

POPULAR AND PRACTICAL ENTOMOLOGY.

HELIOtropism IN BUTTERFLIES; OR, TURNING TOWARDS THE SUN.

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Those who have read Dr. G. B. Longstaff's book, "Butterfly Hunting in Many Lands," have enjoyed his accounts of the peculiar habit that some species of butterflies have of carefully adjusting themselves to a certain position when they settle. Most of us will recall similar instances, such as our common Sulphur, *Colias philodice*, which is often seen in great numbers near puddles of rain water along country roads, resting with the wings closed over the back frequently leaning over at an angle of 45° to even 30° to the ground; or the Vanessas and Graptas alighting on a fence or tree trunk only to immediately shift the position of the body to one perhaps at right angles to what it had been or even exactly reversing the direction in which the head pointed. But until attention was called to it as a phenomenon of which an explanation was desired, it has been generally passed by as being an everyday occurrence, without any effort being made to try to find out *why* the insect should act so, or to keep accurate notes on exactly what the respective positions were, as well as the position of the sun, direction of the wind, temperature and nature of the object settled on.

A theory of Dr. Longstaff is, that in assuming a position inclined sideways the butterflies more easily escape detection, as the shadow is reduced to a minimum. This may be the true explanation in the case of the insects which Dr. Longstaff has seen and studied in his extensive travels, and we do not wish to imply or express the slightest doubt on his interesting conclusions, but only to call attention to a subject that has been little written about in the life-histories and habits of our Canadian butterflies, and careful observations may prove valuable as well as being interesting to the student of nature.

So far as *Colias philodice* is concerned, this *orientation*, as it is termed, was referred to in an article in one of the early volumes of this journal by Wm. Couper—"A Dissertation on Northern Butterflies" (Vol. VI, p. 92). He says: "When it alights on a flower, instead of being erect on its feet, it lies sideways, as if to receive the warmth of the sun." The same idea has been maintained by

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