come a popular ornamental, variously used in open plantings, hedges, screens and arbors. "Pacaya" is the local name, though also applied to related kinds, more properly to those that have edible inflorescences. The present status of the palm in San Jose was observed by Mr. Loren G. Polhamus, of the U. S. Department of Agriculture, in December, 1938. Flowers of both sexes were collected, but no seeds were found, and even in March, 1939, when another visit to Costa Rica was made, only green fruits had developed. A rather definite seasonal habit is indicated, flowering in December and ripening its fruits in May, the fleshy pericarp doubtless attracting birds and the seeds scattered before the summer rains.

Through the kindness of Mr. W. E. Klippert, of the Goodyear Rubber Plantations Company, it was possible to arrange for ripe fruits to be sent, and a generous shipment reached Washington in May, 1939. The seeds were in excellent condition, were planted at once and germinated promptly. By the middle of July many seedlings had appeared, and a few had reached the stage of opening their first leaves. Thus adequate tests are in prospect at field stations and with private growers, to determine the value of the palm for household use with Neanthe and also for outdoor planting in Florida and California.

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FRESH-WATER MEDUSAE FOUND IN KIATING, SZECHUEN, CHINA[1]

Two species of fresh-water medusae were found in a pond along Tatu River, Kiating, Szechuen, China, in association with tadpoles, green algae, diatoms, protozoa, rotifers, small Crustacea and other aquatic forms. The pond is about four hundred meters long, thirty meters wide and two meters deep, the bottom of which is covered by sand and gravel. The water is fairly clear, and at the time of the discovery of the medusae its temperature and hydrogen ion concentration were 12° C and 7.2, respectively.

One species, possibly a variety of *Craspedacusta sowerbii,* was found on January 14, 1939. A large number of them has been found since then, mostly on sunny days. The average diameter of the umbrella measures about 2.2 cm during expansion and 1.6 cm during contraction, although much smaller young and un-mature forms were observed. The manubrium is rather long; its ratio to the diameter of the umbrella is about 1:1.5. The height of the umbrella varies, of course, with the diameter as well as the activity of the animal, whether it is in expansion or in contraction. The number of tentacles is not constant, being variable from 259 to 272. They are of seven kinds in respect to their length, arranged radially around the margin of the umbrella with more or less regularity. Located at the base of the velum and inside of the small canals (which are in direct connection with the circumferential canal) are sense organs whose number varies from 129 to 146. The gonads as four greenish pocket-like outgrowths are situated at the junction of the gastrovascular cavity and the four radial canals.

The other species found in the same pond on February 12, 1939, is much smaller, whose average diameter is about 7. cm during expansion and .45 cm during contraction. The manubrium is relatively shorter. Its ratio to the diameter of the umbrella is about 1:2. The number of tentacles varies from 44 to 115, and they are of four kinds in respect to their length. Sense organs and gonads are located at the same positions as those of the preceding species, but the number of sense organs is less, only 29 to 71. So far, only four such specimens were found.

It might be interesting to note, in view of the observations made by Powers,[2] that the medusae we collected on January 14 have been living since in our unaerated aquarium, in which, however, the water is constantly changed, without showing any visible abnormality.

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[1] The detailed description of the organisms will appear shortly in the Biological Science Series of the Science Reports of National Wuhan University.

ANTHELMINTIC ACTIVITY OF FRESH PINEAPPLE JUICE

THE use of latexes from Ficus species as anthelmintics has been known for a very long time. Robbins[1] and Walti[2] as well as others have shown that the enzyme ficin which they obtained from some of these latexes was the active agent responsible for the digestion of the parasites.

Since ficin, papain and bromelin belong to the class of so-called papain enzymes, it occurred to the authors that the bromelin of pineapple juice might exhibit anthelmintic activity similar to that of the ficin of the latexes. On looking over the scientific literature on pineapple juice no reference was found on the matter. However, it has been reported that the juice has been used in folk medicine as an anthelmintic.[3]

Living *Ascaris lumbricoides* and *Macracanthorynchus hirundinaceus,* obtained from hog's intestines, were incubated at a temperature of from 35° to 40° C. with pineapple juice freshly squeezed from a Cuban

[2] Edwin B. Powers, SCIENCE, 88: 498, November 25, 1938.

