

California Native Plant Society, Santa Clara Valley Chapter

Native Plant Resources for Butterflies of the San Francisco Bay region

Usable caterpillar forage is in short supply in our anthropogenic landscape and thus the challenge is to foster butterfly production by providing more usable caterpillar forage. Many butterfly populations are in worse shape than the Monarch! Native caterpillar forage plants listed here for many butterflies:

In severe decline:

Large Marble. California Mustard (*Caulanthus lasiophyllus*) – likely the major historic hostplant. **Tower Mustard** (*Turritis glabra*). **American Wintercress** (*Barbarea orthoceras*). **Western Wallflower** (*Erysimum capitatum*). Seems to prefer plants a meter or more high.

Checkered White. California Mustard (*Caulanthus lasiophyllus*). **Tower Mustard** (*Turritis glabra*). **American Wintercress** (*Barbarea orthoceras*). **Western Yellowcress** (*Rorippa curvisiliqua*).

West Coast Lady. **Tree Mallow** (*Malva assurgentiflora*) (fq). **Alkali Mallow** (*Malvella leprosa*) (fq). **Stinging Nettle** (*Urtica dioica*) (fq). **Checker Mallow** (*Sidalcea malviflora*). **Arroyo Lupine** (*Lupinus succulentus*). **Common Bush Mallow** (*Malacothamnus fasciculatus*).

Satyr Comma. **Stinging Nettle** (*Urtica dioica*).

Field Crescent. **Pacific Aster** (*Symphyotrichum chilense*) (fq). **California Goldenrod** (*Solidago velutina* subsp. *californica*).

Lorquin's Admiral. **Arroyo Willow** (*Salix lasiolepis*) (fq). **Narrowleaf Willow** (*Salix exigua*). **Black Cottonwood** (*Populus balsamifera* var. *trichocarpa*). **Fremont Cottonwood** (*Populus fremontii*). **Oceanspray** (*Holodiscus discolor*). **Utah Serviceberry** (*Amelanchier utahensis*).

California Ringlet. **Valley Wild Rye** (*Elymus triticoides*). **Purple Needlegrass** (*Stipa pulchra*). **Bentgrasses** (*Agrostis*). Mostly unknown, likely native perennial grasses, and possibly rushes and sedges.

Sylvan Hairstreak. **Sandbar Willow** (*Salix exigua* var. *hindsiana*) (fq). **Arroyo Willow** (*Salix lasiolepis*).

Great Copper. **Willow-leaved Dock** (*Rumex salicifolius*) (fq) – strongly preferred over much more common non-native docks. **Great Valley Gumplant** (*Grindelia camporum*) important for nectar.

Small Checkered-Skipper. **Alkali Mallow** (*Malvella leprosa*).

Umbler Skipper. **California Brome** (*Bromus carinatus*). **Tufted Hairgrass** (*Deschampsia caespitosa*). **Red Fescue** (*Festuca rubra*). **San Diego Sedge** (*Carex spissa*).

Woodland Skipper. **Valley Wild Rye** (*Elymus triticoides*). **Giant Wildrye** (*Elymus condensatus*). **Slender Wheatgrass** (*Elymus trachycaulus*). **American Dune Grass** (*Elymus mollis*). **Reed Canarygrass** (*Phalaris arundinacea*). **California Canarygrass** (*Phalaris californica*). **Lemmon's Canarygrass** (*Phalaris lemmonii*).

Common Sootywing. **California Goosefoot** (*Chenopodium californicum*). **Pitseed Goosefoot** (*Chenopodium berlandieri*). **Mat Amaranth** (*Amaranthus blitoides*). **Palmer's Pigweed** (*Amaranthus palmeri*). **Powell's Amaranth** (*Amaranthus powellii*). Preferences undetermined.

In serious decline:

Anise Swallowtail. Kellogg's Yampah (*Perideridia kelloggii*) (fq). **Chu-chu-pate** (*Lomatium californicum*) (fq). **Pacific Water Parsley** (*Oenanthe sarmentosa*) (fq). **Coast Angelica** (*Angelica hendersonii*). **Cow Parsnip** (*Heracleum maximum*). **Bladder Parsnip** (*Lomatium utriculatum*). Most carrot family plants but not the Sanicle tribe. Females prefer to lay eggs on isolated plants, or those on the edges of a mass.

