

# INSECTS

OF WENTE SCOUT RESERVATION  
Mendocino County, California

by Eddie Dunbar

An easy-to-use field guide  
to 60 common insects, with  
40 color photographs



**Front Cover:** (top left: Black Tiger Beetle; top right: Three-striped Longhorn Moth; bottom left: Ceonothus Moth; bottom right: Scarab Beetle).  
Photos by Eddie Dunbar.

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**Second Edition**



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OF WENTE SCOUT RESERVATION

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## Dedication

This guide is dedicated to the memory of my father, Edward Burton Dunbar, to my mother (who carried me out to catch bugs), and to my other family members who put up with my entomo-centrism.



## Acknowledgments

QND's BugPeople gratefully acknowledges funding in support of the generation of this field guide from the Leadership Institute for Teaching Elementary Sciences (LITES), Mills College, Oakland, California and by the Science Department of the Oakland Unified School District.

Thanks to my wife, Julie Williams-Dunbar, for allowing me time away from the family to write. Thanks also to Dave Wagner, Wente Camp Director, (from when to when?), for editing and other support.

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# INTRODUCTION

## Wente Scout Reservation

Wente Scout Reservation is a camp belonging to the San Francisco Bay Area Council of the Boy Scouts of America. It is located on the outskirts of Willits, on Highway 101, and was the former Foley Ranch. Wente offers woodland, riparian and forest ecosystems. An 80 acre lake is used for fishing, swimming, sailing, boating, and canoeing. It is considered one of the warmest lakes in the state.

Wente Scout Reservation also offers backpacking, horse riding, rock climbing and shooting and archery ranges. Instruction in wildlife and environmental merit badges is available during the Scouting summer camps in these areas: conservation, reforestation, wildlife management, nature study, reptile study, bird study, mammals and insect study.

Thirteen campsites are spread throughout the more developed section of the reservation. Deer, bear, wildcat, quail and turkey inhabit the area.

# Forward

By Al Robinson  
(pending)

## INSECTS OF WENTE SCOUT RESERVATION

### Butterflies & Moths (Order Lepidoptera)



**Pale or Mountain Swallowtail (*Papilio eurymedon*)**

**Family Papilionidae**

This butterfly lives in the dry hillside habitats of California. It is a close relative of two other common California swallowtails: the **Western Tiger Swallowtail (*Papilio rutulus*)** and the **Anise Swallowtail (*Papilio zelicaon*)**.



**Monarch Butterfly  
(*Danaus plexippus*)**

**Family Danaidae**

Monarchs are easily recognized by their characteristic markings of orange with black borders and veins, and white spots. The larvae of Monarch Butterflies feed on milkweeds. They are able to sequester the cardiac glycosides from these plant and this makes them distasteful



**Mourning Cloak Butterfly  
(*Nymphalis antiopa*)**

**Family Nymphalidae**

Mourning Cloaks like meadows along running water. Males defend territories against birds and other butterflies from sunlit perches. Dark maroon wings are margined with ragged yellow. Caterpillars are gregarious. Adults feed on tree sap and rotting fruit. Wingspan 71-83 mm.



**Peacock or Buckeye Butterfly  
(*Junonia coenia*)**

Wingspan 50-55. Dark brown with a conspicuous peacocklike eyespot located on the front wing and two on the hindwings - one large and one smaller, one on each hind wing. Larvae feed on plantain, snapdragon, and other plants. Throughout the entire United States.



**Pine White**  
(*Neophasia menapia*)  
Family Pieridae

This is a forest dwelling butterfly. Pine Whites are weak flyers. Caterpillars are dark green with white stripes along the back and sides. Larvae can be seen hanging from trees by silk threads.



**Blues**  
Family Lycaenidae

These small blue butterflies pollinate many small wild flowers. They are some of the smallest butterflies at Wente. Some are as small as fingernails.



