Incompatible Companion Plants

Nowadays we read a lot of valuable advice concerning the use of companion plants, those plants which enhance each other's growth when planted close to one another. However, I have found that it is possible to use plants which are incompatible when grown close together to prove a scientific point.

For several years I have had on my window sill a pot of Philodendron aureum cv. mandonian, a sterile, rather lacerate-leaved, flat, this large, tropical epiphyte. About two years ago I noticed space to plant a few of the Money Plant (Bryophyllum) propogules that grew in the marginal serrations of the leaves. Normally, these members of the Crassula family would grow to a foot or more in a few months. But I noticed that as the months went by the plants did not grow higher than an inch. Every year the Philodendron shed its fronds, and then new ones arise from the rhizomes to take their place. Much to my surprise, as soon as the old Philodendron leaves had died and dropped off, the Bryophyllum plants began to grow! They tripled their height in about two weeks, and then the new leaves of the Philodendron appeared. At that point the Bryophyllum plants stopped growing, and have not grown during the several months that the new Philodendron leaves have been on the plant. Apparently the Philodendron sheds from its roots a chemical that inhibits the growth of Bryophyllum, but only when the Philodendron has leaves on its rhizomes. The Bryophyllum is a fairly sensitive test for the production of this chemical.

Very little is known about the nature or distribution within the forms of such root exudates. Fern Society members who grow many different kinds of ferns might try putting Bryophyllum propogules in with their ferns to see if what other species of ferns have inhibitory root exudates.—D. B. Lellinger, Smithsonian Institution, Washington, D. C. 20560.

Bostolons (?)

With regard to the question about stolons on Boston ferns in the November '75 Fiddlehead Forum, you might add, for others who might be interested, that if the stolons are encouraged to find their way into the outer loose fitting pot of a double potted plant you may, after a few months, have some fern tubers 1/2 to 3/4 inches in diameter to experiment with. Fern tubers are not too common among ferns, but will form under certain conditions on Boston ferns.—Robert C. Lomasson, University of Nebraska, Lincoln, Nebraska.

Note: This would work with Nephrolepis cordifolia, a commonly cultivated tuberiferous species, and N. occidentalis, a Latin American species which is frequent in the wild but not often cultivated. (One disadvantage of the latter species is its response to the seasons; all the leaves die by December, leaving a naked pot until March.)
Ferns, no less than any other plants, have played a significant role in the history of man. Not only have they been a source of food and pharmaceuticals but they have been featured prominently in fables and folklore. The Victorian era, more than a hundred years ago, was indeed the golden age of ferns as they were only by the Carboniferous period more than 200 million years earlier. A fern frenzy swept through Victorian England, creating a fabulous following of fanatical fanciers. Everybody who was anybody had outdoor and/or indoor ferneries in which native and exotic species were cultivated. Normal and abnormal forms were developed, and fern hunters combed the world in quest of these plants. Over a thousand varieties were recorded by Victorian fern faddists including no less than sixty-five fives forms of the common Lady Fern (Athyrium filix-femina).

It is interesting to explore the past to discover what our forebears knew and thought about ferns. Knowing something about their past history gives them charisma and adds another dimension to our understanding and appreciation of ferns today. An extensive literature exists in which the fern-man relationship for thousands of years is described in fact and fiction, in fables and folklore, and in song and story.

A Fern is a Fern is a Fern

The word "fern" comes from the old Anglo-Saxon term "fegern" which means feather, an apt description of its pinnate-like form. Botanically a fern is a group of plants called "pteridophytes" (te-RID-oh-fights), the prefix "pterido" can be traced to the ancient Greek word for "feather" (pteron), and the suffix "phyte" is also of Greek origin and means "plant". Whether you use the Anglo-Saxon derivative "fern" or its Greek counterpart "pteridophyte", you are speaking about the same kind of plant -- a green vascular plant with roots, stem and complex leaves, the latter producing spores. In the first stage, the fern plants grow into tiny prothallia with sexual organs giving rise to fertilized eggs which develop into a tiny fern plant still in appearance and are therefore easily overlooked or mistaken for a tiny bit of green moss. On its underside, a prothallium sprouts a root-like structure by which it anchors itself to the moist soil and can absorb soil water. Two kinds of sex organs also develop, one producing eggs and the other sperm. The sperm swims to the egg and fertilizes it. The fertilized egg grows into a tiny fern plant which is attached to and depends upon the prothallium for sustenance. The young plant eventually grows large enough to become the independent mature fern that we know. The fern frond gives rise to microscopic spores which are shed and grow into prothalli. Thus, the fern makes the spores, the spores make the prothallia, the prothallia make the fern, and the fern completes its "double life".