Sara Orangetip. **Tower Mustard** (*Turritis glabra*) (fq). **California Mustard** (*Caulanthus lasiophyllus*). **American Wintercress** (*Barbarea orthoceras*). **Milkmaids** (*Cardamine californica*). **Bristly Jewelflower** (*Streptanthus glandulosus*). **Western Wallflower** (*Erysimum capitatum*). **Lacepod** (*Thysanocarpus curvipes*).

Monarch. **Narrowleaf Milkweed** (*Asclepias fascicularis*).

American Lady. **Pearly Everlasting** (*Anaphalis margaritacea*). **Purple Everlasting** (*Gamochaeta ustulata*). **Lowland Cudweed** (*Gnaphalium palustre*). **White Everlasting** (*Pseudognaphalium canescens*). **Cottonbatting Plant** (*Pseudognaphalium stramineum*). **Green Everlasting** (*Pseudognaphalium californicum*). **California Mugwort** (*Artemisia douglasiana*). **White Yarrow** (*Achillea millefolium*).

Mourning Cloak. **Narrowleaf Willow** (*Salix exigua*) – thought preferred in the San Francisco Bay region. **Pacific Willow** (*Salix lasiandra* var. *lasiandra*) – ‘occasionally abundant’ on it in Suisun Marsh. **Arroyo Willow** (*Salix lasiolepis*). **Black Cottonwood** (*Populus balsamifera* var. *trichocarpa*). **Fremont Cottonwood** (*Populus fremontii*). **White Alder** (*Alnus rhombifolia*).

California Sister. **Canyon Live Oak** (*Quercus chrysolepis*) (fq). **Coast Live Oak** (*Quercus agrifolia*). **Interior Live Oak** (*Quercus wislizeni*). **Blue Oak** (*Quercus douglasii*). **California Black Oak** (*Quercus kelloggii*). **Tanoak** (*Notholithocarpus densiflorus*).

Gold-hunter's Hairstreak. **Blue Oak** (*Quercus douglasii*) (fq). **Nuttall's Scrub Oak** (*Quercus dumosa*) (fq). **Valley Oak** (*Quercus lobata*). Sometimes-other oaks. Favors fresh shoots of fire-damaged trees.

Great Purple Hairstreak. **Oak Mistletoe** (*Phoradendron leucarpum* subsp. *tomentosum*) which grows mostly on native oaks, rarely other plants. **Big Leaf Mistletoe** (*Phoradendron leucarpum* subsp. *macrophyllum*) which attaches to alders, ashes, walnuts, sycamores, cottonwoods, and willows.

Echo Azure. **California Buckeye** (*Aesculus californica*) (fq). **Redtwig Dogwood** (*Cornus sericea*) (fq). **Brown Dogwood** (*Cornus glabrata*). **Blueblossom** (*Ceanothus thyrsiflorus* var. *thyrsiflorus*). **Blueblossom** (*Ceanothus thyrsiflorus* var. *thyrsiflorus*). Others, nine different plant families!

Silvery Blue. **California Tule Pea** (*Lathyrus jepsonii* subsp. *californicus*). **Pacific Pea** (*Lathyrus vestitus*). **American Vetch** (*Vicia americana*). **Miniature Lupine** (*Lupinus bicolor*). **Summer Lupine** (*Lupinus formosus*). **Chick Lupine** (*Lupinus microcarpus*). **Arroyo Lupine** (*Lupinus succulentus*). **Varied Lupine** (*Lupinus versicolor*). **Spanish Clover** (*Acmispon americanus*). **Deerweed** (*Acmispon glaber*).

Sandhill Skipper. **Saltgrass** (*Distichlis spicata*).

Eufala Skipper. Wild native hosts not documented. Cultivated native hosts: **San Diego Sedge** (*Carex spissa*). **Reed Canarygrass** (*Phalaris arundinacea*) – works in lab and related to known exotic hosts. **Marsh Bristlegrass** (*Setaria parviflora*) the locally native grass most closely related to known hosts.

