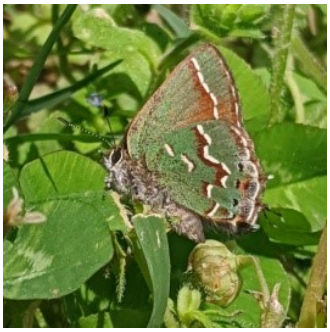
2020 Howard County Butterfly Year

By Linda Hunt and Kevin Heffernan

This year, just as the first non-overwintering butterflies emerged in mid-March, the county shut down due to COVID-19. There was a serious question about whether people would get out and support the seventh year of the Howard County butterfly survey. The answer, again, was that you did support the survey. In 2020, 48 observers, looking in 128 different locations, spent 40,684 minutes locating 20,828 individual butterflies of 71 species. Just incredible. We continue to feel that this survey is extremely important and we thank each and every one of you for continuing to support it. In general, the season started out very slow and the butterfly numbers did not pick up until mid-July. We did not find any species new to the survey this year.

Early Season: This spring the Average Maximum Temperature (AMT) in April and May 2020 was 10° and 8° cooler than the AMT of those months from 2014 to 2019. This, along with the COVID restrictions, clearly seemed to affect the early sightings this year. The first butterfly of the year was an anglewing (Eastern Comma or Question Mark) found by Bonnie Ott on Jan11th at Alpha Ridge Park. John McKitterick found a Variegated Fritillary in his garden on February 17th. It was very worn and was clearly overwintering as an adult, something that we had not seen before. Variegated Fritillaries do overwinter as adults farther south in the Carolinas but are not supposed to be able to survive this far north. The first of year (FOY) sightings of the other overwintering adult butterflies were Mourning Cloak (Sue Muller, March 2nd), Eastern Comma (Sarah Romero, March 20th) and Question Mark (Clayton Koonce, April 5th). The 21 Eastern Commas found this year were a seven year low following the 2019 peak year count of 132. The first non-overwintering adult was an azure found by Allen Lewis on March 10th followed closely by the FOY Cabbage White (Clayton Koonce, March 13th), Orange Sulphur (Jim Wilkinson, March 30th) and Eastern Tiger Swallowtail (Sue Muller, April 3rd). The March 30th Falcate Orangetip sighting by Jim Wilkinson was the earliest in the survey; however, the 11 individuals total found this year was the lowest count in seven years. The FOY Juniper Hairstreak was found by Jim Wilkinson on April 22nd. Juniper Hairstreaks have two broods, one from mid-April to mid-May and the second in July. This year, only six Juniper Hairstreaks were found, (again the lowest annual count in the survey), all of which were in the spring brood. The July brood was missed completely. A new location for Juniper Hairstreak in Elkridge was discovered by Julie and Logan Costantino on April 29th. Logan is the youngest contributor to the survey this year. The only Eastern Pine Elfin for the year was found by Linda Hunt on May 2nd in western Howard County (new location). The FOY Juvenal's Duskywing (Sue Muller, April 19th), was one of only five found this year.

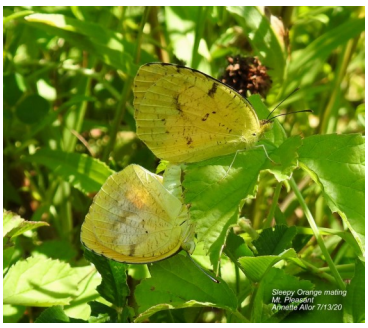
Variegated Fritillary *by John McKitterick*



Juniper Hairstreak *by Julie Costantino*

Overwintering Butterflies: Kathy Litzinger found both a FOY American Snout and Red Admiral on April 1st and the FOY Sleepy Orange was sighted by Jim Wilkinson on April 8th. These are all very early dates. The question is, did these individuals also overwinter in our area as adults? Butterflies have several strategies for surviving the winter. The most common is to undergo diapause. Some species undergo diapause in the egg phase, others in the caterpillar phase and finally others in the pupa / chrysalis phase. The second strategy is to overwinter as adults in hibernation. The third strategy is to avoid the cold weather and migrate south. These species are replenished by the migration north the following year. This third strategy is what the Variegated Fritillary, Red Admiral, American Snout, and Sleepy Orange typically employ. Is it possible that we are observing a mix of strategies where a majority of individuals are migrating south and a small number of individuals are overwintering as adults during the mild winters? Is the northernmost limit to the area where certain species overwinter as adults, moving north due to global warming? In *Butterflies of the Mid-Atlantic*, Blakney and Gallagher state that snout "apparently can overwinter as far north as New York if we have mild winters." Regarding Sleepy Orange, they say that it "may survive the mid-Atlantic winter in reproductive diapause since it has been found in April." Regarding Red Admiral, Blakney and Gallagher state, "Red Admirals are not freeze tolerant north of about the Carolinas." However, Jack Connor in the *Press of Atlantic City* states "Red Admiral: A few individuals of this tough species apparently over-winter as adults in our area, like the anglewings." Winters in South Jersey are milder than in Howard County but if Red Admirals aren't already overwintering here, they are close. We found a total of four Red Admirals in the survey in April 2020. Finally, in the *South Jersey Butterfly Log* in October 2015 concerning Variegated Fritillaries, Dave Amadio is quoted "I don't usually find this species in South Jersey until at least May [although we have] a number of April records on the spreadsheet. I think there is a strong possibility that in a mild winter a few may survive here." We have proof of that in Howard County this year.