**Ceanothus Silk Moth**  
(*Hyalophora euryalus*)  
Family Saturniidae

One of the giant silk moths, this, and the other Wente species, is active after midnight. The Ceanothus Silk Moth feeds on native shrubs, including Buck Brush. The **Polyphemus Moth** (*Antheraea polyphemus*) feeds primarily on broad-leaved trees.



**Three-striped Longhorn**  
(*Adela trigrappa*)  
Family Incurvariidae

These tiny moths have very, very long antennae and can be seen in meadows attending flowers.



**Elegant Sphinx Moth**  
(*Sphinx perelegans*)  
Family Sphingidae

This large moth is fairly common late nights in the Wente woods. Caterpillars feed exclusively on Manzanita. They are bright green, with dull bands on each side, and a brown horn. Wingspan 40 to 49 mm.

**California Sister**  
(*Adelpha bresowi*)  
Family Nymphalidae

The California sister can often be seen flying just beyond reach around oak trees. They seldom land and rarely visit flowers.

**Black and Gold Sulphur**  
Family Pieridae

Rare in this area. Adults feed on nectar. Caterpillars feed on vetches and wild peas, which are very uncommon in camp areas.

**Fiery Skipper**  
Family Hesperidae

This bright skipper is common throughout California in areas where development has not occurred. It is found in parks, yards, farm fields, and along roadsides. At Wente, they may be seen near the road or corral, but rarely in the more wild parts of camp, such as the outpost.

**Red-shouldered Ctenucha**  
(*Ctenucha rubroscapus*)  
Family Arctiidae

A day-flying moth, which can be found in Wente stream habitats on the leaves of trees or in grass. The moth is distasteful to most predators. From a distance, the moth resembles a beetle.

## True Bugs (Suborder Heteroptera)

Forewings are usually thickened basally and rest flat over the body when at rest. The forewings are sometimes termed hemelytra. The rostrum arises anteriorly on the head.



**Water Boatman**  
**Family Corixidae**

These are similar in appearance to the Backswimmers (Family Notonectidae), but are somewhat smaller. Forelegs are shovel-like and serve to fill the insects mouth with the algae and decaying vegetable matter, upon which it feeds.



**Water Strider**  
**Family Gerridae**

These insects are predators on small insects that fall onto the water. The struggling insects' vibrations reveal where the insect is. The victim is grasped by prehensile forelegs and the water strider inserts its beak and injects digestive enzymes - and suck up the insects' bodily fluids.



**Toad Bug**  
**Family Gelastocoridae**

These are very similar in appearance to toads. Bulging eyes, rough "skin" and hopping motions make this insect appear very much like a toad. It is a predator on small shore-dwelling insects.



**Backswimmer**  
**Family Notonectidae**

Another predator, these insects spend their lives upside down, under the water surface.



**Bordered Plant Bug**  
**(*Largus cinctus*)**  
**Family Largidae**

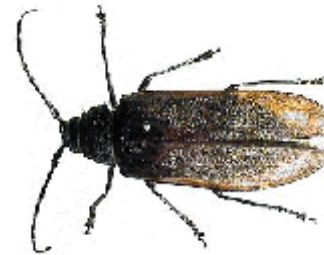
A seed-feeder. These insects can be found all over Wente in certain seasons.

## Beetles (Order Coleoptera)



**California Prionus**  
**(*Prionus californicus*)**  
**Family Cerambycidae**

This is one of Wente's (and California's) two largest beetles. The other is the Spined Woodborer (below). This insect bores into the bases of dead or dying tree and weakens trees so that they fall, reducing the fuel available to fires.



**Spined Woodborer**  
**(*Ergates spiculatus*)**  
**Family Cerambycidae**

The serrated mandibles of this beetle's larvae gave loggers the idea for the modern chainsaw. They feed on oak, madrone, eucalyptus, pear, peach, plum, some conifers, and others. Adults fly from June to September. Females lay up to 600 eggs. The life cycle takes 3-5 years.



