

the butterflies loose here as they emerged. The first one was female, out 6th May, when the lilacs were in blossom, and I placed it on the flowers. Others emerged day by day. On 9th, I recorded that I had turned out 40 to 50, but they soon disappeared and were not again seen. I saw one soon after I had placed it on the lilac, pursued by an *Ajax* as if it was regarded as an intruder. In all upwards of 100 were freed. About a week after the last butterfly had emerged, I caught a male near the house on a clover head, and this was the only *Machaon* I saw during the summer. I had planted a large quantity of Fennel, thinking the females might deposit eggs thereon, but diligent search failed to discover any.

3. Effect of Cold Applied to Larvæ.

1. DIANA. In 1873-4, I succeeded in rearing one of these larvæ from the egg to imago, starting with several hundred eggs; there were losses at every stage. The duration of each stage was also very great, of 2nd stage 16 days; of 3rd, 14; of 4th, 17; of 5th, 12 to 5th moult; from 5th moult to pupation 22 days; of the chrysalis 21; the butterfly emerging 9th June.

In Sept., 1880, I obtained about 100 eggs, and as soon as the larvae hatched, I sent most of them to Prof. Fernald, at Orono, Me., to go in an ice house. A few I kept myself and tried to carry them through the winter in a cold room, but by 11th Feb'y, 1881, all had died. Most of those sent to Orono also died from the ice giving out late in the fall apparently, but in one little paper box were a few larvae (10 or 12) still alive when I received it, 7th March. From these I raised 4 butterflies, and could have several more, had I not put one at each larval stage, and one chrysalis, in alcohol. The stages were in duration as follows, beginning at 1st moult, or the next one after hibernation:

No. 1. 2nd stage, 10 days.	No. 2. 2nd stage, 13 days.
3rd " 9 "	3rd " 9 "
4th " 7 "	4th " 5 to 6 "
5th " 6 "	5th " 5 "
5th moult to pupation 13 days.	5th moult to pupation 13 days.
In chrysalis 19 days (♂).	In chrysalis 19 days (♂).
No. 3. 2nd stage, 13 days.	No. 4. 2nd stage, 14 days.
3rd " 9 "	3rd " 9 "
4th " 5 to 6 "	4th " 5 "
5th " 5 "	5th " 6 to 7 "