Propertius Duskywing. Coast Live Oak (*Quercus agrifolia*). Blue Oak (*Quercus douglasii*). Oregon Oak (*Quercus garryana*). Valley Oak (*Quercus lobata*). Interior Live Oak (*Quercus wislizeni*). California Black Oak (*Quercus kelloggii*). Tan Oak (*Notholithocarpus densiflorus*). Overwinter in leaf litter under trees.

Declining:

Orange Sulphur. Spanish Clover (*Acmispon americanus*). Deerweed (*Acmispon glaber*). California Tule Pea (*Lathyrus jepsonii* ssp. *californicus*). Miniature Lupine (*Lupinus bicolor*). Arroyo Lupine (*Lupinus succulentus*). Tomcat Clover (*Trifolium willdenovii*). American Vetch (*Vicia americana*).

Red Admiral. Stinging Nettle (*Urtica dioica*). Black-hair Nettle (*Hesperocnide tenella*) –likely hostplant.

Mylitta Crescent. Indian Thistle (*Cirsium brevistylum*). Douglas' Swamp Thistle (*Cirsium douglasii* var. *douglasii*). Suisun Thistle (*Cirsium hydrophilum*). Western Thistle (*Cirsium occidentale*), and varieties.

Variable Checkerspot. Bush Monkeyflower (*Mimulus aurantiacus*) (fq). California Figwort (*Scrophularia californica*). Heart-leaved Penstemon (*Keckiella cordifolia*). Others quite possible.

California Hairstreak. Coast Live Oak (*Quercus agrifolia*). Valley Oak (*Quercus lobata*). Interior Live Oak (*Quercus wislizeni*). Western Choke Cherry (*Prunus virginiana* var. *demissa*).

Bramble Green Hairstreak. Deerweed (*Acmispon glaber*). Coast Buckwheat (*Eriogonum latifolium*). Naked Buckwheat (*Eriogonum nudum*).

Gray Hairstreak. Dove Weed (*Croton setigerus*). Spanish Clover (*Acmispon americanus*). Deerweed (*Acmispon glaber*). California False Indigo (*Amorpha californica*). California Coffeeberry (*Frangula californica*). Alkali Mallow (*Malvella leprosa*). Checkermallow (*Sidalcea malviflora*). Willow Smartweed (*Persicaria lapathifolia*). Willow-leaved Dock (*Rumex salicifolius*). Others quite possible, a generalist.

Eastern Tailed Blue. California Tule Pea (*Lathyrus jepsonii* subsp. *californicus*). American Vetch (*Vicia americana* var. *americana*). Spanish Clover (*Acmispon americanus*). Deerweed (*Acmispon glaber*). Tomcat Clover (*Trifolium willdenovii*). Miniature Lupine (*Lupinus bicolor*). Sky Lupine (*Lupinus nanus*).

Western Pygmy Blue. Quail Bush (*Atriplex lentiformis*). Beach Saltbush (*Atriplex leucophylla*). Fat Hen (*Atriplex prostrata*) (fq). California Seablite (*Suaeda californica*) (fq). Bush Seepweed (*Suaeda nigra*). Woolly Seablite (*Suaeda taxifolia*) (fq). California Goosefoot (*Chenopodium californicum*).

Purplish Copper. Water Smartweed (*Persicaria amphibia*). Willow Smartweed (*Polygonum lapathifolia*). Dotted Smartweed (*Persicaria punctata*). Willow-leaved Dock (*Rumex salicifolius*).

Sachem. Saltgrass (*Distichlis spicata*). Red Fescue (*Festuca rubra*). Mostly unrecorded.

Mournful Duskywing. Coast Live Oak (*Quercus agrifolia*) (fq). Interior Live Oak (*Quercus wislizeni*). Valley Oak (*Quercus lobata*) (fq). Nuttall's Scrub Oak (*Quercus dumosa*). Blue Oak (*Quercus douglasii*). Will eat seedlings and saplings; it does not require mature trees.

