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ORIGIN OF THE HELIMAN OR SHIELD OF THE NEW SOUTH WALES COAST ABORIGINES.

By THOMAS DICK.

(Communicated by Mr. R. T. BAKER, F.L.S.)

[With Plates XLVII - LI.]

[Read before the Royal Society of N. S. Wales, November 3, 1915.]

Introduction.

THE heliman or shield was a weapon of defense, perhaps the principal one, of the natives of this continent. It had different names, according to the locality of origin, but heliman was the most common; nor was its shape restricted to one special form. The wood from which it was made had to possess certain qualities, such as hardness and strength, and what was of great importance to these men of the Stone Age, it had to come away readily from the parent tree.

The observations recorded in this paper show that the wood of the Grey Mangrove, *Avicennia officinalis*, Linn. possessed these qualities in a marked degree, and so this tree was selected above all others by the aborigines for the manufacture of their shields, as can now be seen by the scars on the living trees of the Port Macquarie District. A very limited number of other trees appear to have been employed for this special article, for only one or two are known along the coast, viz., the Fig, (*Ficus* sp.), and the "Stinging Tree," (*Laportea gigas*). But these trees do not appear to have been used when a suitable *Avicennia* was near at hand, in fact, from my observations, I should say that probably only when this Mangrove had been worked out, did the natives turn to other sources of supply. The

The late John Stuart Dick of Port Macquarie had often seen the natives removing the shields in the early days of the settlement by stone tools only. As the natives learned to value the steel axe very readily, it was only a short time when many of them had steel tomahawks, and Mr. Dick saw many shields removed by steel tools as well. It was the information given by this Mr. Dick that led to the search amongst the trees, as he often drew my attention to those which were marked.

Mr. Ernest Harold Dick, also of Port Macquarie, gave the following interesting account:—

“I was walking past a mangrove swamp, and saw a full blooded native, one that I knew from Rollands Plains, in the act of removing a shield from a tree. The tree was a grey mangrove, and the native had cut the rabbet with a steel tomahawk and was driving bluff wedges of wood into the rabbet, and after driving a number of the wedges, the shield eventually came off.”

This shows that what was done with stone was continued with iron, for the native soon realised the superiority of the white man's iron axe over his stone one.

My own observations, towards which I have been helped by a daily occupation on the waters of Port Macquarie, have now extended over a period of twenty-five years.

Method of Cutting the Shield.

From the evidence available, it would appear that the tree generally selected from which to remove a shield was one of even growth, as will be seen in the plates given in this paper. That the native was familiar with the peculiarities of this particular species of timber must now be accepted, also that he was aware at the same time of the lifting power of the wedge, and further he made these stone wedges a certain shape, in order to get this lifting power. The *modus operandi* was as follows:—Having marked out the piece to be removed, by placing the shield

carried by the native against the tree, the rabbet was next cut. This rabbet was most remarkable, and goes to show the resourceful ingenuity of the aborigine. The wedge used was of special stone found in the district, and shaped similarly to a gad used for bursting stone, only the point was not made fine, but on the contrary, it was blunt and would not enter timber. The rabbet was cut to take the point of this wedge, and to allow the wedge to be driven into it, and so derive great lifting power. The rabbet would be cut for a depth of two or three inches, and would be about one and a half inches wide at the surface, and half an inch at the bottom. This rabbet was cut right round the shield, and besides being used to drive the wedges in, it also cut the rings of the timber of the tree, and so allowed the piece to come away readily. Eight or nine wedges were driven into the rabbet, and when the tree was hard, there would be a number of wedges destroyed and dropped, and these can be found at the present time by digging round old trees. To get the lifting power the wedges were made practically double the width of the rabbet into which they were to be driven.

The shield, having been removed, would be carried to the camp, where with smaller wedges and cutting stones its manufacture would soon be finished. As the tree had peculiar rings in the timber, the native simply drove small wedges into the rings and so trimmed the shield down to the required thickness.

In this district almost every Grey Mangrove tree of suitable size has been made to yield a shield, and in many cases more than one shield has been taken from the same trunk. The tree also sent up shoots which eventually were also cut, this new growth even after woundings lived to a great age, so that there are clumps of trees showing the work of several generations. On one tree nine different

shield marks were counted, the tree being sixteen feet in girth. The manner in which the wounds had distorted the tree was most interesting. Judging by other shield marks and a knowledge of this species of tree, it was estimated that some of the shields had been removed over five hundred years ago.

