

NOTE ON THE EUROPEAN GRAPTA C ALBUM.

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In the Entom. Mo. Mag., xxiii., p. 186, Jan., 1887, is the statement by Mrs. Hutchinson, of Leominster, to this effect: that the writer caught a female *C. Album* which was hovering about currant bushes, and obtained from her many eggs, laid between 27th April and 6th May. The eggs hatched between May 5th and 11th, and the larvæ were full grown from 17th to 23rd June. The first butterfly came from pupa 26th June, the last 3rd July. "*Two of the insects paired on June 30th, and the female commenced laying on 1st July*, and continued doing so until the 10th, when there were 120 ova in all." (Neither one of this pair then could have more than four days out). From these eggs butterflies were obtained, from 17th to 27th August. "Several pairs were put together, but no ova were obtained." I do not know whether this last means that actual copulation took place or not, but should suppose not, as eggs could not have been formed in the ovaries, these butterflies being of the last brood of the year, and the one which hibernates.

The interesting point in this narrative is that butterflies will pair in captivity. I myself have never known such an instance, but in CAN. ENT., xviii., p. 17, it is recorded that a pair of *Satyrus Alope* paired when put under a net, as observed by Miss E. L. Morton. Some butterflies come from pupa with eggs mature. I have seen pairs of *P. Ajax* copulating, when the wings of the female were not yet dry. In case of *Heliconia Charitonia*, the pairing often takes place before the female is clear of the pupa skin. *Argynnis Myrina* has been recorded as pairing almost immediately after both sexes left the pupæ. And the eggs of *P. Tharos* are fully formed on coming from chrysalis. On the other hand, many species require 10 or 15 days at the least to mature their eggs, as our larger Argynnids, several Papilios and others. It is well worth while to experiment with different species in this direction.

These observations of Mrs. Hutchinson settle the question as to *C. Album* being single or double-brooded. Westwood, in Humphrey's Brit. But., 1846, says the species is double-brooded. But Newman, Brit. But., 1871, p. 50, says that an idea seems prevalent that there are two broods in the year, but that he thinks it is a mistake, and never had satisfactory evidence of it. So that up to 1871, it seems not to have been a settled