

The Plant Press

THE ARIZONA NATIVE PLANT SOCIETY

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SPRING, 1994

PHOENIX TO "SAVE" DESERT

The Winter, 1994 edition of the newsletter described the efforts in Scottsdale to save the McDowell Mountains. This newsletter will briefly discuss the efforts in Phoenix to save a portion of the "flatland" desert located in north Phoenix.

As development pushes north of the Central Arizona Project Aqueduct in Phoenix, the last remaining area of "undeveloped" Sonoran Desert within its boundaries is being threatened. Already the developer's bulldozers have scraped many acres bare resulting in the destruction of significant areas of native vegetation in an area that goes as far north as Carefree Highway and as far east as Scottsdale Road.

Recognizing that development in the area is inevitable - unless the City wants to buy the land to preserve it - City of Phoenix staff, in conjunction with various citizens and citizen groups, has initiated two planning efforts to address issues being identified in this sensitive desert area. The first effort is focused on identification of critical desert habitat and preservation of that habitat through the use of donation, easement, or acquisition. The second effort involves preparation of development standards that will help minimize the impacts that development has on the desert.

Hoping to emulate the successes of the 70's and 80's to save the Phoenix Mountains, a group comprised of staff and citizens is attempting to identify natural desert areas that should be preserved. One of the primary issues is whether large tracts should be preserved or smaller pieces carved out as development occurs. To respond to those issues, criteria will be developed that will help select the most unique desert areas for preservation. Once these areas are identified, the difficult task of determining how to preserve those areas remains.

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NOTES FROM THE PRESIDENT

Arizona's beautiful assemblages of native plants are most often experienced from an automobile travelling along one of our many scenic highways. I frequently travel along one of these lovely roads, US 60, a stretch of which has been designated the "Gila-Pinal Scenic Highway" by the Arizona Department of Transportation (ADOT). Between Apache Junction and Superior, creosote, ironwood, palo verde, globe mallow, jojoba, bursage and many attractive annuals grow in profusion along the roadsides and in the median strip, bringing the expansive Sonoran Upland Desertscrub landscape to vibrant life with their beautiful forms and colors.

The scenic value of this roadside plant community was clearly recognized by ADOT's Roadside Development Section when the Scenic Highway designation was awarded. ADOT's well-devised *Vegetation Management Plan* drawn up in 1988 is quite clear on the need to preserve aesthetic and environmental values while maintaining a safe roadside.

Why then has a two-mile section of this beautiful stretch of Arizona road been turned into a look-alike for the desolate and devegetated Sahelian landscapes that I encountered in Africa? Why have poorly trained crews of prisoners under little or no horticultural supervision been set loose to remove, root and branch, all vegetation? All that remains are a few tortured palo verdes pruned to look like stark remnants of a vanished African woodland destroyed by villagers desperate for fuelwood. The once vibrant and thriving roadside and median between mileposts 209 and 211 is now mostly bare mineral soil waiting to be washed away in the next strong thunderstorm.

I first became aware of these operations during the fall of last year along the Gila-Pinal Scenic Highway near Superior. We at the Arboretum were asked to flag trees deemed "worth saving," and subsequently, Department of Corrections (DOC) crews under local ADOT control came through and carried out their work of roadside "brush removal." I am very sorry now that I did not challenge the work at that time. For a while, there was no further activity along the road, but earlier this winter the large, white DOC bus sporadically reappeared along the highway below Florence Junction.

I finally contacted past ANPS President Leroy Brady of the Roadside Development Section of ADOT and asked if these activities were per ADOT policy. Leroy assured me that the work was not appropriate under ADOT's 1988 *Vegetation Management Plan*. He referred me to Cliff Taylor, ADOT's Manager of Vegetation Management Services. Cliff also assured me that such wholesale devegetation of roadsides did

not constitute current ADOT policy and proceeded to have the activity stopped - or so he thought.

The following week the crews were back out on the highway continuing the campaign to clear all "brush" from a swath 30 feet on either side of the road and into the median. A final call-- this time to the office of the State Engineer-- appears to have brought relief, with the wave of destruction seeming to be at an end, at least on this particular section of road.

The Arizona Department of Transportation practices "empowerment" of its local managers carrying out its policies. As long as policies are adhered to, such management is perfectly appropriate. But there are times when empowerment can be abused and the basic intent of a sound policy either ignored or overridden. The situation along US 60 and elsewhere in the district constitutes one of those situations. The local manager, out of ignorance of or contempt for ADOT policy, has carried out operations destructive to the native plants and animals of Arizona. These operations have severely degraded a significant natural and touristic resource. That the provisions of the Native Plant Law vis-a-vis salvage were properly adhered to is also very doubtful.

We of the ANPS have a duty to uphold our mission to preserve and protect Arizona's native plants. If you encounter roadside operations that you feel may not be appropriate, be they carried out by private or public-sector persons, please feel free to call either me at 689-2723 or Leroy Brady at 255-7357 to report any questionable activities.

--Bill Feldman

EDITOR'S COMMENTS

With summer quickly approaching, many of us will head for cooling relief of the mountains. What better time to get out and learn about some of our native ferns? Jack Kaiser makes the task easy and enjoyable with his wonderful line drawings -- 17 of the more common species in a special pullout section in this issue. (see "Common Ferns of Southern Arizona") Kaiser has spent the last few years observing, studying, and illustrating the ferns of our state. We are grateful he has allowed us to publish these and more of his work in future issues.

Space is limited in this issue, but I do want to urge all of our readers to take note of some important announcements - annual meeting, awards nomination info, etc.

Have a great summer.

- Balbir

ARIZONA NATIVE PLANT SOCIETY ANNUAL MERIT AWARD

CRITERIA FOR SELECTION

The purpose of this award is to recognize individuals and organizations which have made important contributions to furthering conservation, appreciation and use of Arizona native plants and/or their habitats.

1. The nominee may be either an individual, nonprofit group, business or government agency.

2. If the activity is an educational one, the nominee should have made some contribution to helping people understand native plants and/or their habitats either at the adult level or in the schools. Examples of such activities include developing native plant trails, educational booklets, school curricula or media presentations.

