AIBS MEETINGS - 1976

The 1976 annual meetings of the American Institute of Biological Sciences will be held at Tulane University, New Orleans, May 30 - June 4. Registration and housing information and applications appear in BioScience and are also available from: AIBS Registration, 1401 Wilson Blvd., Arlington, VA 22209.

The American Fern Society holds its annual meeting with the AIBS. There will be contributed and invited scientific papers (jointly with the Fernology Section of the Botanical Society of America), a luncheon, and a foray. Information on the foray will appear in a later issue of FF.

Those interested in presenting papers at the meeting are urged to contact the program chairman: Dr. Richard Hauke, Dept. of Botany, Univ. of Rhode Island, Kingston, RI 02881) immediately for more detailed information and abstract forms. The deadline for receipt of abstracts is late December.

CHAPTER NEWS

Upper Ohio Valley Chapter:

Frequent field trips took them to very interesting locations all summer and into October. Now they go inside for winter meetings.

Southern New England Chapter:

Their meeting October 11 at the University of Connecticut included discussion and demonstrations of growing ferns from spores, a fern raffle, and a tour of the biology greenhouses.

A NEW DISTRIBUTION - ONOCLEA SENSIBILIS IN FLORIDA

In April, 1975, while conducting a field survey of ferns in Escambia, Santa Rosa, and Walton Counties of Florida's panhandle, Lucy Ackerman, a graduate student in biology at the University of West Florida, discovered a colony of sensitive fern, Onoclea sensibilis, in Pensacola, Florida. This was the only colony of Onoclea encountered in the three counties, and the exact location of the discovery site was the south bank of Carpenter's Creek just west of Ninth Avenue. Later the fern was also found near on the north bank of Carpenter's Creek. Associates of the Onoclea are Asplenium platyneuron, Lorinseria oreolata, Osmunda regalis, and Osmunda cinnamomea.

Later I collected a specimen (Burkhallter 2700) and deposited it in the Herbarium of the University of Florida, Gainesville. Dr. Daniel B. Ward, Curator of the University of Florida Herbarium, verifies that the discovery of Onoclea sensibilis in Pensacola constitutes a new county record for this fern. - James R. Burkhallter, Pensacola, Fl.

BOOK ON STAGHORNIS

Those of you hooked on staghorn ferns (Platycerium) will be glad to hear that a revised, enlarged edition of Platycerium Fern Facts by Wendy Franko is now available.

The Bulletin of the Los Angeles International Fern Society describes it well: This book is a 120-page volume with slick cover, 57 photographs and a number of line drawings. It covers everything you want to know about staghorn ferns. Beginning with a general discussion of the genus, a background is laid for understanding the descriptions of the various species and cultivars. The 18 known species are named along with their cultivars.

Section II, which takes up 70 pages of the book, features photographs and descriptions of all the species and their cultivars.

Section III is on staghorn culture, covering every phase of the activities. There are chapters on where to grow Platyceriums, materials for mountings, planting mix, how to mount, remounting, removing small plants, grooming, watering, fertilizing, pests and other damage, and growing from spores.

Platycerium is one of the most fascinating of all the fern genera and is becoming exceptionally popular. However, these ferns do take different care than most ferns so anyone wishing to grow staghorns should learn all he can about them. This book satisfies that need by supplying all the information required to care for them properly.

The price of the book is $5.95 plus a 25c mailing charge. (California residents must add 20c sales tax.) Send your order to the Los Angeles International Fern Society, 2423 Burritt Ave., Redondo Beach, CA 90278.

HELP WANTED

The FIDDLEHEAD FORUM has gradually matured and we hope it is beginning to fill the needs of the Fern Society membership. To keep a good thing going, though, we need your help. Over the last couple of years we have had several excellent contributions to our pages from members around the country. This is what we need more of - news, notes, questions, hints, suggestions on any aspects of fern study or cultivation. Let us know about your local fern chapter happenings and your gardening successes. Should you have plant material to trade or are looking for a source of certain plant material or books, let us know and we will try to run your "want ad." We would be overjoyed to increase the number of pages of FF, but we need the material.
Q: My old Boston Fern has many green roots hanging down outside the pot under the leaves. Will it harm the plant if we cut these off?

A: Those "green roots" are actually highly modified stems, called stolons. These special stems are similar to the runners on a strawberry plant in that they give rise to buds that produce new plants. Cutting off the stolons will not harm your mature plant, but it will be much slower to fill the pot with small, young plants. You might try winding these stolons around the base of your mature plant (under the leaves) near the soil line in the pot and pinning them down. The stolons then will be in an appropriate environment to give rise to new plants.

Q: I have a Davallia (Rabbit's-foot Fern) which has several stems growing down the outside of the pot. Can I cut these off and make new plants?

A: Generally speaking, you can simply cut these running stems off, place them in new potting medium, and they will establish new roots and become new plants. The cuttings that you might make should be only about 4-7 inches long with mature, hardened foliage; avoid making cuttings when the new leaves are still young and tender. If the cuttings themselves have a few roots that have already formed, you can make larger cuttings that will establish successfully. A sure-fire method is to root these stems in an adjacent pot prior to cutting them from the parent plant.

Epithet Rhyme

Brake be ample, brake be slick.
The freaks are coming to take their pick.

