

Solargrams of the Sierras



Inspired by Anna Atkins

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Anna Atkins was an English botanist and photographer. She is often considered the first person to publish a book illustrated with photographic images. Some sources claim that she was the first woman to create a photograph.

Sir John Herschel, a friend of Atkins, invented the cyanotype photographic process in 1842. Within a year, Atkins applied the process to algae (specifically, seaweed) by making cyanotype photographs that were contact printed "by placing the unmounted dried-algae original directly on the cyanotype paper."

The Photography Intensive Students created this flora and fauna field guide inspired by the work of Anna Atkins. Students utilized a process known as "solargram" which closely replicates the cyanotype process.

We hope you enjoy the book!

TEA 8th-Grade Photo Intensive Class 2020

Cut Leaved Daisy

Erigeron Compositus



Erigeron compositus is an Arctic and alpine species of fleabane in the daisy family. Common names include dwarf mountain fleabane, cutleaf daisy, and trifid mountain fleabane. *Erigeron compositus* has been found in the Russian Far East (Wrangel Island and Chukotka), Alaska, Greenland, much of Canada (all 3 Arctic territories plus British Columbia, all 3 Prairie Provinces, Quebec, Newfoundland, and Nova Scotia), and the western United States (from the Pacific Coast as far east as the Dakotas, Colorado, and New Mexico).

Crowded Lupine

Lupinus Lepidus



Lupinus, commonly known as lupin or lupine, is a genus of flowering plants in the legume family Fabaceae. The genus includes over 199 species, with centers of diversity in North and South America. Smaller centers occur in North Africa and the Mediterranean. They are widely cultivated, both as a food source and as ornamental plants, although in New Zealand's South Island, introduced lupins are viewed as a severe environmental threat.

Meadow Lupin

Lupinus Polyphyllus



Meadow Lupin (*Lupinus polyphyllus*) is a plant that usually is planted in the ground for garden decor or sometimes even planted in the front yard. You can see it in fields of flowers as well. In the winter this flower like other plants dies, but in the summer it is its beautiful self again. Lupines are very popular around Northern America. The fields are mainly seen up in the mountains or near the Sierra. It's known to grow right by rivers or small streams. Since we have a small stream in our back yard it grows almost right on the water and gives my backyard some color. It is a perennial herbaceous plant with a stem that grows about 1.5 meters tall. The leaves on the plants grow about 3-15 centimeters long. In the summer when they are alive and well they have a color of a very light purple with a bit of blue. Lupines flowers are usually about 1.5 centimetres tall. They are not like all flowers; they grow more upwards like lavender. They are unique and have beautiful colors in the summer.

Mountain Sagebrush

Artemisia Tridentata ssp. Vaseyana



As Calscape.org states, Mountain Sagebrush ([Artemisia tridentata ssp. vaseyana](#)) is a common native shrub that grows in northern, southern and central California. It is slow growing and long-lived. It grows in an upright form to a height of 7 feet, with active growth during the spring, summer, fall. Leaves are gray-green and deciduous. It tends to grow in dry valleys and slopes, at elevations from 5900-9800 feet.

Mule Ears

Wyethia mollis



Mule Ears (*Wyethia mollis*) is one of several species in this genus that are found in California. It is a native perennial herb in the Asteraceae (Sunflower) family that grows primarily in the Sierras from Fresno County northward. It is slow growing and long-lived, developing an upright form to a height of 2.5 feet, with active growth during the spring and summer. Flowers are yellow and striking, and bloom in the late spring. Leaves are white-gray and deciduous. It tends to be a pioneer species, growing in open grassy areas or recently burned sites, at elevations from 4500-10600 feet. Afternoon shade is helpful. It can handle very cold, snowy winters. For southern California mountain gardens, *Wyethia ovata* would be a better choice.

Oregon Checker Mallow

Sidalcea Oregana



Oregon Checker Mallow (*Sidalcea oregana*) is a native perennial herb that grows in Northern, Southern and Central California, primarily in the High Sierra Nevada region. It is moderately fast growing and moderately long-lived. It grows in an upright form to a height of 4.5 feet, with active growth during the spring and summer. Flowers are purple and striking, and bloom in the late spring. Leaves are medium green and deciduous. It tends to grow in wet meadows and marshes, at elevations from 0-9800 feet.

