

out comes the head of the moth. In an instant the legs are thrust out, and then the whole body appears; not a fibre has been broken, they have only been separated."

The cocoons of *Samia cecropia* and *Callosamia promethea* do not have a gummy coating over the entire interior. In each case the end through which the moth emerges is composed of silken fibres loosely pulled together and not covered with a gummy substance. It is as if each layer of the cocoon was spun into a fringe at this end, the fringes of all layers being bunched together forming a little cone. In the cocoon of *Samia cecropia*, it was possible to push a pencil through this fringe with apparently no effort. The fibres parted readily, it being necessary to break only a few in the extreme outside layer. The same can be said of *C. promethea's* cocoon.

This condition of affairs evidently enables the emerging insect to escape, without the aid of secretions or cutting apparatus, the struggles evidently helping considerably to enlarge the opening. It is rather strange how few text-books on entomology mention this method of emergence.

SITOWSKI'S NEW ABERRATION OF *COLIAS HYALE* L.

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In the *Bulletin de L'Academie des Sciences de Cracovie* for May, 1913, L. Sitowski figures and describes an aberrant form of *Colias hyale* L. to which he gives the name *polonica*. The example, a male, was taken at Radlow in Galizia and appears to be different from any of the forms hitherto described. Besides minor differences of color distinguishing the aberration from the parental form, there is a great extension of the dark border on the upper side of the primaries into the disk, and an entire absence of the border on the upper side of the secondaries. A suffusion of dark scales over the light areas distinguishes the under sides of the wings from the type.

The scales of the wings are strikingly different from the normal, lacking altogether the apical processes and being smoothly rounded off instead. The scent-scales at the bases of the hind wings

are blunt rather than pointed and the striations are parallel to the sides rather than oblique as in the type.

Considerable discussion follows as to the causes which might be supposed to produce an aberration of this type. The hypothesis of Pictet, that one and the same factor may produce different changes of color, is adopted. Melanism and albinism are supposed to be brought about by the same environmental factor acting upon different individuals of the species. As evidence for this view, it is stated that dark forms and light forms occur in the same region, and the aberration *polonica* displays both the melanic and the albinic tendencies in the single individual. The author would seem to assume either that temperature, humidity and light must be constant in any given region or that the life histories of the various members of any species must be so adjusted that they are subject to exactly the same conditions at the same periods of development. It is also not at all clear why the breeding experiments with *Colias* should have been entirely overlooked. Harrison, Main and Frohawk have clearly shown that albinism is a segregating hereditary character in *C. edusa*, and Gerould in very extensive experiments upon *C. philodice* and *eurytheme* has demonstrated the laws of inheritance of albinism with large numbers. Judging also from our knowledge of spotting in general it seems much more probable that the aberrant coloration of *polonica* should be due in part if not wholly to hereditary rather than environmental factors.



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