OK – in that no decline noted in study period:

Western Tiger Swallowtail. California Sycamore (*Platanus racemosa*) (fq). Oregon Ash (*Fraxinus latifolia*). Black Cottonwood (*Populus balsamifera* var. *trichocarpa*). Fremont Cottonwood (*Populus*

fremontii). **Narrowleaf Willow** (*Salix exigua*). **Pacific Willow** (*Salix lasiandra* var. *lasiandra*). **Arroyo Willow** (*Salix lasiolepis*). **White Alder** (*Alnus rhombifolia*). **Bigleaf Maple** (*Acer macrophyllum*).

California Dogface. **California False Indigo** (*Amorpha californica*).

Painted Lady. **Western Thistle** (*Cirsium occidentale*). **California Thistle** (*Cirsium occidentale* var. *californicum*). **Suisun Thistle** (*Cirsium hydrophilum*). **Mugwort** (*Artemisia douglasiana*). **Sunflower** (*Helianthus annuus*). **Common Fiddleneck** (*Amsinckia intermedia*). **Arroyo Lupine** (*Lupinus succulentus*). **Tree Mallow** (*Malva assurgentiflora*). **Stinging Nettle** (*Urtica dioica*).

Common Buckeye. **Bush Monkeyflower** (*Mimulus aurantiacus*). **California Figwort** (*Scrophularia californica*). **Mare's-tail** (*Hippuris vulgaris*). **Heart-leaved Penstemon** (*Keckiella cordifolia*). **Mexican Plantain** (*Plantago subnuda*). **Scarlet Monkeyflower** (*Mimulus cardinalis*). **American Brooklime** (*Veronica americana*). **Frogfruit** (*Phyla nodiflora*). Others, especially of the plantain family.

Brown Elfin. **Soap Lily** (*Chlorogalum pomeridianum*) (fq) – locally preferred. **Buckbrush** (*Ceanothus cuneatus*). **California Coffeeberry** (*Frangula californica*). **Hoary Coffeeberry** (*Frangula californica* subsp. *tomentella*). **Wild Buckwheat** (*Eriogonum* spp.). Others; a generalist.

Acmon Blue. **Naked Buckwheat** (*Eriogonum nudum*). **Coast Buckwheat** (*Eriogonum latifolium*). **Pink Island Buckwheat** (*Eriogonum grande* var. *rubescens*). **Miniature Lupine** (*Lupinus bicolor*). **Spanish Clover** (*Acmispon americanus*). **Tomcat Clover** (*Trifolium willdenovii*).

Fiery Skipper. **Saltgrass** (*Distichlis spicata*) used in South America, likely here, as yet unconfirmed. **Teal Lovegrass** (*Eragrostis hypnoides*). Surely others, yet undetermined.

Common Checkered-Skipper. **Alkali Mallow** (*Malvella leprosa*) (fq). **Checker Mallow** (*Sidalcea malviflora*). **Indian Valley Bush Mallow** (*Malacothamnus aboriginum*). Likely others in mallow family.

Northern White-Skipper. **Common Bush Mallow** (*Malacothamnus fasciculatus*). **Fremont's Bush Mallow** (*Malacothamnus fremontii*). **Davidson's Bush Mallow** (*Malacothamnus davidsonii*).

Other species – not included in the status study

Pale Swallowtail. **California Coffeeberry** (*Frangula californica*) (fq). **Hoary Coffeeberry** (*Frangula californica* subsp. *tomentella*). **Redberry** (*Rhamnus crocea*). **Hollyleaf Redberry** (*Rhamnus ilicifolia*). **Buckbrush** (*Ceanothus cuneatus*). **Hollyleaf Cherry** (*Prunus ilicifolia*).

Pipevine Swallowtail. **California Pipevine** (*Aristolochia californica*).

Northern Cloudywing. **California False Indigo** (*Amorpha californica*). **Wild Peas** (*Lathyrus* spp.). **Big Deervetch** (*Hosackia crassifolia*) (fq). **Large Leather Root** (*Hoita macrostachya*). **Clovers** (*Trifolium* spp.).

Rural Skipper aka **Farmer**. **Smallflower Melic Grass** (*Melica imperfecta*).

Population Trends Study: Matthew L. Forister, Joshua P. Jahner, Kayce L. Casner, Joseph S. Wilson, and Arthur M. Shapiro. 2011. "The race is not to the swift: Long-term data reveal pervasive declines in California's low-elevation butterfly fauna." *Ecology* 92:2222–2235.