3. If the activity involves landscaping, the nominee should have made some contribution toward development of landscaping with native plants. The award is not intended to recognize individual home landscape projects, but may be given to a government agency or business that has done something especially creative with the use of native plants. This will not be judged on the basis of landscape values so much as for ways in which the landscaping will help in public appreciation of native plants or furthering the use of native plants in large public works.

4. If the activity involves conservation, the nominee should have made some contribution toward preserving a native plant habitat. Examples of such activities include a major donation of a significant habitat for preservation purposes, a successful effort to develop legislation to preserve habitats or an outstanding information campaign.

5. If the activity involves propagation or nursery work, the nominee should have made some contribution toward making native plants legally available through activities such as seed propagation, plant salvage or nursery propagation. Examples of such activities include development of methods to grow native grass seed, salvage efforts in areas about to be bulldozed or development of a nursery program.

6. The nominee may fit into more than one category.

7. A maximum of three awards will be given in 1994. All awards may be in one category, and not every category will receive an award.

8. Contrary to usual contest rules, the nominee may be a member of ANPS.

9. The deadline for receiving nominations for 1994 is August 1. Awards will be made at the Annual Meeting in September.

If you have questions about the criteria or procedures, contact Barbara Tellman at (602) 792-4515 (h) or 792-9591 (w) or the address on the nomination form.

NOTE: The nomination form is included with this newsletter.

SONORAN (continued from Page 1)

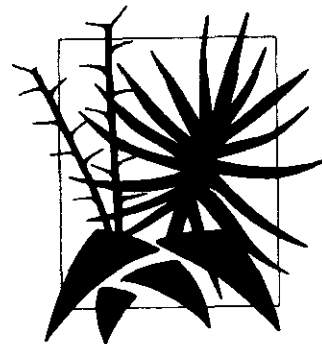
Minimizing the impacts of development on the natural desert habitat is the goal of the second staff/citizen committee. To accomplish this goal, this committee began preparing development standards that would permit development but would place a strong emphasis on preserving the unique Sonoran Desert character of the area.

Development standards will address such items as street improvements, grading, drainage, native plants, and the types of plant materials that will be planted in the area once development has occurred. Mass grading, preservation of wash corridors, and amount of street lighting are examples of other concerns. It is hoped that the development standards will provide a guide for the developer, for the City staff, and for City policy and decision makers who have to deal with the ever increasing development activity in this desert setting.

It is expected that the first phase of the development standards should be completed by June and remainder of the standards by the end of summer. No deadline exists for identification of the critical desert areas that should be preserved.

by Dean Brennan

**NOMINATION FORM
ARIZONA NATIVE PLANT SOCIETY
ANNUAL MERIT AWARD**



**The Arizona
Native Plant
Society**

Name of nominator _____

Address _____

City _____ **State** _____ **Zip** _____

Phone(work) _____ **(home)** _____

.....
Name of nominee _____

Address _____

City _____ **State** _____ **Zip** _____

Phone(work) _____ **(home)** _____

Category
 business **individual**
 non-profit group **government agency**

Type of activity
 educational **native plant landscaping**
 conservation **propagation/nursery**

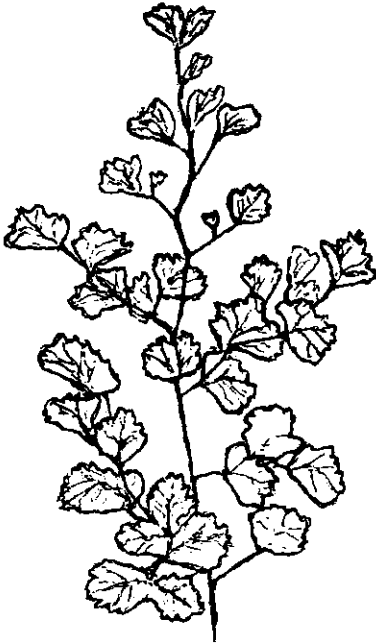
Please describe on a separate page what the nominee has done to merit the award. Supporting documents may include other letters of support, news clippings, samples of publications, etc. Please type or print clearly.

**Send to:
ANPS Award
127 E. Mabel St.
Tucson AZ 85705
By August 1, 1994.**

COMMON FERNS OF SOUTHERN ARIZONA

by Jack Kaiser

This is the first in a series of pullout sections featuring Arizona ferns.

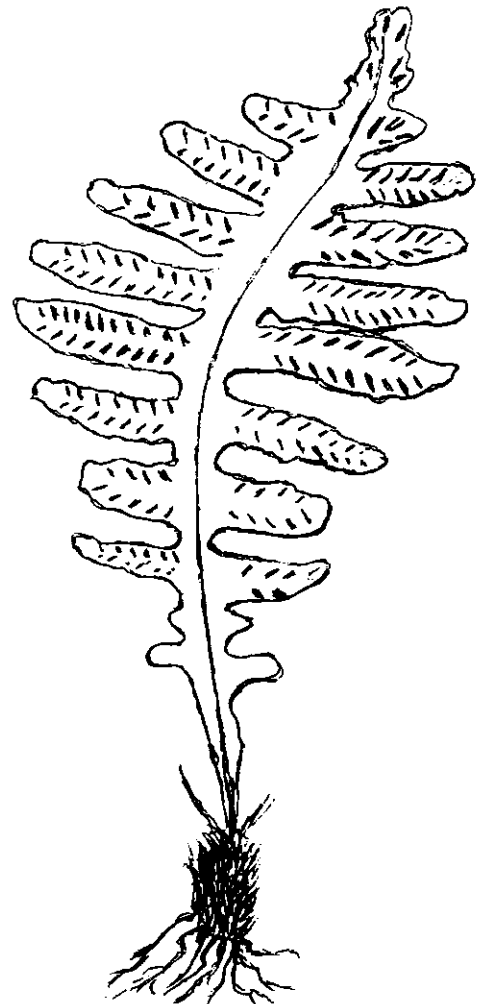


Asplenium dalhousiae Hook.

Stems upright, not branched; blades pinnatifid, narrowing near base, much longer than the stipe; rachis with brown scales below, mostly green; Mule, Huachuca, and Baboquivari Mtns., 4,000-6,000 ft.; moist, shady areas and rocky canyons.

