

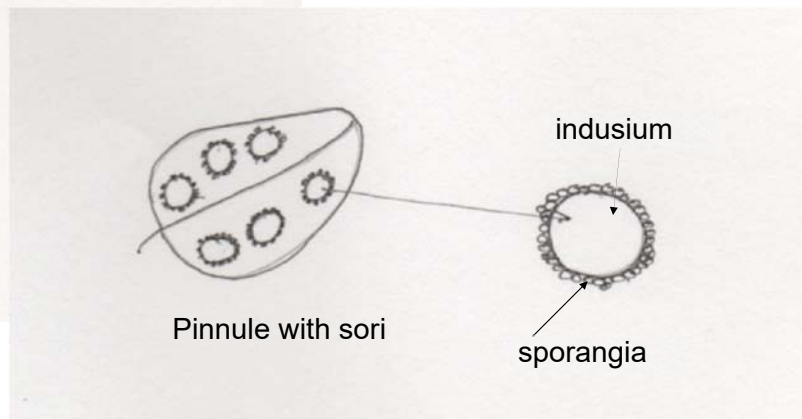
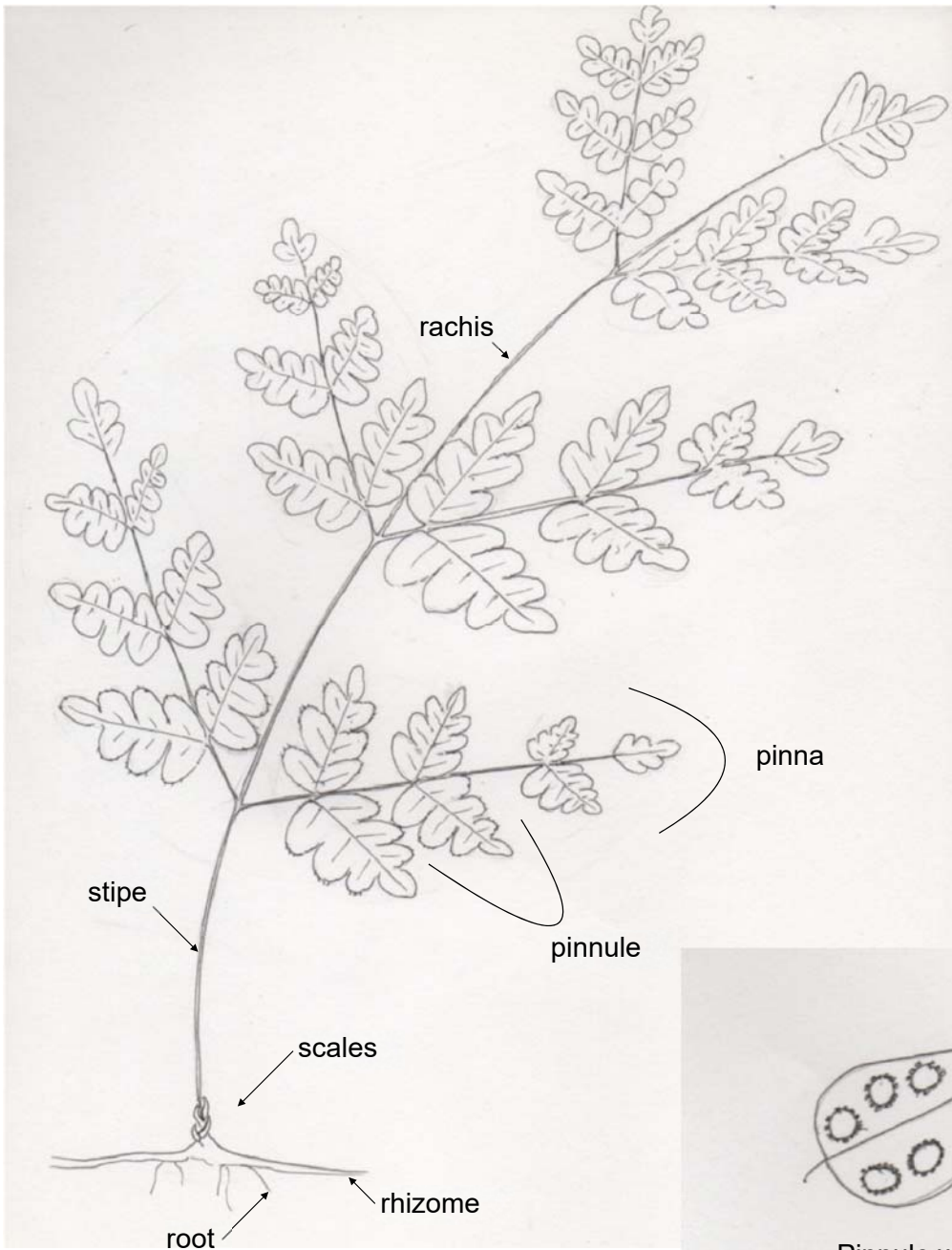
FERNS
of
Big Basin Redwoods
State Park

