



## Art Shapiro's Butterfly Site

"Monitoring butterfly populations across Central California for more than 34 years..."

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### Taxonomy

- pidoptera
- Hesperiidae
- Lycaenidae
  - Agriades
  - Atlides
  - Brephidium
  - Callophrys
  - Celastrina
  - Euphilotes
  - Evers
  - Glaucopsyche
  - Habrodais
  - Hemiargus
  - Incisalia
  - Leptotes
  - Lycaeides
  - Lycaena
  - Mitoura
  - Philotes
  - Plebejus
  - Satyrium
  - Strymon
- Nymphalidae
- Papilionidae
- ▶ Pieridae
- ▶ Riodinidae

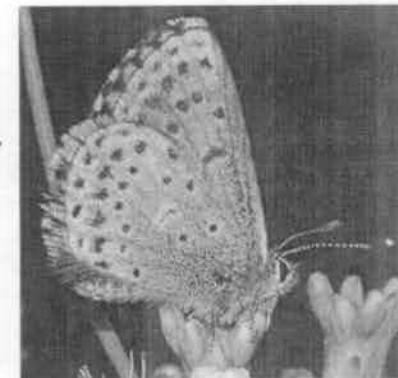
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### Euphilotes enoptes

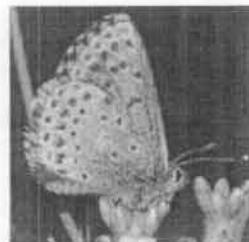
**Common Name: Dotted Blue**

#### Overview

Like the Square-Spotted Blue, this is a "complex" of entities in evolutionary ferment. However, along our transect there is no such complexity. All of our populations, from the Sierra foothills over the crest, feed on the *Eriogonum nudum* group of Wild Buckwheats and have very similar life histories - one brood in late spring-early summer, matching the blooming time of the host. Adults rarely stray more than a few feet from the host, although males do puddle. They mate on the host and roost on it for the night. *Eriogonum nudum* is a very common, widespread plant, but the butterfly is highly colonial and the colonies are very stable. There is plenty of intrapopulation variation. Where this species and the Square-Spotted Blue co-occur (as at Lang Crossing), both host association and wing phenotypes should allow for easy discrimination. If not, the genitalia are decisive. Although *E. enoptes* occurs in the North Coast Range, there are no known populations near Gates Canyon.



#### Images



**Sites Present**

- **Castle Peak**
- **Donner Pass**
- **Lang Crossing**
- **Washington**

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### Euphilotes



Euphilotes battoides



Euphilotes enoptes

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### Lycaenidae



[Agriades podarce](#)



[Atlides halesus](#)



[Brephidium exile](#)



[Callophrys dumetorum](#)



[Callophrys sheridanii lemberti](#)



[Celastrina ladon echo](#)



[Euphilotes battoides](#)



[Euphilotes enoptes](#)



**Everes amyntula**



**Everes comyntas**



**Glaucopsyche lygdamus**



**Glaucopsyche piasus**



**Habrodais grunus**



**Hemiargus isola**



**Incisalia augustinus iroides**



**Incisalia eryphon**



**Incisalia mossii**



**Leptotes marina**



**Lycaeides idas anna**



**Lycaeides melissa melissa**



**Lycaena arota arota**



**Lycaena arota virginiensis**



**Lycaena cupreus**



**Lycaena editha**



**Lycaena gorgon**

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### California Butterfly



*Nymphalis antiopa*



We are seeking butterfly photos.  
Send us yours!

### Welcome to Art's Butterfly World

This website describes over 34 years of data collected by **Dr. Arthur Shapiro**, professor of **Evolution and Ecology** at the **University of California, Davis**, in his continuing effort to regularly monitor butterfly population trends on a **transect across central California**. Ranging from the Sacramento River delta, through the Sacramento Valley and Sierra Nevada mountains, to the high desert of the western Great Basin, **fixed routes** at ten sites have been surveyed at approximately two-week intervals since as early as 1972. The sites represent the great biological, geological, and climatological diversity of central California.

As of the end of 2006, Dr. Shapiro has logged 5476 site-visits and tallied approximately 83,000 individual records of 159 butterfly species and subspecies. This major effort is continuing and represents the world's largest dataset of intensive site-specific data on butterfly populations collected by one person under a strict protocol. We have also collated monthly climate records for the entire study period from weather stations along the transect.