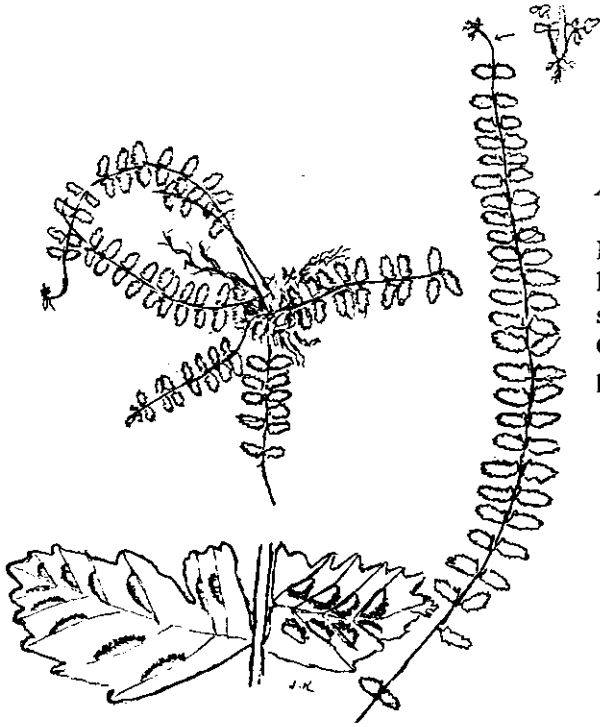
Adiantum capillus-veneris L. Maidenhair fern

Fronds in clusters or occurring along rhizome, drooping; rhizomes, thick, creeping; blades longer than broad, 15-40 cm long, ovate to lance-shaped, usually bipinnate to tripinnate; throughout state, 1,500-7,000 ft., mostly in moist places, cliffs.



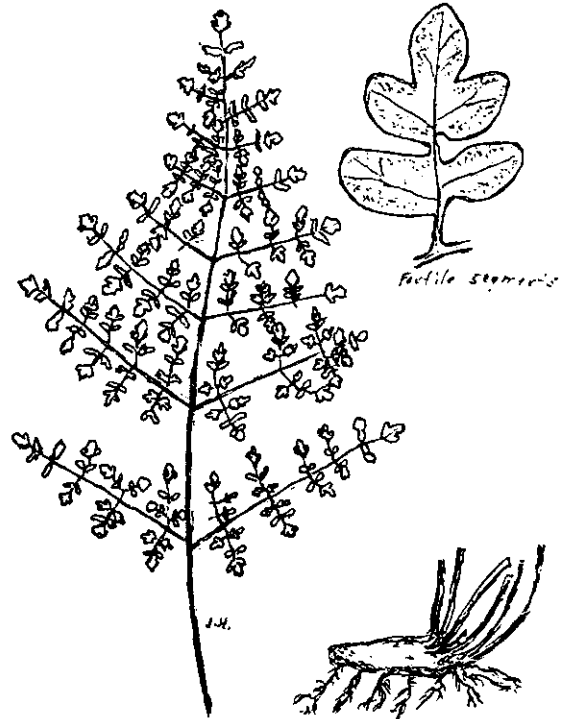
Asplenium palmeri Maxon

Plants 8-20 cm high; fronds in a rosette or erect-spreading, oblong to oblong-lanceolate; blades linear to linear-lanceolate, 7-17.5 cm long, pinnate; stipes slender, purplish black, glabrous; pinnules oblong; Mule Mtns. in Cochise Co., mountains of Santa Cruz Co., Baboquivari Canyon in Pima Co., moist, protected, rocky areas.



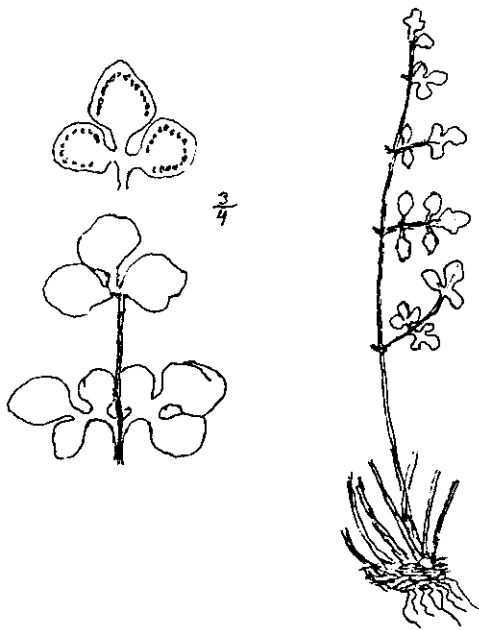
Argyrosma incana (Presl.) Windham (*Notholaena incana*)

Similar to *Argyrosma limitanea* (*Pellaea limitanea*), but with blades having fewer lobes or divisions; stipes purplish or black, 5-12 cm long; blades ovate, 6-12 cm long, bipinnate; segments with shallow lobing or crenate, white-waxy below; Sonora and Chihuahua, Santa Cruz Co., Arizona; dry rocky slopes and cliffs.



Argyrosma jonesii (Maxon) Windham (*Pellaea jonesii*)