**Black Tiger Beetle**  
**(Genus *Omus*)**  
**Family Cicindelidae**

*Omus* is a nocturnal Tiger Beetle. It resembles ground beetles (Family Carabidae) in appearance. It exudes a dark, foul-smelling liquid when threatened. Its mouthparts are adapted for seizing prey.



**Convergent Ladybird Beetle**  
(*Hippodamia convergens*)  
Family Coccinellidae

Commonly called "ladybugs", these are actually beetles. They are usually small, round and red, with black markings. **The Two-spotted Ladybird Beetle (*Adalia bipunctata*)** is black with a single red spot on each wing. Most species are predators of garden pests.

**Golden Buprestid**  
(*Buprestis aurulenta*)  
Family Buprestidae

This is the state's most spectacularly-colored beetle. Adults are about 2 cm long and golden green or blue-green in color, with the median suture and margins entirely bordered with copper. Adults lay eggs in the bark of dead or dying trees. These insects may live up to 60

**Ten Lined June Beetle**  
(*Polyphylla decimlineata*)  
Family Scarabaeidae

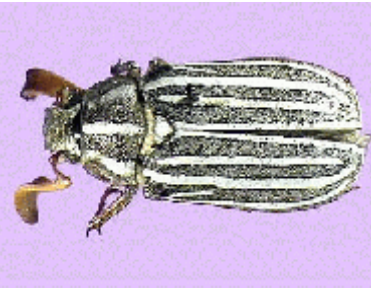
This large striped beetle lives in the shrubby areas near or around fields. Adults feed on coniferous foliage. Larvae feed on roots of many kinds of plants, including conifers. They also are pests in some orchards. Adults are robust, brown; each forewing has four longitudinal white

**Scarab Beetle**  
Family Scarabaeidae

These beetles bore galleries in the bases of Pines and Doug Fir. It thrives in the plentiful resin that flows from large "pitch tubes" on bark.

**Red Turpentine Beetle**  
(*Dendroctonus valens*)  
Family Scolytidae

These beetles bore galleries in the bases of Pines and Doug Fir. It thrives in the plentiful resin that flows from large "pitch tubes" on bark.



## Dobsonflies, Fishflies & Alderflies (Order Megaloptera)



**Dobsonfly**  
Family Corydalidae

These are large insects. Males have very long mandibles.

## Leafhoppers, Treehoppers & Froghoppers (Suborder Homoptera)



**Woodland Cicada**  
Family Cicadidae

Adult cicadas are seldom seen; but empty exoskeletons may be seen, claws still embedded in trees, posts or other objects they've climbed onto. Most of life is spent underground sucking juices from roots. Cicadas are larger than other Homopterans and can reach 25-50 mm in length.

## Nerve-winged Insects (Order Neuroptera)



**Green Lacewing**  
Family Chrysopidae

These insects are a pale green white golden eyes. Wings are dainty and antennae are long. These insects are predatory in the adult and larval stages.



**Ant Lion**  
Family Myrmeleontidae

These insects lie in wait for hapless insects to fall into their pit-shaped lair. Larvae lay with jaws open, seize and inject digestive enzymes into insects that fall in.

## Dragonflies & Damselflies (Order Odonata)



### Dragonflies

#### Suborder Anisoptera

Dragonflies have elongate, broad-based wings which are held straight out at rest. Larvae (naiads) and adults of both are predaceous. Adult legs form baskets. Prey is captured on the wing. Adults dragonflies may eat 300-400 gnats each day. Though also known as "The Devil's Darning Needle," dragonflies possess no sting.

### Damselflies

#### Subfamily Zygoptera

Damselfly wings are broader at the far ends and are held backwards, over the abdomen, when the insect is at rest. Naiads capture prey using a prehensile lower lip which seizes insects underwater. Naiads feed on mosquito larvae and other small aquatic animals.