Use Osmunda Fiber in Potting Epiphytic Ferns

By Bruce McAlpin

Most of the more exotic epiphytic ferns grow side by side with tropical, exotic orchid species. Thus, it is not surprising that these ferns must be potted and cared for exactly like these exotic orchids. In repotting any fern it is important to make sure that the rhizomes and roots are held firmly in place so that the new, delicate first roots from the plant after repotting are protected from being broken. When using Osmunda fiber, it is necessary to wedge the plants firmly in the pot with the Osmunda fiber which tends to be rather spongy when compared to treefern fiber which is much more rigid and firm.

One method that I have found very successful is to cut the large dry chunks of Osmunda as they come from a wholesale florist or garden center, into 1-2" thick slabs using a machete. (A large butcher knife would work too, but the fiber dulls the blade rapidly.) These cut slabs may be subdivided into strips or cubes. Small, regular pieces are more convenient in potting small plants than large or irregular pieces that are torn from the large pieces of Osmunda available commercially. The actual potting is best performed using moist fiber, although the fiber cuts best when dry.

Here is one technique I find most useful in using Osmunda fiber strips:

Small plants or rhizomes are laid along the top edge of a strip of Osmunda fiber several inches long (A).

The strip is then rolled up tightly like a jelly-roll around the plant (B).

The roll with the plant is put into a pot that is slightly smaller than the diameter of the final roll (C).

And finally, the roll is jammed into the pot (D).

This results in a very tightly potted plant that still has perfect drainage.

Puzzle Answer:

\[ \text{ANIMROG WROBEND} \]

\[ \text{ANIMROG WROBEND} \]

Decumbent: Reclining but with the tip ascending.

\[ \text{ANIMROG WROBEND} \]
Lessons in Pteridology VI

What is a Fern?

by John T. Mickel

Generally we think of ferns as rather lacy plants without flowers. Many visitors to our greenhouses are awed by the diversity of living ferns and are sure many of the plants cannot really be ferns. In addition to the usual lacy fronds of many species, there are giant tree ferns, delicate filmy ferns, leathery strap ferns, the curious water clover, and the duckweed-like floating ferns. On the other hand, many people grow plants called asparagus fern and artillery fern, which have a lacy appearance but are not ferns at all. How then are we to tell which is and which is not a fern?

The technical definition of a fern is "a vascular plant with megaphylls that reproduces by spores."

First, a vascular plant is one that conducts water, minerals, and food in specialized tissues (xylem and phloem) which appear as special bundles in the root, stem, and leaves. This eliminates the mosses, liverworts, fungi, and algae, which are of more simple construction. The flowering plants (angiosperms) and conifers (gymnosperms) reproduce by seeds rather than spores. In detail this is actually a specialized way of reproducing by spores but appears quite different, with the resting or dispersal stage coming after the embryo is developed, being retained and protected inside tissues of the parent sporophyte plant. In the so-called lower vascular plants the dispersal stage is a one-called spore, which, of course, is much more susceptible to the effects of weather, moisture, etc., with subsequent high mortality rate. Countering this, spores are produced in much greater quantities, often millions per plant per year.

How do you tell the plant produces spores? They are usually produced in ferns on the underside of the leaves in small clusters (called sorus). Sometimes entire leaves are modified to produce spores, reducing the leaf tissue to almost none. In others (grass ferns, adder's-tongue) the spores are produced on special areas of a leaf that stand straight up. Often, however, there are no spores on the leaf at all, the season being wrong or the plant too young. This is a problem for distinguishing some ferns at this stage.

What the heck are megaphylls? This term means "large leaves" but in effect it means complex leaves with a branching vein system in the leaf. The leaf is such a dominant part of the plant that its vascular tissue in leaving the stem draws out a large amount, interrupting the stem's vascular pattern at that point on that side and leaving a "gap" in the vascular tissue. On the other hand, the microphylls of the other lower vascular plants (clubmosses, horsetails, gilliworts, spikemosses) have a single unbranched vein that does not detract appreciably from the vascular pattern of the stem.

The plants with microphylls (all lower vascular plants other than ferns) are the so-called fern allies. They are of the same evolutionary level, more or less (vascular plants reproducing by spores), but are not closely allied to the ferns. Rather, they are other experiments in evolution of the vascular plants that have probably not led to other groups of plants. The ferns, on the other hand, gave rise to seed ferns from which the flowering plants possibly evolved.

Another distinctive feature of the ferns is the manner in which they expand their leaves. Fern leaves mature from the base to the tip, gradually unrolling from a fiddlehead. Unfortunately, some ferns, such as the grape ferns and adder's-tongue, do not have distinct fiddleheads, and a number of flowering plants, such as our bog sunsnworts, do have them, so this character is not 100% sure for distinguishing ferns.

Overall, then, there are several characters to look for—vascular bundles, crossers, complex leaves, spores—but when the plant is sterile, it may be difficult to tell a flowering plant from a fern, even for a professional botanist. The fiddleheads are probably the most reliable but not infallible sign.

FERNS IN CENTRAL PARK

The New York Chapter in a joint project with the New York City Parks Department has begun planting a small fern glen in Central Park. Additional plantings next summer should make the glen well fern-lished.

Fern Nursery Rhymes

Sprinkle, sprinkle, little spore,
No longer secret on the floor,
For where you land upon the ground
Is where gametophytes are found.

Mary, Mary, quite contrary,
How do your fiddleheads grow?
All cirrate, they emanate
With sori all in a row.

Sickening bracken brook,
You can't grow on a rock.
You poison the ground for all around.
Aren't you a bit of a schlock?

FERN FORAYS

"So why isn't there a Chanuka Fern?"