

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, CHINA¹

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 gastro-vascular 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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ANTHELMINTIC ACTIVITY OF FRESH PINEAPPLE JUICE

THE use of latexes from *Ficus* species as anthelmintics has been known for a very long time. Robbins¹ and Walti² 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 *Macracanthorhynchus 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.

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