

Change of season means birds will be migrating through N.J.

By Michele Byers

New Jersey

Conservation Foundation

Fall is parade time across New Jersey; by the time the Labor Day festivities are underway, a parade of colors has begun throughout the state's habitats. Why the montage of colors? Advertising, of course.

It's no accident that leaf color coincides with influxes of southbound migratory songbirds.

Plants with bird-dispersed seeds advertise their September-ripe fruit by turning their leaves attractive colors early in the season.

The first clue that migration is starting is during mid-August, when black gum trees turn a few

branches scarlet.

I know then to scan tree-tops for scarlet tanagers, beginning their journey back to the Amazon Basin. Birds like tanagers, thrushes, and warblers need fruit to power migration to the tropics.

Scan the countryside about 10 days after Labor Day; you'll find a dozen plant species with leaves or stems advertising ripe

fruits.

fruits.

A parade of red, orange, and yellow leaves glitter among the shadows of the approaching Equinox. Fruit-bearing trees, vines, and shrubs - Virginia creeper, black gum, poison ivy, staghorn sumac, dogwood, grapes, and others - display vivid tones against a green backdrop of nearly all other plants.

Only one plant without

fruits.

Remember, birds not

fruit, red maple, is an interloper in this colorful

termination rate of the seeds that pass through their digestive tracts.

So the reproductive advantage of having fruits eaten and seeds deposited in new places offsets the high sugar cost!

This pattern observed in nature is not random or accidental - the powerful force of natural selection has shaped this phenome-

early display by the fruit-bearers. Some plants pro-

generally songbirds, over the last half million years, songbirds selected fruits from plants that did a "Madison Avenue" quality job of hanging colorful "for sale" signs in their branches.

Early color displays, timed with migration instead of the onset of cold weather, increased the reproductive success of seeds embedded in well-

See page 13.

birds and plants have influenced each other: birds migrate more successfully with supplies of fruit; plants reproduce more successfully by advertising to birds for seed transport.

Enjoy the early September fall foliage, and keep your eyes peeled for our snacking migratory songbirds.

Seasons mean bird migration

Birds from page 5.

produce large masses of brightly colored fruits, don't turn their leaf color early. Their fruit display is so large that extra leaf advertising is not needed to attract birds. Colorful, leafy ads are costly, because the plant gives up on photosynthesis (critical sugar production) at least two weeks early.

The scores of plants that don't sport ripe, bird-

dispersed fruits during the September migration produce brightly colored leaves later in the autumn.

These are wind-dispersed seeds, like ash and sweet gum; mammal-dispersed like persimmon, or have midsummer bird fruits like black cherry and mulberry; or winter bird fruits like holly.

There is no benefit for these plants to attract birds with colorful leaves

in early September, since birds do not transport their seeds (which are essentially their babies), at this time. So, there is no reason to end photosynthesis until short days and cool weather dictate.

The plants that give up on sugar production early in order to advertise their crop to their feathered agents, must gain something to offset the cost of lost sugar.

Remember, birds not

only lack teeth, but fruit-eaters also lack gizzards, and actually increase the germination rate of the seeds that pass through their digestive tracts.

So the reproductive advantage of having fruits eaten and seeds deposited in new places offsets the lost sugar cost!

This pattern observed in nature is not random or accidental - the powerful force of natural selection has shaped this phenome-

non over the millennia.

During the evolution of migratory songbirds, over the last half million years, songbirds selected fruits from plants that did a "Madison Avenue" quality job of hanging colorful "for sale" signs in their branches.

Early color displays, timed with migration instead of the onset of cold weather, increased the reproductive success of seeds embedded in well-

advertised fruits. Through co-evolution, birds and plants have influenced each other: birds migrate more successfully with supplies of fruit; plants reproduce more successfully by advertising to birds for seed transport.

Enjoy the early September fall foliage, and keep your eyes peeled for our snacking migratory songbirds.