

SOME NOTES ON THE "EXCELSIOR" COMPLEX,
REGARDING MICROTOPOLOGY WITH
HETEROCERA IN OHIO.

I have read with much interest the frequent articles that have appeared in the *Lepid. News* about the condition which NICHOLAS SHOUMATOFF calls, in his article in vol. 7, page 38, the "Excelsior Complex". It seems that most of the observations have been up to now with *Rhopalocera*, but now I think that it is this same complex that I have been observing with moths. I have not noticed the condition with butterflies in Ohio due to the fact that I never really made any attempts to, as most of my daylight collecting was limited to the flat Lake Erie coastal areas, but very frequently I headed into the hilly interior to collect moths after the day's work was done.

Several times I had gone with lantern in hand and come across a congregation of several or more species of moths, in various types of activity, on the summits of hills or on the banks of the Allegheny Plateau overlooking valleys. I had not really given too much attention to this fact until I read Mr. SHOUMATOFF's article, even though some of my experiences were rather startling.

First let me mention a few observations in a nearby forest reserve, North Chagrin Reservation, in Lake County, Ohio. The area involved is of the typical beech-maple-tulip tree climax forest, with a fair amount of hemlock at the higher ridges indicative of a slight Transitional Zone influence. The area as a whole could be called at the most very slightly rolling, the difference in altitude being on account of the Chagrin River valley and its tributaries, creating smaller gulches and valleys. It was on the banks of these smaller tributaries that the tendency of moths to congregate was primarily noticed.

The night of May 31, 1953, could be called indicative. After travelling about 1/2 mile through the tall forest from the parking lot, along a trail through level territory where few moths were found flying, I arrived at the edge of a ravine. It was not until I arrived there and set up a sheet on which the lantern's light was to fall, that I found a number of moths in evidence. I will not claim that they swarmed that night, but certainly that locality was excessive in yields compared to other level localities. Further west, near one of the forest-reserve's trailside museums, also overlooking a ravine, I had extremely good luck on the night of June 13, 1953. Here the sheet was pinned to one of the sides of the trailside museum and the lantern was then set up beside it. The results that night were spectacular, but I will admit that the forest was alive with moths everywhere. Still this mentioned locality produced more moths than any other part. I have noticed on many a night that the moths always seem to be readily available near the museum and ravine, whereas they are scarce in other places in the forest;

whether it be because of the ravine or because they frequently take shelter in some of the outdoor animal cages and under the eaves of the museum itself during storms, I cannot say.

This latter observation may not prove the "excelsior complex" too much, as it is well known that moths can frequently be attracted to higher places by light. But the night of June 14, 1953, may prove it somewhat. The locale was Gildersleeve Mt., a hill of about 500 or more feet difference in height from the base. The eastern face is very steep, but the western face is sloping in character and extends for at least $\frac{1}{2}$ mile and more before it reaches the average ground level. The base consists of secondary forest, Red Maple predominating, except on the southern and western slopes where the forest remains in climax condition, as it does on the upgrade, where it is heavily influenced by the Transition Zone, there being many huge ancient hemlocks, and the remains of White Pine. On the night in mind, I was not to find a single moth anywhere except on the eastern face of the summit, where not only the greatest contrast in elevation occurs but is also the highest point of the "Mt.". Swarms of *Packardia geminata* Pack. and *Chytolita morbidalis* Guen. came to my lantern, but the most striking thing was that hundreds of moths of many species were sitting everywhere on tree stumps, low plants, dead twigs, leaves, in short on anything available. They were absolutely motionless, not flying at the light, at least some of them not until it had been there for a great while. As they were there when I arrived on the summit, I presume the lantern was not the determining factor for their congregation in such a place. The question arises, what were they doing? I am sure it was not a battling ground for males, as they were all motionless; even then there were only single specimens that came to my observation of certain species. I doubt that they were sporting to see how high they could fly and still be under cover, as they still could have gone another 75 feet or more higher up to the tallest branches of the gigantic hemlocks that formed a solid canopy in the air above me. There was no wind that night either. What was the impulse or determining factor that made them congregate on the highest part of Gildersleeve Mt. that night?

I hope this article can provide some food for thought, and a desire among fellow enthusiasts to see if this condition of hill-loving on a microtopological level is as strongly evidenced among the moths as it is with the butterflies. It would be interesting to hear more about the subject pertaining to moths.

E. C. WELLING, Calle 66 Norte, No. 426, Mérida, Yucatán, MEXICO