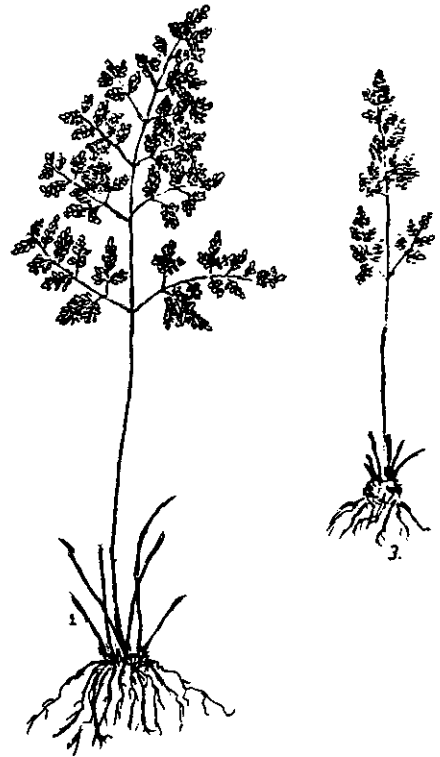
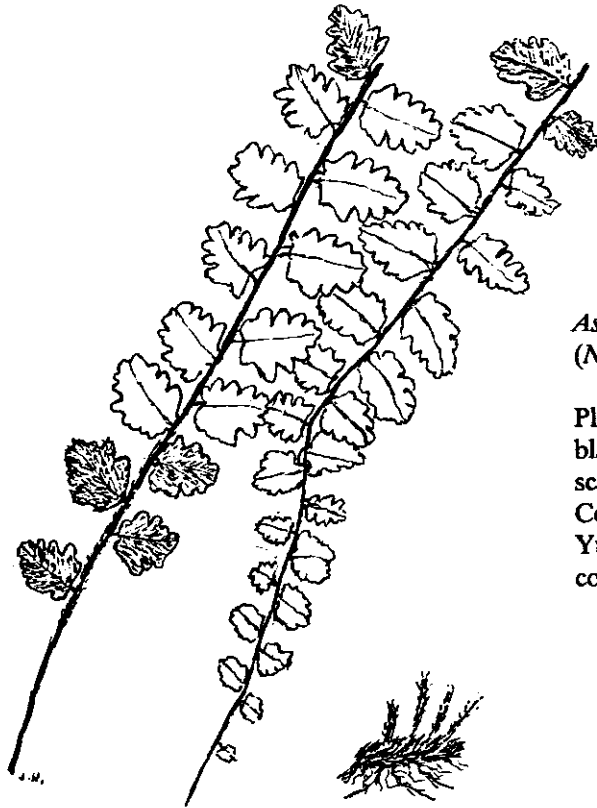
Fronds spreading to ascending, 3-15 cm long; blades ovate to ovate-lanceolate, 2-10 cm long, bipinnate or sometimes tripinnate; pinnae in 3-7 pairs, ovate-oblong; localized on limestone cliffs. Marble Canyon and Havasu Canyon (Coconino Co.), Pinal Co., and Waterman Mtns. (Pima Co.), 2,000-4,000 ft.



Argyrosma limitanea (Maxon) Windham (*Pellaea limitanea*)

Plants 8-25 cm high; delicate; blades, 5-30 cm long, 4-pinnate, with tiny segments; pinnae mostly in pairs of 6, white-waxy beneath. Marble Canyon and Wupatki National Mon. (Coconino Co.) to Cochise, Santa Cruz, Pima, and Yuma Cos., 2,000-7,000 ft., on slopes and cliffs.

1) subsp. *limitanea*; 2) fertile pinnule; 3) subsp. *mexicana* (Maxon) Windham has narrower and less-divided blades, with larger segments. Has been collected in the Chiricahua Mtns. by Blumer.

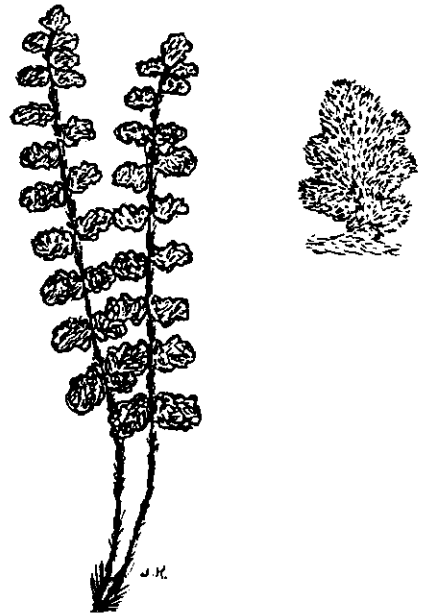


Astrolepis sinuata (Lag.ex Sw.) Benham & Windham subsp. *sinuata*
(*Notholaena sinuata* var. *sinuata*)

Plants to 70 cm or more high; rhizomes short, stout; fronds 10-37.5 cm long; blades narrowly oblong to linear-lanceolate, once-pinnate; pinnae with dense scales below, ovate to subovate with 4 to 6 pairs of oblong lobes; canyons in Coconino and Mohave Cos., to Graham, Cochise, Santa Cruz, Pima and Yuma Cos., 1,000-7,000 ft.; rocky hillsides and crevices, limestone; very common.

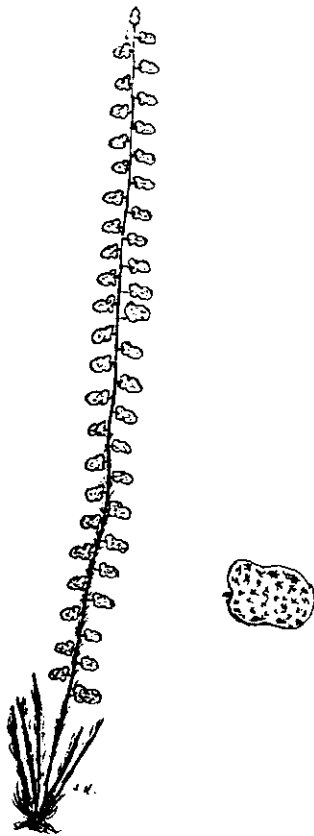
Astrolepis integerrima (Hook.) Benham & Windham
(*Notholaena sinuata* var. *integerrima*)

Similar to *A. cochisensis* but with larger pinnae usually having 3 pairs of lobes; leaves 8-45 cm long, leathery, with stellate pubescence above, dense, rust-colored to whitish scales below; Rocky slopes, cliffs, often on lime soils, Cochise, Pima and Santa Cruz Cos.



