapted from *Biology of Plants* (6th edition, 1999)

Pollinator	Flower Characteristics	Examples	Insect Characteristics
Bees	Usually blue or yellow in color and have "honey guides" that act like airplane runway markings, leading the bee to the nectar. Flowers have showy, brightly colored petals that are never pure red. The nectary is usually found at the base of the flower, which tends to be specialized for the mouthparts of bees. Flowers give a sweet odor and have a landing platform.	Orchids, foxglove, snapdragon, clover, daisies	See UV light as a color (honey guides are usually UV in color). They cannot perceive red. Are the most important group of pollinators. Suck nectar and collect pollen from the flowers.
Beetles	Flowers are usually bourn singly or are a flat aggregate flower. They tend to have a dull color but a strong odor that can be fruity, spicy, or similar to the foul odors of fermentation.	Stapelia, magnolias, wild roses, some lilies, spirea, members of the parsley family	Active day and night. Have a highly developed sense of smell. Chew petals, pollen, and sometimes even nectar.
Butterflies & diurnal moths	Long flower (corolla) tube, usually red and orange, sweet scent to attract insects.	Milkweed, butterfly weed, butterfly bush, pentas, lantana	Sip nectar from flower. Active in day. Some can perceive the color red.
Moths	Long flower tube is white or a pale color. Flowers release a heavy, sweet fragrance after sunset.	Nicotiana, yucca, moonflower, evening primrose	Nocturnal. Long proboscis (sucking mouthpart) to reach nectar.
Birds	Produce large amounts of nectar and are often red and odorless. Provide visual stimuli and hold lots of nectar.	Columbine, fuschia, banana, cactus, hibiscus	Mostly hummingbirds, who respond to the visual stimuli.
Bats	Produce a lot of nectar. Have dull colors, and strong musty, fermenting, or fruit-like odors. The flowers open at night.	Found in the tropics, organ-pipe cactus	Attracted through sense of smell. Eat pollen and other flower parts. Carry pollen in their fur. Obtain much of their protein from pollen.
Wind	Produce no nectar, have dull colors and are relatively odorless. Small or absent petals, sexes often separated on the same plant. Inefficient; pollen lands close to parent. Exposed stamens, large exposed stigmas with feather outgrowths to intercept pollen.	Grasses including corn, many trees like birches, pines, and maples	Not applicable.
Water	Pollen is transported underwater or floats from one plant to another.	Eel Grass (Vallisneria)	Not applicable.

