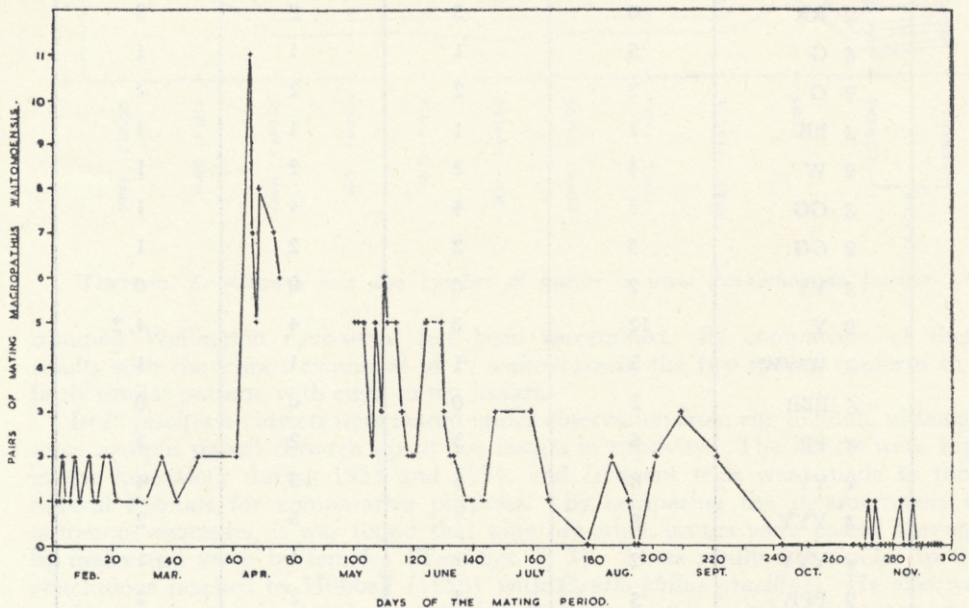


20th, 22nd and 23rd. Mating does not take place immediately the final ecdysis is completed. A maturation period of several weeks has to elapse before the gonads fully mature. In several cases females observed mating were collected, and when their gonads were examined no eggs had developed. In February and March, 1955, one or two pairs of mating *P. waitomoensis* could usually be observed. In the middle of April mating reached its peak, when up to 11 pairs could be observed. During May and the first half of June five or six pairs were common. From then on mating decreased to two or three pairs seen at irregular intervals until September, when it stopped completely (Text-fig. 1). In November, a pair of wetas was observed to mate on four occasions. This, however, was irregular, and cannot be included in the normal pattern.

Thus mating extends over eight months of the year, the period of greatest activity being reached during the third and fourth months from commencement.

In 1931, Remy concluded that the reproductive period of European troglophile Rhabdiphorids living in the midst of very constant conditions extends over the greater part of the year; but no regular observations were made to confirm this. Thus these results are the first conclusive evidence in support of this statement, which it seems may apply to cave-dwelling members of the family in different parts of the world.



TEXT-FIG. 1.—Frequency of mating of *Pachyramma waitomoensis* in Aranui Cave between February 7 and November 30, 1955.

In May, 1955, 34 *P. waitomoensis*, 19 males and 15 females, were individually marked with coloured paint. The movements and behaviour of these wetas were recorded over a seven weeks' period till the end of June (Table III). During the whole of this period *P. waitomoensis* mated haphazardly. There was no permanent pairing off among them nor a single mating, but males and females alike mated several times with various members of the opposite sex. Mating several