The Fabulous Fern Seeds

The ancient and medieval fern fanciers ascribed all kinds of magical and mystical powers to ferns by simply substituting fables for facts, and superstition for science. They supposed that ferns were no different from other plants, that they had flowers and also seeds which could not be found because they were invisible. However, if you looked in the right place and at the right time armed with the right amulet, performed the right ritual with the right magical words, you would find fern flowers and seeds which would give you magic powers.

In the Middle Ages, it was believed that ferns produced tiny blue flowers, only on one day of the year, at dusk on June 24th, St. John's day. At precisely the stroke of midnight, the very moment the saint was born, the flowers ripened into golden seeds and fell to the earth. You could acquire "wonder-working charm" by catching these seeds on a white cloth. A pinch of these seeds in your shoes could make you invisible. They could also give you second-sight - to see into the past and the future, to find lost things, and to find hidden treasures. And fern-seeds could also grant you the greatest gift of all - eternal youth.

The fern-seed fable was told by an anonymous poet of the time as follows:

"But on St. John's mysterious night,
Sacred to many a wizard spell,
The time when first to human sight
Concealed, the mystic fern seed fell.
I'll seek the shaggy, fern-clad hill,
Where time has doled a dreary deal,
Befitting a hermit's cell;
And watch'd in murmurs muttering stern,
The seed departing from the fern,
The watchful demons can convey;
The wonder-working charm away,
And tempe the bloves from arm unseen,
Should thoughts unholy intervene."

The Sex Life of a Fern Revealed

Ferns differ from most plants you know in that they do not have flowers. For a long time nobody really knew how they reproduced and this became the subject of speculation and the source of superstitions. Finally in 1849, there was a breakthrough and the story of the fern's life cycle was revealed and understood. It was then shown for the first time that ferns had a double life, that they have two consecutive and distinctly different stages in their reproductive cycle.

In the first stage, the fern fronds, the largest and most conspicuous structure produce and release microscopic spores that grow into very small inconspicuous flat, green, heart-shaped plants, the prothallia (pro-THALL-ee) They are strikingly unlike the parent plants.
Report of the Secretary
for 1975

At the end of 1975 there were 1342 members in The
American Fern Society, a substantial increase from the
860 members of the previous year. Increased interest in
Ferns was also evidenced by the numerous inquiries and
requests received by the secretary and other officers.
Regrettably, during the past year death claimed two of
our members, Miriam Woodruff and Walter Sargent Phillips.
Dr. Phillips, former head of the Botany Department
of the University of Arizona, served as treasurer of

The annual meeting of the Council of The American
Fern Society was held on July 14, 1975, in Amherst,
Massachusetts. Among items of business discussed were
the establishment and activities of regional chapters;
the creation of the office of Records Treasurer to
assume some of the duties of the Treasurer (the Records
Treasurer will be appointed by the President rather
than elected); the abolition or reduction of American
Institute of Biological Sciences dues charged to affiliat-
ed societies (including The American Fern Society);
and use of the Boughton Cobb Fund to reprint articles
of general interest to members.

The annual meeting of the Society was held August 17-22, 1975, at Oregon State University in Corvallis, in
association with the meeting of the American Institute
of Biological Sciences. The American Fern Society met
jointly with the Physiological Section of the Botanical
Society of America. Papers at the August 19 morning
session were presented by Dean P. Whittier, Terry R.
Webster, B.E. Karfalt (with D.A. Eggert), B.E. Karfalt,
Harold W. Elmore, Mark D. Sheilds, and Robert Korn.

During the afternoon session, papers were present-
ed by James D. Capoletti, Ernests B. Ball, D.E. Bilder-
back (with Diane E. Bilderback), Ronald W. Davis, Mark
D. Norris, Judith G. Karousis (with Gerald J. Gastony),
David S. Barrington, Christopher Hauffler (with Gerald
J. Gastony), David H. Wagner, and Carole Kelley. Be-
tween morning and afternoon sessions, a fine luncheon
was enjoyed by members of the Society. Among those
attending the meeting and luncheon were Dr. and Mrs.
Pilar Velas from Ecuador. Dr. LaShea Johnston, Depart-
ment of Botany, Oregon State University, served as
local representative in charge of arrangements for the
meeting. In 1976, the annual meeting will again be held
in conjunction with the A.T.B.S. meeting. The meeting
will be held at Tulane University, New Orleans, Louisi-
ania, May 30-June 4, and members are encouraged to
attend.

1975 saw an increase in the number of regional or
local chapters. Regional groups now exist for the fol-
lowing areas: Delaware Valley, New York, Upper Ohio
Valley, Great Lakes, Pacific Northwest, Smoky Mountains,
and Southern New England. News of chapter activities
appear regularly in the Fiddlehead Forum.

This year the newsletter, Fiddlehead Forum, under
editor John T. Nickel, took on a new format. Additions
to the newsletter staff include art director Edgar Pauli-
ton, and Dr. Bruce McAlpin, Fern Horticulturist at the
New York Botanical Garden. Members of the Society are
encouraged to contribute regularly to the newsletter.

