



FIG. 4.—Flight polymorphism in *S. arguta*. Kainga Channel. (4A). The relative frequencies of the morphs in the population. The upper graph line compares normal with flightless and newly moulted bugs and the lower line normal with flightless bugs only. (4B). The relative frequencies of the mature morphs and the developing stages. The category "newly moulted bugs" comprises the early stages of both normal and flightless morphs. The horizontal shading in the "flightless morph" category indicates the period when separation of flightless and newly moulted bugs was extremely difficult. (1). Flightless morph of the overwintering population.

Clearing caused a drastic fall in numbers of all stages and fewer than 20 percent of the population was considered to have survived. There is no certain explanation for the low incidence of teneral normal bugs in the collections in early January, over a fortnight after the drain was cleared. Normal development dominated before clearing and could be expected to continue through December and January, especially as the habitat had been so badly disturbed.

During winter in 1964 the population was composed mainly of the flightless morph, remaining stable at about 88 percent of the population. At the end of summer in 1965 the new overwintering population, growing through drastically changed conditions at first following the clearing of the drain, had a similar structure with 92 percent of the bugs flightless. Clearly the recruitment of flightless bugs into the population towards the end of summer after the drain had re-settled was numerically much greater than that of normal bugs developing over a far longer period earlier in summer. The loss of normal bugs by flight in mid-summer would have also increased the difference between the numbers of the two morphs.