SEPTEMBER - OCTOBER 1981 VOLUME 8 NUMBER 5

Fiddlehead forum

Bulletin of The American Fern Society

Editor: John T. Mickel
Art Director: Edgar M. Paulton (ΞIIIP)
Phern Physician: Bruce W. McAlpin

Fern Identification, Anyone?

This fall the New York Botanical Garden will offer a course in fern identification, taught by John Mickel, in which the commonly encountered ferns will be reviewed. In four two-hour sessions (Thursday afternoons or evenings, October 1, 15, 22, 29) the class will be introduced to the common native and cultivated species and varieties and other species that represent the broad diversity of the ferns and fern allies -- tree ferns, filmy ferns, shoestring ferns, bramble ferns, water ferns, clubmosses, horsetails, etc. Graduates of the class will have at least passing familiarity with the ferns in forests and greenhouses worldwide. The rich living collections of the conservatory and native plant garden will be used, supplemented by dried specimens, published keys and handouts. Fern distribution and hybridization will also be discussed. The cost is $36 for NYBG members, $40 for non-members. For registration or more information, contact the Education Department, New York Botanical Garden, Bronx, NY 10458.

Natural Media for Spore Culture?

Last summer while staining the underside of my back porch, lying upside down on the damp, sandy soil (more sand than soil), stain running down my arm and mosquitoes foraging on my legs and neck, I was distracted from my reverie by an extensive population of baby ferns nestled in my left ear. Here, where the shaded ground never dries out, a sward of gametophytes and "sporelings" up to 1½ inches tall had become established. On closer examination, they appeared to be of the lady fern, which abounds in the area. In that blissful moment I noted that there were neither algae nor fungi molesting this gaggle of fernlets, and it occurred to me that this medium might in fact be useful for growing ferns from spores indoors.

In the fall some of this sandy soil was brought inside, kept moist, and sown with fern spores. Fernlets dutifully arose, and after eight months there still is no sign of molesting plantlife in the form of algae, fungi, or mosses. Just what the controlling factor might be -- bacteria, soil acidity, or whatever -- is unknown, but it might be worth a try to use "natural" media as a substrate for your spore cultures in hopes of reducing by natural means the often devastating contaminants of our spore cultures. This is not to suggest that you take just any soil outside, but rather be on the lookout in the wild where young ferns are growing naturally, usually on moist, shaded soil or rotting logs. Give it a try and let us know how it turns out.--*JTM*

New Members

At Home

Morin, Linda,	Pawtucket, RI 02861
Lindsay, Ruth,	Manchester, CT 06040
Steinberg, Sandra,	Hartford, CT 06105
Golinowsky, E & B,	Guilford, CT 06437
Fister, Mrs Avel,	Hamden, CT 06518
Bell, Douglas,	Trumbull, CT 06611
Batchelder, Cameron, Torrington, CT 06790	
Barnes, Stanley,	New Canaan, CT 06840
Barnes, John,	Stamford, CT 06905
Severance, Mrs C.A.,	Staten Is,NY 10314
Weeden, Lynn,	Ilion, NY 13357
Chase, Gale,	Adams Basin, NY 14410
Viarengo, John,	Downington, PA 19335
Lopez, Raul,	Key Biscayne, FL 33149
Jahn, Richard,	Signal Mountain, TN 37377
Brown, Randy,	Chattanooga, TN 37406
Stratton, James,	Lawrenceburg, KY 40342
Baesler, Scott,	Lexington, KY
Jennings, Gjenn,	Frankfort, KY 40601 40511
Peters, Charles,	Sevenhills, OH 44131
Gable, Merrill,	Detroit, MI 48206
Slapnick, S.J.,	Sheboygan, WI 53081
Gardner, Carolyn,	Olmsted Falls, OH 44138
Cusachs, Mrs. Philomena	New Orleans, LA70122
Timm, Mrs. Harold	Dallas, TX 75214
Rapstine, Carolyn	White Deer, TX 79077
Prlain, Genevieve	Orinda, CA 94563

Canada

von Aderkas, Dr. Patrick, National Research Council, 1411 Oxford St, Halifax, Nova Scotia B3H 371

Abroad

Baillie, Neil,	Montmorency, Victoria, Australia
Thornton, Harvey,	Fairview Park, S.Australia 5126
Lee, Dr. Johnny,	Port of Spain, Trinidad
Adlam, Kenneth,	Witheridge, Devon, EX168AN, England
Burman, William,	Leicester LE285B, England
Busby, Mr.A.R.,	,Smethwick,Warley,West Midlands, B662BS, England
Coke, P.G.,	Dursley,Glos GL11 6BG,Eng.
Davies,J.D.,	Bristol 8, England
Grounds, Roger	Mounsmere, Basingstoke, Hants RG25 2HF, England
Hailes, Mrs.E.G.,	St.Sampson, Guernsey, Channel Islands, England
Howard, Mr.Peter,	Havant,Hampshire, England
Key, Mrs. Haxel,	,HarveyRd,Eyesham,Worcs,Eng.
Ogden,Alan,	Hopwood,Birmingham,B487AH,England
Rickard,MH,9,	Pampisford,Cambs,CB24EP,Eng.
Asklund,Lars,	Nora Stad, Sweden

Treasurer's Report for 1980

Total receipts amounted to $30,588.06. Coupled with $1,517.44 in my checking account and $4,590.45 in the Records Treasurer's savings account at the beginning of the year, the grand total of receipts was $36,695.95. The savings accounts earned $930.80, and the Growth Savings Certificate was worth $8,461.50 at the end of 1980. The certificate matured and the disposition of the funds will be discussed in the next paragraph. There were no life memberships. Total receipts from Memberships and Subscriptions were $10,142.82.

Total disbursements amounted to $29,446.32. Coupled with $4,298.42 in my checking account and $2,951.21 in the Records Treasurer's savings account at the end of the year, the grand total of $36,695.95 balances with the grand total of receipts. The Society continues to be in very good financial condition. Total receipts and disbursements were about $15,000.00 higher than those of last year. With the approval of Council, the Treasurer closed out the three, low interest-bearing (5¼%) savings accounts, rounded the total to the nearest hundred dollars, and purchased a high interest-bearing six-month Diamond Savings Certificate in a local bank. The first interest was received in February, 1981. Again with the approval of Council, the principal was pooled with the total from the matured Growth Savings Certificate, and another high interest-bearing (14.383%), six-month Diamond Savings Certificate was purchased in the same local bank. Interest will be paid later this year. Details will be reported next year.

Again, I wish to thank the Records Treasurer, Dr. Judith Skog, and the Journal Editor, Dr. David Lellinger, for their excellent cooperation in maintaining the treasury.