## Ants, Bees & Wasps (Order Hymenoptera)



### Carpenter Ants

#### (Genus *Camponotus*)

#### Family Formicidae

Carpenter ants rival termites as pest of wood. These are California's largest ants, measuring 12 mm or more in length. Stumps, posts and sometimes Wente cabins are excavated for nests. Ants may be seen wandering into tents in search of sweets, grease or dead insects.

### Harvester Ants

#### (Genus *Pogonomyrmex*)

#### Family Formicidae

Harvester ants can be found in fields at camp. They feed on grass seeds, which they gather into their colony underground. Uneaten seeds help with the spread and growth of grasses.



### Thread-waisted Wasp

#### (Genus *Ammophila*)

#### Family Sphecidae

These insects paralyze caterpillars, which they carry along the length of their bodies. The prey is buried in burrows in loose sand or soil. Look for them along roads around the camp.



### Bald-faced Hornet

#### (*Vespula maculata*)

#### Family Vespidae

These insects construct large, basketball size nests in trees. Faces are white ("bald"). Have no doubt. Their sting is mean.



### Bumble Bee

#### (Genus *Bombus*)

#### Family Apidae



### Velvet Ant

#### (Genus *Dasymutilla*)

#### Family Mutillidae

Also known as a "mule killer", these insects are actually wingless wasps - with a very fierce sting.



### Tarantula Hawk

#### (Genus *Pepsis*)

#### Family Pompilidae

These critters tackle tarantulas. females drag paralyzed tarantulas to an underground nest. An egg is laid on the tarantula body and a hungry worm-like larvae eats the tarantula alive.





**Yellowjacket Wasp**  
(Genus *Vespula*)  
Family Vespidae

#### Other Common Hymenoptera

Other Hymenoptera likely to be encountered at Wente Scout Reservation include the European Honeybee (*Apis mellifera*), Braconid Wasps (Family Braconidae), Stem Sawflies (Family Cephidae), Chalcid Wasps (Family Chalcidae), Argentine Ant (*Linepithema humile*) and Ichneumon Wasps (Family Ichneumonidae).

### Termites (Order Isoptera)

Termites eat wood and form large, social colonies in wood or in the ground. They are very important as forest recyclers. Termites, along with fungi, earthworms, protozoa, ants and algae, break wood down to release nutrients and carbon needed by plants and other animals.

For all castes, antennae are very short. Most forms lack eyes. Workers and soldiers are wingless, plump and soft-bodied. They are whitish to light brown in color. Soldiers have very large, dark colored mandibles. The reproductive caste is dark red to brown or black. Only the reproductive castes grow wings.



**Pacific Dampwood Termites**  
(*Zootermopsis angusticollis*)  
Family Hodotermitidae

These are one of three termites ecotypes in the Oakland area. These termites live in waterlogged or damp wood. They grow to be about a half inch in length. The soldiers are quite impressive - heads are very dark red and outfitted with very large, functional mandibles.



**Western Subterranean Termite**  
(*Reticulitermes hesperus*)  
Family Rhinotermitidae

Individuals from these termite colonies may number in the thousands or millions. Subterranean termites live underground, but come up to feed. They prefer wood in direct contact with the earth, but also are pests in structures and, in some areas, will build aerial



**Western Drywood Termite**  
(*Incisitermes minor*)  
Family Kalotermitidae

Drywood termites live in wood that has little water content. They exist in Oakland, but are more important as pests in warmer Bay Area cities.

### True Flies (Order Diptera)



**Crane Flies**  
Family Tipulidae

Crane flies resemble mosquitoes, but are much larger and have long legs which break off easily. Adults feed on plant nectar. Contrary to popular belief, they do not feed on mosquitoes. Larvae feed on plants, fungi, decaying vegetation or may be predaceous on small animals.



**Robber Flies**  
Family Asilidae

Robber Flies attack from perches as other insects pass by. Not even dragonflies and large wasps are overlooked. Bodies are dragonfly-like; legs are long and bristly; and eyes are large. The face is bearded and the proboscis is long and hard. Larvae are predators in damp soil or wood.



