change in the proportions of the mature morphs seen above occurred through recruitment from larvae and not through migration. From mid-February, an increasing proportion of newly moulted imagines were flightless and lifted the part occupied by this morph from about 13 percent at the start of February to over 50 percent in May.

The switch in the development of the morphs from predominantly flightless to normal to flightless again is confirmed also from the examination of larvae about to moult to adult (Fig. 3c). The incidence of the flightless morph in the samples of this stage, over 60 percent in mid-December, falls steadily to 9 percent towards the end of January and rises to 100 percent in March. The preponderance of flightless bugs in the collections after mid-February lets one conclude that the overall increase in the incidence of the flightless morph in the adult population was through larval recruitment, and not through loss of the normal morph by emigration.

Except after mid-March, and perhaps at the beginning of summer, the two morphs were developing together throughout summer in this population.

This cycle of development was paralleled almost exactly in the populations along the beach of the pond even though the influence of the second larval generation was more pronounced there and presumably made up a greater part of the adult population later in the year. Throughout summer the collections of late instar larvae were similar. For example, on February 26, 51 of 62 larvae (82 percent) from the deep water and 58 of 68 larvae (85 percent) from the beach were the flightless morph. It was not surprising therefore, to find that at the end of summer, when differences between the populations in different parts of the pond could be expected to show most clearly, the proportions of two morphs were almost identical with 54 percent of bugs flightless from the deep water and 52 percent flightless from the beach.

In general the habitat features that led to differences in the life cycles in the parts of the pond did not affect the development or the ultimate structure of the polymorphism of the adult population. At Leithfield Lagoon, however, where marked differences appeared in the parts of the habitat over summer, similar life cycle divergences to those described above were associated with changes in the development of the polymorphism. In this habitat a section of the initially unbroken population was cut off in a shallow bay from the rest of the lagoon as the water level dropped through summer. The animals there experienced much higher water temperatures, larval growth was faster, and most adults developed to the normal flying morph. This is a similar situation to that described in a population of *Sigara scotti* (Fieber) in England (Young, 1965a, p. 374) and as in that situation shows clearly the effects of environmental factors in the control of the polymorphism.

On January 27, over a month after the populations separated, fifth instar larvae made up 78 percent of the last three instars in the pond but less than 11 percent of the same stages in the lagoon. This difference, which became even more pronounced later in the summer, indicates not only a different rate of larval growth, with faster growth in the pond, but also changed breeding success there as well. Few larvae were present in the pond after February 5 even though large numbers of adults persisted through summer and many contained mature eggs until late January. In the main population in the lagoon larvae were common until April.

The numbers of late fifth instar larvae developing to each morph in the pond and lagoon are compared in Table II. In the main population the development of the morphs seen at this stage parallels that found in the Kainga population during the same period and shows a steadily increasing tendency towards the development of the flightless morph. By the end of January most bugs were developing in this way. By contrast, in the cut-off pond there were few developing flightless bugs at