

RESPONSES OF *GAMMARUS PULEX* (L.) TO MODIFIED ENVIRONMENT II. REACTIONS TO ABNORMAL HYDROGEN ION CONCENTRATIONS

BY

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Wells (1915) was the first to study the reactions of freshwater animals to hydrogen ion concentration using the "gradient tank". He concluded that fish are negative to neutrality and favoured a slight acidity. Jones (1948) using apparatus similar to that employed by the writer concluded that fish (*Gasterosteus*) are indifferent within the range 5.8 to 11.2, but avoid water more acid than pH 5.6 or more alkaline than pH 11.4. Bishai (1962) also using a similar apparatus has recently shown that in young salmonids the response also depends on the age of the fish.

Almost all previous studies on the reactions of freshwater animals to water of abnormal hydrogen ion concentration have been confined to fish and little work has been done on other freshwater animals. The present series of experiments was therefore designed to study the following:

- a) The response of the amphipod *Gammarus pulex* (L.) to water of abnormally low and high hydrogen ion concentration.
- b) Whether the response to acidity and alkalinity is related only to the pH, or whether the particular acid or hydroxide used is a factor of importance.
- c) Whether the younger stages show reactions different from those of the adults.