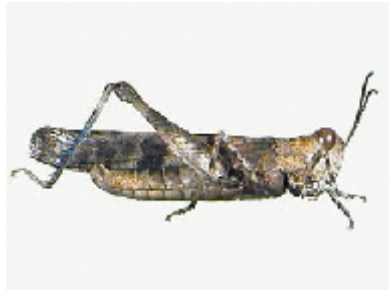
**Green Bottle Fly**  
(*Phaenicia sericata*)  
Family Calliphoridae

This is the most common species in household garbage. Adults are 10mm in length and metallic green with red eyes.

## Mayflies (Order Ephemeroptera)

Adults are elongate, very soft-bodied insects with 2-3 long caudal appendages. Forewings are large, triangular, and have extensive venation. Hindwings are small and rounded. Wings are held together above the body at rest. Nymphs are aquatic with gills flattened against the sides of the abdomen. Adults are usually found near water. Almost the entire lifespan is spent as an aquatic nymph or naiad. Nymphs feed on algae or decaying matter and a few are predaceous. Adults live for only a few hours or days. Males of many species swarm, bobbing up and down in unison. All stages are important food for freshwater fish. Lures, used by fisherman, are often modeled after this insect.

## Grasshoppers, Crickets & Katydid (Order Orthoptera)



**Blue-legged Grasshoppers**  
Family Acrididae

These insects are common on the dusty roads around Wente. They jump and fly some distance - sometimes making a clicking sound with their wings. Grasshoppers are important as food for birds, small mammals, reptiles and amphibians and the occasional scout.



**Jerusalem Cricket**  
Family Stenopelmatidae

Also known as Potato Bugs, these large, ugly insects are not really as scary as they look. They are not poisonous, although they can give you quite a pinch if they bite while trying to escape. They burrow and eat roots.

## Stoneflies (Order Plecoptera)



Stoneflies are important as food for fish and other animals. They are mostly drab in color. Antennae and cerci are long. Adults may be seen resting on stones and trees near Wente waterways. Nymphs are aquatic. Adults and nymphs are elongate and flattened. Wings are membranous and hindwings possess large anal lobes.

## Snakeflies (Order Raphidioptera)



Snakeflies can be found on vegetation all over Wente Scout Reservation. They are predators on small soft-bodied insects - and true to their name, they are snakelike. Females have a long ovipositor (egg laying device) at the end of their abdomen. Larvae are usually found under bark.

## Walkingsticks (Order Phasmatodea)

Timema are common on oaks around Wente Scout Reservation. They are small, pale green and much stouter than walkingsticks people might encounter in pet stores or classrooms. They, like their classroom relatives, are plant-feeding (herbivorous). They are solitary animals and the only contact between individuals occurs at mating. Members of this order use camouflage quite effectively. They may resemble small sticks or leaves. All California species are wingless.

## OTHER ARTHROPODS

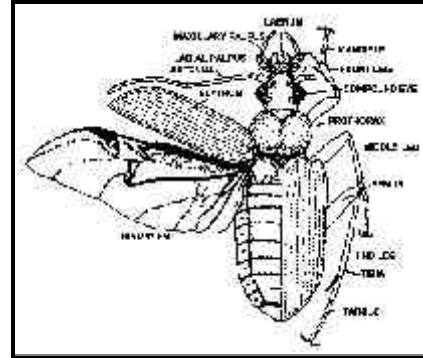
### Spiders (Order Arachnida)



#### Calisoga Spider (*Calisoga longitarsis*)

The Calisoga Spider invades Wente tents. Shoes, other clothing, open backpack pockets and sleeping bags are favorite hideouts. For this reason, a tidy tent is a happy tent. Calisogas are similar in appearance and movement to tarantulas. They bite repeatedly when threatened.

## BASIC INSECT ANATOMY



This diagram shows the various parts of an insect the student should learn.

Generally speaking, every insect has two pairs of wings: two fore or front wings and two hind or back wings.

