

# The Rising of the Palolo

A reliable astronomical formula for  
predicting the rising of the Palolo

By C. G. R. McKAY\*

IN Western Samoa, outlying islands of the Fiji group, and other islands of the Pacific, the annual appearance of the *palolo* is almost a festival, occasioned both by its rarity and its succulence as a food.

The *palolo*, mistakenly called a worm, is the released stream of spawn of a sea anelid, *eunice viridis*, resembling a diminutive lobster, which spends its entire life hiding in some crevice or orifice in the coral deep below the surface. It releases once annually its soft hind portion, while head and body remain immovable and another propagation portion grows. The section released is somewhat after the nature of jelly-fish spawn, as many as 300 segments adhering to each other lineally to form a wriggling "worm," and of any length up to 300 millimetres. The male "worms" are reddish-brown, and those of the female are blue-green. Upon contact with the surface and the light of dawn the sacks enclosing them dissolve, and fresh life begins. But when?

During the wartime occupation of Western Samoa by the United States Marine Corps a strict black-out was required, and night fishing was prohibited entirely. Towards the end of 1942 the crisis had eased a little. The people approached the American commanding officer for permission to go out for *palolo* before dawn on the one night only of its appearance. He was inclined to agree, but in the forthright way of military men, required to know which night it would be "and no fooling."

Various authorities (notably Dr. Augustin Krämer, in his *Die Samoa Inseln*—Stuttgart, 1902) have described this phenomenon, but none had given an accurate formula for forecasting its appearance. The Samoan formula was to count full moon (*malupeaia*) as the first night when the moon rises after sunset, and to expect *palolo* on the seventh morning after the full moon nearest to the

end of October. But no one was quite sure, or could explain the connection between the *palolo* and any particular date.

After much questioning and analysis of the answers a formula was hit upon which was found reliable in practice and reasonable in theory: that the *palolo* would rise on the seventh morning after the full moon, being that last quarter of the moon nearest to the day when the sun would pass over the zenith on its way southward. If the day of maximum sun's altitude is

spaced more or less equally between two last quarters of the moon, the *palolo* will appear some at each last quarter, or if the last quarter should fall due by exact calculation, say, in the afternoon, then the *palolo* may appear both in the morning of that day and of the day following.

In test by practice this formula proved accurate. Now for the theory: It is that the parent anelid, deep down in the coral, requires a combination of light and minimum water pressure to activate its reproductive processes. The sun at its zenith pours maximum light down into the depths. The activation thus caused is stimulated at dawn of each day, and reaches its crisis on the dawn of the last quarter of the moon, for low tides and correspondingly low pressures synchronize at dawn with the last quarter of the moon in those Pacific islands where the *palolo* appears.

## Teaching Materials Produced in the Trust Territory of the Pacific Islands

By J. L. TAYLOR, Department of Education

FIRM in the belief that children learn more easily and satisfactorily from properly-oriented reading materials, the Trust Territory of the Pacific Islands Department of Education has, over the past eight years, produced a wide variety of small booklets for school use.

The Micronesian Reader Series: *Island Play*, *Two Island Boys*, *An Island Family*, and *Three Children* are elementary readers. Written by trained textbook writers and appropriately illustrated with island scenes, they portray life as an islander sees and knows it. Two of them have been translated into several Micronesian languages.

Better to acquaint intermediate school pupils with their geographic environment, a number of social science, nature study, and agricultural readers were prepared. They include: *A Geography of the Marianas*, *A History of the Marianas*, *A Geography of Truk*, *How Yap Was Formed*, *The Giant African Snail*, *The Breadfruit Tree*, *The Banana Plant*, *Taro: A Staple Food of Micronesia*, *The Coconut: Micronesia's Most Valuable Tree*. Some of these booklets have been reproduced in several island languages.

More than merely providing information, these mimeographed pamphlets furnish materials for under-

standing the use and conservation of natural and human resources. They encourage an appreciation of the Micronesian environment, and, finally, they are excellent media for developing reading skill in both English and island languages.

Two commercially-printed and bound volumes entitled *Legends of Micronesia* record tales retold by the elders on many islands of Micronesia. Educational personnel in each of the six districts have, likewise, prepared in both English and island languages local legends that would otherwise become lost. These legends are frequently made a part of integrated core programmes prepared to study local community problems.

In addition, a good start has been made in unravelling the complex and confusing linguistic patterns present in the Trust Territory. Phonetic systems, vocabularies, dictionaries, grammars, and study helps for eight of the languages are being written.

Although specifically for use in the schools of Micronesia, the information and suggestions for its use apply to other Pacific islands. The Department will be happy to furnish complimentary copies of these materials and to receive, in exchange, similar teaching aids produced in other Pacific areas.

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