At the end of the year, the following new officers
were elected: Dr. David W. Biarhorst, President; Dr.
Richard L. Nauke, Vice-President; and Dr. James D.
Capoletti, Treasurer. In addition, Dr. Terry R. Lucan-
sky was appointed Records Treasurer. Our appreciation
is extended to outgoing officers, Dr. Bolla M. Zyon,
President, and Dr. Dean P. Whittier, Treasurer, for
their valuable service to the Society. Elected to
Honorary Membership in The American Fern Society
was Mrs. Lenette F. Richardson. Mrs. Richardson, an out-
standing phytologist, is noted for her studies on fern
gametophyte morphology. Over the years, she has aided
the Society in many ways, including serving as Secretary
from 1963-1968.

Respectfully submitted,
Terry R. Webster, Secretary

(continued from page 2)

"Watching the Fern" was a very popular pastime in
the Middle Ages. On St. John's eve, bands of believers
armed with white sheets and magic charms, set forth in
quest of the fabulous fern-seeds. They spread the sheets
under the ferns, waved their amulets over the plants,
delivered up prayers, muttered magic words, invoked
demons and gods and appealed to heaven and hell for help.
And nothing happened. They returned empty-handed after
a fruitless and seedless search, but not discouraged
since they could always find one excuse or another for
their failure and reassure themselves in the following
ditty:

"Just wait 'til next year
Have patience and no fear
Our amulets will find the flowers
The fabulous fern seeds will be ours."

In time, these expeditions got out of hand. Unscrupu-
los, blackmages and witchcraft were invoked; these ungodly practices be-
came so widespread that the church in
France placed a ban on fern foragers and
forays on St. John's Day.

So widespread and accepted was the belief in
the magic of fern seeds that it appears in the literature
of the Elizabethan period. In Shakespeare's Henry IV,
Gadshill proposes that:

"We steal as in a castle, cock-sure; we have the
receipt of fern-seed -- we walk invisible."

To which the Chamberlain answers:

"Nay, by my faith, I think you are
more beholden to the night than
the fern-seed for your walking
invisible."

On the other hand there were some
Elizabethan skeptics who questioned the
fern-seed fable. Henry Lyte, a sixteenth
century English botanist took an unpop-
ular position and in the following report
exposed the fern-seed fraud:

"This kind of Ferns beareth neither flowers nor
seeds, the black spots on the backside
of the leaves, the white some do gather to thinking
to work wonders, but to say the truth, it is
nothing else but trumpeter and superstition."

Additional installments of "Ferns: Fact and Fiction --
Fables and Folklore" will appear in future issues.
CONSUMER INFORMATION REQUESTED BY FTC

On April 1, 1975, the Federal Trade Commission authorized the Seattle Regional Office to conduct an industry-wide investigation of growers, wholesalers and retailers of indoor and outdoor plants to determine if they are in violation of the Federal Trade Commission Act by failing to provide identity, care and toxicity information with the plants they sell.

An essential part of this investigation is to gather input from consumers concerning their experiences with plant purchases. For example, we would like to know if consumers' plants, that are accompanied with written care information, live longer than those with no care information. Also, do consumers want to receive (at the point of sale) the scientific and common names of the plants they purchase, and, if so, why? Further, we would like to learn of consumers' experiences with poisonous plants should be labelled as such at the point of sale.

We do not have space to run their questionnaire (9 pages) but the Seattle office is interested in receiving comments about plant labeling. Their address is Federal Trade Commission, Seattle Regional Office, 20th Floor Federal Building, 915 Second Avenue, Seattle, Washington, 98174.

FERN USES

[From Aphrodisia Catalog. price $1.00 from a store that sells herbs, spices and exotic oils and essences. 28 Carmine St. New York, NY 10014]

Horsetail (Equisetum arvense). Also known as shavegrass, bottlewort or pewterwort, this is a fine astringent herb. It is used in facials to tighten skin. The famous nineteenth century herbalist Father Kneipp favored using horsetail in his hydrotherapy. It is often brewed into a tea.

Maidenhair (Adiantum pedatum). A delicate fern ruled by Venus. Maidenhair is believed to produce grace and beauty when worn in a wreath. It is also called Venus Hair or Rock Fern. Maidenhair is often brewed into a tea either alone or with herbs such as Chamomile. It also makes a soothing bath additive.

Fern Fun

Our Potpourri of Pteridological Perivia

Rearrange the letters to spell the common names of five pteridophytes. Then rearrange the circled letters to spell out a place where ferns are found.

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CARRY SLUGS
AN ID DOI
NECK BAR
PURE GIN, DON

REBUS

Dr. John T. Nickell
New York Botanical Garden
Bronx, New York 10458

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