The results obtained by the work of the author appear to be highly suggestive and throw more light on this problem of stimulation in the physiology of pollination in Orchidaceæ and the mechanism by which the pollen hormone promotes growth of the orchid ovary. A brief note about it is given here with particular reference to *Habenaria longicalcarata* (Rich.). Two other species of *Habenaria* and one of *Ipsea* have been studied and the results confirm the observations made on *Habenaria longicalcarata*.

When pollinated the ovary of *Habenaria* grows into a fruit and becomes much bigger than the ovary of the flower which is not pollinated. Superficially much difference cannot be made out between the pollinated and the unpollinated ovaries except in their size (photograph 1). The ovary of the unpollinated flower though forty days old and of the same age as the ovary of the pollinated shown in the above photograph, remains rich green in colour but it is inhibited in its further growth.

Histological details show that in the pollinated ovary (micro-photograph 2) there is an abundance of starch in the inner wall cells of the ovary and particularly it is rich in the placental tissue where there are a large number of leucoplasts in which starch is elaborated from the simpler carbohydrates derived from the chloroplasts. In the outer wall cells chloroplasts can be made out and the stomata in the epidermis are very efficient. The ovules show normal development since they are well supplied with the plastic nutritive material synthesized in the wall of the ovary.

In the unpollinated ovary (photo-micrograph 3) absence of starch is conspicuous and naturally associated with it are the undeveloped ovules. The chloroplasts, the leucoplasts and the stomata though apparently normal looking are not functional. They seem to remain inhibited from their normal activity.

These facts clearly indicate the mode of action of the growth-promoting substance or pollen hormone present in the pollinia of *Habenaria*. This hormone stimulates the plastids to synthetic activity by its enzymic action as a result of which plastic substances in the form of carbohydrates are synthesized in the wall of the ovary thus providing special nutrition not only for the continued growth of the ovary but also for the normal differentiation and development of the ovules.

Laibach is of opinion that the pollen hormone from the pollinia of orchid, which he investigated, and the other growth-promoting substances like auxins are either identical or closely related. How far this view holds good in the case of *Habenaria* is under investigation.

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October 20, 1940.

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SPEARFISH ATTACKS AN OTTER BOARD

VARIOUS instances of attacks of swordfish and spearfishes on vessels have been recorded in a comprehensive paper by Gudger on "Alleged Pugnacity of Swordfish and Spearfishes".[1]

In this paper there is no record of any attack off Colombo. During minesweeping exercises of "M. S. Goliath" under the command of one of us (M.M.) off Colombo in August 1940 one of the otter boards (teak plank of 2" thickness) was pierced through by a *Makaira indicus* which left behind its sword attached to the board. The accompanying photographs (Figs. 1 and 2) by Lieut. Engineer A. Smith (Fig. 3

by S. M. Mohamed) show the various aspects of the sword and the otter board.

FIG. 1
The weapon *in situ*

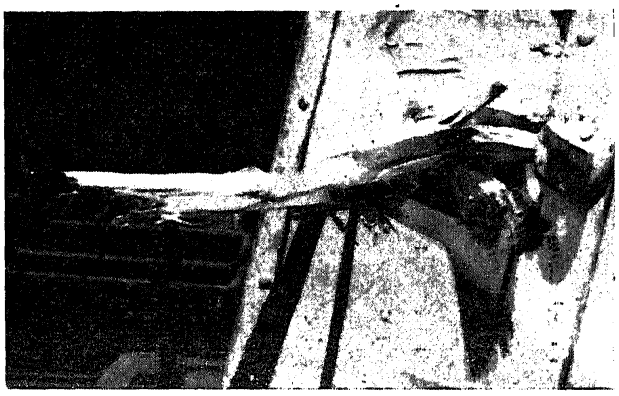

FIG. 2
The damage caused to the timber

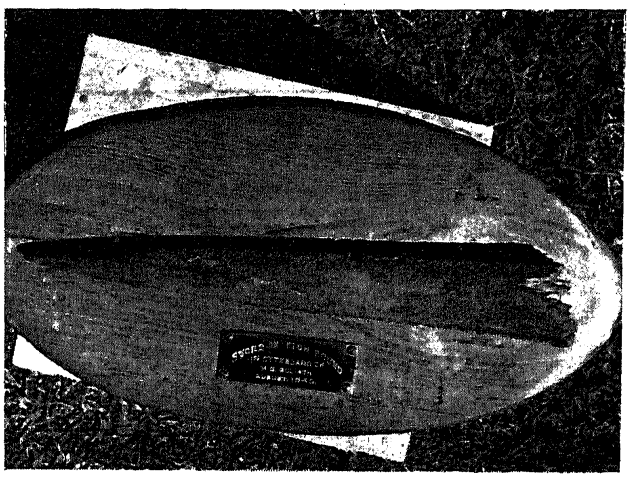

FIG. 3
The detached sword (16·1 inches) mounted on board and now placed in Head-quarters of the Ceylon Naval Volunteer Force, Colombo

The attack took place when both the fish and the vessel were moving in the same direction. There was no shoal of fish following this vessel.

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Ceylon Naval Volunteer Force,
Colombo,
December 16, 1940.

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OUR EARTH LORE

Twice two milliard years before
Was born our Earth of fiery core;
Her infant days she suffered in vain
From burning bowels and colic pain.

For countless eons she wept in woes
And groaned, uncared, in anguished throes;
In time, hardened to chronic case
Endured she, certes, with stony face.

Her fevered core when turned to cool
Her sweat gathered in liquid pool;
In denting thus the face of Earth
These pools attained the ocean girth.

The elements fought with craggy flanks,
The rolling waves—their rocky banks;
They pounded both with powerful hands
And ground the rocks to myriad sands.

The shattered sands were whipped by waves—
In beetling cliffs, to cut dark caves;
To rush frenzied with ruthless mind,
Like maddened fiends, to mow their kind.

The hurling brooks hewed hilly-heads
And swept the clipt to ocean's ledge;
Their loads they laid in sorted beds,
Which rose later as mountain wedge.