Oxeye Daisy

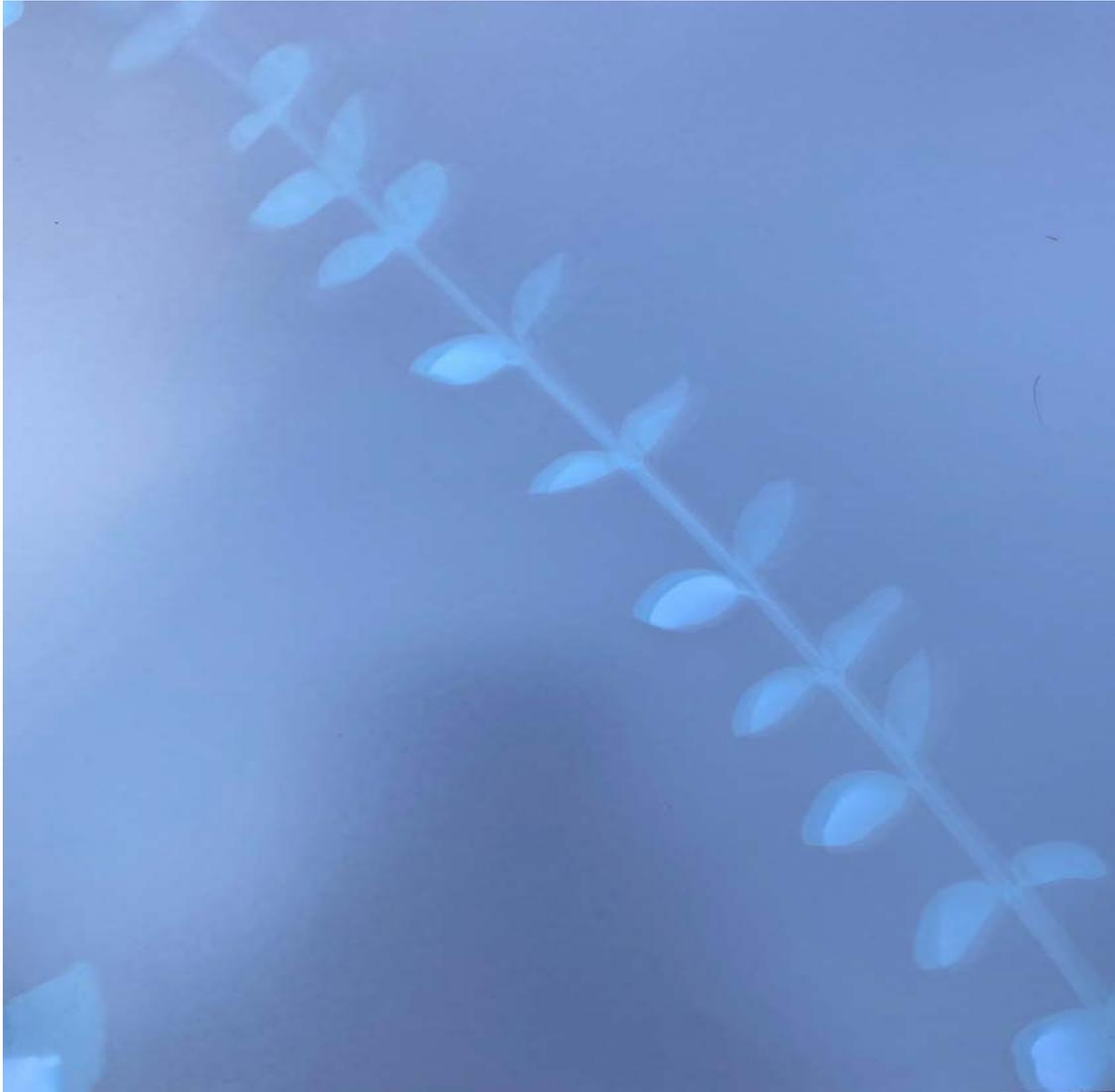
Leucanthemum Vulgare



Oxeye daisy is a perennial herbaceous plant that reaches 1 to 3 feet tall. It has shallow, branched rhizomes and adventitious roots. Single flower heads at the ends of stems have brown-edged, green bracts at their base. Each 'daisy' is a cluster of many flowers, the ray flowers are white and look like petals. The disk flowers are small and yellow and make up the center. Leaves are alternate and lance-shaped with coarse teeth or lobes. Basal leaves with the petiole (leaf stalk) and stems leaves become sessile (no stalk) and smaller in size moving up the stem. The stems are unbranched or branches near the tip. The seeds are small and have 10 small ridges.

