

taken. Most of these were worn, but Mr. Winn saw a fresh specimen, and others were seen and one secured on the 14th.

These were evidently individuals of the first brood in descent from hibernators or colonists, and assuming that the eggs were laid during the first week of May, would allow about six weeks from egg to imago, which corresponds with the experience of Mr. Edwards with the first brood in West Virginia, which took 37 days—28th April to 4th June.

On 14th June Mr. Winn also observed two very much worn *Fabricii* ovipositing on the young leaves of an elm. This late laying of eggs causes the broods to overlap and makes it almost impossible to tell to what generation any captured specimen belongs.

From the 15th to the end of June *Umbrosa* was quite common, but no more *Fabricii* were seen. On 24th a number of larvæ, apparently not more than a day old and quite close to the empty egg-shells, were found, and on 25th about 40 eggs and seven young larvæ were found on a bunch of elm leaves plucked at random. These produced the imagos between 19th and 29th July and were 31 *Umbrosa* and two *Fabricii*, and were doubtless part of the second brood of the season.

On 1st July Mr. Lyman took at Lachine a ♀ *Umbrosa* and confined it over leaves of elm, but no eggs were laid for over a week.

On 12th July the butterfly was found to be dead, but had laid 101 eggs, some almost ready to hatch and some just recently laid.

The eggs began hatching that same evening and others continued to hatch during the 13th and 14th. Some of the earliest to hatch passed first moult on the 15th, the third day from the egg. The first chrysalis was formed on 5th Aug., and the first imago emerged on 13th Aug., giving a pupal period of eight days, a period from hatching of egg to imago of 32 days, and a probable period from oviposition to imago of 35, or, at the outside, 36 days.

Some, of course, took a few days longer than this, but all had emerged by the 21st August. Of nearly 60 butterflies which emerged, not more than five were *Fabricii*, all the others being *Umbrosa*.

Now it seems clear that the parent butterfly which was taken on 1st July, but would not lay till 8th or 9th, must have belonged to the first brood in descent from the hibernators or colonists, whichever the early ones were, and that the brood thus reared represented the second brood, and there would be abundance of time after the 21st August for a third brood to mature. That such a third brood must exist is practically