In cutting the rabbit, two kinds of stones were evidently used, one of them was a shaped and ground axe made from stone, and another was formed to fit the hand, and was not ground, the edge being kept keen by chipping the blade. In several instances ground stone axes from which part of the face had jumped out, were found at the foot of the trees. As most of the other species of trees that the native had at his disposal were not suitable for getting shields, this mangrove tree of this district was in the greatest demand, and when the supply was exhausted, the native had to resort to the Fig, for several fine specimens, showing shield scars, have been procured. On investigating it was found, however, that it was very seldom that other than mangrove was used.

Reasons for Selecting this Tree.

In the introduction, reference is made to the preference for this tree over all others by the aborigines, and from my investigation into the subject, I think there can be little doubt that it was owing to the fact that its timber splits tangentially more readily in this direction than that of any other tree in the bush, and indeed this timber is almost impossible to split radially, a feature that would be a great desideratum in material for the construction of a shield.

Description of Plates.

Plate XLVII.—An aboriginal heliman or shield, now in the possession of Mr. T. Dick. It is made from the Grey Mangrove with stone implements and is twenty-nine inches in length and eleven inches in width at the centre, being

three-quarters of an inch in thickness and tapering to three-eighths of an inch at the edges. Although very old, the timber is in good preservation and very strong.

