

# Entomology, Ecology and Field Studies Workshop

Summer 2009

## Course objectives

A full course in entomology would take a few years, and likely include subjects such as insect physiology and morphology, growth and development, taxonomy, behavior, pathology, toxicology, immature insects, urban insects, aquatic insects, insects in agriculture...ad nauseum. Ditto for ecology. All fascinating stuff, but unfortunately (or fortunately, depending on your point of view), there isn't enough time to be that thorough. In the week of allotted time, we will cover the basics of entomology (and ecology as it relates to insects), primarily focused on how to apply what you will learn here at VCU to your classrooms back home. When all is said and done, the main beneficiaries of this course should be your students.

While at VCU, our goal is to have fun and incidentally learn some science. Entomology and ecology are both fun, and if it's fun for you, you can make it fun for your students. There will be no exams, no presentations (not enough time), no written reports and no pop quizzes (though it's tempting).

Three things required for a grade:

1. An insect collection (completed here).
2. Evidence you have incorporated something from this workshop into your course content (completed at you home institution).
3. Classroom participation.

## Lectures

Much will depend on the weather, so consider class, lab and field times as tentative and flexible. Lectures will be first thing in the mornings and focus on insect taxonomy and ecology. Lectures will likely last two to three hours per day, with breaks. If classroom discussion is lively, lectures may continue at the instructor's discretion.

## Laboratory

Laboratory work will concentrate on insect identification and time is reserved for you to work on your insect collections. Lab hours may be extended if thunderstorms force the cancellation of our field trip for that day. We will be in the lab between the end of lecture and lunch break, and again in the afternoons after we return from the field.

## Field Work

It probably hasn't escaped your notice that the end of the title for this course is "Field Studies." That means the outdoors, which is convenient to where the bugs are. We will be in the field at the VCU Rice Center every day, weather permitting.

Here are a few notes on field work:

1. It will likely be hot and humid—appropriate clothing, foot and head gear are highly recommended. But before packing your scanty but cool swimsuits, or other "well-ventilated" clothing for the field, see note No. 4 below.
2. Water and a cooler will be provided, but everyone is encouraged to bring additional drinks and snacks. We may stop on the way out to the Rice Center to stock up. Sport

drinks (such as Gatorade) are a good idea, but sodas are discouraged and alcoholic drinks are a very bad idea. Drink early and often.

Don't wait until you are thirsty to drink—stay hydrated. Don't worry if you have to answer the call of nature frequently, that's a good sign and facilities are provided (see No. 5).

3. Bring insect repellent and sunscreen, but be aware that the two are generally mutually exclusive. Application of both reduces the effectiveness of both, particularly the sunscreen. Personally I choose to wear sunscreen, and skip the skin-applied insect repellent.

4. There are ticks, a bumper crop this year (often happens after mild winters). However, no one gets extra credit for picking up and feeding a few (they are not insects, after all). There will be Permanone provided for everyone. This is the best anti-tick product currently on the market but must be used properly. Instructions will be provided at no extra cost. Long pants of light-weight material and light color, pale socks and hiking shoes/boots are strongly recommended. However, if you want to wear shorts and flip-flops and rely on an insect repellent, so be it. If, despite our best efforts, someone gets a tick attached, remove it promptly and properly. Also, please let me identify the offending arachnid before it meets its maker.

5. Restroom facilities consist of lovely blue Port-a-Potties (plus various bushes and trees for the adventuresome few), which are adequate if not stellar. They are serviced regularly and swept clean of stinging and biting arthropods. You'll have to catch those elsewhere.

6. I will see your medical forms, but if anyone has serious allergies (e.g., bee stings, poison ivy) or other medical problems, please inform me before we venture out into the field. If anyone has suffered from heat-related problems in the past, let me know. We will have a rudimentary first-aid kit with us, but bring along any medications or first aid products that you might need. Always better to be safe than sorry.

### **Night Insect Collecting (Optional)**

There is an entirely different suite of insects foraging during the hours between dusk and dawn and while we will capture many of these in our stand-up black light traps, it is far more interesting to get out and catch them in the act of doing whatever it is that nocturnal insects do. Mysterious stuff to be sure, but you won't know if you don't go.

Therefore, for your elucidation there will be an opportunity to collect insects at the VCU Rice Center one night during the week of the workshop. It will likely be on Wednesday or Thursday evening, depending on the weather. Sunset is about 8:30 p.m. at this time of year, so plan to be on-site around that time (transportation will be provided). A couple of experienced undergraduate students may accompany us (to help with the grunt work, though I won't tell them that). We will set up a portable black light and possibly a mercury vapor lamp, and tour the surrounding area with flashlights to see what we can find. Plan on leaving the Rice Center around 11 p.m. Feel free to bring liquids and some snacks; everyone should be back in bed by midnight. This trip is strictly optional, but highly recommended. The fun quotient is usually high.