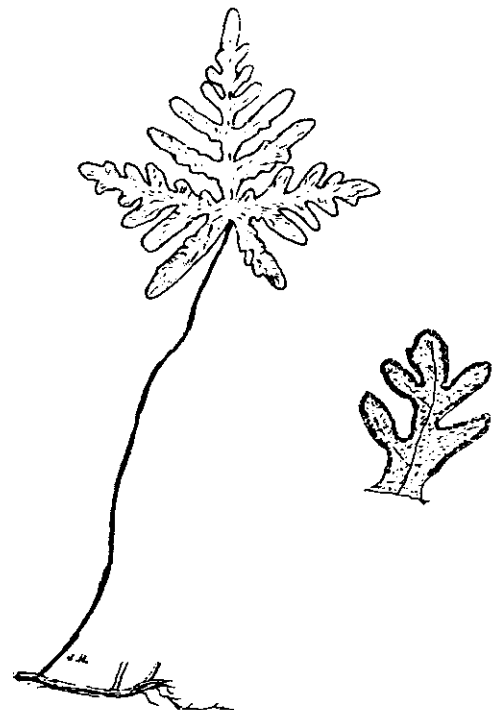
Astrolepis cochisensis (Goodd.) Benham & Windham
(*Notholaena sinuata* var. *cochisensis*)

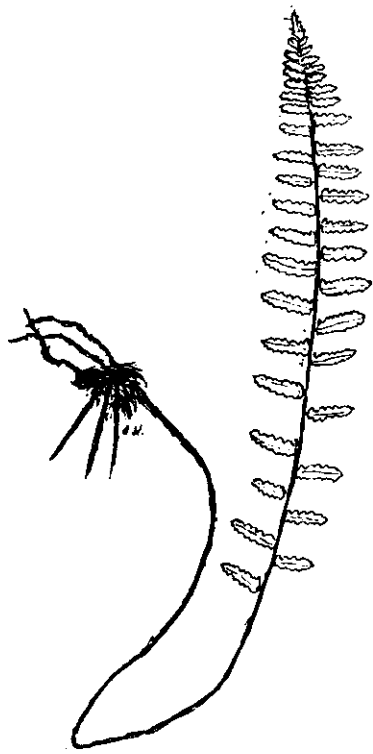
Smaller and narrower than *A. sinuata*; leaves 7-40 cm long, leathery; pinnae with 1-4 broad, rounded lobes; sparsely pubescent on upper surface in youth, becoming glabrate with age; dense, rust-colored to whitish, narrow scales beneath; rocky slopes, cliffs, often on lime soils, Cochise, Pima and Santa Cruz Cos.



Bommeria hispida (Mett.) Kunze Copper Fern

Rhizomes slender, creeping, with light brown, lanceolate scales; fronds 10-15 cm long; stipes longer than the blades, light brown, hairy; blades tripinnatifid, the main rachis winged; Yavapai, Gila, Graham, Pinal, Cochise, Santa Cruz and Pima Cos., 4,000-6,000 ft., canyon walls, rocky areas.





upper surface



lower surface
of pinna

Cheilanthes bonariensis (Willd.) Proctor
(*Notholaena aurea*)

Plants to 70 cm high, but usually shorter; rhizomes thick; fronds in tufts, upright to ascending; stipes slender, 3-15 cm tall, dark purple-brown to nearly black, with rust hairs; pinnae in pairs of 10-40, ovate-lanceolate to oblong-lanceolate, sessile, with dense, whitish hairs becoming rust-colored with age; sporangia light brown; Gila, Pinal, Cochise, Santa Cruz and Pima Cos., 4,000-7,000 ft., rocky slopes, ledges.

Cheilanthes eatonii Baker

Plants up to 40 cm high; rhizomes short, thick; fronds numerous, tufted, broadly lanceolate, to 30 cm long; stipes brown, shorter than blade with long, linear scales; blades tripinnate, the pinnae lance-ovate; pinnules rounded to obovate, densely hairy on upper surface, brownish-tomentose below at maturity; Navajo and Coconino Cos. to Graham, Cochise, Santa Cruz and Pima Cos., 3,000-8,000 ft., dry, rocky hillsides and cliffs.



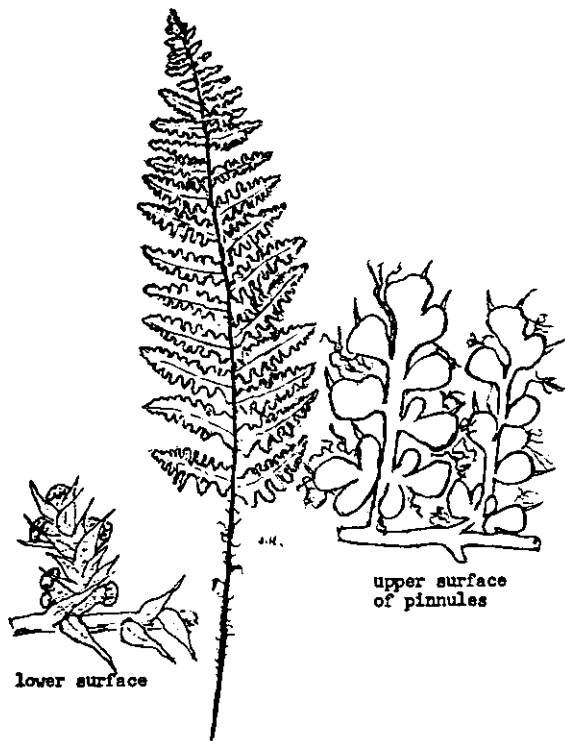
lower surface
of pinnule



upper surface



portion of stipe

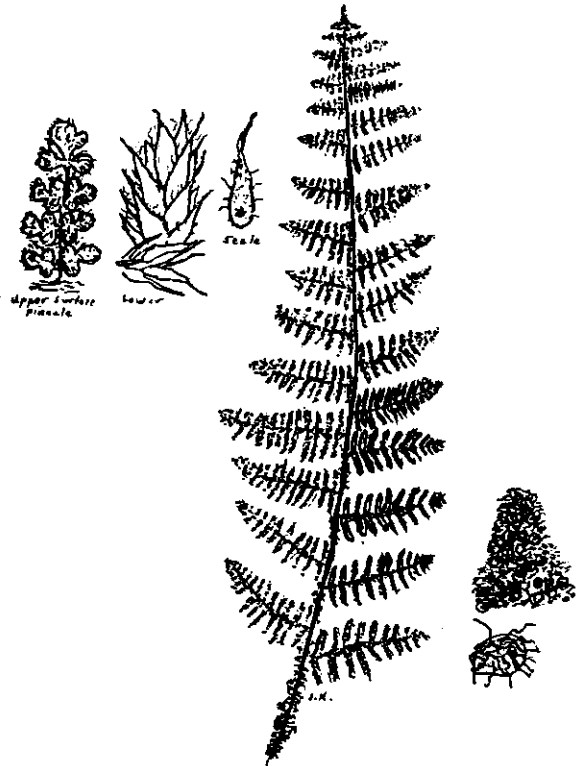


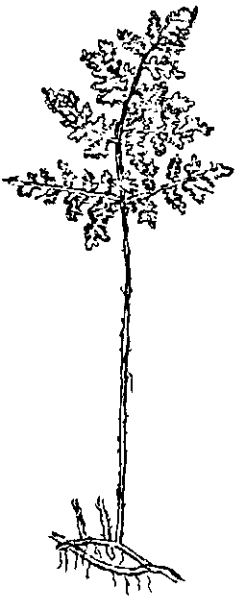
Cheilanthes fendleri Hook. Fendler's Lip Fern

