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SHORTIA

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ACRES OF POINSETTIAS

by Harvey Krouse

For those of us who have previously visited VanWingerden's stupendous floral display at Christmas time, a return trip is always an inspiration; for new visitors, it is breathtaking.

For the benefit of members unable to join us this December, and also for those who made the visit, I should like to review some of those impressive sights.

To be sure the sight of acres and acres of Poinsettias is the most outstanding--250 thousand were grown this year--and the vista of them almost fades into the distance. One wonders as the motorized loaded carriers in coupled procession pass by how all of those plants can be moved out before Christmas!

As we followed our gracious and knowledgeable guide, Charlie Carr, there must have been a number of plants he pointed out whose identities have eluded some of us, as they surely have to me.

So with a leisurely subsequent visit while photographing, and by benefit of some literature research, here is what I would like to share with you.

Our tour began in the main greenhouse range off Jeffress Road, then mostly occupied by Poinsettias, where our attention was drawn to areas filled with ferns--mostly the Boston fern (Nephrolepsis exaltata bostoniensis)--growing on elevated racks, on the floor, and in baskets hanging above our heads along the walkways. Those in hanging baskets had just been automatically watered causing us to step lively between the drops.

Foliage plants of many varieties were in abundance and to many of us of a given era they were quite surprising. But we were apprised that within the last decade foliage plants have become increasingly popular with the advent of tenancy in condominiums, apartments, and the trend toward the use of plants in the decor of shopping malls and office buildings.

In one section we saw large well-grown Dumbcane (Diffenbachia masculata) and the smaller, lighter leaved species (D. exotica). And how colorful was the foliage of several species of crotons with their leaves varying on each plant from bright green and yellow to dark bronze.

Nearby were bench after bench of Peperomia plants of numerous species, so totally different in appearance that many were not recognized as members of this genus. Some of them were Silver Dollar (Peperomia Spp.), Trailing Peperomia (P. rotundifolia), Pepper Face (P. obtusifolia), and the most striking one was Watermelon Peperomia (P. argyreia) with the leaf striping looking for all the world like miniature watermelons.

Among the Bromeliads are those having exotic growth characteristics and fancy leaf patterns that also break out with unusual flowers. One is the Orange Star (Guzmania minor), another, strikingly well-named: Flaming Sword (Vriesia splendens), and the one that developes its pink flower deep in the foliage starlike in appearance, Silver Vase (Aechmea fasciata).

Before leaving this section we observed developing plants of the popular Crossandra with a few of the bright salmon-colored flower clusters showing.

Although some distance away from the walkway, there were several benches of the Aluminum Plant (Pilea cadierei) with the shiny silvery-quilted leaves and small white flower heads.

On our way out our attention was called to the overhead hanging baskets of the willow-stemmed Begonia (Begonia semperflorens "Charm") with its strikingly variegated leaves and heavy with clusters of pink flowers.

We drove to the other VanWingerden range on Route 191 where Charlie Carr continued our tour.

This is the "land" of African Violets, but before expounding and exclaiming about them, let us go to the far end of the range where I first headed on my photographic visit. Why? Gloxinias! Never have I seen such well grown, well shaped plants with such dark green leaves. And what progress in breeding of such large flowers--some of which were 4½" across the fringed corolla. A girl who was filling a large order remarked that she had difficulty in deciding which ones were the most attractive.

While in this area we saw what seemed like a half acre of dwarf cacti in varieties too numerous for anyone but a cactus fancier to identify. Some were grafted having the scions of a bright orange variety--a novelty but apparently not too practical.

Questions were raised about the absence of Christmas Cactus (zygocactus). Reason--they were all sold before Thanksgiving except a few of the light pink and white strain. Remember when grandmother always had one in bloom with its deep red flowers at Christmastime? Her timing, unplanned, was accomplished because of the cool room in which the plant was grown. Christmas cacti will not set buds in our overheated houses today. And what the plant breeders have accomplished! Plants have been developed that not only vary in color from the original dark red through orange, salmon, and white, but they can flower as early as October.

And now the African Violets (Saintpaulia). Yes, they also measure this crop in acres--about ⅗ in all--including rooting leaves, young plants just transplanted, and those in strikingly colorful bloom. But momentarily you are fooled. What appeared to be flowers in one section were thousands of colorful labels, one in each pot. Apparently a limited number of varieties were grown either due to cultural advantage or customer preference. One dark blue, "Maryland," was in prominence. A free-flowering dark pink called "New Jersey" was outstanding.

The ingenuity of this organization should be noted here for utilizing the maximum growing space. Normal practice has been to have fixed benches, or tables, with walking aisles between each. No money is made in these aisles so they have placed the benches on rollers permitting them to be moved sideways and back and forth resulting in only one aisle, located at will. This arrangement gains them 30% more growing area per greenhouse section!

Which one of us has had a Staghorn Fern (Platycerium bifuscatum) around the house in the last twenty years? Very few, if any, but they grow them here and sell them by the hundreds. They are indeed unusual and attractive--a plant I want to have.