Respectfully submitted,

James D. Caponetti
Treasurer

Receipts

Cash on Hand, January 1, 1980		
Treasurer	$1,517.44	
Records Treasurer	4,590.45	
Total		$6,107.89
Regular Memberships		
New	$ 381.00	
Renewal	1,115.50	
Sustaining	0	
Advances	145.00	
Arrears	0	
Total		$1,641.50
Journal Memberships		
New	$1,409.00	
Renewal	4,818.82	
Advances	0	
Total		$6,227.82
Subscriptions		
New	$ 104.00	
Renewal	2,118.50	
Advances	51.00	
Arrears	0	
Total		$2,273.50
Sale of Back Issues of Journal		
Treasurer	$ 581.23	
Records Treasurer	28.00	
Total		$ 609.23
Sale of Author's Reprints		$ 658.41
Page and Plate Charges		$ 225.00
Gifts		
Treasurer	$ 0	
Records Treasurer	377.00	
Total		$ 377.00
A.I.B.S. Insurance Dividend		$ 28.00
Advertising in Journal		$ 105.50
Spore Exchange		
Treasurer	$ 404.06	
Records Treasurer	13.16	
Total		$ 417.22
Life Memberships		$ 0
Interest (Riggs Bank)		162.65
Checks Outstanding		2,428.07
Air Mail		15.00
British Pteridological Society		327.00
Greenpoint Bank Bissel Acct. closed		1,872.04
Greenpoint Life Memb. Acct. closed		6,170.18
Union Bank Scammon Acct. closed		7,049.94
Total Receipts		$30,588.06
GRAND TOTAL		$36,695.95

REPORT OF THE AUDITOR

I hereby certify that I have seen the books and accounts of James D. Caponetti, Treasurer of the American Fern Society, Inc., and have obtained confirmation of the correctness of the Society's balance on hand as set forth in detail in the accompanying report of the Treasurer.

Irene Harb
Affiliate Broker

April 27, 1981

Disbursements

American Fern Journal		
Vol. 69, no. 4	$1,754.00	
Vol. 70, no. 1	2,000.87	
Vol. 70, no. 2	2,916.90	
Vol. 70, no. 3	1,872.79	
Total		$8,544.56
Brown Envelopes and Mailing	988.85	
Printing -- Stationery, Envelopes, Invoices, Dues Notices, Application Blanks	141.51	
Reprints and Postage	875.24	
Secretary's Expenses	197.02	
Treasurer's Expenses	77.01	
Treasurer's Fidelity Bond (2 years)	50.00	
Records Treasurer's Expenses	15.36	
Journal Editor's Expenses	185.83	
Pteridologia Editor's Expenses	26.10	
Newsletter Editor's Advance (NYBG)	1,000.00	
Fiddlehead Forum Printing (Omega)	1,171.00	
Membership List Printing (Omega)	607.00	
Fern Foray Expenses	60.00	
A.I.B.S. Dues	116.00	
Life Memberships	0	
Refunds to Agencies or Members	25.50	
Bank Charges		
Treasurer	$ 0	
Records Treasurer	5.37	
Total	5.37	
Late Deposit	199.50	
1979 Outstanding Checks Cashed	60.47	
U.A. Bank Diamond Savings Certificate Purchased	$15,100.00	
Total Disbursements		$29,446.32
Cash on Hand, January 1, 1981		
Treasurer	4,298.42	
Records Treasurer	2,951.21	
GRAND TOTAL		$36,695.95

STATEMENT, DECEMBER 31, 1980

Assets

Cash in Treasurer's Checking Account	$4,298.42
Cash in Records Treasurer's Savings Account	2,951.21
Growth Savings Certificate in Mellon Bank	8,461.50
Diamond Savings Certificate in U.A. Bank	15,100.00
Accounts Receivable (Reprints and Back Issues)	673.74
Inventory, Journal (12,196 @ $0.50)	6,098.00
Library	396.00
Total	$37,978.87

Liabilities

Advance Memberships	$ 145.00
Advance Subscriptions	51.00
Growth Savings Certificate	8,461.50
Diamond Savings Certificate	15,100.00
General Fund	14,221.37
Total	$37,978.87

PTERIDOLOGIA -- 1980

Opening balance January 1, 1980	$516.32	$516.
Receipts from sale of Pteridologia	792.00	
Total		$1,308.32
Disbursements		
Printing of Pteridologia	$632.52	
Duplicating handouts	13.78	
Refund of discount on bulk order	22.50	
Office supplies	11.44	
Postage	37.11	
Total	$717.35	
Check Outstanding	3.00	
		720.35
Closing Balance December 31, 1980		$ 587.97

NEW YORK OFFICE -- 1980

Balance on hand January 1, 1980		$ 145.99
Income during the year (check from AFS)		1,000.00
Total assets for the year		$1,145.99
Disbursements		
Supplies	$ 175.36	
Postage		
Bulk mail permit	$ 40.00	
Bulk mail	258.62	
Foreign FF	322.00	
Misc.: late issues, back issues, inquiries	371.41	
	$ 992.03	
Telephone	15.82	
Xerox (mostly back issues)	244.44	
Printing envelopes	39.00	
Reimbursed travel (art director)	104.00	
Total expenses		$1,570.65
Closing balance December 31, 1980		- $ 424.66

Fern Sources in the United States

Compiled by Will Morrisey

The 1981 list contains 525 species, varieties and cultivars--25 fewer than the 1979 list. For a good reason: one of the nurseries featured last time, one that listed many exotic species, turned out to be unreliable. While the American Fern Society cannot endorse any of the nurseries listed here, we can do our best to weed out those that do not serve the public well.

As before, the nurseries appear in alphabetical order according to the state they are located in. Note the letter codes that precede the names of the nurseries. All firms here do business through the mails.

When a nursery lists a cultivated variety or species without sufficient identification, I have listed that variety or species after the other members of its genus. Many nurseries use obsolete nomenclature and some misidentify plants (as do we all). *Caveat emptor!* There is no Pteridophile Protection Agency.