A Resource for the Visitor Center

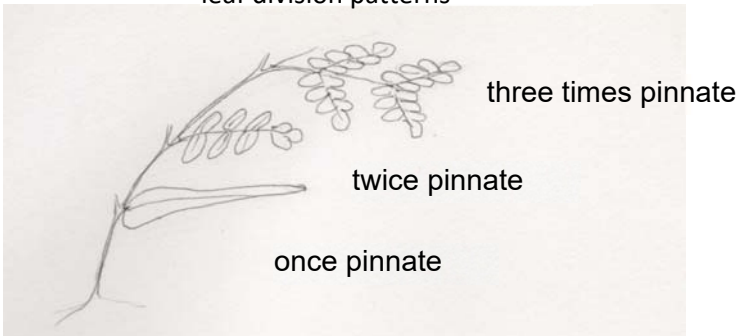
Compiled by Kathy Willott
Photographs by Kathy Willott and Scott Peden

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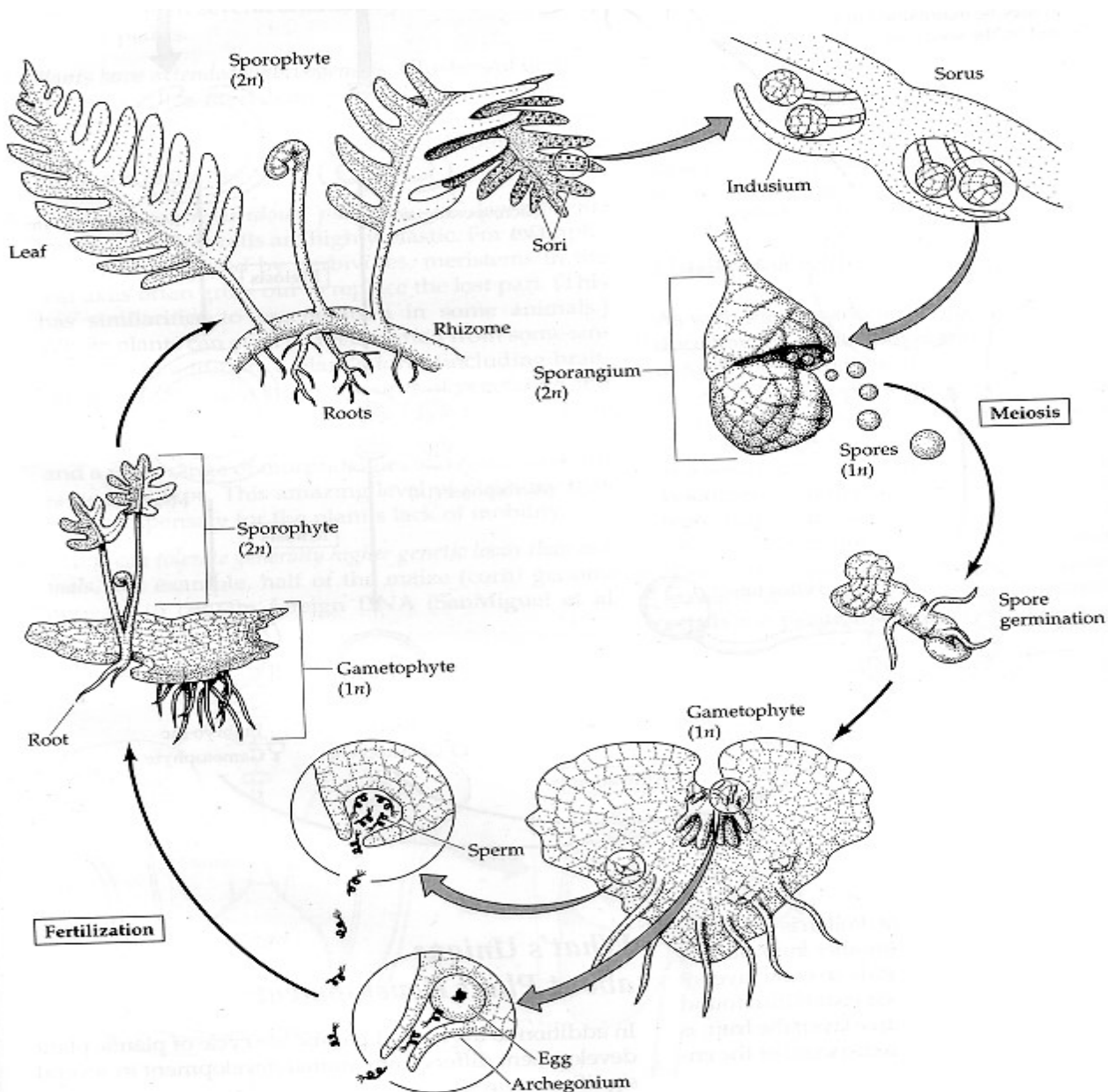
Parts of a Fern



