

prevented this plan from being carried out. The suggestion of Mr. J. Gwynn Jeffreys to apply a solution of silex with muriate of lime as a wash, seems one of the most practical that has been made of late years. If the solution can be applied in such a way as to penetrate the surface of the timber for even a trivial space, much will be done to set the teredo at defiance. Infiltration of the entire timber with the same solution was originally proposed by Mr. Hutton, of Hartlepool.

A great step towards reducing the ravages of teredo would, however, be taken by eliminating every particle of sap-wood from piles and timbers used in tidal harbours. The sap is, of necessity, the most easily perforated, and in the totara it is sometimes found that the animal has died out after having exhausted the sap-wood, being unable to attack the heart until it has been acted upon by seawater for a longer period. The sap-wood thus affords shelter to a vast number of young teredines, most of which would probably perish if deprived of the support thus afforded. In this view of the case I am supported by Mr. D. E. McDonald, who considers that heart of totara piles would last thirty years.

In situations where puriri can be used, it would doubtless prove advantageous to employ it as much as possible. Unhappily, it cannot be obtained of sufficiently large dimensions for deep-water piles, but in many instances it would prove of the greatest value. More closely than any other New Zealand wood it resembles greenheart, almost the only known timber which is teredo proof.

In the present state of our knowledge it is advisable, on the score of economy alone, that throughout the colony all harbour works constructed of timber should have the exposed parts covered with copper sheathing, and that the use of sap-wood should be strictly prohibited.

It is generally believed that totara and manuka piles felled when the sap is in full activity, possess greater powers of resisting the attacks of teredo than if felled during the winter months. In this case, a direct extension of the period of immunity is gained; but sooner or later the action of seawater neutralizes the active principle contained in the sap, and the destruction of the pile is simply a work of time.