

A Liberal Arts Faculty Seminar



In mid-May, 2007, 10 faculty representing Middlebury, Furman, Denison, Rhodes, and Vassar Colleges visited the Firestone

Center with funding from the Andrew W. Mellon Foundation. The group was joined by Professor Richard Hazlett from

Pomona College's Geology and Environmental Analysis Departments, and Warren Roberts the Claremont Colleges' GIS specialist. Over three days on the property, the group explored the property and offered suggestions for future student research. Projects resulting from this seminar are likely to include studies on dragonflies, soils, and *Cercropia* growth patterns.

SPECIAL POINTS OF INTEREST:

- ◆ The Reserve map has been tied into a standard GPS coordinate system
- ◆ Significant poison dart frog research has been done
- ◆ The collapsed Terciopelo Creek culvert has been replaced.



FCRE: From Outer Space to Down to Earth

One of the challenges for ecological research in Costa Rica is the lack of good topographic mapping. The available topographic maps are limited to 1:50,000 scale, which presents almost no useful detail at the scale of the Firestone Reserve. Moreover, Costa Rican topog-

raphic maps use an obsolete datum, the 'Ocotopeque', which is almost un-usable with consumer-grade GPS units (the error is more than 200 m!). To date, faculty-students teams have mapped more than 12 kms of survey lines within the reserve, but tying the FCRE survey into the

wider world has been a challenge. In May, Warren Roberts visited the Reserve with some very sophisticated (and very expensive) GPS equipment, linked up with a commercial satellite differential correction service. The result was that Warren was able to fix the (continued on pg 3)

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Common mantid



CRITTER
GALLERY

Photos by Keith Christenson, June 2007

A SELECTION OF THE
BEST NATURAL
HISTORY
PHOTOGRAPHY FROM
THE RESERVE

Theraphosidid
tarantula



GPS mapping—
continued from page 1

position of a number “tie-points” to an accuracy of just a few centimeters on the global UTM-WGS84 grid. The final FCRE map, which should be ready for the 2008 summer research season, should permit students to use consumer-grade GPS units—at least where the forest cover isn’t too thick for reception!

Ecological Neighbors of Barú

The Firestone Center is now a member of the *Ecological Neighbors of Barú*, a newly formed group of 20 neighbors of the FCRE and the adjoining Hacienda Barú National Wildlife Refuge who are committed to collaborative, ecological land management practices. Collectively representing 3,200 acres of contiguous properties pursuing restoration, they have welcomed FCRE

students and faculty to extend the Geographical Information Systems (GIS), water and soil quality sampling, biological baseline assessment, and archeological heritage research projects to their properties. This cooperation provides a unique opportunity for all to contribute to the re-establishment of natural migratory routes and habitats for the “Path of the Tapir,” a biological corridor extending from the Osa Peninsula to just north of Hacienda Barú.) A rare sighting of Tapir tracks was made in December ‘07 near the town of Tinamastes, just 20 kilometers from the Firestone Center.



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*Ignorance more
frequently begets
confidence than
does knowledge: it
is those who know
little, and not those
who know much,
who so positively
assert that this or
that problem will
never be solved by
science.*

Charles Darwin



Poison Dart Frogs

Two species of poison dart frog, the Green and Black (*Dendrobates auratus*) and the Granular (*D. granuliferous*) occur within the Firestone Reserve. Jennie Miller (Claremont McKenna College, 2007) undertook an analysis of the densities of these two species in the different habitats of the Firestone Reserve as her senior undergraduate research thesis. Jennie used a novel variation of the Hayne Estimator technique to obtain good, quantitative data. She showed that both species were more common in the riparian forest (which was not unexpected) but also that they were more common in the bamboo habitat than in secondary forest (which was unexpected). We anticipate this work will generate several follow-up studies! Jennie is now in India studying wild pheasant on a Fulbright Scholarship –we wish her well.

Further Information



“A NECTAR BAT,
GLOSSOPHAGA
SORCINA”



The Reserve website, which contains more technical details, is to be found at:

<http://costarica.jsd.claremont.edu>

Information on the adjacent Hacienda Baru Reserve is at:

<http://haciendabaru.com>

Jennie Millers’ poison dart frog thesis is available at: <http://costarica.jsd.claremont.edu/library.shtml>