



Golf Courses Become Key Links in Butterfly-ways

Jaret Daniels, left, a UF doctoral student in 1996 who headed UF's captive propagation program, and Dr. Thomas Emmel watch a pair of Schaus' Swallowtail butterflies mating in a butterfly house on the Gainesville campus. Two days later Daniels and Emmel joined Secretary of the Interior Bruce Babbitt at Charles Deering State Park to release some butterflies. Photo by Milt Putnam, UF/IFAS.

USGA Grant Helps Save Species from Extinction

University of Florida researchers have found an unusual ally in their efforts to recreate rare native habitat for an endangered butterfly in the Florida Keys: golf courses.

The UF zoology and entomology researchers are working with two large private golf courses to recreate large areas of tropical hardwood hammock in the course

roughs to provide a corridor between breeding colonies for rare Schaus Swallowtail butterflies. The work, already showing signs of success, represents one more chapter in the ongoing comeback of the butterfly from the brink of extinction less than two decades ago.

"We realized that to really get the butterfly in a self-sufficient state, it has to be

able to move back and forth between colonies as it could 20, 30 or 50 years ago," said Tom Emmel, a UF professor of zoology and nematology. "Private golf courses own some of the largest tracts of land in the Keys, so they were the obvious choice."

The project is funded in part through a three-year \$55,000 grant from the U. S. Golf Association Foundation as part of a program called "Wildlife Links." Operated jointly with the National Fish and Wildlife Foundation, a nonprofit conservation organization, the program seeks to establish corridors for a range of wildlife on the nation's golf courses.

"We strongly believe there's a good compromise between having a golf course and protecting a lot of the wildlife habitat that's out there," said Michael McKenna, research director for the USGA Green Section. "Existing golf courses have a lot of open space, and if something can be done for the Schaus or other species, why not do it?"

NEW ACSP MEMBERS

- Aberdeen G&CC, Boynton Beach
- Avatar Retirement Communities, Poinciana
- Coral Ridge GC, Ft. Lauderdale
- Crooked Cat GC, Winter Garden
- Lone Palm GC, Lakeland
- Practice Facility at Orange County National, Winter Garden
- Renaissance Vinoy Resort, St. Petersburg
- Twin Rivers GC, Oviedo

Windsor Parke GC, Jacksonville

NEWLY CERTIFIED

- Harbour Ridge Y&CC, Palm City
- IGM at Sandridge, Vero Beach
- Ironwood Municipal GC, Gainesville
- Lake Buena Vista GC, Disney World
- Wilderness CC, Naples

RECERTIFIED

- TPC at Sawgrass, Ponte Vedra Beach

The habitat improvement will help many other species in the Keys besides the butterflies, including migrating birds, according to Emmel and wildlife officials. Songbirds flying south to the tropics for the winter use the Keys as a "staging area" to store up on nutrients for the long flight across open water, while birds returning north in the spring to breed rely on the Keys to recuperate, Emmel said. The butterfly project will help ensure the birds have the natural habitat they need, he said.

The Schaus was nearly extinct in 1984, when Emmel counted just 70 adults. His findings prompted the U. S. Fish and Wildlife Service to list the butterfly as endangered. Emmel spent much of the 1980's tracing the butterfly's plight to two pesticides, Baytex and Dibron, used to combat mosquitoes, findings that spurred a moratorium on Baytex and tight regulation of Dibron. The population began recovering, only to undergo a nearly catastrophic collapse because of Hurricane Andrew in 1992. Fortunately, a UF captive breeding pro-

gram launched before Andrew augmented the 17 post-hurricane male butterflies left in the wild.

Today, following the introduction of 2,000 butterflies, the annual wild population consists of 1,000 to 1,200 adults located in 13 sites stretching from southern Dade County to the middle keys in Monroe County. Urban developments and a lack of habitat, however, separate these sites, preventing the butterflies from reaching each other to mate. Because the butterflies stem from a small population of ancestors, the separation could result in a dangerous lack of genetic diversity, Emmel said. The isolation of the butterflies also makes them more vulnerable to hurricanes or other disasters, he said.

Researchers decided the solution was to connect several of the colonies using recreated hardwood hammock habitat on two major golf courses as well as adjacent public lands. The golf courses, Sombrero Country Club on Marathon Key and Cheeca Lodge on Islamorada Key, agreed to the

project, and researchers began transforming the roughs into native habitat in September 1999. So far, they've planted 300 fire bush plants and 630 pentas plants to serve as adult nectar sources, and 1,500 wild lime trees currently are being grown for the project, Emmel said. The wild limes are particularly important because they are the natural host of the butterfly's caterpillars, he said.

Emmel said the researchers are coupling the habitat improvements on the golf courses with similar improvements on public lands, including planting 500 lime trees on an old federal military site in Key Largo during the past two years. Last spring researchers were overjoyed to discover dozens of Schaus eggs on the trees, he said.

"The Schaus Swallowtail is a flagship species for the whole idea of restoring the Keys to something like they once were," Emmel said.

SHELLY FOY

USGA Green Section Florida Region

2000 Florida Green Photo Contest

Category 1 - Wildlife on the Course: includes mammals, birds, reptiles, amphibians.

Category 2 - Course Landscape: Formal Plantings: includes annuals, shrubs, trees, entrance and tee signs.

Category 3 - Course Landscape: Native Plantings: includes aquatic vegetation, grasses, shrubs, trees and wildflowers.

Category 4 - Scenic Hole Layout Shots: includes sunrises, sunsets, frosts, storms and any other golf hole view.

Prizes

- 1st Place (\$100) and 2nd Place (\$50) in each category.
- Editor's Choice-Best Overall Photo - \$100.
- All winning entries published in the Fall 2000 issue.



2000 Photo contest - Category 1 — Wildlife Down Under. Kangaroos on #17 green, Joondalup Resort, Perth, Western Australia. Photo by Ed Fatica. And we thought armadillos were bad!

Easy Rules

1. Color prints or slides. Only one entry per category.
2. Photo must be taken on an FGCSA member's course. Photo must be taken by an FGCSA member or a member of his staff.
3. Attach a label to the back of the print

or slide which identifies the category, course and photographer. DO NOT WRITE DIRECTLY ON THE BACK OF THE PRINT. Each photo shall be attached to a sheet of 8.5 x 11 lined paper. Line up the photo with the vertical and horizontal lines to square the photo on the page. Attach the print to the paper using a loop of masking tape on the back of the photo. Slides must be easily removable for viewing. 4. A caption identifying the category, course and photographer should be typed or printed on the sheet of paper below the print or slide.

5. Judging will be done by a panel of FGCSA members not participating in the contest.
6. Mail entries in a bend proof package to: Joel D. Jackson, 6780 Tamarind Circle, Orlando 32819. No entries accepted postmarked after August 1, 2000.