Fern Sources

AlFHF Fern Hill Farm
Route 3, Box 305
Greenville, Alabama 36037

CaBGN Bolduc's Greenhill Nursery
2131 Vallejo Street
St. Helena, California 94574

CaCCF Central California Ferns
3535 S. Temperance
Fresno, California 93725

CaPS The Plant Shop's Botanical Garden
18007 Topham Street
Reseda, California 91335

CaPT Porter's Tropicals
19102 Bond Street
Orange, California 92669

CnLG Logee's Greenhouse
55 North Street
Danielson, Connecticut 06239
$2

CnWFF White Flower Farm
Litchfield, Connecticut 06759
$5

FlJH Jerry Horne *
10195 S.W. 70th Street
Miami, Florida 33173

FlRO Robert Oman
3011 N.W. 18th Terrace
Miami, Florida 33125

* Self-addressed stamped envelope

IlIG Illini Gardens
P.O. Box 125
Oakford, Illinois 62673

MeCGC Conley's Garden Center
Boothbay Harbor, Maine 04538

MeRG The Rock Garden
RFD #2
Litchfield, Maine 04350
50¢

MsAEA Arthur Eames Allgrove
North Wilmington, Mass. 01887

MsBG Blackthorne Gardens
48 Quincy Street
Holbrook, Massachusetts 02343
$2

NhFS Francis M. Sinclair
Wild Flowers and Ferns
RFD 1, Rte 85
Exeter, New Hampshire 03833

NjEF Eidelweiss Gardens
P.O. Box 66
Robbinsville, New Jersey 08691

NcMT Miller's Tropicals
3200 Duraleigh Road
Raleigh, North Carolina 27612

NcTL The Three Laurels
W.W. Gahagan, Owner
Madison County
Marshall, North Carolina 28753

NyJS John Scheepers, Inc.
63 Wall Street
New York, New York 10005

NyVB Van Bourgondien
245 Farmingdale Road
P.O. Box A
Babylon, New York 11702

OhCHG Country Hills Greenhouse
Rte. #1, Dept. F
Corning, Ohio 43730
$1.50

OrRRF Ritchey's Rockgarden Ferns
1014 S.E. Fern Street
Grants Pass, Oregon 97526

OrS Siskiyou Rare Plant Nursery
2825 Cummings Road
Medford, Oregon 97501
$1

PaVW Vick's Wildgardens, Inc.
Box 115
Gladwyne, Pennsylvania 19035

ScWG Wayside Gardens
Hodges, South Carolina 29646

TnSWG Savage Wildflower Gardens
P.O. Box 163
McMinnville, Tennessee 37110

VtPN Putney Nursery
Putney, Vermont 05346

WaLN Lamb Nurseries
East 101 Sharp Street
Spokane, Washington 99202

Species Available

ACROSTICHUM
aureum CaCCF
danaeifolium OhCHG

ACTINIOPTERIS
australis NjEF, OhCHG

ADIANTUM
aethiopicum CaBGN, CaPT
anceps OhCHG
capillus-veneris AlFHF, CaBGN, CnLG, OhCHG, OrS
---'Imbricatum" CaCCF, OhCHG
caudatum CaCCF, CaPS, OhCHG
concinnum OhCHG
emarginatum CaCCF
fragrans CaBGN
hispidulum CaBGN, CaCCF, CnLG, NjEF, OhCHG
---'Fulvum' CaCCF
macrophyllum OhCHG
microphylla CnLG, OhCHG
parvifolium CaCCF, CaPT
pedatum CaBGN, CaCCF, CnWFF, IlIG, MeCGC, MnOG, MnRG, MsAEA, MsBG, NcTL, NhS, NyJS, NyVB, OrRRF, PaVW, ScWG, TnSWG, VtP, WaLN
---'Subpumilum' OrRRF, OrS
peruvianum CaCCF, CaPS, CaPT, OhCHG
pubescens OhCHG
pulverulentum CaLG
raddianum 'Cardoza Gardens' CaBGN, CaPT
---'Cluster Glory' OhCHG
---'Crested Misty' CaPT

---'Croweanium' CaBGN
---'Fewkes Seedling' CaBGN
---'Fritz-Luthii' CaBGN, CaCCF, CaPT, OhCHG
---'Gracillimum' CaBGN, CaCCF
---'Grandiceps' CaBGN
---'Green Petticoats' CaBGN, CaPT
---'Lady Geneva' CaBGN, CaCCF, CnLG
---'Misty' CaPT
---'Ocean Spray' OhCHG
---'Pacific Maid' CaBGN, CaPT, CnLG, OhCHG
---'Pacotti' CaBGN, CaPT
---'Spendens' CaBGN, CaPT
---'Tuffy Tips' CaPT
---'Weigandii' CaBGN
reniforme OhCHG
---'Pusilla' OhCHG
seemannii OhCHG
tenerum 'Farleyense' OhCHG
---'Fergusoni' CnLG
---'Gloriosum Bicolor' CaCCF
---'Gloriosum Fergesonii' CaCCF
---'Variegata' OhCHG
trapeziforme CaCCF, OhCHG
venustum OrRRF, OrS
'Sea Foam' CnLG
'Wrightii' CaBGN, CnLG, NjEG

AGLAOMORPHA
brooksii FlRO
coronans CaCCF, CaPS, CaPT, FlRO, NcMT, NjEF, OhCHG
---'Heracles' CaCCF
---'Pseudo-drynaria' FlRO
heraclea OhCHG
meyeniana CaCCF, CaLG, CaPS, FlRO, NcMT, NjEF, OhCHG
morbilosum FlRO
pilosa FlRO
splendens FlRO, OhCHG
superbum FlRO
'Roberts' CaCCF, OhCHG

ALSOPHILA
australus CaCCF

ANEMIA
phyllitidis OhCHG
---'Costa Rica' CaCCF
---'Mexican' CaCCF

ANGIOPTERIS
evecta ("Engiopteris insica") CaCCF

ARACHNIODES
aristata OhCHG

ARTHROMERIS
sp. OhCHG

ARTHROPTERIS
articulata OhCHG

ASPLENIUM
adiantum-nigrum OrS
antiguum CaCGN, CaCCF, CaPT, OhCHG
---'Crested' CaCCF
belangeri CaPS
bulbiferum CaCGN, CnLG, NjEF, OhCHG
---'Lacy' CaCCF
---'Non-Lacy' CaCCF
daucifolium ("viviparum") CaBGN, CaCCF, CaPS, CnLG, OhCHG
formosum OhCHG
marinum OhCHG
mayi CaCCF, CaPT
nidus CaBGN, CaCCF, CaPT, NjEG, OhCHG
---'Australasicum' OhCHG
---'Australis' CaBGN
---'Avis' CnLG
---'Crispum' CaCCF, CaPT, OhCHG
---'Crispum Cristata' OhCHG
---'Plicatum' NjEG
---'Scolopendrioides' FlRO
platyneuron AlFHF, IlIG, MeCGC, MnRG, MsAEA, MsBG, NcTL, NhS, NyJS, OrS, PaVW, ScWG, TnSWG, VtP VtP
trichomanes MeRG, MsAEA, NhS, NyJS, OrS, PaVW, VtP
---'Cristatum' OrRRF, OrS
---'Incisum' OrS
'Longissimum' FlRO

ATHYRIUM
distentifolium OrS
filix-femina AlFHF, CnWFF, IlIG, MeCGC, MnOG, MsBG, NcTL, NhS, NyJS, NyVB, PaVW, ScWG, TnSWG, VtP, WaLN
-- f. rubellum MnOG
---'Congestum Grandiceps' OrS
---'Cristatum' OrS
---'Fieldii' OrS
---'Frizelliae' OrRRF, OrS
---'Minutissima' OrS
---'Victoria' OrRRF
niponicum CnWFF, MeRG, MsBG, OrRRF, VtP
pycnocarpon CnWFF, MeCGC, IlIG, NcTL, NhS, NyVB
thelypterioides CnWFF, IlIG, MeCGC, MsBG, NhS, NyVB, VtP

