

Envisaging the pupal development of *Pyrochroa coccinea* (L., 1761) (Coleoptera: Pyrochroidae)

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Introduction

On 23 April 2018 I collected an unpigmented pupa of a female *Pyrochroa coccinea* (L., 1761) near Tiddesley Wood, Pershore, Worcestershire (VC37 SO94 28 m O.D.). Knowing that eclosion would not be far distant I retained the specimen and photographed it at intervals of time. After eclosion the beetle was liberated.

Discussion

After pupation the internal contents of a pupa are ‘reformatted’ through histogenesis until the structure of the adult beetle can be discerned. In this case eclosion occurred at about 0600 hours BST on 4 May 2018. This is marked by the casting of the pupal integument which is then evident as a papery exuvia. The beetle is then fully developed but immature and immediately begins a process of grooming and flexing as further pigmentation takes place.



01. Dorsal aspect of *Pyrochroa coccinea* pupa 67 hours before eclosion.

01 and 02 illustrate how the process of pigmentation and development occurs over a time period up to 67 hours prior to eclosion. As in many species of Coleoptera the pupa of *P. coccinea* is exarate and the free legs and antennae are plainly visible in 03. The development of the elytra progresses rapidly near to the point of eclosion when they are finally liberated and expand fully.

The date of eclosion, 4 May 2018 is normal for this species which in Britain occurs as an adult during May and June, sometimes feeding on nectar and pollen. The normally subcortical larvae are highly predatory and may exist in the larval stage for two or three years so that larvae and pupae may occur together. The extended larval periodicity means that *P. coccinea* requires relatively stable habitat with continuity over time.



02. Dorsal aspect of *Pyrochroa coccinea* pupa 5.5 hours before eclosion showing the slow steady change in pigmentation.



03. Ventral aspect of *Pyrochroa coccinea* pupa 5.5 hours before eclosion showing the elongating elytra and defined pigmentation.

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