

## Insects and Arthropods of the Eastern Mojave

### Information

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Date/ Time:	Tuesday, May 16, 7 pm – 8:30 pm	Zoom Lecture
	Friday, May 19, 5 pm – 8pm	Arrive at Desert Studies Center
	Sat, May 20, 7 am - 4:30 pm	Field
	Sunday, May 21, 7 am – noon	Field
Meet at:	<a href="#">Desert Studies Center, Zzyzx</a> , Zzyzx Road exit off of Highway 15	
Instructor:	Kurt Leuschner, M.S., Wildlife Ecology, Professor of Natural Resources at College of the Desert in Palm Desert, CA	

### Overview

In this course students will learn about the basic anatomy of insects, and how to tell them apart from other desert arthropods. We will also review the many insect orders and families found in the East Mojave Desert region. Some of these local insects have some very interesting stories to tell! Specimens in a demonstration collection will be examined. Mimicry, the use of pheromones, fluorescence, and other important survival traits will be discussed.

We will spend time in the field to observe *diurnal* (day active) insects and examine them up close, using a variety of different catch-and-release collecting methods such as pit traps, light traps, and aerial nets. Some of the insects will be hiding in the leaf litter or on leaves, while others will be flying around and nectaring on flowering plants. The instructor will provide all the necessary equipment. As we walk around the Desert Studies Center and explore a local Joshua Tree ecosystem during a Saturday field trip, we will examine the different habitats and behaviors of insects that we encounter and discuss the various adaptations that enable insects to survive in this harsh desert environment.

After dark we will move outside and examine insects that are attracted to the lights that we set up earlier. Ultraviolet lights and mercury vapor lamps will be used on the border of two different habitats: riparian and desert. Different insects will appear at different times: those that are active just after sunset are referred to as *crepuscular* and those that fly in complete darkness are *nocturnal*. Still others do not fly until a few hours after nightfall, so patience is required! We'll also use handheld ultraviolet lights to search for glowing scorpions – two different species will be encountered, and you'll learn to tell them apart. A PowerPoint presentation will introduce you to some of the more notable insects and other arthropods that are often encountered in the East Mojave Desert. Teachers and docents will find this information especially valuable.

The fascinating world of insects awaits you!

This field study is based at the Desert Studies Center (of California State University) located within the Preserve at Soda Springs (Zzyzx), about a three-hour drive from Joshua Tree. The course fee includes two nights' lodging at the Center (dormitory rooms & some couple rooms), and meals starting with breakfast Saturday through lunch on Sunday. Upon enrollment, you will be sent detailed information about the Center and what to bring.

## **Itinerary**

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### **Friday, May 19**

- Late afternoon arrival (any time after 5pm), check in & orientation at 6 pm (please make sure that your vehicle has plenty of gas for the following day. The town of Baker is the last stop to get fuel and will be cheaper than the surrounding towns. We also highly recommend you bring or have dinner before arriving at the Desert Studies Center.

### **Saturday, May 20**

- 7am breakfast (optional birding on your own before breakfast – it gets light early!)
- 7:55 am depart on field trip – carpool to Teutonia Peak trail or possibly Kelso Dunes depending on the weather conditions.
- Box Lunch at Kelso Depot – after lunch visit the lava tube (4.5 miles each way on washboard dirt road), Mad Greek Cafe and Baker sewage ponds optional.
- Return to DSC around 4:30 pm for siesta and/or soaking pool.
- Option 1: set out 3 pit traps/flags on your own nearby.
- Option 2: 5 pm excursion down the road to open the big pit traps (150 in all).
- 6:30 pm Zzyzx store is open for business – all forms of payment accepted.
- 7pm Dinner
- 8 pm Meet in the classroom: Movie: *The Sensitive Scorpion* – a BBC/Attenborough production – including locally filmed scenes!
- 9-9:30 pm Check blacklights or scorpion hunting (weather permitting).

### **Sunday, May 21**

- 7 am breakfast (optional birding on your own before breakfast – or if you set your own pit traps before breakfast would be a good time to check them)
- 8am-10:15 am Check the big pit traps for insects, reptiles, mammals etc.
- Short break to grab your packed lunch.
- 10:30 am Meet in the classroom to review the insect collection/discuss findings, and watch a powerpoint on Desert Insects.
- 12:00 pm End of Class.
- Clean out rooms and drive safely! Enquire about places to stop on the way home.

## **What to Bring to the Course**

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### ***Required Class Materials***

- Flashlight/headlamp

### ***Optional Equipment***

- Hiking Poles

- Binoculars
- Camera
- 10x Loupe (magnifier)
- UV flashlight

### ***Recommended Class Materials***

- Day pack, big enough to fit the following:
- 2-4 quarts of water, per day
- Closed toe hiking shoes
- Lunch and snacks
- Clothing layers
- Hat
- Sunglasses
- Sunscreen
- Notebook and pencil/pen
- Whistle

### **Fitness Requirements**

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Participants must be in good physical condition for courses/activities in a desert that may be hot, dry, windy, and sometimes surprisingly cold.

### **Hike Level**

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Easy to Moderate

### **College Credit**

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If taking this course for 2 unit of Entomology (X405) credit through the University of California Riverside Extension, (70%) attendance/participation, (30%) field notes, quiz and species profile will determine your grade.

Email required assignments to Kurt Leuschner at [kleuschner@collegeofthedesert.edu](mailto:kleuschner@collegeofthedesert.edu)

- 1) Take and turn in ***field notes*** during the class
- 2) Complete a 1-2 page ***species profile*** (choose an insect) due in one week
- 3) Complete the ***take home insect quiz*** which will be emailed to you

### **Guidelines**

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- You are responsible for your safety.
- Park your car in designated areas only. Parking along the side of the road is dangerous to you and the environment.
- Rattlesnakes are present in the desert. Avoid contact with wildlife. Put your hands and feet only where you can see them.
- Stay with the group. If you get lost, stay put.

- Before leaving the class, check out with the Desert Institute Representative.
- Drink plenty of water. If you run out, notify the instructor or the Desert Institute Representative.

### **Instructor Biography**

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**Kurt Leuschner**, M.S., Wildlife Ecology, is a Professor of Natural Resources at College of the Desert. Leuschner's specialties include: ornithology, entomology, and desert ecology. He has led hundreds of field trips both locally and as far afield as Africa. He teaches natural history courses for the Bureau of Land Management, UCR Extension, the Desert Institute, the Living Desert, California State Parks, Riverside County Parks, and many other conservation organizations.

### **Suggested Reading**

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***Kaufman Field Guide to Insects of North America***

*Other Useful References: Insects of the Los Angeles Basin* by Hogue

*Desert Insects and Kin of Southern California* by Monroe

*California Insects* by Powell and Hogue

*Field Guide to the Spiders of California and the Pacific Coast* by R.J. Adams

*A Field Guide to Desert Holes* by Pinau Merlin

*Tracks & Sign of Insects and other Invertebrates* by Charley Eiseman

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\* The Desert Institute staff/instructors will attempt to accommodate participant's needs; however we reserve the right to deny a student participation in the course due to concerns regarding health and safety issues.