AZOLLA
sp. OrRRF

BLECHNUM
brasiliense CaCCF, FlJH, OhCHG
gibbum CaCCF, CnLG, NjEG, OhCHG
---'Moorei' CnLG, OhCHG
lomaria CaCCF
occidentale CnLG, OhCHG
orientalis CaPS
penna-marina OrS
spicant CaCCF, OrRRF, OrS

BOTRYCHIUM
virginianum IlIG, MeCGC, MnOG, NhS

CAMPTOSORUS
rhizophyllus MeRG, MsAEA, MsBG, NhS, NyJS, NyVB, OrRRF, PaVW, TnSWG, VtP

CETERACH
officinarum OrS

CHEILANTHES
californica CaCCF
fendleri OrS
gracillima OrS
siliquosa OrRRF, OrS

CIBOTIUM
chamissoi 'Mensiesii' CaCCF
glaucum 'Chamissoi' CaCCF

COLYSIS
wrightii FlRO, OhCHG

CONIOGRAMMA
japonica OhCHG
---'Variegata' FlRO

CRYPTOGRAMMA
crispa OrRRF, OrS

CYATHEA
cooperi FlJH

CYRTOMIUM
caryotideum CaBGN, OhCHG
falcatum CaBGN, CaCCF, CnLG, NjEF
---'Dwarf' CaCCF
---'Mayi' CaBGN
---'Rochefordianum' CaBGN, OhCHG
jungnatum CaCCF
macrophyllum OhCHG

CYSTOPTERIS
bulbifera CnWFF, MeCGC, MeRG, MnOG, MsBG, NhS, NyJS, NyVB, VtP
fragilis IlIG, NcTL, NyJS, OrS, VtP
--- v. dickeana OrS

DAVALLIA
canariensis ("portugal") CaBGN, CaCCF, NjEF
denticulata FlRO, OhCHG
divaricata FlRO, OhCHG
embolstegia CaCCF, OhCHG
epiphylla FlRO, OhCHG
fejeensis CaBGN, CaCCF, CaPS, FlRO, OhCHG
---'Major' CaPS
---'Minor' FlRO
---'Plumosa' CaCCF, CnLG, NjEG, OhCHG
griffithiana NjEG, OhCHG
hirsutum FlRO
japonica CaCCF, FlRO, OhCHG
mariesii ("bullata") CaCCF, CnLG, FlRO, OhCHG
pentaphylla (see Scyphularia)
pyxidata FlJH, OhCHG
solida CaBGN, CaCCF, CaPT, CnLG, FlRO, OhCHG
---'Lucida' CaBGN
---'Ornata' OhCHG
tenuifolia CnLG
trichomanoides CaBGN, CaPS, CaPT, OhCHG
---'Lorrainii' OhCHG
---'Major' OhCHG
tyermanni CaBGN, CaPT
'Bongo Bongo' FlRO
'Penang Hill' FlRO
'Red Toes' FlRO

DENNSTAEDTIA
punctilobula CnWFF, IlIG, MeCGC, MsAEA, MsBG, NcTL, NhS, NyJS, NyVB, PaVW, ScWG, VtP

DICKSONIA
antacrctica CaCCF
squarrosa CaCCF

DIDYMOCHLAENA
truncatula OhCHG

DIPLAZIUM
lanceum OhCHG
sylvaticum CaCCF

DOODIA
blechnoides OhCHG
media ("aspera") CaCCF, CnLG, OhCHG

DORYOPTERIS
nobilis CaPT
pedata OhCHG
---'Palmata' CaCCF

DRYMOGLOSSUM
piloselloides OhCHG
sp. (Thailand) OhCHG

DRYNARIA
bigidula FlRO
Boneti FlRO, OhCHG
decensa FlRO, OhCHG
merinthosorus CaCCF
quercifolia FlRO, NcMT, OhCHG
rigidula OhCHG
---'Whitei' OhCHG
sparsisora FlRO, OhCHG
sp. (Philippines) FlJH

DRYOPTERIS
arguta OrRRF, OrS
campyloptera ("spinulosam dilatatum") NhS
clintoniana MeCGC
cristata CnWFF, IlIG, MeCGC, MnOG, MsBG, NhS, NyVB, VtP
erythrosora CaCCF, CaPT, OhCHG, OrRRF, OrS
---'Prolifica' OrS
extensa NjEG
filix-mas CaCCF
---'Cineria' CaCCF
---'Cristata' CaCCF

goldiana CnWFF, MeCGC, MsAEA, MsBG, NcTL, NhS, NyVB, VtP
intermedia VtP
--- v. fructuosa MnOG
marginalis CaCCF, CnWFF, IlIG, MeCGC, MeRG, MsAEA, MsBG, NcTL, NhS, NyJS, NyVB, PaVW, VtP
spinulosa CnWFF, IlIG, MeCGC, MnOG, MsBG, NcTL, NhS, NyJS, NyVB, ScWG, VtP

ELAPHOGLOSSUM
sp. OhCHG

GYMNOCARPIUM
dryopteris MeCGC, MnOG, MsAEA, NhS, NyVB, OrS, VtP
---'Plumosum' OrS
robertiana OrS

HEMIONITIS
arifolia CaCCF, CnLG

HUMATA
griffithiana OhCHG
tyermannii CaCCF, CaPS, CnLG, OhCHG
sp. (Taiwan) FlRO

HYPOLEPIS
punctata OhCHG

LASTREOPSIS
microsora, ssp. pentangularis ("Ctenitis pentagulare") CaBGN, CaCCF, CaPS

LEMMAPHYLLUM
microphyllum CaPS, OhCHG
pyriforme FlRO, OhCHG

LYGODIUM
japonicum CaBGN, CaCCF, CaPT, CnLG, OhCHG
palmatum MsBG, VtP

MARSILEA
sp. OrRRF

MATTEUCCIA
struthiopteris ("Pteretis nodulosa") CnWFF, IlIG, MeCGC, MnOG, MsAEA, MsBG, NcTL, NhS, NyJS, NyVB, PaVW, ScWG, VtP, WaLN

