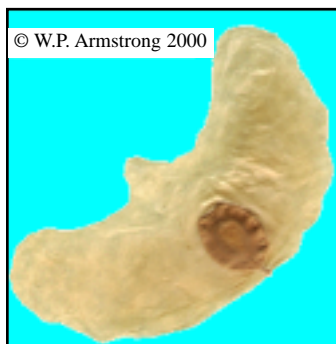


Blowing In the Wind: Seeds and Fruits Dispersed By Wind

Like an endless army of parachutists released from an airplane, seeds and fruits travel the wind currents and gentle breezes of the earth, possibly colonizing a distant mountain slope or fertile valley. Literally hundreds of species in many plant families have adopted this remarkable method of dispersal, including a variety of ubiquitous plants that we recognize as “weeds.” The answer to why some weedy composites (such as the European dandelion) have worldwide distributions is truly “blowing in the wind” (to quote from the Peter, Paul and Mary song). Some of the ingenious adaptations for this method of wind dispersal include seeds that resemble parachutes, helicopters and gliders. An astronomer once observed a strange formation of flying objects through his telescope. He was focusing on a squadron of tiny parachute seeds high above his house. The entire plant body of wolffia (the world's smallest flowering plant) may be transported by powerful cyclonic storms. In the southeastern United States there are records of wolffia plant bodies less than one millimeter long being carried by a tornado, and they have even been reported in the water of melted hailstones.



1. Glider

The remarkable winged seed of the tropical Asian climbing gourd *Alsomitra macrocarpa*. The entire seed has a wingspan of 5 inches (13 cm) and is capable of gliding through the air of the rain forest in wide circles. This seed reportedly inspired the design of early aircraft and gliders.

Gliders include seeds with 2 lateral wings that resemble the wings of an airplane. They become airborne when released from their fruit and sail through the air like a true glider.

2. Parachutes

An individual parachute of western salsify (*Tragopogon dubius*) showing an umbrella-like, plumose crown of hairs (pappus) above a slender one-seeded fruit (called an achene). These fragile units can become airborne with the slightest gust of wind, and can literally sail across valleys and over mountain slopes.

Inflorescence and mature, seed-bearing head of the Eurasian dandelion (*Taraxacum officinale*). The slightest gust of wind catches the elaborate crown of plumose hairs, raising and propelling each seed-bearing achene into the air like a parachute. This successful weed thrives in a wide range of climates and has become naturalized throughout North America.³





3. Helicopters (Whirlybirds)

An interesting one-seeded winged fruit that spins as it falls through the air. It is called “whirling nut” and belongs to the genus *Gyrocarpus* in the gyrocarpus family (*Gyrocarpaceae*). The unusual fruit shown above was collected and photographed at Ho’omaluhia Botanical Garden on the windward side of Oahu in the Hawaiian Islands. Identification provided by Ricarda Riina, Botany Department, University of Wisconsin

4. Flutterer/Spinners

Although their mode of dispersal is similar to single-winged helicopter seeds, the flutterer/spinners include seeds with a papery wing around the entire seed or at each end. When released from their seed capsules they flutter or spin through the air.



5. Cottony Seeds & Fruits

Fuzzy brown cattail spikes (*Typha latifolia*) contain dense masses of tiny seeds, each with a tuft of silky hairs.

One fuzzy brown cattail spike may contain a million tiny seeds. Each seed has a tuft of silky white hairs and is small enough to pass through the “eye” of an ordinary sewing needle. They are shed in clouds of white fluff and float through the air like miniature parachutes. A cattail marsh covering one acre may produce a trillion seeds, more than 200 times the number of people in the world. The fluffy seeds have been used for waterproof insulation and the buoyant filling of life jackets. In addition, each plant produces billions of wind-borne pollen grains; in fact, so much pollen that it was used as flour by North American Indians and made into bread.

6. Tumbleweed (Russian Thistle)

The common tumbleweed or Russian thistle is a rounded, bushy annual introduced into the western United States from the plains of southeastern Russia and western Siberia in the late 1800s.

A large tumbleweed (*Salsola tragus*) in San Diego County, California. Tumbleweeds are pushed along by the wind, scattering thousands of seeds as they roll across open fields and valleys. A tumbleweed of this size is difficult to hold on to during a strong wind storm.

