

vania series. Some from North Bay, however, have the furcula as short as those from Lake Simcoe (figs. 56, 57, 58.)

5. Cerci of ♂.—Next to the furcula this structure shows the greatest range of variation. It is much stouter in typical *glacialis* than in typical *variegata*, and Scudder used the character as one of the chief ones by which the two species could be distinguished. A glance at the plate, however, will suffice to show that no separation into two species can be based on the form of this structure. Some of the North Bay specimens have the cerci of typical *glacialis*, but there is a perfectly gradual series of transitions from the stout cerci of the more northern forms to those of the Pennsylvania ones, in which they are most slender. In order to illustrate these transitions as accurately as possible, I have drawn the cerci of all the ♂ specimens, from N. E., North Bay, Algonquin Park, Tobermory and Pennsylvania, and a sufficient number from L. Simcoe to complete the range of variation.

Other variations of less importance are to be found, especially in the general colour and character of markings, but they add nothing to the facts gained from the above.

From these comparisons it is readily seen that the specimens from Mt. Washington and those from Pennsylvania are the most widely separated, but that the wide gaps between them can be filled by a complete series of links represented by the Canadian specimens, the most northern of which closely approach the N. E. specimens, the most southern the Pennsylvania ones.

These variations, hence, appear to be connected with differences in the climatic conditions, and it would seem that temperature is an important factor. They are also accompanied by certain changes in the insect's habits, as evinced by some interesting facts that have been recorded on this subject. Mr. Scudder states that in the White Mts. *P. glacialis* "frequents the close branches of the dwarf birch, and is rarely or never seen upon the ground," while Mr. Morse found most of his specimens "on or among the various species of *Vaccinium*, characteristic of mountain-tops and on Ascutney upon dwarf cornel" (Psyche, 1898, 273). It occurs at elevations of 2,000 to 5,400 feet, in New England, New York and Pennsylvania, but has also been taken at lower levels at Jackman, Me., on the Canadian border, "in open woods and bogs" (Harvey.—Psyche, 1897, 77). At North Bay and Algonquin Park I found the insect common in open woods on bushes, chiefly the common beaked hazel