MERINTHOSORUS
drynarioides FlRO, McMT, OhCHG

MICROLEPIA
speluncae ("pyramidalis") CaCCF, CaPS, OhCHG
strigosa CaBGN, CaCCF

MICROSORIUM
longissimum FlRO
membranaceum FlRO
punctatum FlRO

NEPHROLEPIS
acutifolia FlRO
biserrata 'Furcans' CaCCF, NcMT
cordifolia CnLG
---'Duffii' CnLG
---'Plumosa' CaBGN, CaCCF, CnLG, OhCHG
---'Tuberosa' CaCCF
exaltata CaPT, OhCHG
---'Amerpholii' CaCCF
---'Angel Hair' OhCHG
---'Aurea' OhCHG
---'Biserrata Grandis Argentina' CaPS
---'Biserrata Insignis' CaPS
---'Bostoniensis' CaCCF, CnLG, OhCHG
---'Bostoniensis Compacta' CaBGN, CnLG
---'Childsii' OhCHG
---'Compacta' OhCHG
---'Dwarf Roosevelt' CaBGN
---'Elegantissima' CnLG
---'Enformis' CnLG
---'Floral Fantasy' OhCHG
---'Florida Ruffle' OhCHG
---'Fluffy Ruffles' CaCCF, OhCHG
---'Hillii' CnLG
---'Hirsutula Superbum' CaPS
---'Irish Lace' CaCCF
---'Loma Linda' CnLG
---'Magnifica' CaCCF
---'Marshallii' CnLG
---'Pendula' CaPT
---'Petticoat' OhCHG
---'Ruffled Petticoat' CnLG
---'Shadow Lace' CnLG
---'Smithii' CaPT, CnLG
---'Teddy Jr.' CaBGN, CaPT
---'Trevillian' CaBGN, CaCCF
---'Verona' CnLG, OhCHG
---'Wanamaker' CaBGN, CaCCF
---'Whitmanii' CaBGN, CaCCF, CaPT, CnLG, NjEG
pectinata CnLG
'King Fern' FlRO

ONOCLEA
sensibilis CnWFF, IlIG, MeCGC, MnOG, MsBG, NcTL, NhS, NyVB, PaVW, WaLN

ONYCHIUM
japonicum CaCCF

OSMUNDA
cinnamomea CnWFF, IlIG, MeCGC, MsAEA, MsBG, NcTL, NhS, PaVW, ScWG, VtP
claytoniana CnWFF, IlIG, MeCGC, MnOG, MsAEA, MsBG, McTL, NhS, NyJS, PaVW, VtP
regalis CaBGN, CaCCF, CnWFF, IlIG, MeCGC, MnOG, MsAEA, MsBG, NhS, PaVW, OrRRF, ScWG, VtP

PELLAEA
andromedifolia CaCCF, OrS
atropurpurea OrS
brachyptera OrS
falcata CaCCF, OhCHG
mucronata OrS
rotundifolia CaCCF, CnLG, NjEG, OhCHG
ternifolia v. wrightiana OrS
viridis CaCCF, NjEG, OhCHG,
---'Macrophylla' CaCCF, NjEG

PHYLLITIS
scolopendrium CnLG, OhCHG, OrRRF, OrS
---'Cristatum' CaCCF, OhCHG, OrS
---'Crispum' OrS
---'Digitatum' OrS
---'Kaye's Variation' OrS
---'Marginatum' OrS
---'Muricatum' OrS
---'Vulgar' CaCCF

PHYMATODES
sinuosa FlRO
sp. (Malaysia) OhCHG

PITYROGRAMMA
argentea CnLG
chrysophylla CaCCF
triangularis OrRRF, OrS

PLATYCERIUM
andinum CaPS, FlJH, FlRO, NcMT, NjEG, OhCHG
angolense CaPS, FlJH, FlRO, NcMT, OhCHG
bifurcatum CaCCF, CaPS, CaPT
---'Cord' NcMT
---'Dwarf' FlJH
---'Florida' FlJH
---'Forgii' CaCCF, NcMT
---'Lanciferum' NcMT
---'La Reunion' FlRO
---'Majus' NcMT
---'Majus' (Germany) NcMT
---'Majus Bullet' CaCCF
---'Majus Woods' CaCCF
---'Netherlands' CaCCF, CaPs, CaPT, NcMT, OhCHG
---'New Caledonia' NcMT
---'Roberts' CaCCF, NcMT
---'San Diego' CaCCF, NcMT
---'Theiban' NcMT
---'Tom Crane' NcMT
---'Woods' NcMT
---'Ziesenhenne' CaCCF, CaPS
coronarium CaPS, FlJH, FlRO, NcMT, OhCHG
---'Dwarf' CaPS
diversifolium FlRO
ellisii CaPS, CaPT, FlJH, FlRO, NcMT, OhCHG
grande CaCCF, CaPS, CaPT, NjEG
---'Tamburiense' FlRO
hillii CaCCF, CaPS, FlJH, FlRO, NcMT, NjEG, OhCHG
---'Bloomii' FlJH, FlRO, NcMT
---'Diversifolium' NcMT
---'Drummond' FlJH, NcMT
---'New Hillii' NcMT
---'O.W. Wilson' NcMT
---'Pumile' FlJH, FlRO, NcMT, OhCHG
holttumii CaPS, FlJH, FlRO, NcMT, OhCHG
madagascarense CaPS, FlRO, OhCHG
---'Hawks Variety' FlRO, OhCHG
quadridichotomum CaPS, FlJH
ridleyi CaPS, OhCHG
stemaria ("aethiopicum") CaPS, FlJH, FlRO, NcMT, OhCHG
superbum CaPS, FlJH, FlRO, NcMT, OhCHG
vassei ("alcicorne") CaPS, CnLG, FlJH, FlRO, NcMT, NjEG, OhCHG
---'Bifurcatum' FlRO
---'Magagascar' Fljh
---'Majus' CaPS, FlRO
veitchii CaCCF, CaPS, FlJH, FlRO, NcMT, OhCHG
---'Blue' NcMT
---'Bollet' NcMT
---'Hula Hands' NcMT
---'Java' NcMT, CaCCF
---'J. Hardson' NcMT
---'La Reunion' NcMT
---'Sansome' NcMT
wallickii CaPS, CaPT, FlJH, NcMT, OhCHG
wandae CaPS, FlJH, FlRO, OhCHG
willinckii ("sumbawense") CaCCF, CaPS, FlJH, FlRO, NcMT, OhCHG
---'Amphotemon' NcMT
---'Java' NcMT
---'Jimmie' NcMT
---'Lemonei' CaPS, FlJH, FlRO, NcMT, OhCHG
---'Longwood Gardens' FlRO
---'Manda' NcMT
---'Minnie Bell' CaPS
---'Payton' NcMT, OhCHG
---'Scofield' NcMT
'Appley' FlRO
'Blue Boy' FlJH
'Cass' CaCCF
'Cass Hybrid #1' FlRO
'Cass Hybrid #3' FlRO
'Excellence' FlJH
'Omanii' FlRO
'Oman's Excellence' FlRO
'Panama' FlJH, FlRO
'South Seas' FlRO
'Theiban' CaCCF
hybrid (Germany) FlRO
hybrid (Europe) FlRO