It was used as a means of self defence from attack by spears and boomerangs. These shields were known by various names, in the interior mostly "elamong," on the coast "heliman," and in Queensland "valaman."

Two holes were cut in the centre of the shield, and a vine twisted and worked in as a handle,—the vine was called "Whipi," *Malaisia tortuosa*, Blanco, which was also used for the purpose of climbing trees. Some shields, especially those made in Queensland, had the handle worked out of the wood used in making the shield.

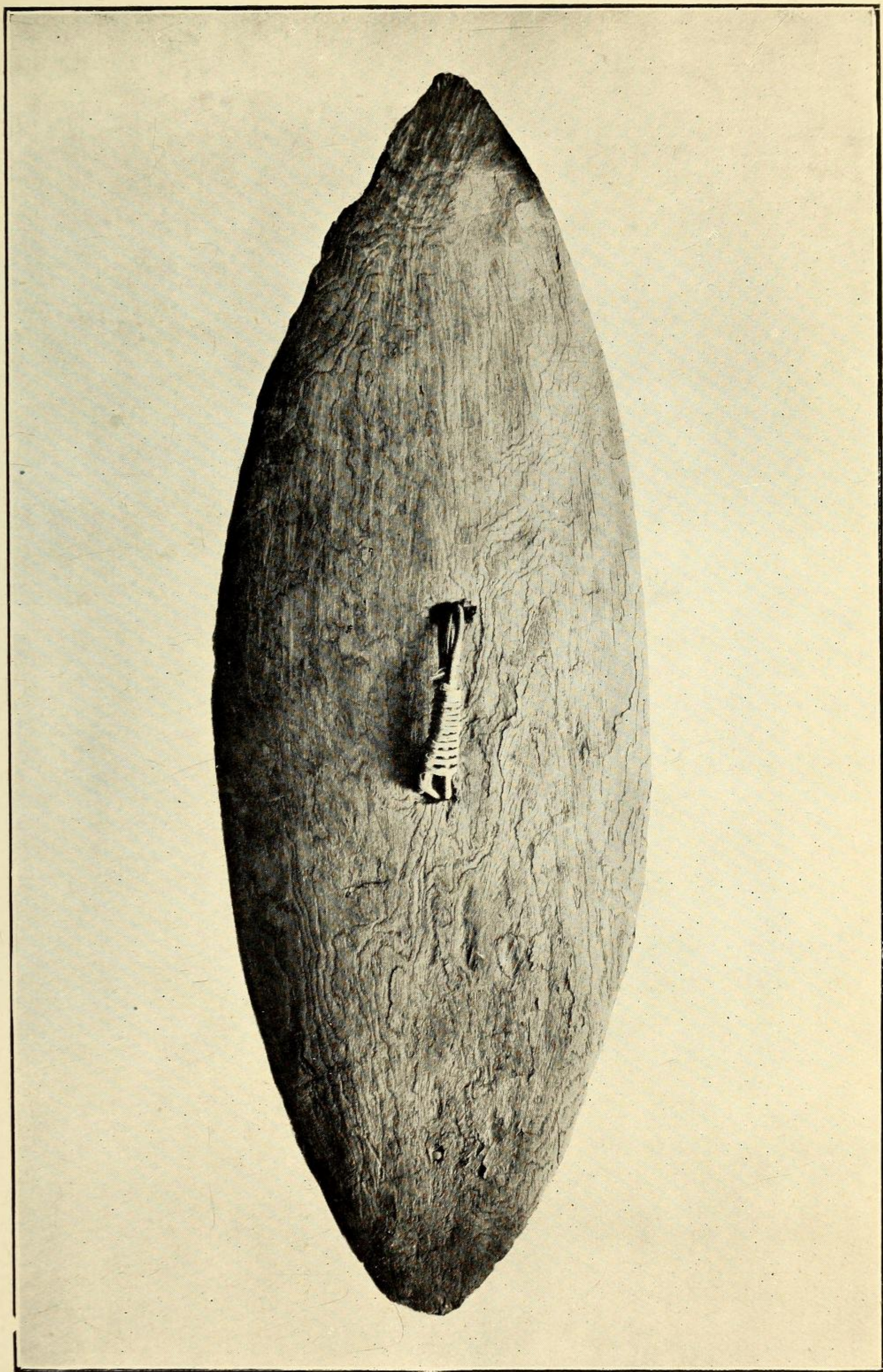
Plate XLVIII.—A group of Grey Mangroves at the present time. No description is necessary with this picture, the shield mark being so defined on the tree on the left as to leave no room for argument. It will be seen that a similar mark is carried out on the tree on the right, and that the shield has been cut much earlier, the piece being decayed completely out. In the rear are a number of trees with shield marks going back to a long period. Both of the trees in the foreground have had two shields removed, but are not visible. The picture was taken in a group of many hundreds of trees so marked. Both of the two trees shown illustrate the method of how the tree survives this wounding, and how successive generations may secure their shields from the same tree. It will be noticed that each tree has a decided lean to the left, and immediately above the shield mark will be seen a new growth. Round the wound is also a new growth which is nourishing the new shoots the tree has sent out. This new growth round the wound heals very evenly, as shown on the left, and continues until eventually the head of the tree decays and falls off. In time the new tree is again attacked by