Now that we have been on a descriptive tour together, perhaps you will want to see it all yourselves next year.

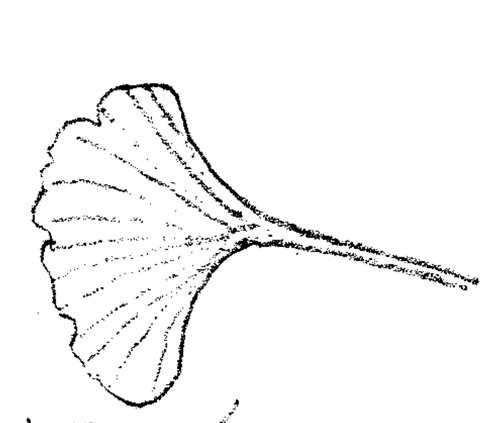
(Disclaimer: Any misidentification or incorrect description in the foregoing is entirely excusable and should not be used to make me accountable.)

PLANT ODDITIES

Most of our trees, shrubs, and herbaceous plants behave normally producing offsprings as expected from scattered seeds produced by pollen fertilizing egg cells enclosed in an ovary. But wait! There are a couple that contrive not to conform.

The Ginkgo tree is one of these mavericks. Although this tree has leaves that look nearly like those of other deciduous trees, the leaves are similar in structure to those of palms.

Another distinguishing characteristic places the Ginkgo among the gymnosperms (no floral envelope) along with the conifers and the palms. It is in this unusual manner that the ovules or egg cells appear. As in all gymnosperms they are naked or not enclosed in an ovary; but in addition, each of them is borne on (as shown) an individual stalk like a miniature flower cluster. After they are pollinated from the separate male tree, these fertilized eggs develop into fruit on the same stalks.



LEAF (REDUCED)

FEMALE FLOWER (ENLARGED)

The very plant for which our publication is named has a peculiar quirk. Shortia or Oconee bells (its colloquial name) bears its young alive. It forms seeds like other plants but nurtures these seeds in the "pod" until they have germinated and start growing. The tiny plants are then released, either dropping them directly to the ground or they are windborne, after which they take root. Shortia is accordingly designated as a viviparous plant (parental seed germination).

WHY THE CABBAGE BUTTERFLY ZIGS AND ZAGS

Condensed from an article in the Summer 1979 issue of "The Cornell Plantations" by Arthur M. Shapiro, Ph.D.

There is a method to the cabbage white butterfly's madness. Well over a century ago Charles Darwin recognized that life in the wild was too harsh for organisms to engage in frivolous excesses. If the cabbage butterfly flies crooked, then flying crooked must contribute something to its survival and reproduction.

Today we know what the cabbage white is up to. That zigzag flight is an effective way for a small airborne animal to look for something. It is looking for a matter of sex. If it's a male, chances are he is looking for a receptive female. If it's a female, she is looking for a cabbage plant on which to glue her eggs.

The cabbage butterfly eggs, laid on cabbage, hatch into a downy green caterpillar with a prodigious appetite for cabbage. What is curious is that it is so selective. It would sooner starve (and will) than eat lettuce or tomato or corn, or anything that doesn't belong to the cabbage family. In addition to the cultivated cabbage (Brassica oleracea), the cabbageworm will eat wild mustard (Brassica nigra) and other members of the Cruciferae--peppergrass, watercress, horseradish, and turnip.

Scientists were puzzled by the ability of the female cabbage butterfly to pick out and lay eggs on only members of the Cruciferae family. How did she do it, and why should she deny herself all the other foliage in the world?

In 1910 a Dutch researcher noted that the plants listed as hosts of the caterpillar all share a peppery taste. This taste is due to chemicals called mustard oil glycosides, found almost only in the crucifers. Fifty years later it was demonstrated that there exists specific nerve cells in the mouth parts of the cabbage worm uniquely sensitive to mustard oil glycosides.

About this time a new field of chemical ecology had come into being--the role chemicals play in the interaction between organisms. Many plants were known to produce large quantities of peculiar compounds of unknown use. They were collectively called secondary plant compounds. There must be a reason for their production since the plant expends energy and critical raw materials also needed in primary metabolism.

Fraenkel of the University of Illinois proposed that these distinctive compounds were used as defense mechanisms against the natural enemies of plants--particularly insects.

Some insect species, having broad tolerances, avoid chemically distinctive plants. Other specialized species like the cabbage butterfly are restricted to plants containing one specific compound--creating a paradox. By producing these chemical compounds, the plant was protecting itself from one pest, but on the other hand, attracting another pest which attacked the plant. Why, then, does the plant make these compounds?

The answer: Insects, not being evolutionarily static, develop a resistance to poisons like the housefly and mosquito to D.D.T. In like manner, plant-feeding insects evolve tolerances to these plant-produced compounds. Having developed this tolerance, the insect has that plant all to itself--free from competitors. What better way to recognize a useful plant than by the very chemistry originally directed against the user? So we find this situation, like the cabbage butterfly, restricted to crucifers that most insects cannot eat!