

NOTES ON THE FOOD OF TROUT AND MACQUARIE PERCH IN AUSTRALIA.

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(Plate xvii.)

Introduction.

ALTHOUGH of considerable economic value to those engaged in establishing trout in our rivers, and of the greatest interest to anglers, no information appears to have been published regarding the food of trout in Australia. It has been with the intention, therefore, of securing data on this subject that fish stomachs have been procured from time to time, as opportunity permitted, and their contents examined and listed.

Sufficient information has now been secured to warrant the publication of a preliminary paper, and it is hoped that additional material will come to hand to enable further work to be carried out. A very much larger series of stomachs is required, from as many localities as possible and secured over an extended period, before any definite conclusions can be drawn from the results.

Realizing the diversity of tastes of the trout, and that they will feed upon practically any small animals which may come within their reach, and that the presence or absence of any organism is dependent upon climatic and other conditions, I have refrained, as far as possible, from expressing opinions, other than tentatively, simply setting out the results obtained in the hope that future work will enable a fairly exact estimate to be arrived at as to the constitution of trout-foods in Australia.

Although no work has been carried out in Australia to date, much valuable research has been achieved in New Zealand, notably by G. V. Hudson, J. S. Phillips, E. Percival, W. J. Phillipps, and A. W. Parrott.

The question of the decline of trout-fishing, and the depletion of aquatic life in trout-streams has not, as yet, arisen in Australia, but this aspect of the question has given a great impetus to research in fish-foods in New Zealand.

Considerable interest attaches to the composition of trout-food from a purely biological point of view, since the trout is an exotic species introduced into a strange environment, with consequent reaction upon the native fauna and disturbance of the balance of nature which has been so marked in the case of certain terrestrial animals imported into Australia. We have, as yet, no knowledge of a definite nature of the effect upon the aquatic fauna of those streams in which trout have been liberated.

An examination of the contents of trout stomachs from several localities in New South Wales indicates that by far the greater proportion of the insects are terrestrial species which have fallen or been blown into the water from the surrounding vegetation and have been snapped up as they struggled on the surface. On examining the list of genera eaten it would appear that nothing really comes amiss as food. Size of the prey seems to play but a small part in the choice of insects taken by the trout, since small insects, as the Rutherglen Bug (*Nysius vinitor*), are taken with quite as much readiness as large ones.