



# Highstead Log

## Autumn News 2000

## Highstead Arboretum

### A Time to Reap

Autumn is upon us, and with the end of the growing season nearing, our thoughts turn to harvesting the fruit that nature has provided. Cooler nights and ample moisture will bring the apple orchard to perfection, and find both man and animal gathering the bounty each tree has to offer.

**drupe** (cherry), **pome** (apple), and **berry** (blueberry).

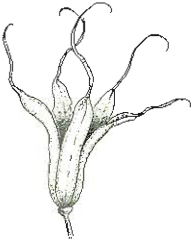
We can further marvel at the fact that most plants do not allow their fruit to be attractive to the palate until the seed has also ripened. This is a pattern consistently found in the adaptive intelligence of the plant kingdom.



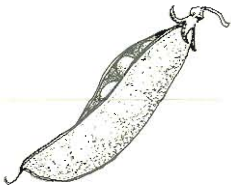
A. achene (thistle)



B. capsule (witch hazel)



C. follicle (columbine)



D. legume (pea)



E. nut (oak)



F. samara (maple)

### Survival Mode

At the close of the *Highstead Log*, spring 2000, we mentioned the long-term effects of last year's drought. A significant impact of the drought was the increased number of flower buds set on many of the shrubs and trees. This is one way in which a plant ensures the continued existence of the species, by setting more flowers (and therefore the chance for more seeds) during stressful times, when the individual plant is at greater risk of succumbing to the elements. The rains of last autumn and this spring were ample enough to allow most plants to maintain these buds and put on a spectacular floral show this year. If you thought you noticed a more prolific display this spring, you were not mistaken.

### All Dried Up

What about those plants without attractive fleshy fruits? **Dry fruits**, as they are referred to, cannot rely on their visual or palate appeal (with the exception of nuts) to aid the distribution process. Therefore, the plants have developed alternate, and no less remarkable, methods.

Within the category of dry fruits are two sub-categories. **Dehiscent fruits**, which split open at maturity to release seeds, include **pods**, **capsules**, and **follicles**.

**Indehiscent fruits**, which hold tight to the seed even at maturity, are represented by **nuts**, **grains**, **achenes**, and **samaras**.

Wind, water, and gravity are the methods of distribution favored by the broad variety of dry fruits.

The parachuted seeds of the milkweed use the wind as a method of extensive distribution, while the late winter and early spring drop of sycamore fruit allows the seeds to float downstream as the vernal water levels rise.

The mechanical adaptation of plants is perhaps the most remarkable. Impatiens (touch-me-nots), violets, and witch hazel have mechanisms that fling or spring their seeds as the capsules open. Many herbaceous plants have barbs or hooks that latch onto fur and feather (or clothing), hitching a ride to a new location.

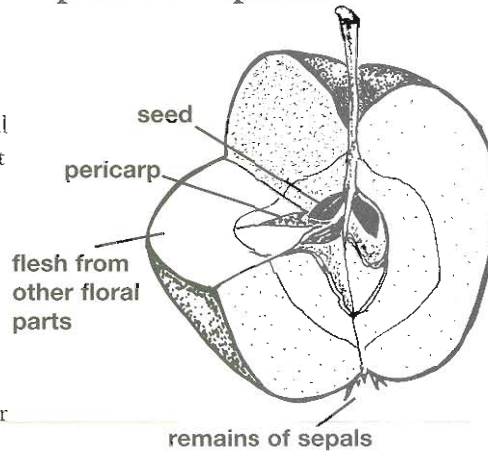
Each plant species has evolved over a long period of time, in a manner that best serves its efforts for survival in a changing world. But this is only the beginning of the story. The unique methods of distribution do not necessarily lead to every seed sprouting. The successful seed must come to rest in a hospitable environment, free of predators and pathogens, just to germinate.

So, the next time you toss that apple core aside, realize you have done just as the tree had planned.

