

Sleepy Orange Colony Breeding Report - September 2018

The 2018 butterfly season is wrapping up now, but the wonderment of the Sleepy Orange colony at Dix WMA in Cumberland County continues to awe.

Past history has typically shown the Sleepy Orange butterfly to be a seldom found, late summer vagrant from its southerly roots. Our South Jersey Butterfly Project records were reflective of this history. However in August 2016 I happened upon a trio of Sleepy Orange at Dix WMA, outside of Fairton, NJ, in Cumberland County. This count of three was significant both in total number, but also unheard of in recent history to be found in a single location.



What was also intriguing at the time was the fact that I could study them at some length and over repeated visits I was able to determine that the trio consisted of one male and two females. My mind wondered at the possibilities of them breeding, but was unsure then about what host plant they required.

I went home and began to look into what host they preferred and was very surprised to find the plant, *Senna marilandica*, was growing in a field adjacent to the location I had found the butterfly, on one of my return visits.

At this point, during that summer in 2016, I was intrigued to see if the butterflies would remain in the area and provide re-sightings or if perhaps they would simply move on.

From my initial sighting on August 18th, and photo confirmation of three separate individuals on August 20th, I continued to find the (presumed) same three individuals in the area through late October.

Life history information I was able to read up on indicated that Sleepy Orange adults that emerge in late summer or fall either migrate south or in warmer climates can overwinter and hibernate. This overwintering behavior however was not known to occur further north than perhaps North Carolina. But as the flight season closed out, the Dix WMA individuals remained active and my sightings of them were always found within the field that contained the large patch of *Senna marilandica*. As the month of October closed, my sightings were often made within the host plant area as I walked and flushed them, noting that they would often come up from the ground. My final sighting that year was on October 23rd.

I was left to ponder whether these late season adults would leave, die off or might possibly herald a shocking new possibility.

Breeding records in New Jersey did not exist to my knowledge. Sightings of large counts of individuals, on two noted occasions, were detailed by Art Shapiro in his *Butterflies of the Delaware Valley* (1966), but nothing was indicated about breeding or an explanation of these odd flight occurrences.

The following spring, I was drawn back to the area out of curiosity and early season flight interests. I was immediately outraged to see a contracted crew plowing under every open field in the Dix WMA area. I was moved to stop the team and ask about what the plan was and who I could talk to that held sway over the extent of the activities they were contracted to perform.

I was told to go to the NJ Fish and Wildlife office in Laurel Lake. There, I was able to meet with Dennis Heron, who managed the action plans for Dix WMA and other parcels. I explained what might be possible with the Sleepy Orange and the field that held them at the end of the prior year. I asked for his help, acting on nothing more than a hunch. He indicated that Dix had been left alone for several years, but that the work being done now, starting in 2017, was geared towards quail management, but that exclusion of the patch I spoke about could be accommodated, so long as it wasn't too large an area or part of any plans for planting already set in motion.

I was able to race back out, followed by an associate that managed the field crews, and get the host plant field set aside from the plow crew.

The NJF&W supervisors agreed to preserving the field for three years and review it again. I agreed to stay in contact and provide reports and photo documentation of the colony, should my hunch play out.

On June 26, 2017, I was able to find a Sleepy Orange flying within the exact area I had last left it the prior October. Whether this was simply a single, hardy individual or an outlier was still be figured out.

My wait wasn't long, as a new high count of five, then eleven individuals were found flying in the same area, now safely preserved from cutting or plowing, in late July.

Over the next few weeks, I was able to witness females ovipositing eggs on the host plant and caterpillars upon the host leaves.



The excitement of having confirmed breeding, perhaps a documented first record for New Jersey, was a great feeling. Knowing that I was responsible for getting the cooperation of the land managers at New Jersey Fish and Wildlife and their commitment to help preserve the colony field was even more rewarding.

The next step was to monitor the colony and see if I could guess when the brood cycle and emergence would be at its peak and get a count.

I lead a tour of the area on August 27th and was aided with the survey count by Teresa Knipper and Jessica Lynne Howland. We counted an amazing high count of thirty-two individuals.



I continued to monitor the site and the colony into the fall of 2017. Numbers of individuals continued well into October. Again, evidence of adults staying within the senna patch was observed, staying low and presumably to begin their hibernation. The last of the brood was put to bed on November 16th.



As 2018 began, the success of the Sleepy Orange colony was a remarkable natural history story for our South Jersey Butterfly Project.

The Sleepy Orange isn't a rare butterfly, being quite common in the south, so concerns about collector poaching weren't a big consideration. But the fragile nature of this colony and the steps needed to insure its continued success were not guaranteed. Having this single field of host plant made it precarious to misunderstanding or a mistake that could render it under the plow at any time.

This past spring I reiterated my thanks to the management team at New Jersey Fish and Wildlife, and noted how I would be actively monitoring the colony again throughout the 2018 flight season.

As late spring came, so too did the first sightings of overwintering adults emerging again from their slumber on May 15th. By the end of June, double-digit counts of males and females were doing what came naturally.

I continued to monitor the area and noted the increasing numbers into late July. I sensed a good moment was at hand and planned my full survey count again for August 5th.

Excited at the prospects of this burgeoning colony, I was amazed to do a full survey of the entire Dix WMA and count a total of eighty-seven individuals!

As the 2018 season begins to slow and move towards its close, I continue to count several dozen Sleepy Oranges flying at the colony now, well into September. I expect to find them flying well into October, and if the fall season proves to be a warm one, then the last of them may not go to hibernation until sometime in November.

I enjoy sharing this experience with anyone interested and recently lead a tour into the area with a group from Citizens United to Protect The Maurice River. I hope to be joined by others.

I don't know how long this colony will last, but I hope to continue my efforts and work with the local land managers to insure its best chances for continued success for more seasons to come.