Poverty Weed

Iva Axillari



Poverty Weed or death weed, is a North American species of flowering plants in the daisy family. It grows in the western and central United States and in western Canada, from British Columbia south to California and east as far as the western Great Plains in the Texas Panhandle, Nebraska, the Dakotas, and Manitoba. It has also become established in Australia, where it is considered a weed. *Iva axillaris* is a wind-pollinated herb up to 60 cm (2 feet) tall, spreading by means of underground rhizomes. It has many small, lance-shaped leaves rarely more than 45 mm (1.8 inches) long. Flowers are set in the axils of the leaves rather than congregated at the tips of branches as in related species. Each head can contain 9-12 florets.

Rubber Rabbitbrush

Ericameria Nauseosa



Gray/green alternate leaves covered in tiny hairs. Shrubs usually stand from 2-5 feet tall, and have an overall rounded shape. Bright yellow tubular flowers arranged in bundles at the end of branches in fives. Late flowering from August - October. Scientific Name Meaning: Chrysos = gold and thamnos = shrub. Nauseosus = nauseating (because of its heavy scent). Important forage crop for native animals. Important plant for pollinators as it flowers later in the summer giving pollinators a pollen source when many other flowers have already died back.

The Red Pine Cone

Pinus Resinosa Cone



Red Pine (*Pinus resinosa*) is a native of the Lake states and eastward throughout New England and southeastern Canada. It had not been planted widely in Iowa until the 1930's. Since then it has been planted quite widely for both erosion control and water conservation, and some for farmstead windbreaks. When growing under natural conditions, the red pine reaches a height of 90 to 100 feet and a diameter of 30 to 40 inches, with a tall, straight, clean trunk and an open, rounded picturesque crown. The tree gets its name from the bright orange-colored or reddish bark, which divides into large plates as the tree matures.

Male and female cones are found in different parts of the tree and on separate branches. Female pine cones are produced in the upper portion of the crown, while the males are found in the lower crown limbs. Male cones are deep red to almost pink, are short lived and very small. At the base of the current year's growth, male cones quickly start growing in the summer and are gone by early fall. Female Red pine cones are conical to ovoid, 1 to 2.5 inches long, and are without prickles on their scales. Like the bark, mature cones are a warm, reddish brown and are somewhat glossy when juvenile. They also produce Pine nuts, also called piñón, pinoli, or pignoli, are the edible seeds of pines. About 20 species of pine produce seeds large enough to be worth harvesting; in other pines, the seeds are also edible, but are too small to be of notable value as a human food.

Sagebrush

Blue/Black Sagebrush



Also known by the names Common Sagebrush, Blue/Black Sagebrush or Mountain Sagebrush, it is a shrub or small tree from the family Asteraceae. It is a coarse, hardy silvery-grey bush with inconspicuous yellow-green flowers and grows in arid sections of the western United States and Western Canada. It is the primary vegetation across vast areas of the Great Basin desert and is an indicator species for high desert (above 1,500 ft.). Like others in this genus, it has highly aromatic foliage. Unlike some others of this genus, it develops a true woody trunk and branches. In maturity the twisted trunk can become picturesque and suitable for bonsai treatment. Along rivers or in other relatively wet areas, sagebrush can grow as tall as 3 meters (10 feet), but is more typically 1-2 meters tall.