POLYPODIUM
angustifolium CaCCF, OhCHG

aureum CaBGN, CaCCF, CaPS, NjEG, OhCHG
---'Areolatum' OhCHG
---'Areolatum Cristata' OhCHG
---'Brazilian Giant' CaCCF
---'Cristata' CaBGN, NjEG
---'Diversifolium' CaCCF
---'Glaucum' CaCCF
---'Mandianum' CaBGN, CaCCF, CaPS, CaPT, CnLG, NjEG, OhCHG
---'Mayi' CaPS
---'Mexican Dwarf' CaBGN
---'Tasselata' CaPS, CaPT
---'Undulata' CaPS
caespitosum FlRO
crassifolium CaBGN, CaPS, OhCHG
decursivum CaPS
elegans FlRO, OhCHG
formosanum CnLG, NjEG, OhCHG
---'Cristata' OhCHG
fraxinifolium CaPS, OhCHG
glycyrrhiza OrRRF, OrS
hemionitideum FlRO, OhCHG
hirsutissimum OhCHG
leganiferum 'Microphyllum' CaCCF
lepidopteris CnLG
lycopodioides CaCCF, OhCHG
malahatensis OrS
musifolium CaCCF, FlRO, OhCHG
phyllitidis OhCHG
piloselloides OhCHG
polycarpon 'Cristata' ("integrifolium") OhCHG
---'Dwarf' FlRO
---'Grandiceps' CaBGN, CaCCF, FlRO, NjEF, OhCHG
---'Grandiceps Nana' OhCHG
---'Serrulatum' FlJH, FlRO, OhCHG
polypodioides AlFHF, MnRG
pyrrholepis OhCHG
scandens ("pustulatum") FlRO, OhCHG
scolopendria CaCCF, CaPS, CnLG, OhCHG
scouleri CaCCF, OrS
sinuosum OhCHG
squamiferum FlRO, OhCHG
subauriculatum CaCCF, CaPS, FlRO, OhCHG
---'Knightiae' CaBGN, CaCCF, CaPS, CaPT, OhCHG
tasselata CaBGN
vacciniifolium FlRO, NjEG, OhCHG
virginianum ("vulgare") CaCCF, CnWFF, IlIG, MeCGC, MeRG, MsAEA, MsBG, NcTL, NhS, NyJS, PaVW, VtP
---'Bifidum' OrS
---'Cornubiense' OrS
---'Oregon' CaCCF
'Mt. Elgon' FlRO, OhCHG
'Santa Rosa' NjEG
'Shaw #2' FlRO
'Trisedale' FlRO
'Vitiense' FlRO
sp. (Asia) NjEG
sp. (India) OhCHG

POLYSTICHOPSIS
simplicor OrS

POLYSTICHUM
acrostichoides AlFHF, CnLG, CnWFF, IlIG, MeCGC, MeRG, MnOG, MsAEA, MsRG, NcTL, NhS, NyJS, PaVW, ScWG, TnSWG, VtP, WaLN
aculeatum CnLG, OrS, WaLN
---'Proliferum' CnLG
andersonii Ors
braunii NhS
"capense" (see Rumohra adiantiformis)
lemmonii OrS
lonchitis OrRRF, OrS
munitum CaBGN, CaCCF, OrRRF
---'Imbricans' OrRRF, OrS
polyblepharum ("setosum") CaBGN, CaCCF
proliferum OhCHG
setiferum ("angulare") CaBGN, CaCCF, OrS, ScWG
--'Dwarf' OrS
---'Multifidum' CaPS
---'Plumosum' CaCCF, OrS
---'Rotundatum Cristata' OrS
---'Thomasanii' CaBGN
tsus-simense CaBGN, CaCCF, CnLG, NjEG, OhCHG

PSEUDODRYNARIA
coronans FlJH, OhCHG

PTERIDIUM
aquilinum IlIG, MnOG, MsBG, NcTL, NhS

PTERIS
argyraea NjEG
---'Bi-Color' CaCCF
---'Tri-Color' CaCCF
cretica CaCCF
---'Albo-lineata' CaBGN, CaCCF, NjEG
---'Childsii' CaCCF
---'Cristata' CaCCF
---'Major' CaCCF
---'Ouvardii' CaCCF
---'Parkerii' CaCCF
---'Victoriae' NjEG
---'Wilsonii' CaBGN
---'Wimsettii' CaBGN
dentata CaBGN, CaCCF
ensiformis 'Victoriae' CaCCF
falcata 'Dentata' CaCCF
multifida CaCCF
tremula CaBGN, CaCCF
vittata CaCCF

PYRROSIA
adnascens OhCHG
angustata FlRO, OhCHG
angustifolia FlRO, OhCHG
eberhardtii OhCHG
flexuosa OhCHG
hirsuta OhCHG
hitosuia FlRO
lingua CaBGN, CaCCF, CaPT, CnLG, FlRO, OhCHG
---'Kinshi' OhCHG
---'Kugsha Peacock' FlRO
---'Kutata' FlJH, OhCHG
---'Monstrifera' FlJH, OhCHG
---'Nokogiri Ba' FlRO, OhCHG
---'Oba' FlJH, FlRO, OhCHG
---'Variegata' FlJH, FlRO, OhCHG
longifolia FlRO, OhCHG
macrocarpa FlJH, FlRO
nummularifolia OhCHG
penangiana OhCHG
dolydactylis FlRO
subfurfuraceum FlRO
varia FlRO
---'cv. FlRO
'Cockscomb' FlRO
'Cuspidata' FlRO
'Lecepated' FlRO
'Splendens' FlRO
sp. (Asia) FlRO
sp. (Australia) FlRO, OhCHG
sp. (India) CaPS, OhCHG
sp. (New Guinea) FlJH

QUERCIFILIX
zeilanica OhCHG

RUMOHRA
adiantiformis ("Polystichum capense") CaBGN, CaCCF, OhCHG

SALVINIA
minima ("rotundifolia") OrRRF

SCYPHULARIA
pentaphylla CnLG, FlRO, NjEG, OhCHG

SELLIGUEA
lima FlRO

SPHAEROPTERIS
medullaris ("Cyathea medullaris") CaCCF

STENOCHLAENA
tenuifolia ("palustris") CaCCF, CaPS

TECTARIA
decurrens OhCHG
gemmifera ("secutaria") CaPS, OhCHG
incisa NjEG
mexicana CaPS, OhCHG
sircum CnLG

THELYPTERIS
hexagonoptera AlFHF, CnWFF, MnCGC, NcTL, PaVW
noveboracensis NhS, NyVB, PaVW
phegopteris IlIG, MeCGC, MeRG, MnOG, NhS, NyVB, VtP
palustris AlFHF, IlIG, MeCGC, MnOG, NcTL, NhS

