

Ferns

Sharon Yarborough

In the Trans-Pecos, ferns and their allies either flourish or become dormant in response to limited available moisture. If conditions are dry, many of the xeric (dry environment) ferns respond by curling up and going into a dormant stage, only to revive and actively grow again when water becomes available.

The winter and early spring of 2004 were remarkable for the amount of moisture that occurred (both rain and snow). Almost 8" of precipitation accumulated at the park from January through April. This amount of moisture, in addition to cool winter temperatures, provided ideal growing conditions for the fern populations. Also, the lack of foliage on other vegetation during the winter period enabled the ferns to be easily located. By the end of the study period in early April, fern populations were all healthy; most were actively growing, and sending up abundant new fronds.

Methods

Inventory

Seventeen fern taxa (revised to 16 in 2004) were located and specimens collected in 2002. Because of the extremely high moisture level in the winter and spring of 2004, 12 trips were made to various fern habitats at the park. Previously located populations were resampled and identifications were reconfirmed. Some new areas of promising fern habitat were visited, and seven new fern taxa were found and identified. The excellent condition of all fern populations during the 2004 study period allowed for limited collecting of specimens. GPS readings of all fern collection sites were made. The total number of fern taxa for the park is 23.

Identification of Fern Taxa

All fern specimens were identified by Sharon C. Yarborough, author of "Ferns and Fern Allies of the Trans-Pecos and Adjacent Areas" and Assistant Curator of the Michael A. Powell Herbarium at Sul Ross State University, Alpine, Texas.

RESOURCE BRIEF



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Cheilanthes villosa (Villous Lip Fern) is a rare fern at the Fort, only one small population found on the Tall Grass Loop trail.

Voucher Specimens

Mounted herbarium specimen sheets of all 23 species have been made, and provided to the park. Duplicate specimens reside at the Michael A. Powell Herbarium.

Conclusion

The diverse and abundant fern flora of Fort Davis National Historic Site is a valuable natural resource which should continue to be monitored and protected. The many varied fern habitats within the park foster the growth of a large number of Trans-Pecos ferns and fern allies, including both xeric and mesic (moist environment) species. These more moisture-loving fern species were primarily found in a newer addition to the park, a portion of Sleeping Lion Mountain. The ferns that occur at these sites should be monitored for continued population health and protection. There still may be additional species of fern and fern allies yet to be discovered, growing in the park's many and varied fern habitats.

Most of the fern species on the park's list can easily be seen, identified, and enjoyed without leaving established trails. These interesting plants are a resource that can be interpreted to visitors. A brochure entitled "The Ferns of the Fort Davis National Historic Site" was also developed for interpretative purposes.



Fern Taxa

SELAGINELLACEAE—Spikemoss Family

Selaginella peruviana - Peruvian Spikemoss

Selaginella mutica - Blunt Spikemoss

PTERIDACEAE—Maidenhair Fern Family

Astrolepis cochisensis - Jimmyfern, Cochise Scaly Cloak Fern

Astrolepis integerrima - Wholeleaf Cloak Fern, Hybrid Cloak Fern

Astrolepis sinuata - Wavyleaf Cloak Fern

Astrolepis windhamii - Windham Cloak Fern

Bommeria hispida - Dancing Bommeria, Hairy Bommer, Copper Fern

Cheilanthes bonariensis - Bonaire Lip Fern, Golden Lip Fern

Cheilanthes eatonii - Eaton Lip Fern

Cheilanthes eatonii forma castanea - Castanea Lip Fern

Cheilanthes feei - Slender Lip Fern

Cheilanthes lindheimeri - Fairy Swords, Whitefoot Lip Fern

Cheilanthes tomentosa - Woolly Lip Fern

Cheilanthes villosa - Villous Lip Fern

Cheilanthes wrightii - Wright Lip Fern

Notholaena standleyi - Star Cloak Fern, Standley Cloak Fern

Pellaea atropurpurea - Purple Cliff Brake

Pellaea intermedia - Creeping Cliff Brake, Intermediate Cliff Brake

Pellaea wrightiana - Wright Cliff Brake

ASPLENIACEAE—Spleenwort Family

Asplenium resiliens - Little Ebony Spleenwort

DRYOPTERIDACEAE—Wood Fern Family

Phanerophlebia auriculata - Eared Holly Fern

Woodsia neomexicana - New Mexico Cliff Fern

POLYPODIACEAE—Polypody Family

Pleopeltis riograndensis - Rio Grande Scaly Polypody

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Astrolepis windhamii (Windham Cloak Fern, above) is an unusual xeric fern that prefers dry, rocky slopes. *Cheilanthes villosa* (Villous Lip Fern, left) is a rare fern at the Fort, only one small population found on the Tall Grass Loop trail.



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