leaf division patterns



Life Cycle of a Fern!



http://www.esu.edu/~milewski/intro_biol_two/lab_2_moss_ferns/Fern_life_cycle.html

On the underside of a fern leaf are small round structures that contain spores. These have half the number of chromosomes ($1n$) as the fern. When the spores are released, they germinate and produce a small gametophyte which has both male and female parts. When a sperm fertilizes an egg, a new fern starts to grow. At this point the chromosome number is restored ($2n$).

Athyrium filix-femina gametophytes with young sporophytes

Arroyo Park, Fall 2007

© 2007 Fred M. Rhoades



Athyrium filix-femina Lady Fern - Gametophytes with young sporophytes

This shot shows part the cluster of gametophytes (some with young sporophytes) on the moist soil. The gametophytes have, of course, developed from the spores produced on the fronds of an adult sporophyte somewhere. If you look closely here you can see a great number of gametophytes at every stage of development, some extremely small.

<http://faculty.wvu.edu/fredr/Plants/Athyrium%20G-S.htm>

**Deer Fern
(*Blechnum spicant*)**



Latin Name	Common Name	Habitat	Location	Stalk	Frond	Sori	Notes
<i>Blechnum spicant</i>	deer fern	Shady moist areas, near streams	Blooms Creek, West Berry Creek		1x pinnate, tapers at both ends, forms a rosette	Long, one on each side of pinna	Fertile and sterile fronds