American Snout *by Kristin Trouton*



Sleepy Orange *by Annette Allor*

Peak Years: Seven species established or tied their peak annual survey count numbers in 2020. They were the Sleepy Orange (588), Cloudless Sulphur (424), Silvery Checkerspot (32), Coral Hairstreak (26), Northern Broken-Dash (17), Brazilian Skipper (6), and Long-tailed Skipper (4). For six

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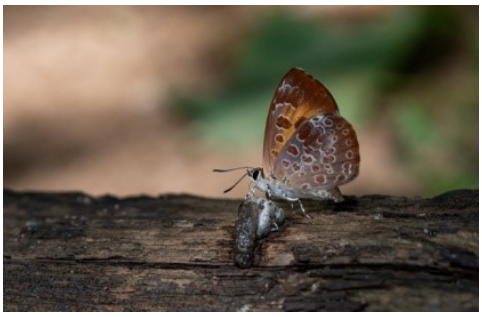
species, the last two years were the two peak years in the survey. These were Sleepy Orange, Cloudless Sulphur, Common Buckeye, American Snout, Fiery Skipper, and Clouded Skipper. All of these are southern migrants. The top 11 species in terms of percentage of individuals to the total seen in 2020 are the same 11 species (in different order) for the entire survey.

Low counts: Fourteen species had the lowest count in the seven year survey. These are Juvenal's (5) and Wild Indigo (55) Duskywings, Least (255), Dusted (0), Tawny-edged (44), and Broad-winged Skippers (2), Zebra Swallowtail (8), Falcate Orange-tip (11), American Copper (20), Juniper Hairstreak (6), Summer Azure (127), American Lady (22), Eastern Comma (21), and Common Wood-Nymph (3). Seven species had their lowest counts in the last two years including Wild-Indigo Duskywing, Dusted and Tawny-edged Skippers, Orange Sulphur, White M Hairstreak, Great Spangled Fritillary, and Mourning Cloak. These species will be watched closely.

Of the 71 species seen this year, 17 (~25%) had <10 individuals. Two species were represented by a single individual, Eastern Pine Elfin (Linda Hunt, May 2nd) and Harvester (Bonnie Ott, Aug 4th). Only two Broad-winged Skippers were found and three each of Common Wood-Nymph, White M Hairstreak, and Mulberry Wing. Four individuals of Common Sootywing and Long-tailed Skipper and five each of Tawny Emperor, Hackberry Emperor, and Juvenal's Duskywing were seen. Overall, all three duskywings, all three anglewings, the two ladies, and Great Spangled Fritillary all had subpar years.



Harvester *by Bonnie Ott*

Notes from the year:

- After seeing the Dusted Skipper in each of the first five years, we have missed it the last two.
- After a peak of 12 Giant Swallowtails in 2019, we missed it in 2020
- The 132 Dainty Sulphurs that were seen in 2019 apparently did not survive the winter
- Since the Tawny Emperor sighting in 2016 (Kathy Litzinger, third sighting in 50 years), 60 have been found in eight locations including two new locations this year.
- Both Sleepy Orange and Cloudless Sulphur sightings were higher than Clouded Sulphur for the first time in the survey
- Howard County Conservancy butterfly list is at 66 species, the highest location list in the county. It has been cited as one of 14 "Noted places to observe" in the new *Butterflies of the Mid-Atlantic* field guide.
- The Brazilian Skipper caterpillars were found on Canna Lily planted this year so that the eggs could have been transported on the plant from a nursery down south.
- Grazina McClure, however, also found (unreported) Brazilian Skipper caterpillars on existing Canna Lily plants near her home which means that adults had to have been present.
- The Silvery Checkerspot was named the Butterfly of the Year in 2020 in Howard County

