THE Nature Club SUN CITY TEXAS

NATURE NOTES

Dedicated to the Enjoyment and Conservation of the Natural Beauty of Sun City Texas at Georgetown

VOLUME 23 **Issue 8** **October 2020**

The Nature Club will hold Zoom meetings as a result of Covid 19 restrictions. These are informative and fun to attend. Last minute details and reminders are sent via e-mail. Hope to see you in a future meeting.

Scheduled Zoom meetings as of October 1, 2020

Tuesday, **Oct. 13, 2:30** p.m., Topic "Earth Friendly Gardening and Landscaping" by Martin Byhower.

Tuesday, **Oct. 27, 2:30** p.m., Topic "Food Choices That Can Help Save Nature and Your Health" by Pamela Turner.

Tuesday, **Nov 10, 2:30** p.m., Topic "The Flight of the Monarchs" presented by Ed Rozenburg.

Tuesday, **Nov 24, 2:30** p.m., An Astronomy topic, presented by Rick Waggoner.

****Watch you e-mail for Zoom Invitations and reminders.****

MEMBERSHIP DUES: $6 for remainder of 2020

Dues include our monthly programs and all Special Interest Group programs and activities.

SPECIAL INTEREST GROUPS (SIGs)

Nature Club activities are posted on the Nature Club website calendar. E-mails are sent to Club members only.

AMPHIBIANS, REPTILES & MAMMALS

Watch for emails concerning future meetings

SIG Chair: Steve Kelly

REPTILE ID, RELOCATION & MAPPING

FREE service, call:

- Steve Kelley 512-639-0539
- Jim Christiansen 512-868-3504
- John Leek 713-825-0145
- Joe Plunkett 774-226-0810
- City of Georgetown Animal Control 512-930-3592

We encourage residents to leave harmless, beneficial reptiles in their landscapes, but call us so we can identify and map all reptiles.

ASTRONOMY SIG

Watch for Special Viewing announcements.

No meetings are currently scheduled. Watch for emails about the resumption of activities

SIG Chairs: Richard Wagoner & David Lingo

BIRDING SIG

No meetings are currently scheduled. Watch for emails about the resumption of activities.

BIRD WALKS

No walks are currently scheduled. Watch for emails about the resumption of activities.

SIG Chairs: Ed Rozenburg & Martin Byhower

BUTTERFLY/MOTH SIG

No meetings are currently scheduled. Watch for emails about the resumption of activities.

BUTTERFLY WALKS

No walks are currently scheduled. Watch for emails about the resumption of activities

SIG Chair: Ed Rozenburg

ENVIRONMENTAL SIG

No meetings are currently scheduled.
Watch for emails about the resumption of activities

SIG Chair: Pamela Tanner

GEOLOGY SIG

No meetings are currently scheduled. Watch for emails about the resumption of activities

SIG Chair: Paul Swetland

NATIVE PLANTS SIG

No meetings are currently scheduled. Watch for emails about the resumption of activities

SIG Chair: Larry Fowler

Why Butterflies Need Shade

Offering a diverse habitat protects pollinators from climate change

Nearly every day there is a new study or headline about yet another species affected by climate change. As temperatures rise, animals change everything from their habitats to their migration patterns, trying to cope with the new weather.

For some species, however, there are ways we can help. Some butterfly species struggle to maintain a suitable body temperature when the world around them is too warm, researchers have found. The answer could be protective conservation strategies that include providing more shade.

“We know that climate change is having a big impact on species' populations. For example, there's lots of evidence, especially from Europe and North America, that over the last 30-40 years species as diverse as birds and butterflies have been moving north — with sightings further north than they have previously been recorded, and population declines in the south of their range,” study first author Andrew Bladon, a postdoctoral research associate in the University of Cambridge's Department of Zoology, tells Treehugger.

In addition, he points out, when springtime is warmer, mammals wake up from their hibernations earlier than usual, migratory birds arrive earlier, flowers bloom earlier, and butterflies emerge earlier. These large-scale responses are all driven by how individual animals or plants respond to small-scale changes in rainfall or temperature, he says.

“Much less is known about these small-scale responses, but they are really important for understanding the big picture: seeing how species are affected by climate change and working out what we can do to help them to cope.”

For the study, researchers caught nearly 4,000 wild butterflies in hand-held nets in Bedfordshire, U.K., and took their temperatures using fine probes. They also measured the temperature of the surrounding air and, if the butterflies were perching on a plant, they measured the air temperature around the perch. This helped researchers determine how much the butterflies were attempting to control their body temperatures by seeking specific locations. A total of 29 different species were recorded.

Like all insects, butterflies are ectothermic, meaning they can’t control their own body temperatures. But this doesn’t mean they have to be the same temperature as their environment.

“Some butterflies are able to use their wings like solar panels, facing them towards the sun to help themselves heat up, or like fans, angling them away from the sun to cool down,” Bladon says. “But how effective this is varies between species, with some being very good at warming themselves up in cool environments, or cooling themselves down in warm ones, while others struggle to be more than a few degrees different from the air temperature.”

The researchers called the first group of species — which includes the comma Polygonia c-album and ringlet Aphantopus hyperantus — "thermal generalists" because they are likely to be able to thrive in a broad range of temperatures. They named the second group the “thermal specialists” because they likely need more specific temperature environments. These include small heath Coenonympha pamphilus, small copper Lycaena phlaeas, and brown argus Aricia agestis.

The findings of the study were published in the Journal of Animal Ecology.

Helpful for Habitat Management

One of the key takeaways of the research is the importance of providing various environments for butterflies to regulate their body temperatures, including shady areas where they can cool down.

“In the heat, plants are at risk of drying out, and this means that the caterpillars risk running out of food. This means that predicting the impacts of climate change on individual species is difficult, because what is good for the adults may be bad for the caterpillars, or vice versa,” Bladon says.

“But what is likely is that maintaining a diversity of landscape features is important. Shaded areas provide refuges, where adult butterflies can go to cool down and conserve water, and where plants can survive to provide food for caterpillars. Equally, having sunny patches for the adults to go and warm up in is important, so really creating a diverse landscape will provide the greatest benefit for butterflies.”

Knowing these habitat requirements can be useful as people establish conservation areas to protect butterfly species, the researchers say. Although people often think of honeybees when they consider pollination, the researchers say that between 85% and 95% of crop pollination is done by other insects including butterflies, moths, beetles, and other types of bees.

Conservation groups in the U.K. have become very good at taking care of butterflies, Bladon says, with habitat management for those that need particular environments.

But there’s been less concern for species that are found in various habitats, because conservationists have assumed that they would be fine. Some species like the small heath Coenonympha pamphilus have been declining quickly.

“By linking together the small scale responses to temperature and the large scale population trends, we have highlighted a possible cause of their declines. This means that conservationists can devise new strategies, such as creating diverse warm and shady patches within a reserve, to try to protect these species, and then test whether they help the species concerned," Bladon says.

"In a few years' time, the aim is that we can become as good at managing for the 'thermal specialists' as we are at managing for the 'habitat specialists,' and we will be in a better position to safeguard our butterflies, and other insects, against climate change.”

By Mary Jo DiLonardo - ***Treehugger.com, September 29, 2020***