We built this website as a portal for Dr. Shapiro's data and observations, supported by **National Science Foundation** Biological Databases and Informatics Grant DBI-0317483. Much of the data is freely available (Please **Contact Us** for more information). [read more »](#)

### About this Study

Phenology has interested me for going on half a century. I began keeping phenological records of butterflies as a teenager in Philadelphia. As an undergraduate at the University of Pennsylvania I took a community ecology course from Jack McCormick, who was under contract to do an ecological study of the Tinicum wetlands (near Philadelphia International Airport). I had been doing an informal faunistic study of the place, purely for the fun of it, and had tons of data. A summary of this work was ultimately incorporated into Jack's report. The study had a significant phenological component. Harry K. Clench, a butterfly taxonomist at the Carnegie Museum in Pittsburgh and one of the founding members of the Lepidopterists' Society, published a phenological

study of the butterflies of the Powdermill Nature Reserve in southwestern Pennsylvania, and sent me a copy. As I recall, we had already corresponded about the occurrence of unusual Hairstreaks (Lycaenidae) in southeastern Pennsylvania, a subject on which I had published field notes at a tender age. Thus began a correspondence on phenology which continued until Harry's sudden death. Harry was "into" curve fitting. He had a sine function that worked pretty well for Powdermill, but not for Philadelphia. I was very leery of the approach: prediction was useful, but not nearly so useful as a method that cast light on the underlying mechanisms. The parameters in Harry's equations were not obviously biologically meaningful. [read more »](#)



### **Who's In Trouble in the Sacramento Butterfly Fauna?**

Submitted by amshapiro on Mon, 2007-06-25 08:34.

From a talk, "Butterflies in Peril," presented to the American River Natural History Association at Effie Yeaw Nature Center, Carmichael (Sacramento Co.), CA, June 20, 2007

Here is a brief summary of recent butterfly declines in our area. The page references are to "Field Guide to Butterflies of the San Francisco Bay and Sacramento Valley Regions," by A.M. Shapiro and T. Manolis (UC Press, 2007).

» **1 attachment**

### **Book: Field Guide to Butterflies of the San Francisco Bay and Sacramento Valley Regions**

Submitted by admin on Tue, 2007-06-12 09:08.

**Authors:** Arthur M. Shapiro and Tim Manolis

**Publisher:** University of California Press

#### **Description**

The California Tortoiseshell, West Coast Lady, Red Admiral, and Golden Oak Hairstreak are just a few of the many butterfly species found in the floristically rich San Francisco Bay and Sacramento Valley regions. This guide, written for both beginning and experienced butterfly watchers by one of the nation's best-known professional lepidopterists, provides thorough, up-to-date information on all of the butterfly species found in this diverse and accessible region. Written in lively prose, it discusses the natural history and conservation status for these butterflies and at the same time provides an integrated view of butterfly biology based on studies conducted in northern California and around the world. Compact enough for use in the field, the guide also includes tips on butterfly watching, photography, gardening, and more.

- Discusses and identifies more than 130 species

- Species accounts include information on identifying butterflies through behavior, markings, and host plants
- Beautiful full-color plates illustrate top and bottom views of wings for easier identification
- Includes a species checklist and a glossary

**Buy this book online**

To purchase the book or see more details from the UC Press website, visit the following link. **UC Press Bookpage**

**Where Have the Butterflies Flown?**

Submitted by amshapiro on Tue, 2007-05-15 14:59.

Most grownups think there are fewer butterflies now than when they were kids. As a professional ecologist at UC Davis, I heard that from so many people on both coasts, over several decades, that I developed my own theory to explain it. It went something like this: Butterflies constitute a proportionately bigger component of the landscape as perceived by a little kid; as a person gets bigger, butterflies seemingly get smaller, and we just notice them less. I wish that were the case, but, unfortunately for us, for our local ecosystems and for our children, hard data shows that butterflies really are disappearing. In fact, some of the most compelling data come from right here in Sacramento and its vicinity, where several species, which used to be common and easy to spot, have disappeared within the past decade. This means it's that much harder for our kids to observe the miracle of metamorphosis first-hand, like so many of us did. If you want your kids to experience the wonder of butterflies, what can you do?

Please read the full story at **the Sacramento Parent** website.

Also learn how to **Create Your Own Butterfly Refuge**.

» **2 attachments**

**Drought is not a dirty word to declining butterflies in Yolo!**

Submitted by amshapiro on Tue, 2007-05-08 14:21.

*This story was originally published as the Tuleyome Tales column on Sunday, May 6, 2007, in **The Davis Enterprise***

Butterflies in our part of California have had some tough times lately.

Most people say there aren't as many butterflies now as there were when they were kids. Because I've been monitoring butterflies on a biweekly basis at up to 10 sites in this part of California since 1972, I was in a position to say whether or not that was true. And by and large, it wasn't. I used to argue that butterflies are just more conspicuous to kids than to adults, and it was all just a matter of perception. Until 1999, that is. In 1999 more than a dozen species in our area showed a sharp downturn. I began to

sit up and take notice. Was something actually going on? In a word, yes. [read more »](#)



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