Butterflies of the Past, the Present, and the Future: In 1993, Dick Smith put together the first checklist of "Butterflies of Howard County." In it, he gave the occurrence levels of each species (rare, common, etc.). Dick updated that list in 2000, 2012, and 2016 and, from the four lists, you can see the trend in occurrence level of each species. Eighteen species on the 1993 list have become extremely rare or have been extirpated from Howard County in the 27 intervening years. Sixteen species have become more common or are new arrivals to the county. Of those, 13 are southern migrants. We are definitely seeing migration of butterflies north and west out of the county and into the county from the south. In addition, we asked eight members to guess at the next new species for the survey. The response included eighteen species, six of which were on more than one person's list. They were Gulf Fritillary (6), Delaware Skipper (5), Hoary Edge (4), Dion Skipper (2), Eufala Skipper (2), and Brown Elfin (2). All three detailed lists are included in the PowerPoint presentation on the 2020 Butterfly Year presented at the January bird club meeting now posted on the website.

The Impact of Gardens: Doug Tallamy opens his watershed book, *Bringing Nature Home*, by stating "Like it or not, gardeners have become important players in the management of our nation's wildlife. It is now within the power of our nation's gardeners to do something that we all dream of doing: to make a difference." Pollinator gardens not only provide pollen for bees and nectar for bees and butterflies, but host plants for caterpillars which provide food for birds, etc. Planting host plants for certain species of butterflies has made a difference in the numbers of those species that we have seen. There have been 105 Pipevine Swallowtails seen in the seven year survey, 71 of which have been in Barbara White's garden where she has planted their host plant, Dutchman's Pipe. Silvery Checkerspot numbers have increased this year with several people including Kathy Kaberle planting Rudbeckia, Echinecea and Verbesina species. The numbers of Sleepy Orange and Cloudless Sulphurs have skyrocketed and people planting Maryland Senna in their gardens (and fields) has been very beneficial. Monarchs not only benefit from planting milkweed in your garden but also late blooming nectar plants like goldenrod and asters to fuel their bodies for the journey south. We have seen 47 Broad-winged Skippers during the survey, 39 of which were found by Kathy Litzinger, including 35 in her garden. One garden can make a difference. What if we had dozens or even hundreds of these gardens? Please consider planting or expanding a pollinator garden. Go to the bird club website under Butterflies/Pollinators to find suggested garden design templates and a spreadsheet under "Howard County Plants for Pollinators" for help with plant selection. Fritillary numbers have started to drop so planting violets becomes very important.

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Going Forward: What We Can Use More Help With: Butterflies tend to fall into several categories in terms of habitat, numbers of broods, and flight time. Those that have multiple broods that nectar in gardens and fields tend to be the most observed. There are single brood species that nectar, but you have to be looking for them during the few weeks that they are active. There are species that rarely or never nectar and those that are in habitats that you have to go out of your way to visit. Then there are the late summer / fall migrants and those that are hard to ID. We are hoping to find people to help look for the single brood species, those that are in habitats that you have to go out of your way to visit, and the late summer / fall migrants. Please let one of us know if you are interested in helping out with these more difficult to find species.

The 2020 year was very good for the Howard County butterflies and the butterfly survey, thanks to the 48 people who have been participants. We encourage the submission of as many surveys as possible, even if they list a single butterfly. Every survey is important. If you are looking for something to contribute your time to where you can make a significant difference, this may be it.

See the Butterflies Photo Gallery here on the club website for more excellent pictures of butterflies seen in 2020.

The 2020 volunteers were Annette Allor, Kathy Barylski, Alicia Buxton, Julie and Logan Costantino, Andrew Dugas, Susan Earp, Robyn Evans, Timothy Foard, Pam Franks, Jan Goetz, Patricia Greenwald, Meg and John Harris, Karen and Kevin Heffernan, Pam Henry, Bill and Gayle Hill, Linda Hunt, Kathy Kaberle, Brenda Kaufman, Clayton Koonce, Jenny Krantz, Nancy Lawson, Allen Lewis, Kathy Litzinger, Janet Lydon, Grazina and Mike McClure, John McKitterick, Woody Merkle, Sue Muller, Michael Osborne, Bonnie Ott, Pam Perna, Paul Petkus, Suzanne Probst, Sarah Romero, Seth Rosenfeld, David Ryan, Kurt Schwarz, Sharon Smith, Trudy Snope, Jo and Bob Solem, Robin Todd, Kristin Trouton, Mark Wallace, Kelsey Wellons, Barbara White, Jim Wilkinson, Katherine Wilson. Thank you again to each and every one of you.

Spring is right around the corner and the butterflies will soon be back. We could see an overwintering adult any warm day now. The first non-overwintering adult will be seen in a few short weeks from now. We can't wait.