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Plate XLIX.—The rabbet having been properly cut to the required depth (this being about three inches) the two natives are now engaged driving the peculiar bluff wedges into the special rabbet, and the man on the left is handing up the wedges to the native on the right, who is driving them in with a stone hammer or maul. Several of the wedges have broken, others chipped; these are dropped as shown, and to-day are the specimens found in all areas where this work has been done.

Plate L.—Having been successful in getting the wedges to draw in the rabbet the shield has been forced off, and the native is lifting the piece away from the tree. The thickness of the piece can be seen in this picture, also the defined mark left on the tree. This mark is what has been traced right through the mangrove areas in this district. It will be seen that no fragments of timber are clinging to the shield, and that it has come away from the tree clean of all splinters.

Plate LI.—A fine specimen of the work of the stone age, which by appearance was done about one hundred years ago. The mark of the shield which was removed is well defined, and part of the rabbet is still showing at the bottom.



T. C. Roughley, Photo.

Original Heliman or Shield made from "Grey Mangrove," *Avicennia officinalis*, L.



T. Dick, Photo.

Group of Grey Mangroves. Almost all the trees show evidences of shield-cutting.



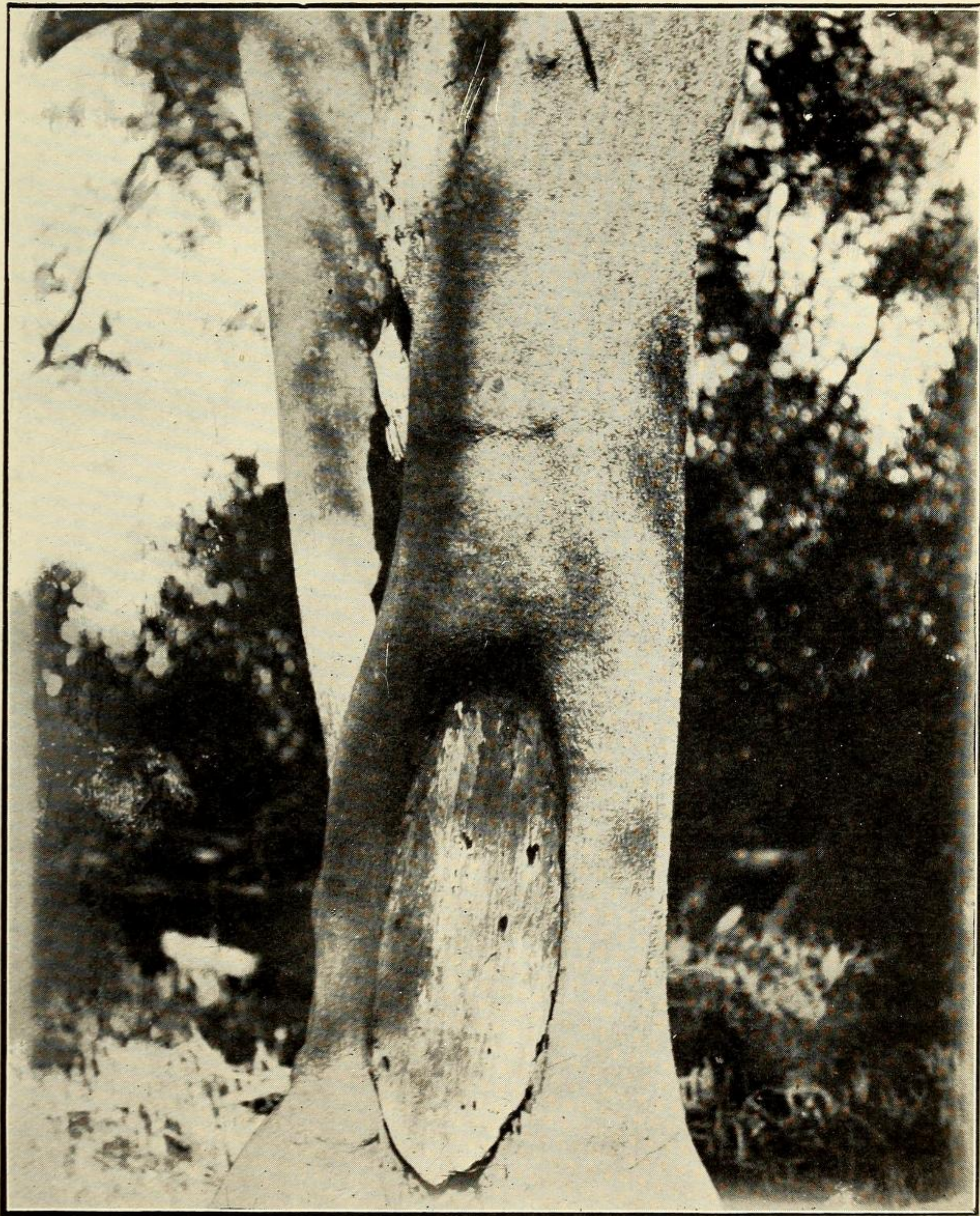
T. Dick, Photo.

Driving original stone wedges into the rabbit. Grey Mangrove, *Avicennia officinalis*, L.



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Aborigines removing a shield from a Grey Mangrove, *Avicennia officinalis*, L.



T. Dick. Photo.

A fine example of a shield-scar in a living tree.

Grey Mangrove, *Avicennia officinalis*, L.

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[Begin Page: Illustration, Text]

Journal Royal Society of N.S. W., Vol XLIX., 1915. Plate XL VII.

T. C. Koughley, Photo.

Original Heliman or Shield made from "Grey Mangrove," *Avicennia officinalis*, L.

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Journal Royal Society N.S. W., Vol. XLIX., 1915.

Plate XL VIII.

T. Dick, Photo.

Group of Grey Mangroves. Almost all the trees show evidences of shield-cutting.

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Journal Boyal Society of N.8. TV., Vol. XL1X., 1915.

Plate XL IX.

T. Dick, Photo.

Driving original stone wedges into the rabbet. Grey Mangrove, *Avicennia officinalis*, L.

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Journal ttoyal Society of N.S. tV., Vol XLIX., 1915. Plate L.

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Aborigines removing a shield from a Grey Mangrove, *Avicennia officinalis*, L.

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A fine example of a shield-scar in a living tree.

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