Parts that should be familiar for successful insect mounting are the leg parts, wing types/parts (including veins), abdomen, thorax and head parts, including the antennae and mandibles.

### RELAXING

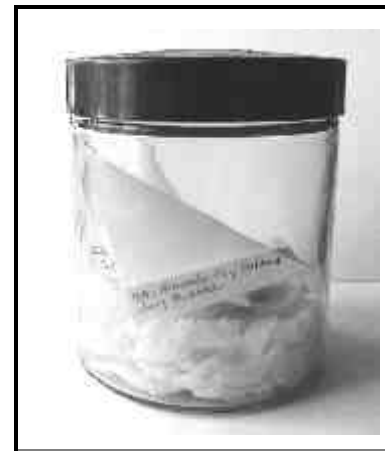
Understanding basic insect anatomy is important in mounting insects.

Understanding basic insect anatomy is important in mounting insects. Mounting sometimes requires that an insect be "relaxed" in a relaxing jar (see "Procedures" below) before appendages are manipulated. Relaxing softens dry insects so that wings, legs, antennae, etc., may be spread without breaking. Dry, brittle insects should never be handled before relaxing. Damage done to delicate appendages, such as legs, tarsi or antennae is often a result of improper relaxing.

Insects that will not be damaged by soaking, such as beetles, may be dipped into hot tap water in a container for a few seconds to a minute. After removing them, allow them several minutes to soften. Larger insects may take a little longer. Butterflies and other insects that would be damaged by soaking will need to go into a relaxing jar.

### Relaxing Jars

Relaxing jars are airtight chambers used to replace fluids and to restore flexibility to a dried specimen. Relaxing jars may be constructed simply by placing a sponge,



Relaxing Jar

moistened with a water and phenol (to prohibit fungus growth; also found in Chloraseptic®) solution, into an airtight jar. Large mouth jars are the best for easiest placement and retrieval of specimens.

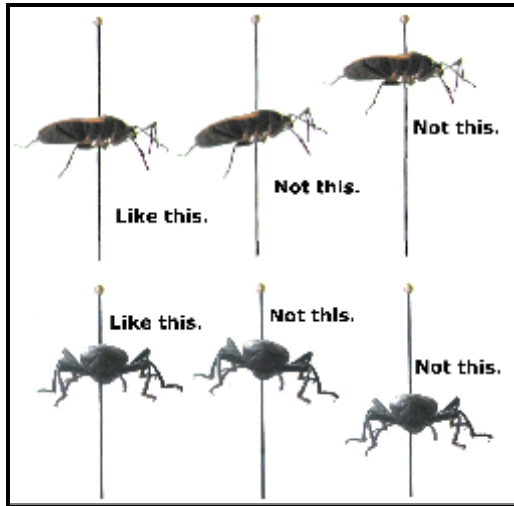
### Procedures

Always relax only the number of specimens you are able to mount at one sitting. Prolonged relaxing ruins specimens. Specimens should be relaxed while still within their paper triangles, if possible. Seal the jar firmly and allow the jar to remain undisturbed overnight. Higher temperatures, around 90°F, will speed softening. Your specimen should be soft enough to spread within a day or so.

Use a pair of forceps to grasp a tibia, and gently work the leg back and forth until the leg is fully moveable. Some popping, as joints are loosened, is normal, but always be ready for the inevitable! **Breaks will occur.** So have some clear-drying cement or glue and a toothpick handy. You can easily reattach an antenna, tarsi, or broken leg. Always remember that a damaged specimen is better than no specimen at all. **Data** - Before relaxing, place data in a secure place, but where it will still be associated with the specimen(s). Data on specimens wrapped in paper should be in indelible ink. The data is very important and will be required later for label preparation.

