

# Supporting Information

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## SI Materials and Methods

**Caterpillar Housing.** Larvae of the Early Thorn Moth, *Selenia dentaria*, look remarkably like the twigs of their host plants, and have been shown to benefit from masquerade. This species is an inchworm (family Geometridae) that it is common across most of the U.K. It feeds on Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, and a number of other deciduous trees (1); and does not reflect light in the UV spectrum (see Fig. S1). The larvae were obtained by rearing eggs of mated females caught using light traps, allowing these caterpillars to pupate, and mating the resulting adults. The larvae were reared in clear plastic containers and were fed on freshly cut Hawthorn. The containers were housed in a laboratory lit by natural daylight between June and August of 2009. We used fourth-instar larvae in the experiment, and individuals measured ~3.5 cm in length.

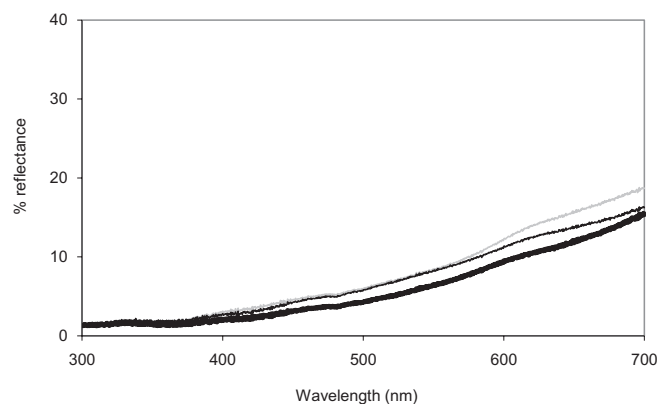
**Chick Housing and Training. Housing.** Fifty female domestic chicks of the “brown shaver” strain (*Gallus gallus domesticus*) were purchased from a commercial hatchery on the day they hatched. They were housed in cages measuring 120 cm × 50 cm × 50 cm, and were subject to a 14L:10D cycle using uncovered fluorescent lights with full daylight spectrum. The temperature of the laboratory was maintained at 25–28 °C using a room heater. Water was provided ad libitum, as were chick starter crumbs except during training and experimenting when food deprivation was necessary. Chicks also received mealworms *Tenebrio molitor*

twice a day in their home cages. All deprivation periods were in accordance with Home Office regulations and guidelines. At the end of the experiment, chicks were donated to free-range small holdings.

**Training.** On day 1 posthatch, chicks were left to acclimatize to the laboratory for 1 h. Thirty-two chicks were then trained to eat chick starter crumbs from the white laminated cardboard floor of an experimental arena. Two identical arenas were used, each consisting of a cage identical to the housing cages, with a section measuring 20 cm × 50 cm × 50 cm partitioned off using wire mesh to create a separate ‘buddy arena’. In all training and experimental trials, two chicks were placed in the buddy arena to reduce any potential distress from placing experimental chicks alone in the arena. These buddy chicks were selected from a stock of 18 individuals, and were changed every three trials. These chicks were housed separately from experimental chicks, and were not given access to insect prey at any point during the experiment.

The 32 chicks underwent six training trials at regular intervals throughout the day. In all trials, chick crumbs were scattered over the floor of the experimental arena, and chicks were then placed in the arena for an interval of three minutes. In the first two trials, chicks were placed in the arena in groups of three; in the following two trials, chicks were placed in the arena in groups of two; and in the final two trials chicks were placed in the arena individually. By the end of trial 6, all chicks were eating crumbs in the arena.

1. Porter J (1997) *The Colour Identification Guide to Caterpillars of the British Isles: (Macrolepidoptera)* (Viking, London).



**Fig. S1.** The mean percentage reflectance measured between 300 and 700 nm for 12 larvae, with six measurements per dorsal, lateral, and ventral surface per larvae. Reflectance measurements of the larvae were made using an Ocean optics USB2000 spectrophotometer, with specimens illuminated at 45° to normal by a DH1000 balanced halogen deuterium light source. The diameter of the measuring spot was 3 mm, with spectra recorded at 0.34-nm intervals from 300 to 700 nm, and measured relative to a WS-1 reflectance standard. The absence of a peak in reflectance measurements between 300 and 400 nm indicates that larvae do not reflect in the UV spectrum.