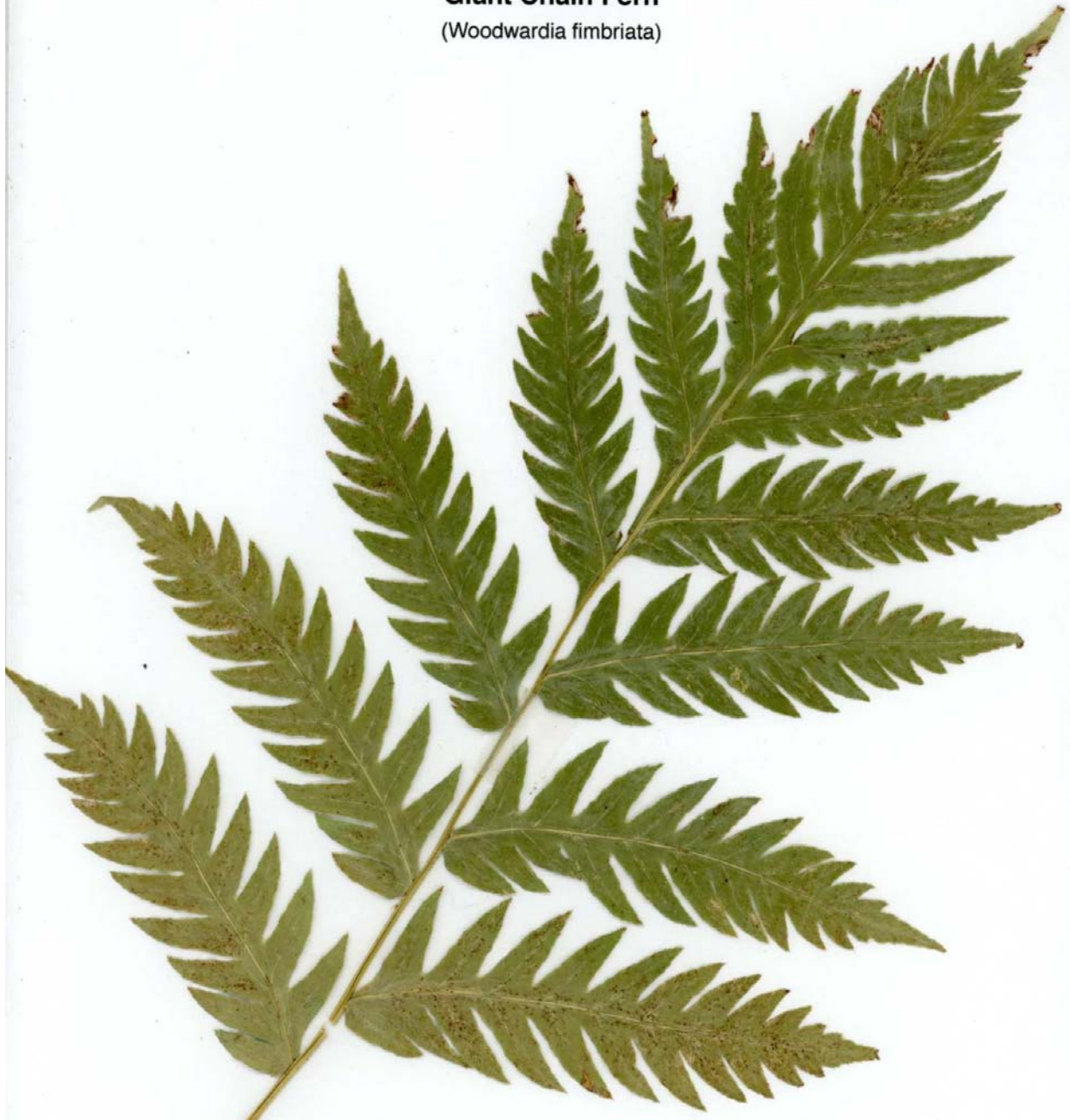
**Giant Chain Fern
(*Woodwardia fimbriata*)**



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
near streams	N. Escape Rd, most creeks	up to 6-9 ft, almost erect, in clusters	1x pinnate, pinnae deeply lobed	long, in chainlike pattern along midrib	evergreen, used in basket making, largest fern in Big Basin

Giant Chain Fern
(*Woodwardia fimbriata*)



All specimens gathered from private property with permission of land owner. All plants in Big Basin are protected and should not be collected.