TODEA
barbara CaCCF

VITTARIA
lineata OhCHG

WOODSIA
ilvensis CnWFF, MeCGC, MeRG, MsAEA, NhS, NyJS, OrS
obtusa NhS, NyJS, OrS
scopulina OrS

WOODWARDIA
areolata AlFHF
fimbriata OrRRF
orientalis CaCCF
radicans CaCCF
virginica CnWFF, IlIG, MeCGC, MsBG

"FERN ALLIES"

EQUISETUM
hyemale OrRRF

LYCOPODIUM
annotinum MnOG
clavatum MnOG
lucidulum MnOG
obscurum MnOG
phlegmaria FlJH
squarrosum FlJH, NjEG

SELAGINELLA
emmeliana CnLG, OhCHG
kraussiana NjEG, OhCHG, OrS
---'Aurea' CnLG, OhCHG
---'Brownii' CnLG, OhCHG
---'Chartreuse' OrS
lepidophylla OhCHG
martensii OhCHG
---'Variegata' CnLG, OhCHG
pulcherrima OhCHG
rupestris 'Scopulorum' OrS
umbrosa OhCHG
uncinata CnLG, MsAEA, OhCHG
watsonii OrS
'Plumosa' CnLG, OhCHG
sp. (Barbados) OhCHG
sp. (Brazil) OhCHG

Eth Williams' Merry Stems
Growing Tips for Horticulturists

Over-wintering marginally hardy ferns can be a satisfying experience, especially with favorites like English Polystichums that have been raised from spore. Mine survived the last two winters which were cold, but the deep pine needle mulch and the snow covering protected the plants. The tendency was, then, to conclude wishfully that they were hardy in this locality. However, we went into the winter of 1980-81 in a state of drought; December temperatures around here hovered near zero, endlessly, it seemed, and there was no snow blanket - extreme conditions for this area. Many people reported losses of ferns, flowering plants, shrubs and trees. Half a dozen Polystichums died in our garden and a few more were damaged. A large European *Phyllitis scolopendrium* was severely damaged. Discouraging, but not the final answer on marginals by any means.

Virginia Otto in Westborough, Mass. reports that the drought conditions and lack of snow cover were similar to the New York area, but the temperature fell to -14°. All the ferns in her garden survived, including English Polystichums, *Phyllitis scolopendrium*, Aspleniums, crested Athyriums, and others.

Last October when the leaves fell (all maples), instead of raking them into the mulch pile or into plastic bags for collection, she raked and piled them over the ferns to a depth of a couple of feet so that the ferns were not visible. When clean-up time came in the spring, she carefully uncovered the plants and found them all alive and healthy. It must have taken patience to remove all those leaves, but worthwhile. What a good TIP!

Dr. Arden Moyer of Park Ridge, NJ, puts his wire mesh tomato cylinders over his special ferns and adds 4-6" of pine needles.

What about others of you who can't resist pushing your luck by growing marginally hardy ferns? What mulches have you used successfully? Any other TIPS?

"There's more than one way to grow from spores," is a truism illustrated by John Bender, Ft. Lauderdale, FL. A very busy family man and construction engineer, he is a successful grower of Platyceriums, many from spore. With only weekends to plant and work with his very large collection, he has developed to a workable extreme the philosophy that his plants have to live his life. This, in his case, means shortcuts, such as skipping sterilizing procedures. He washes out plastic boxes with soap and water, fills them with 18 peat plugs (not the flat expandable form), fills the boxes about a third full with water from the hose, and adds a little Peters. He then plants half a dozen or more boxes of the plugs with one kind of *Platycerium* spores, and goes on to the next lot. Over a hundred boxes of Platyceriums in all stages of gametophytes and sporophytes may sit in the planting section of his perhaps 50' x 100' screened outdoor growing and display area. Losses can be many because of infections and lack of time to tend to the transplanting, but more than enough survive to provide John with the ferns he needs for showing, teaching, lecturing and selling. His 7' true *P. grande* won Best In Show at the Fairchild Tropical Garden fern show in Miami in May.

This spectaculary unconventional operation would not fit many people's situations or needs, but it is an ingenious way to accomplish a great deal with very limited time available. →

Looks at BOOKS

FERNS AND FERN ALLIES OF KENTUCKY, by Ray Cranfill, Kentucky Nature Preserves Commission Scientific and Technical Series, No. 1, July 1980. 284 pp, illustrated. $4.50, paperback.

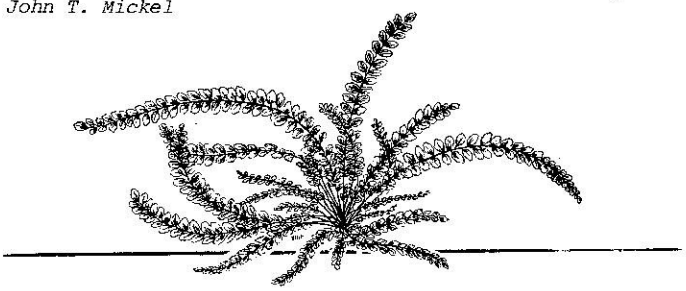
This useful volume is a welcome addition to our shelf of state fern floras with valuable habitat and distribution information on the 69 species and 10 hybrid pteridophytes of Kentucky. The book is introduced by chapters on the history of fern collecting in Kentucky, the geography and ecology of Kentucky pteridophytes, life history, and hints on fern identification. One special feature is the separate generic keys based on fertile and sterile material. The individual genera are treated with description, discussion, and key to the species. Formal species descriptions are lacking, but all taxa are illustrated with line drawings. The species treatments include detailed discussions of their habitats and distribution within the state and occasional mention of distinguishing characters and taxonomic problems.

The text is well written, easy to read, and up to date on nomenclature, taxonomic problems and recent research on the taxa. The printing is somewhat light with parts of letters dim or missing. The drawings are adequate but details are often lost as they run together in blackness. Line width is uneven, with some drawings heavily lined and others very thin.

There is one peculiarity in the text. Since there are no descriptions and the artist is not cited (I assume it to be the author since he acknowledges David Johnson as contributing three of the drawings.), I eagerly consulted the section entitled "Descriptions and Illustrations." This section contains a brief discussion of the family concept in the ferns but no mention at all of either descriptions or illustrations. It seems something is missing here.

These matters do not seriously affect the overall value of the book but are distracting. Otherwise, this is an outstanding book on Kentucky pteridophytes.

The volume is available from the Kentucky Nature Preserves Commission, 407 Broadway, Frankfort, KY 40601 (cost is $3.50 each on orders of 10 or more copies.)-
John T. Mickel



Platycerium ridleyi, John finds along with other growers, is unusually susceptible to damage by insects of so many kinds that their culture is a chancy business. Some of his friends have reported putting flea collars around them.

Send in your TIPS, QUESTIONS, and OPINIONS to Eth Williams, [illegible] White Plains, NY 10603.