### A Seedy Subject

With the cooperation of nature, the fertilization of these flowers occurs, and over the course of several weeks, fruit set is established. **Fruit**, according to Donald Wyman in *Wyman's Gardening Encyclopedia*, is "the seed-bearing product of a plant." This seed-bearing product is what allows the plants around us to ensure the survival of the species. The magnificence of this process is further revealed in how the plant not only ensures its seed set for the purpose of regeneration, but how each species has adapted the fruit form to aid in the distribution of the seed away from the competition of the parent plant.

### parts of a pome



### Tempting, Isn't It?

Just as Adam & Eve were tempted by the color, form, and taste of the apple, so are we (and many animals) tempted today. In this way, the apple tree ensures that the seed itself is carried away from the source tree and "planted" elsewhere. This process applies to most plants with **fleshy fruits**. Forms of fleshy fruits include

## Plant Profiles



*While in leaf, the deeply cut, rounded lobes make the white oak easy to identify.*

## White Oak

*Quercus alba*

No tree species in Connecticut is as beloved as the white oak (*Quercus alba*). By serving as a hiding place for the state charter (1687-1689) and providing wood as a building material, it is no wonder that the white oak is the state tree. Aside from its historical and economic significance, few trees rival the beauty of a mature white oak.

Although it does not have a showy flower, the white oak has a subtle enduring appeal that changes with the seasons. The spreading form, with its silvery gray bark, graces the winter landscape with architectural beauty. In spring, the tree bursts into a haze of soft red as the young leaves emerge from the twigs. These leaves then turn silver before maturing to green. In summer, the sprawling branches create an oasis of shade. The grand

finale comes in the fall when the foliage turns burgundy, with some individuals ranging in color from chestnut brown to shades of red.

Although identifying oaks can be somewhat confusing, the white oak is one of the easiest. The leaves have deeply cut, rounded lobes. The top of the leaf is dark green, contrasted by the gray-green underside. The acorn is light brown with a warty, bowl-shaped cap that covers less than one third of the fruit. The acorns are moderately sweet and have a high fat content which makes them a great food source for jays, deer, and wild turkeys. Animal benefit from the fruit, but the tree benefits by having the animals distribute the seeds, ensuring a new generation of these majestic trees.

## Highstead Saturday Walk Programs

*Come dressed to walk and plan to stay 1 to 2 hours. Reservations are requested: call ahead for weather-related rescheduling. For further information, call Highstead Arboretum at 203 938 8809, 9am-4pm Mon.-Fri. There is a non-member fee of \$5 per program.*

## Autumn 2000

### Know Your Oaks

*Saturday, September 9, 10am*

Learn the nuts and bolts of oak tree identification. George Elkins, horticulturist, will lead a discussion and field lecture on the twelve native oak species (seven on the grounds of the Arboretum). Find out how to distinguish each by bud, leaf, acorn, form, and bark.

### A Pome as Lovely

*Saturday, October 14, 10am*

Establishing a home apple orchard can seem a daunting task. Which cultivars to select? How many trees do you need? Where should the orchard be sited? Standard, dwarf, or semi-dwarf? Answer these questions while sampling some of the more popular cultivars with arboriculturist Ted Lockwood.

### Self-guided Walks

*Saturday, October 21st and 28th, 10am - 4pm*

Enjoy the beauty of the autumn landscape at Highstead. Weather permitting, the gates will open at 10am and close at 4pm on each date. Seek out the latest-flowering, native plant (witch hazel), or just a leisurely stroll through the woodland.

### Highstead Leaf Hunt

*Saturday, November 11, 10am*

Learn to identify some of our native trees while sharing an outdoor adventure with your child. After a brief orientation to leaf shapes and margins, parents and children will search the trails for fallen leaves. The child wins who matches the greatest variety of leaves to the Highstead Leaf Guide. Open to all ages. *Reservation required.*

## Highstead Arboretum

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