**Bracken Fern
(*Pteridium aquilium*)**



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
open areas, can take more sun than other ferns	N. Escape Rd, Middle Ridge Rd, China Grade	arise singly from ground, not in clumps	3x pinnate, widely triangular	continuous along margins	dies back in winter, toxic contains carcinogen

Bracken Fern
(*Pteridium aquilinum*)



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**Wood Fern
(*Dryopteris arguta*)**



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
open wooded slopes	nature trail at RDO, Pine Mt. Trail		2x pinnate, pinnae rounded and toothed	indusium horseshoe shaped	evergreen

**Wood Fern
(*Dryopteris arguta*)**



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**Western Sword Fern
(*Polystichum munitum*)**



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Latin Name	Common Name	Habitat	Location	Stalk	Frond	Sori	Notes
<i>Polystichum munitum</i>	western sword fern	moist (not soggy) shade, wooded hillsides	Redwood Loop, most trails, very common	rigidly ascending in a crown, brown scales	1x pinnate, pinnae have a "hilt"	round clusters along vein with indusium	evergreen, pinnae of plants in shade are planar and twisted if in sun

**Western Sword Fern
(*Polystichum munitum*)**



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Shield Fern
(*Polystichum dudleyi*)



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
moist rocky slopes	near slippery rock	brown scales	2x pinnate, has a "scruffy" appearance	indusium ciliate	endemic to California

**California Polypody
(*Polypodium californica*)**



Habitat	Location	Stalk	Frond	Sori	Notes
moist rocky soil, mossy wood	damp logs on N. Escape Rd		1X pinnate, divisions not complete to stalk	no indusium	dies back

**California Polypody
(*Polypodium californicum*)**



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Coffee Fern
(Pellaea andromedifolia)



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
rocky, dry areas	RDO, East Ridge Fire Rd.	light brown	pinule rounded, not pointed, usually 3x pinnate	under curled edge of pinule,	Common name refers to the small leaflets, shaped somewhat like coffee beans http://plantfinder.sunset.com/plant-details.jsp?id=3848

**Goldenback Fern
(*Pentagramma triangularis*)**



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
shaded slopes, dryish banks, rock crevices	common throughout park	shiny dark brown, longer than blade	triangular or pentagonal, yellow dust on back	sporangia along veins, no indusium	dies back, used as analgesic by native Americans

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**Goldenback Fern
(*Pentagramma triangularis*)**



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**Five Finger Fern
(Adiantum aleuicum)**



Habitat	Location	Stalk	Leaf blade	Sori	Notes
wet rocky slopes, likes mist	Sempervirens Falls, bridge on N Escape Rd	dark, shiny	blades divided into 2 equal parts with 5-8 pinnae each	oblong, under curled edge of pinnule	looks like a hand pointed down, used as skin ointment, long black stem used in basketry

**Maidenhair Fern
(*Adiantum jordani*)**



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Latin Name	Common Name	Habitat	Location	Stalk	Frond	Sori	Notes
<i>Adiantum jordani</i>	maidenhair fern	moist rocky banks, well drained humus covered trail banks	Sunset Trail	black and shiny, arching, in clusters	pinnules fan shaped	under curled edge of pinule, indusia elongated	dies back, uncommon, black stem used in basketry

**Maidenhair Fern
(*Adiantum jordani*)**



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**California Lace Fern
(*Aspidotis californica*)**



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Habitat	Location	Stalk	Leaf blade	Sori	Notes
rock outcrops	rare in Big Basin	dark, shiny	triangular, 3x pinnate, pinnae deeply divided	false indusia formed by rolled over leaf edge	very delicate in appearance

Lady Fern
(*Athyrium filix-femina*)



Habitat	Location	Stalk	Leaf blade	Sori	Notes
along streams, "needs to keep its feet wet"	N. Escape Rd	long, grows in clumps	soft, lacy, 2-3X pinnate, pinnae at bottom of stalk shorter than above	horse-shoe shaped indusium	dies back, very soft to the touch

**Fragile Fern
(*Cystopteris fragilis*)**



Habitat	Location	Stalk	Leaf blade	Sori	Notes
shady, moist, rocky banks	rare in Big Basin	straw colored to reddish brown	resembles young lady fern	round with hood shaped indusia	

**Common Horsetail
(*Equisetum arvense*)**



Habitat	Location	Stalk	Leaf	Spores	Notes
near streams	N. Escape Rd, most creeks	dimorphic, fertile stalks emerge first followed by green sterile stalks, hollow, jointed, ridged	very narrow, in whorls	produced in cone at tip of fertile stalk	high silica content gives them a rough feel, used to polish wood and tin

Sources

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