Marattia Propagation Stipulated

One of the distinctive features of *Marattia* and others of this primitive family, such as *Angiopteris*, is the presence of large stipules on the rhizome. These structures are large, fleshy swellings at the leaf base, sometimes as large as your fist, which remain attached to the rhizome when the leaf dies, making the rhizome appear much larger than it is. The stipule consists of the leaf base itself, maybe 2-6" long, with a lateral thick, flattened portion, narrowing at the margin to a thin edge.

These structures are food-storage organs for the plant and are eaten by some peoples. In southern Mexico they are used in times of crop failure and are called 'maíz del monte,' as they are used as a substitute for corn in making tortillas.

In addition to storing food for the rest of the plant, the stipules are also a means of vegetative reproduction and can be used to greatly multiply plants in cultivation.

On a trip to Puerto Rico in February 1980 I collected a living plant of *Marattia kaulfussii* and brought it back to the New York Botanical Garden. Ten stipules, each 1½-2" long and broad, were removed and laid in the wet gravel of a greenhouse bench by Bruce McAlpin. After several months young plants developed, and now after 15 months each stipule has two plantlets arising from it, some plantlets with leaves 8" long. Although this means of propagation is reported occasionally in the literature, it is rarely seen or illustrated, so we take this opportunity to describe it in more detail.

The stipules can be planted in any moist, loose mixture--wet gravel in this case, loose soil mix, vermiculite, etc. They are usually planted flat side (adaxial side) down, but I have planted other species vertically or sideways with equal success. Patience is necessary since it takes a few months to develop new plantlets, but if the medium is kept moist (not soggy) and the humidity around them high, the success rate is very good.

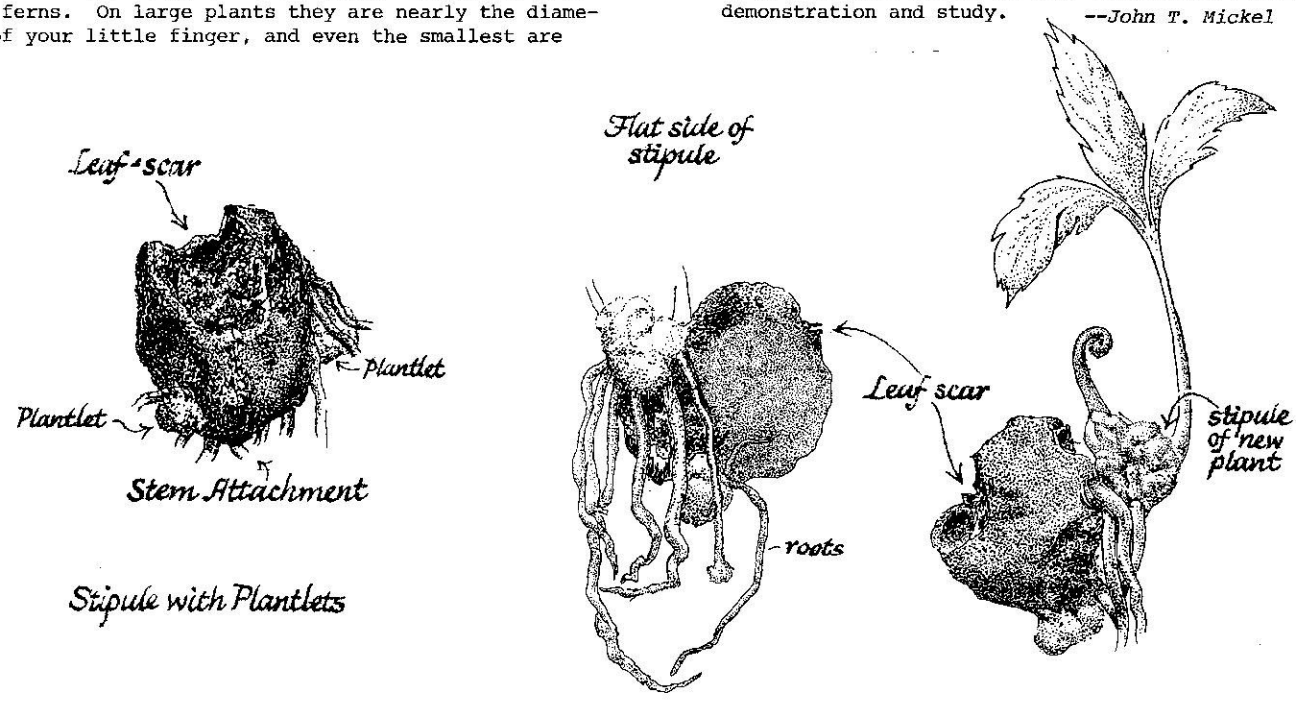
The plantlets normally develop two per stipule, one on each side near the base. At first a small swelling appears and gradually roots develop. The roots are massive and fleshy compared to the wiry, fibrous roots of most ferns. On large plants they are nearly the diameter of your little finger, and even the smallest are 1-2 mm thick. Gradually, a fleshy rhizome appears, and leaves begin to develop, the first leaf with perhaps only three leaflets but each succeeding leaf is larger and more divided. Once the plants are established, the parent stipules gradually (after several more months) shrivel and disappear. In the meantime, the stipules can be cut lengthwise to separate the new plants. Actually, the fresh stipules can be cut in half lengthwise with a plant arising from each half. Whether further cuts would produce more than two plants per stipule is not known. It may depend on the size of the stipule. Larger stipules of some species of *Marattia* and *Angiopteris* have been observed with 3-4 plantlets each, but this is unusual.

New plants may develop from other than the basal portion of the stipule. One stipule planted vertically in a pot had one plantlet arising on each side of the leaf scar. It may depend on the orientation of the stipule or its exposure to the air.

The massive *Angiopteris lygodiifolia*, with fronds 9' long, has stipules 4-6" long and 4" wide and seems to produce usually two plantlets in a position similar to that of the *Marattia*--at the stipule base.

This family, Marattiaceae, is very interesting anatomically with a root stele (vascular system) like the spokes of a wheel, in this respect resembling monocots rather than other ferns, and a rhizome stele a "polycyclic dictyostele," which is a $64 way of saying it has its vascular bundles not in a solid ring (solenostele) as in some ferns nor a dissected ring (dictyostele) as in most ferns, but in 2-4 concentric dissected rings.

Their sori are unusual also with all the sporangia (large) of a sorus fused together in a compound structure, a synangium. Other features, such as the mucilage duct system and the large fleshy plant body make them especially interesting for study. They are only remotely related, if at all, to the rest of the ferns. Fossils of this family were abundant in the Coal Age, ca. 300 million years ago, and had virtually identical internal structure to that of today's plants.

Fortunately, with stipule propagation, it is easy to produce more plants of this interesting family for demonstration and study.

--John T. Mickel