

XII.—Notes on the Occurrence of Certain Butterflies in Canada.

By W. SAUNDERS, London, Ontario.

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Important changes have evidently taken place in the recent past affecting the geographical distribution of some of the butterflies now regarded as Canadian, and similar changes are also occurring at the present time. It is well known that some butterflies occur in considerable abundance every year in many localities, while others, usually rare, occasionally become plentiful. Some are restricted within certain limited areas, others, though extremely rare, are found at widely distant points, while others again, once rare and formerly found only in the most southern portions of our country, are now much more common and have been taken in some of the more northern sections of Ontario and Quebec. Seeing that these gradual changes in the location of species are occurring, it is important that all who are interested in this department of biological study should record any observations they may have the opportunity of making, so as to aid in preparing the way for a fuller knowledge of the geographical distribution of our species, and of the causes which affect such distribution.

Papilio cressphontes, formerly known as *P. Thoas*, is a notable instance of a butterfly once extremely rare in our Province, and found only in its most southern county, having within fifteen or twenty years disseminated itself throughout the greater part of Ontario. I well remember the great interest with which collectors looked upon the first Canadian specimens of this butterfly. They were taken more than twenty years ago in the neighbourhood of Amherstburgh and were regarded as great rarities. This insect was first described by Cramer, and was figured by Boisduval and LeConte in their work on the Butterflies of North America, published in 1833, where it is referred to as a common insect in the Southern States, feeding in the larval condition on the orange and lemon trees. It is still abundant in the South, and is regarded as a noxious insect on account of the injury it does to the foliage of trees of the Citrus family; the larva is known there under the common name of "the orange dog."

The species composing the Rue family, *Rutaceæ*, to which the genus *Citrus* belongs, all have their leaves dotted with pellucid glands containing pungent or bitter aromatic volatile oils. The genera are very unlike each other. We have in this country, besides the orange and lemon, the northern and southern prickly ash, *Xanthoxylum Americanum* and *Carolinianum*; the hop-tree or wafer-ash, *Ptelea trifoliata*; and two introduced plants, the garden Rue, *Ruta graveolens*, and *Dictamnus fraxinella*, the latter being cultivated in gardens as an ornamental herbaceous plant. Wandering from its home among the orange groves, this butterfly is enabled to recognise the allied genera in this family as suitable