[1] B. H. Robbins, *Jour. Biol. Chem.,* 87: 251, 1930.

[2] A. J. Walti, *Jour. Biol. Chem.,* 119, *Sci. Proc. Soc. Biochem.,* 31. Ci., 1937.

[3] K. M. Nadkarni, "The Indian Materia Medica," p. 62. Bombay, 1927.

pineapple. At the end of 24 hours both parasites were completely digested, while controls incubated in heat-inactivated pineapple juice and in saline solution were very lively and active.

The results obtained indicate that the juice possesses enzymatic activity similar in nature to that of some Ficus latexes, and therefore there is some scientific basis for its use as an anthelmintic.

The much wider availability and cheapness of fresh pineapple juice suggest it as a more practical source of non-toxic, ficin-like anthelmintic.

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QUOTATIONS

THE VOICE OF SCIENCE

ONCE more the burden of war is laid upon us. Once more, as in 1914, the cynical disregard of Germany for the rights of small nations has constrained the British people to take up arms in the cause of justice and fair dealing in international relations. The challenge of the German Reich has been accepted reluctantly, and with no illusions as to the nature of the glories of modern warfare, only after every effort to secure a peaceful but equitable settlement of the differences between Germany and Poland has failed. It has been accepted with full realization of the gravity of every implication of the decision. But in turning to war as the last resort, the British people has acted with a unanimity such as never before in its history, and with a grim determination that no effort shall be spared in the endeavor to ensure that the cause which it holds just shall prevail.

From 1914–18, the Allies opposed dynastic ambitions in the interests of the freedom of peoples. No longer were the people to be the pawns of the political intrigues of their rulers. The world, it was said, was to be made safe for democracy—words that now have a mocking ring. In 1939, the canker has sunk deeper. It is not merely political liberty that is at stake, though that too is jeopardized. It is the spirit of man.

In no previous war has science played so great a part as that which will be demanded of it in the struggle that is at hand. For a time, while the issue hangs in the balance, it is the duty of the man of science to lay aside his just misgivings whether the greatest force of the human intellect should thus be harnessed to the forces of destruction. For the moment, the interests of pure science as an intellectual pursuit and discipline must remain in abeyance. The energies, the abilities and the knowledge of each and every individual with scientific training must be directed without remission to the service of the Allied cause. Nevertheless, the end to be attained, and the end which science should hold ceaselessly before the eyes of the Allied peoples, is not destruction, but a constructive ideal—to ensure in the future such conditions as will make possible the advancement of all the peoples of the world without discrimination, according to the status and the traditions of each, in the light shed by reason and scientific knowledge. To keep alive the aims of science in furthering the pursuit of truth in the universe and the relation of that truth to the developments of man's nature, without regard to tribal and racial distinctions, should be, indeed, must be, the ultimate function of the scientific thinker, whatever may be his more immediate preoccupations.

As to the form in which that ideal will find embodiment, at the moment, in the turmoil of initial operations, it is too soon to attempt a forecast; but that it is no idealist's dream is certain. The failure of the League of Nations as a political organization has cast discredit in the popular mind on such forms of international cooperation. Possibly the League of Nations came before its time, and this has obscured in the popular verdict the enormous value of its scientific work in the study of social and economic problems, and the progress which has followed, where the practical application of the solutions suggested has not conflicted with the trends of nationalist development. To extend the fields in which such cooperation between peoples may be applied is the task of the future, when the time comes, as it surely will, for reconstruction.—*Nature.*

SCIENTIFIC BOOKS

ELECTROMAGNETICS

Electromagnetics; a Discussion of Fundamentals. By ALFRED O'RAHILLY. xii + 884 pp. Longmans Green and Co., 1938. 42/- net.

ANY one who has attempted to write a logical presentation of electromagnetics is quite aware of the difficulties and so should welcome this essay in constructive criticism published by the Cork University Press.

A good amplified presentation is given of the usual mathematical analysis and the existence of different views is shown by numerous quotations from the writ-