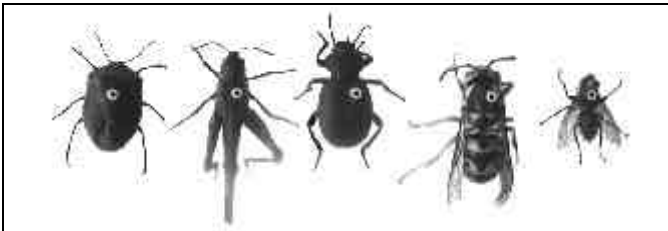
### PINNING

Grasp the insect between the thumb and forefinger or lay it on a Styrofoam pad and press the pin gently but firmly just through elytra or exoskeleton. Pause and examine the angle of the pin. Will it poke through at a critical or inconvenient point on the insect's bottom? Will the insect be pinned at an unusual angle? If so, pull the pin back out slightly and reposition for the final push through. (See the figure below to determine proper pin insertion point for your each insect type.) Be careful not to enlarge entry pin holes or to create unnecessary holes. When completed, examine the specimen again for desired pinning effect. Be careful not to prick fingers.



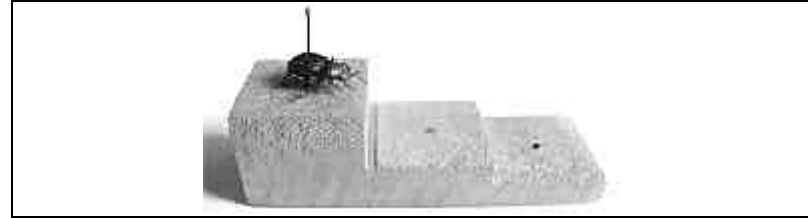
How your insect looks on the pin is important!

### Pin Placement



Insects vary in where they should be pinned. This image is a guide.

### Pinning Block



To achieve uniform specimen height and to improve overall appearance of the collection, a pinning block should be used.

### SPREADING

This photo shows the preparation of a butterfly, which requires considerably more attention than most other insects.



Butterfly mounting takes extra effort. They should not be collected unless the right equipment is handy.

### Spreading Board

With butterflies and some other specimens wings are important in identification - so, wings are sometimes opened. Well-placed pins and paper strips holds wings down and reduces movement until the insect has dried. **Specimens are best spread when they are freshly caught.**

Once specimens have been spread and allowed to dry, place them immediately into the collection to avoid accidents. Small insects may dry within just a few hours. Larger insects could take days. Be sure to coordinate a place so that they will be out of the way.

### Wings

Putting pressure lightly on the underside of the thorax, blow gently to open the wings a bit. Insert your pin and blow gently again to place cardboard strips between them. Use the strips to push the wings down and pin the insect into the spreading board bottom.

Lift one end of the strip slightly and insert pin in the heavy vein of the forewing, or if the heavy vein is absent in your specimen, use the blunt end of an insect pin to maneuver the wing from the cleavage at the intersection of large veins. Pull the wing forward until the bottom edge of the wings is at a right angle to the body (note wing position in figure). When the wing is in position, place a glass-head pin through paper strips close to the edges of the wings - but not through them!

Next to the thin strips, place heavyweight mounting strips or cardboard pieces large enough to cover the entire wings. Pin these in place with the glass-headed pins around the edges of the wings. This will allow the wings to dry without curling.

Next, pull the antennae into the proper position with a pin and fasten them in place with pins on each side of them. Work carefully, since the antennae are very fragile. If you happen to snap one off it may be repaired with a small dab of rubber cement. If the abdomen stands up or sags, position it with a pair of criss-crossed pins. Adjust it to the desired height.

When placing insects into Riker mounts, remove the pin by carefully pushing down on the thorax where the pin enters the body. (Avoid pressure on other parts of the insect).