Plants to 30 cm high, usually smaller; fronds glabrous above; stipes reddish-brown; blades bright green, oblong, 10 cm long, tripinnate; pinnae oblong to ovate; pinnules with 2-4 pairs of segments; segments tiny, rounded, glabrous above; Walnut Canyon and Slate Mt. (Coconino Co.), Hualapai Mtns. (Mohave Co.) to Greenlee, Cochise, Santa Cruz and Pima Cos., 4,000-9,500 ft., rocky hillsides and cliffs.

Cheilanthes lindheimeri (J. Smith) Hook.

Plants to 35 cm high; fronds erect, arising along rhizome, 8-30 cm tall; stipes 4-20 cm long, wiry, dark to purplish brown, with tangled hairs and narrow whitish or rusty scales or becoming glabrate in maturity; blades oblong or narrowly ovate, tripinnate; pinnae in 8-20 pairs, narrowly ovate, densely hairy above, densely woolly and rusty-scaly below; Graham, Gila, Maricopa, Pinal, Cochise, Santa Cruz and Pima Cos., 2,000-8,000 ft., dry, rocky slopes; common.





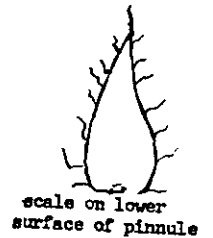
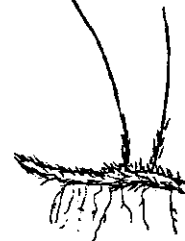
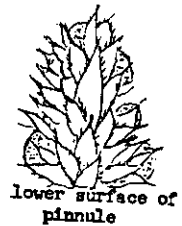
Cheilanthes pringlei Davenp.

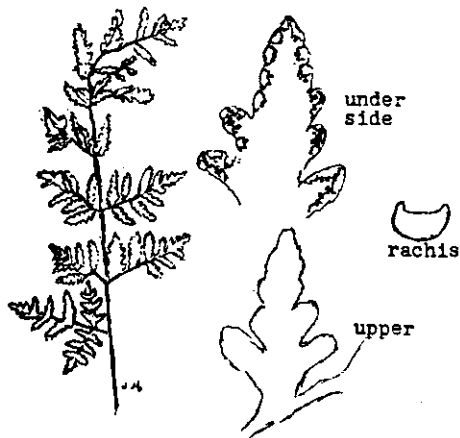
Small ferns, to 15 cm high, but often much smaller; fronds in tufts; stipes to 11 cm long, usually less, reddish or chestnut-brown, with light brown scales near base; blades broadly triangular to ovate-deltoid, bipinnate or tripinnate; pinnae in 5-7 pairs; pinnules ovate to obtuse; sporangia few. In shaded, rocky areas; Mazatzal Mtns. (Gila Co.), Chiricahua Mtns. and mountains of Pima Co., 3,000-5,000 ft.



Cheilanthes wootonii Mason Wooton's Lip Fern

Plants 10-30 cm high; rhizomes slender, short-branched, scaly; stipes reddish-brown; fronds not clustered, narrowly oblong to lance-oblong; blades oblong-lanceolate, 5-18 cm long, tripinnate; pinnules small, beadlike, glabrate on upper surface, grayish-white-scaly below, becoming pale-brown-scaly pubescent with age; Grand Canyon to the mountains of Greenlee, Cochise, Santa Cruz and Pima Cos., 3,000-9,000 ft., rocky areas and ledges; common.





Cheilanthes wrightii Hook. Wright's Lip Fern

Plants to 22 cm high; stipes reddish-brown, 3-12 cm long; fronds erect, not clustered, bipinnate-pinnatifid to subtripinnate; pinnules either lobed, crenate or entire; segments not beadlike, glabrous above, nearly so beneath; rachis with deep groove on the upper side, glabrous; sori few; Greenlee, Graham, Gila, Maricopa, Pinal, Cochise, Santa Cruz and Pima Cos., 1,000-6,000 ft., rocky hillsides, ledges.

REFERENCES

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All line drawings by Jack Kaiser.

Jack Kaiser is retired from the Arizona Department of Agriculture and an ANPS Board Member.

FOCUS ON Rita Jo Anthony

Experts have been predicting a somewhat dismal year for wildflowers, but you wouldn't think that's the case after a visit to Wildseed. Bright patches of Mexican primrose, royal lupine, Mexican poppy and brittlebush surround the small, plain white building that is Wildseed's home.

Outside, Rita Jo Anthony, owner and manager, strolls easily among these radiant friends, pointing out different species among the myriad of colors. A white to pinkish variant of Mexican poppy is especially eye-catching.

Wildseed is a company that specializes in seed of southwestern species. Seed of over 200 tree, shrub, grass and wildflower species is stored here. Anthony has worked on numerous revegetation projects in the Sonoran Desert and throughout the Southwest.

"We collect most of the seed by hand," says Anthony. Some seed is obtained from plots on the premises. She also usually leases about 20 acres where the bulk of her seed is produced. "We dry it all right here on drying racks and tarps. It creates a mess, but kind of a fun mess," she maintains.

Anthony exudes the satisfaction of someone who loves what she does. What looks like a thriving business has taken her the last 11 years to develop.