Western Thimbleberry

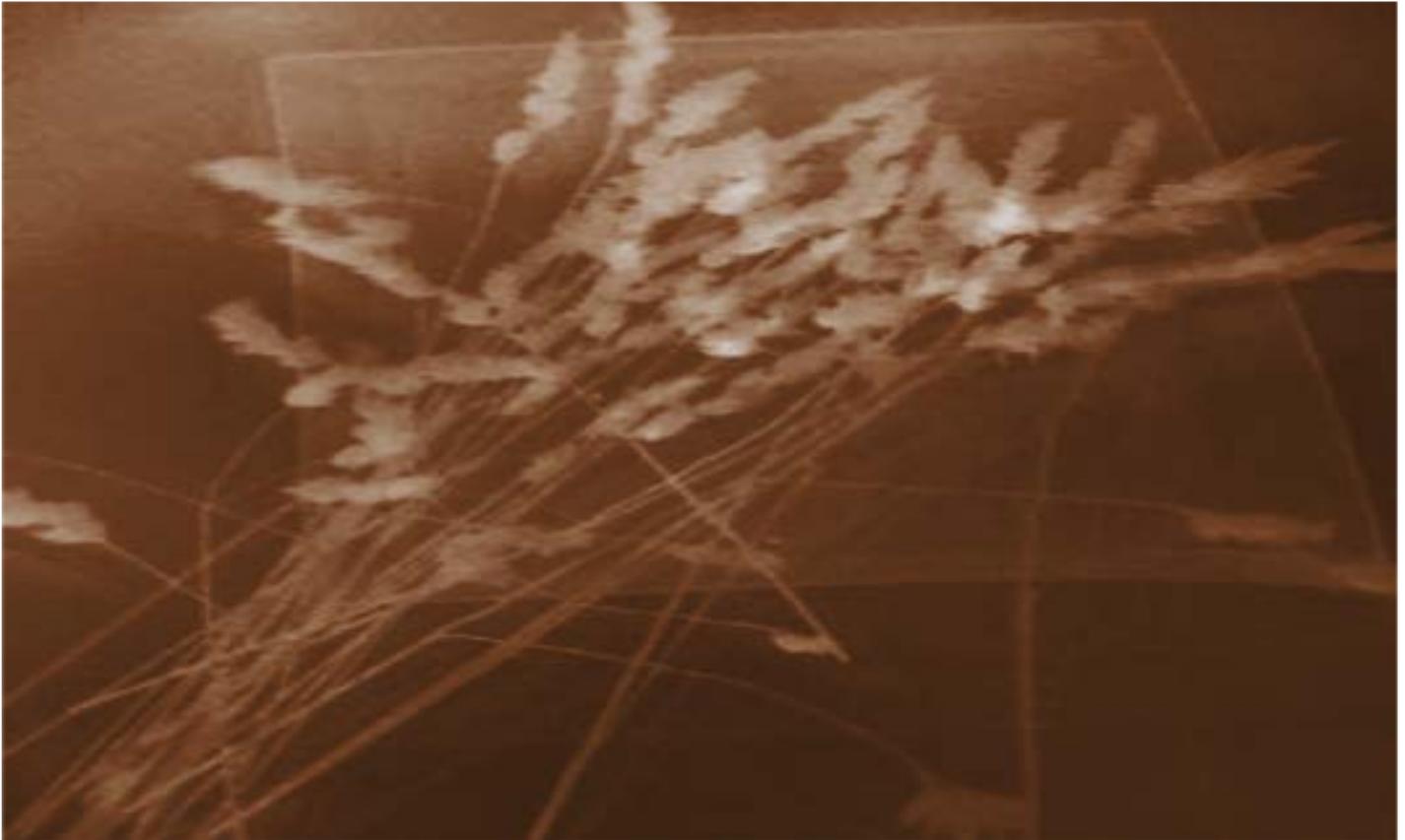
Rubus parviflorus



Rubus parviflorus (Thimbleberry) is a species in the Rosaceae (Rose) family native to western and northern North America, from Alaska east to Ontario and Michigan and south to northern Mexico. It is widespread in California. It grows from sea level in the north, up to 2,500 meter altitude in the south of the range. It is a dense shrub up to 2.5 meters tall with canes 3-15 millimeter diameter, often growing in large clumps which spread through the plant's underground rhizome. *Rubus* is the genus of raspberries and blackberries, but unlike most other members of the genus, it has no thorns. The leaves are palmate, 5-20 centimeter across, with five lobes; they are soft and fuzzy in texture. The flowers are 2-6 centimeter diameter, with five white petals and numerous pale yellow stamens. It produces a tart edible composite fruit 10-15 millimeter diameter, which ripen to a bright red in mid to late summer. Like other raspberries it is not a true berry, but instead an aggregate fruit of numerous drupelets around a central core; the drupelets may be carefully removed separately from the core when picked, leaving a hollow fruit which bears a resemblance to a thimble, perhaps giving the plant its name; it is also said that it may get its name from the Thimble Islands in Connecticut, though it is rarely seen there.

Yellow Foxtail

Setaria Pumila



Setaria pumila is a species of grass known by many common names, including yellow foxtail, yellow bristle-grass, pigeon grass, and cattail grass. It is native to Europe, but it is known throughout the world as a common weed. It grows in lawns, sidewalks, roadsides, cultivated fields, and many other places.

Foxtail grasses can be identified by their “foxtail,” a bushy group of spiked seeds that resemble the tail of a fox when green, but these bushy-looking awns quickly become hard and almost needle-like when the grass dries. These spiky seeds, or spikelets, are barbed and efficiently adapted for animal dispersal.