Kick Off Your Week by Learning Something New: "Be Fruitful and Multiply" A Lesson on Seed Dispersal

"Seeds are the manifestations of hope, and the promise of a better tomorrow."

Plants really are quite remarkable. Each one has its own unique method of reproduction, ensuring that their offspring will have a chance at survival. Today, we're looking at the various tactics of seed dispersal and examples of local seeds which exhibit them.

Epizoochory-dispersal via unintentional transportation on the outside of vertebrate animals (primarily mammals).

These burlike seeds have spines, hooks, bristles, barbs, etc. and cling to human clothing and shoes, animal fur, feathers, or paws.

Examples:
Burdock, Bedstraw, Devil's Beggarticks.

(Fun Fact: these seeds are what inspired **the invention of velcro!**)

Endozoochory-dispersal by animals through passage of the gut via consumption, digestion, and final excretion.

Birds are most efficient at this method; however, mammals such as raccoons and bears can also disperse seeds in this manner. The digestion process helps to **scarify** the seeds, which aids in successful germination.

Examples: Elderberry, Raspberry

Synzoochory-dispersal via seed-caching animals who misplace or forget the whereabouts of the seeds. Thus, the seed is protected and has a chance of germination.

Nuthatches, blue jays, squirrels, chipmunks are some of the prime candidates for this method.

Examples: Walnuts, Pine Nuts, Acorns.

Myrmecochory-dispersal via ants. Myrmecochorous plants produce seeds with **elaisomes**, which are a food source for the ants chalked full of lipids, amino acids, and other nutrients.

Once this has been consumed, the seed is then discarded underground or ejected from the nest where it can germinate.

Examples: Spring ephemeral-wildflowers such as wild ginger, bloodroot, trillium, dutchman's breeches, and trout lily.

Hydrochory-dispersal via water. These seed types come from riparian species. They have the ability to float and withstand water damage. Germination and rooting occur once they reach sediment.

Examples: Alder, Foxglove, and Willow.

Alder seeds are special in that they contain pockets of air and two cork appendages to keep them buoyant. Studies have found them capable of floating in water for a whole year without being damaged.

Barochory-dispersal via gravity. Once seeds have reached maturity and become too heavy for the plant to support, gravity causes them to fall to the ground where they are able to germinate.

Examples: Chestnuts, Canna, Apples, and other heavy fruits.

Anemochory-dispersal via wind. Some of these seeds have papery wing-like structures which allow them to spin like helicopters when lifted by the wind, being carried farther away from the parent plant.

Other wind dispersed seeds have white, fluffy, apparatus called **"pappus"** which require draft wind forces to maintain their flight and act as a parachute of sorts.

Examples: Samaras from Maples, Milkweed, Virgin's Bower, Dandelions, and seed fluff from Cottonwoods.

Ballochory-via ballistics or mechanical dispersion. Fruit cells fill with water creating pressure or tension which builds up enough that the seeds shoot out like bullets fired from a rifle.

Examples: Witch Hazel, Spotted Jewelweed, Lupine, Geraniums, and Violets.

Witch Hazel seeds travel 30 feet per second in just half of a millisecond.

Pretty cool, right? Each plant started with a journey. Who knows exactly how each individual plant came to be, how resilient they had to be, or far they had to travel to reach their final destination. The next time you go to plant a seed, think about how many generations of seed came before it, and how many will come after. It's the little things in life that carry the greatest significance.

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