This development of macropterism in so many species usually regarded as normally brachypterous is the most interesting feature in the Orthoptera of the Thunder Bay District. We find the same tendency in less degree in Northern Michigan, as given in the papers cited above, but farther south long-winged examples of some of these same species are unknown, or of such rare occurrence that they are usually considered somewhat abnormal and as representing cases of reversion to an ancestral type. Such species are, e. g., *Chlöealtis conspersa*, *C. abdominalis*, *Melanoplus fasciatus* and *M. extremus*, though in the last named species the macropterous form is relatively common. The question arises: Why is the proportion of macropterous to brachypterous individuals so much greater in these northern regions than it is farther south?

In the first place, where dimorphism in wing-length occurs the fully-winged type is of course the more primitive one, the flightless type the more recently evolved. The species is tending to become wingless, and the short-winged individuals are therefore better adapted to their environment, while the long-winged individuals are gradually becoming eliminated. Where this process has been most completely carried out only the flightless type remains, and in such cases the species may be apterous, as in *Podisma glacialis*, or extremely brachypterous, the wings remaining as mere vestiges, as in *Melanoplus islandicus*.

Now, where the environment is least favourable to the needs of the species, or where favourable conditions are localized, the elimination of the unfit will proceed more rapidly than it will under favourable conditions, so that we might, *a priori*, expect to find that where the trend of evolution is towards brachypterism this condition will become established most rapidly where favourable conditions of environment are localized, e. g., towards the limits of the geographical range of the species.

It will be noted that all the dimorphic species in question are boreal forms, and are more abundant and generally distributed in the north, where the long-winged forms are plentiful, than towards the southern limits of their geographical range, where this form occurs only sporadically or not at all. Hence it may be concluded that the elimination of the less fit macropterous forms at the south, where the environment is least suited to the species, has been more complete than in the north, where the conditions are more favourable.

There is possibly another factor entering into this question. It is well known that differences in wing-length are correlated with differences