"When I first moved to Arizona in the early 80's, there wasn't really a market for wildflower and native plant seed," she recalls. But that gradually began to change as agencies and the public became more interested in native plants and conservation. By the mid-80's, Anthony had a full-time business.

But it all really started with a favorite childhood pastime: collecting seeds and wild berries near her home in the Pennsylvania woods and storing them in pickle jars in her garage. Years later, she got a job in Utah collecting aspen seed for a company. She now recalls with laughter how the aspen seed capsules began to open and eventually filled her entire apartment with clouds of white fluff.

These days, in addition to Wildseed, Anthony is busy with her appointments on the Native Plant Technical Advisory Board with the Department of Agriculture and the Arizona Municipal Water Users Association Technical Committee. She is also an active member in the Desert Revegetation Task Force, the Arizona Native Seed Producers Association and, of course, the ANPS.

Some of the projects she has been involved with in the Southwest include:

- *riparian and Sonoran Desert habitat restoration for Rio Salado for the City of Tempe;
- *highway revegetation for various biotic zones for the Mt. Lemmon Highway in the Coronado National Forest;
- *new Sonoran Desert wildflower gardens for the Desert Botanical Garden;
- *xeriscape garden at Mesa Community College for the City of Mesa;
- *pipeline revegetation for US West and Santa Cruz County;
- *roadside revegetation on the north side of the Grand Canyon for the Federal Highway Administration and the National Park Service.

Though most of her work is regional, Anthony occasionally gets requests from overseas research companies. One company recently acquired evening primrose seed to investigate the medical properties of its oil which studies have shown may influence hormone regulation in women.

For wildflower lovers, eleven different mixes are available, including a few new ones this year such as "For the Birds and the Bees," "Cut Flowers" and "A Child's Garden." The most popular one is the "Sonoran Desert Native Wildflower Mix" which performs well in the lower desert. Mixes for higher elevations are available as well.

If you are interested in receiving a catalogue from Wildseed, write to P.O. Box 27751, Tempe, Az. 85282, or call (602) 345-0669.

-- Balbir Backhaus



Rita Jo inspects one of the many flowers in "her garden."

PUBLIC MEETINGS TO BE HELD TO DISCUSS RIPARIAN PROTECTION

NOW AVAILABLE

Most of the rivers and streams in Arizona have been irrevocably changed over the past 100 years as Arizona's population has increased. The Santa Cruz River through Tucson and the Salt River through Phoenix are some of the worst examples of riparian loss in the state. In order to protect the rivers that do remain-- including portions of the San Pedro River, the Verde River and others-- a governor-appointed Riparian Area Advisory Committee (RAAC) has been meeting for over a year to study the problem and develop riparian protection recommendations for the Legislature. The legislation specifically defined "riparian area" to include only perennial and intermittent streams. Unfortunately, it does not include dry washes.

The legislation that resulted in the RAAC also directed three studies by agencies: the Arizona Department of Environmental Quality was directed to analyze the impacts of human activities on riparian areas; the Arizona Game and Fish Department mapped perennial streams in the state and developed classification schemes for them; and the Arizona Department of Water Resources studied the impacts that groundwater pumping may have on surface flow. Their conclusion was that if you want to save those rivers, changes in Arizona water law are needed to keep people from pumping the rivers dry.

RAAC is exploring choices ranging from leaving things as they are to strong regulatory programs-- and everything in between. Choices include changes in Arizona water law to prohibit new pumping which would affect streamflow, either statewide or only for specific areas such as the Sierra Vista area; a regulatory program to control destruction of riparian vegetation and habitat; and incentives to encourage private landowners to protect or enhance their riparian areas.

There are strong interest groups who want to leave things as they are. These include the "Wise Use" types who view any riparian protection as a "taking" of private property; rural interests who resent city folks butting into their business, the growth-at-all-costs types who don't want curbs on pumping and many others.

Some of the most valuable and increasingly rare native plant habitats are found in riparian areas. If you value such places, be sure to attend one of the meetings (in Phoenix, Safford, Sedona, Sierra Vista or Tucson in early June). To receive a mailing with more information and meeting dates and places, contact Barbara Tellman (RAAC member, representing the ANPS) at (602) 792-9591 (w) or 792-4515 (h).

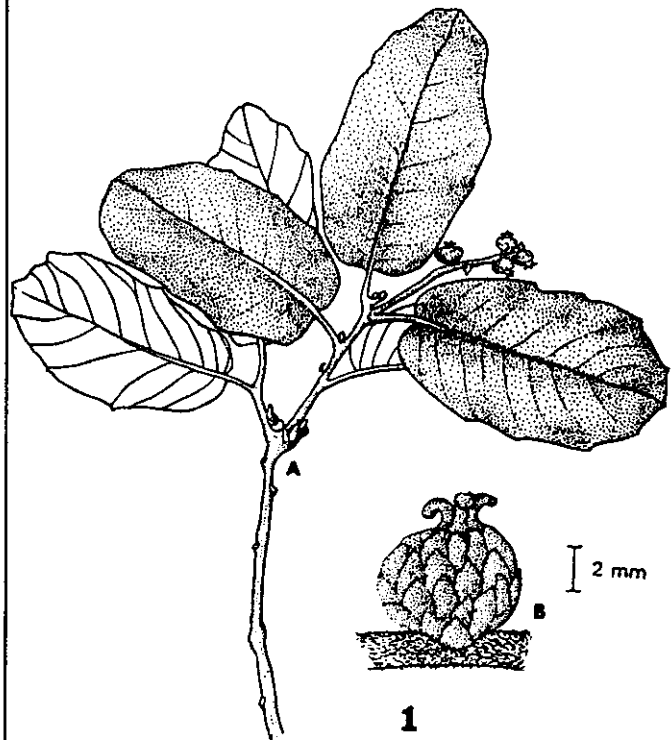
--Barbara Tellman

Once again, the Arizona-Nevada Academy of Sciences has published a group of manuscripts on various Arizona genera in their *Journal of the Arizona-Nevada Academy of Science*. These are subject to revision but will eventually be published in the upcoming *Vascular Plants of Arizona*.

In order to update and expand Kearney and Peeble's *Arizona Flora*, about 100 scientists are compiling manuscripts in their area of expertise and these will be getting a preliminary exposure through the journal.