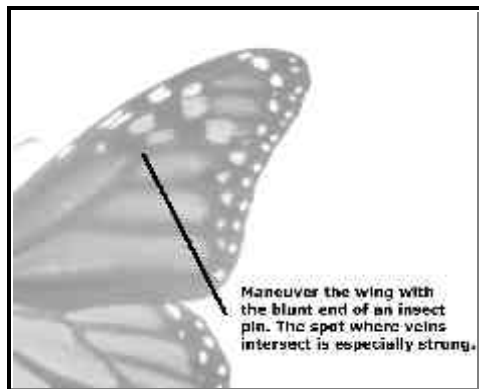
#### DATA

The collection information is what adds real value to the collection. Specimen labels should contain at least the collection date, the collection site and the collector's name. If possible, include more information - the name of the plant the insect was on, or what activity the insect may have been engaged in before capture (e.g., collecting pollen, sipping nectar, etc.). Collectors who record this kind of data end up with a valuable collection.

#### SECURING YOUR SPECIMEN

Inside the insect box you should place flakes of moth balls. **Those containing paradichlorobenzene are preferred.** It kills existing pests as well as discouraging future infestations. Those containing only naphthalene do not kill existing infestations.

Keep collections free from moisture. Humidity will promote growth of fungus or invite in small insects, like booklice or dermestid beetles. Sure signs that you have an infestation are piles of dust that appear beneath the insects in the collection.



Strong wing veins are sturdy enough to resist puncture by pins during positioning.

CA: Alameda Co., Oakland;  
2001-0911; sand N side  
Lake Merritt; Carabidae; E.  
Dunbar

Accurate data adds scientific value to your collection.

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### About the Author

Eddie Dunbar credits the Boy Scouts of America for giving him a great start in the entomological sciences. Eddie's den mother in pack 424 was a graduate student in entomology at the University of California, Berkeley. Eddie earned Insect Life Merit Badge at age 14 at Camp Rancho Los Mochos under Al Robinson, former Ranger for both Wente Scout Reservation and Rancho Los Mochos.

Dunbar went on to study Entomology at the University of California, Berkeley. In 1994 he became a Cooperative Extension Insect Hotline Operator under Extension Entomologist Vernard Lewis. Eddie ran the Lewis lab and contributed

greatly to the capacity of the University to effect outreach.

In 1996 Dunbar received a grant to fund CityBugs, a web-based entomology outreach project from UC Berkeley to students in Oakland Schools. As Project Coordinator, he published the web-based "**Insects of the San Francisco Bay Area**". The program received high accolades for its innovative use of technology. In its third year it received the Chancellor's Award for Outstanding Outreach. The program is now in its fifth year.

In 1998, Dunbar received funding from a consortium supporting Oakland Schools and he began a second web-based project, "**Exploring California Insects**". The consortium was comprised of the Technology Learning Center of Oakland Unified School District (OUSD), from the OUSD Science Department, from the Leadership Institute for Teaching Elementary Science (LITES), Mills College, Oakland and from an OUSD Comprehensive Partnerships for Math Science Achievement (CPMSA) grant. The goal of the Exploring California Insects project is to generate field guides for various regions throughout the state. This field guide is one.

Dunbar is married to Julie Williams-Dunbar, is a father of two and resides in Oakland, CA, where is an active scout leader and a minister at Beth Eden Baptist Church.

## INSECTS OF WENTE SCOUT RESERVATION



A Wente scout stalks grasshoppers. (Photo by Lane Stewart, Sport Illustrated)

*Insects of Wente Scout Reservation* is written to support Scouts completing the requirements of the Insect Study Merit Badge that pertain to insect collection, identification and importance. It helps Scouts by treating insects actually collected or observed at Wente Scout Reservation.

*Insects of Wente Scout Reservation* is one in a series of California field guides that treats fauna of various state regions. Other regions which have been treated include Eldorado National Forest, Lake Merritt and the Greater Oakland Area and Redwood Glen American Baptist Camp.

This and other Quality Nature Displays field guides are supported by the Exploring California Insects website:

**EXPLORING CALIFORNIA INSECTS** This site has 2,446 pages on 721 insects, 2,168 photographs, and web-based curriculum, including jigsaw puzzles and other activities that can be downloaded, standards matrixes that align with California Standards for teaching the life sciences.

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