

# Lakeside Village is home to undergraduates— and imperiled butterflies

By Kaitlyn Riopelle



Of all the things that make the University of Miami unique, the most surprising may be a resident population of endangered butterflies. At Lakeside Village, the University of Miami's newest residential housing complex on the Coral Gables campus, Atala butterflies have settled in quite nicely. A collaborative effort between Dr. Terri Hood, ABM Grounds, and the Office of Sustainability is currently working to foster this remarkable new neighbor while maintaining the health of the plant-life on Coral Gables and Miller campuses.

## Lakeside Village: A Unique Habitat

The appearance of the Atala butterfly at Lakeside Village was a surprise to everyone. However, it was certainly hoped for when landscape architect Ben Hutchens from ARQGE0 planned its outdoor spaces. Hutchens, who was part of the team tasked with reimagining the 10-acre landscape of Lakeside Village, said that introducing biodiversity is an integral part to creating balanced ecosystems and visually interesting environments. "Biodiversity is something we really try to encourage in our work. In addition to the visual interest, it creates through the variation of flora, it helps foster variation in the fauna that depend on it for survival," he said.

Besides helping to create healthy and resilient landscapes, Hutches and ARQGE0 proposed introducing a large amount of koonti to the LSV landscape with the hope of attracting the Atala butterfly.

Similar to how monarch butterflies depend on milkweed as their food source and habitat, Atala butterflies spend much of their lives near clusters of Florida arrowroot, also commonly known as *Zamia integrifolia* or *koonti*. The name koonti is derived from the Seminole Native American word “conti hateka,” meaning white root or white bread. Adult female Atala butterflies will lay their eggs on the koonti leaves, providing a source of food and nourishment for after their eggs hatch and caterpillars develop. As the Atala caterpillars grow, they eat the host koonti leaves, eventually form their chrysalis on the leaves of the koonti, and finally emerge as butterflies to begin the process all over again. Lakeside Village has over four hundred koonti plants in its courtyard. According to Dr. Hood, the large number of these plants are “an irresistible lure to female Atala butterflies for egg-laying.”



The introduction of the koonti in Lakeside isn’t the only factor attracting the Atala. In fact, koonti has been widely planted across the Coral Gables campus for the last several years, but no Atala populations have ever been recorded. There’s something special about Lakeside Village that creates the ideal environment for Atala butterflies to reproduce. “We believe a second factor is the enclosed nature of the green space; once butterflies emerge from their chrysalis, they’re less likely to travel on the wind away from the site,” explains Dr. Hood. Thanks to these factors, the courtyard at Lakeside Village has become almost a nursery for the Atala,



where it is well-fed, shaded, and protected from predators. As Atala caterpillars continue to develop and transform in the LSV courtyard, the population of the endangered Atala butterfly should increase exponentially.



From abundant to near-extinct

Once abundant in the South Florida and Caribbean regions up to the nineteenth century, the Atala was largely thought to be extinct by the 1950s. Its host plant, koonti, is native to Miami-Dade and has a variety of uses in addition to supporting Atala butterflies. It was in such high demand as a moisture-resistant starch in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries by settlers emigrating to South Florida that it was nearly wiped out in Miami. As the koonti disappeared, so too did the Atala. Dr. Terri Hood, who is facilitating the monitoring of the Atala on the Coral Gables campus, says “Atalas are incredibly beautiful butterflies that were extremely abundant in South Florida until settlers decimated natural plantings of koontis– harvesting them for starch production– wiping out the Atala butterfly population unwittingly in the process. By the 1970’s Atalas were considered locally extinct until a small population was identified.”

Son Vo, Senior Manager for Facilities & Operations, and Contract Coordinator for the University of Miami's Grounds team, recalls getting a call from Dr. Hood when she first discovered the Atalas on campus. "I remember getting a call from Dr. Hood and her saying 'there are endangered butterflies on campus!' We initiated a rapid response with our ABM Grounds crews. We got a group together who would be working in the area and Dr. Hood gave us a little class about why these butterflies were important, and how to take care of them." The collaboration between Son Vo and Dr. Hood did not begin here, though. Several years ago, Vo and Dr. Hood worked together to create the Sustainability Garden in place of a debris pile which members of the campus community and public can visit today. So, when Dr. Hood called Vo to tell him about the Atala, everyone was ready to jump into action.



Thanks to the collaboration between Vo and Dr. Hood, and the ABM Grounds crews are a big part of the continued care and protection of both the Atala and the plant life at Lakeside Village. ABM Grounds crews exercise great caution near the known habited koonti plants and avoid spraying any chemicals or pesticides in the vicinity of the koonti. Dr. Hood also provided on-site training for crew members to recognize the Atala in its various forms, including eggs, caterpillars, and the adult butterfly.

### Koonti and the lifecycle of the Atala

Despite being historically used as a flour and food source, koonti plants contain neurotoxins which are poisonous to many animals, including humans. As the Atala caterpillars consume the koonti leaves, they themselves become toxic to predators and develop their characteristic florescent orange color. Much like the young of any other species, Atala caterpillars are ravenous and rapidly consume their host koonti. However, koonti plants grow slowly, and cannot grow at the same rate they are consumed.

This is where Dr. Hood's crucial role in the Atala's conservation comes into play. To preserve the health of the koonti while fostering the growth of the Atala population on the Coral Gables campus, caterpillars are carefully relocated to other stands of koonti on the Gables campus.



This helps to distribute the impact of these very hungry caterpillars on the slow-growing koonti and keeps the precious Atala caterpillars from being seen by the public as pests.

### Making the Atala feel at home

The appearance of the Atala at Lakeside Village is an exciting outcome of the University's sustainability efforts. Ben Hutches explains the collaborative efforts to transform the Coral Gables campus— “We worked closely with the University to imagine the future of student housing with this project and think about how this project can serve as an example for sustainable design while working to engage the students. We wanted to encourage outdoor interaction and socialization in a landscape that celebrates the Florida native planting and even geology.”



So what can you do to help make the University of Miami the best home for the Atala? “Individuals should enjoy observing the butterflies and caterpillars while taking care not to handle them in any fashion,” explains Dr. Hood. She has assembled a dedicated team of students and faculty that monitor and cares for the Atala, from caring for the koonti as “caterpillar food” to introducing new plants as a food source for adult Atala butterflies. For those interested in creating a habitat to attract Atalas and support their resurgence, “anyone with a yard or patio can plant koontis (for the caterpillars) and nectar sources (like wild coffee,

scorpion tail, and sweet almond for the butterflies.” For extra credit, head to the [Miami chapter of the North American Butterfly Association’s website](#) to learn about the Atala Re-location Project and how you can help.

Virtual Earth Week at the University of Miami, guest starring the Atala

Faculty and staff at the University of Miami are not the only experts on conserving the Atala. To highlight the efforts of experts in South Florida, the Office of Sustainability is hosting “The Resurgence of the Atala Butterfly at Lakeside Village,” a virtual event for Earth Day on April 23<sup>rd</sup> at 6:00 pm. You can find the registration link [here](#). For more Earth Week events on the Coral Gables, RSMAS, and virtual campuses, visit [www.miami.edu/earthweek](http://www.miami.edu/earthweek).

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