The editors point out that these manuscripts may contain some errors or omissions and they hope that readers report any errors found. Details for reporting any problems are outlined in the journal.

If you are interested in receiving a copy of the journal (Vol. 27(2)), please send \$6.00 per issue to Dr. Stephen Williams, Department of Biology, Glendale Community College, Glendale, AZ 85302.



Quercus grisea. A, habit, and B, immature acorn.
Drawing by R. Rubio.

DESERT PLANTS BACK IN PUBLICATION

Desert Plants is on the rebound. This is a unique botanical publication produced by the University of Arizona for the Boyce Thompson Arboretum. *Desert Plants* is a semi-technical journal intended for amateur and professional desert plant enthusiasts. Journal articles focus on some aspect of desert plant ecology, horticulture, landscape architecture, morphology and physiology. Histories of desert regions and desert plant scientists are chronicled in *Desert Plants*. The academic and research activities at the Boyce Thompson Arboretum are also covered.

As the subscribers know, publication of *Desert Plants* has been erratic for some time. As its new editor (effective July 1, 1994) I am striving to produce the journal on a more timely schedule. Volume 10(4) was published in November, 1993. Volume 11(1) and 11(2) are planned for 1994. The goal is to resume quarterly publication eventually, but this is contingent on funding. The number of subscribers has dwindled over the years and a subscription campaign is underway. The cost of a subscription is nominal, \$10.00 for individuals and \$15.00 for institutions and foreign subscriptions for 1994 (two issues). Subscribers have been invited to become underwriters (\$100.00 or more) or supporters of *Desert Plants* and many have responded positively. The Arizona Native Plant Society has also agreed to make a very generous donation.

The format of the journal remains essentially the same but the actual production has changed. Volume 10(4) was produced using a desktop publishing program and an in-house printer. The number of pages was reduced and the number of color photographs limited, but the general consensus is that a quality issue was produced despite these cutbacks.

As the production of *Desert Plants* became more erratic, the interest in publishing in this journal also dropped off. Presently, manuscripts are being accepted for review and should be mailed to:

Dr. Margaret Norem
Desert Plants
2120 E. Allen Road
Tucson, Az 85719
(602) 621-3593

Specific details for authors can be obtained at the above address. Highly technical jargon isn't consistent with *Desert Plants* publication policies. Back issues, with the exception of Volume 4, are available from the above address for a cost of \$5.00. A list of the contents of each issue is available upon request.

--Dr. Margaret Norem

Desert Plants subscription for 1994 (two issues)

Individual, \$10.00 _____

Institution and Foreign, \$15.00 _____

Yes, I am interested in supporting *Desert Plants* financially in 1994.

Underwriter, \$100.00 or more per issue _____

Supporter _____

Underwriters and supporters will be acknowledged in *Desert Plants*.

Make checks payable to UA Foundation/*Desert Plants* and mail to Dr. Norem at the address noted above.

Name _____

Address _____

NOTES IN BRIEF

The 1994 ANPS Annual Meeting will be held in Pinetop at the Elks Lodge the third weekend of September. The theme this year revolves around higher elevation plant communities and ecology. Look for announcements and registration materials in the mail in early August for what is sure to be an interesting schedule of seminars and activities.

A binational conference, "Biodiversity and Management of the Madrean Archipelago: The Sky Islands of the Southwestern United States and Northwestern Mexico," will be held Sept. 19-23, 1994, in Tucson, Az. For further information, contact L.F. DeBano, Rocky Mountain Forest and Range Experiment Station, c/o School of Renewable Natural Resources, University of Arizona, Tucson 85721; (602) 621-2543, FAX (602) 621-8801.

CHAPTER NEWS AND EVENTS

FLAGSTAFF CHAPTER

Regular meetings are held on the 4th Tuesday of every month at 7 pm on the NAU campus in Rm. 313 of the Biological Sciences Building.

Contact Jean Searle, Chapter President, at (602) 282-4484 for more information.

PHOENIX CHAPTER

Regular meetings are held the 2nd Monday of the month at 7:30 pm September through May in Webster Auditorium at the Desert Botanical Garden.

May Events: Field Trip-- May 7, to Rackensack Canyon for the spring potluck.

Memorial Day Field Trip-- May 27-30, to Muleshoe Ranch.

For more information on the Phoenix Chapter contact Chapter President Kent Newland at 8376 Cave Creek Stage, Cave Creek, AZ 85331, (602) 585-3630 (H) or Marcia Francis at (602) 992-5435 (H/Ans. Machine).

SOUTH CENTRAL CHAPTER

Meetings are held on the 1st Saturday of each month at 9:30 am in the Community Room of the Student Activities Center on the Signal Peak campus of Central Arizona College.

Events:

For more information contact Chapter President Jean England, 9985 W. Woodruff Rd., Casa Grande, AZ 85222, (602) 836-8792.

SOUTHEAST SUB-CHAPTER

These meetings are held on the 4th Wednesday of the month at 6:30 pm in the conference room of the Administration Bldg. (Bldg. P-4) at the Sierra Vista campus of Cochise College.

May Events: Meeting-- Several Tucson lepidopterists will discuss plant uses by butterflies in Arizona.

Field Trips: See under Tucson Chapter.

TUCSON CHAPTER

Regular meetings are held on the 2nd Wednesday of each month at 7:30 pm at the Tucson Botanical Gardens, 2150 N. Alvernon Way, Tucson.

May Events: Meeting-- David Yetman, author of *Where the Desert Meets the Sea*, on "Plants and People of Southern Sonora."

Field Trips-- May 8, to the Mule Mtns. and the "High Lonesome" private ranch.

Contact Chapter President Cindy Salo at (602) 623-5120 for more information on Tucson chapter.

YUMA CHAPTER

Regular meetings are held on the 4th Monday of each month at 7:30 pm at the homes of members. For more information, contact Chapter President Pat Callahan at (602) 627-2773 or Rt. 1, Box 28M, Somerton, AZ 85350.

DEADLINE FOR THE SUMMER ISSUE - June 30, 1994

Submit materials to:

Balbir Backhaus, Editor
1530 W. Juanita Circle
Mesa, Az. 85202

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