The author enjoying a leaf-wrapped packet of palolo brought to him last October. In the Samoan way he is using a sliver of coconut leaflet midrib in each hand, serving as a fork.

The Rising Of The Palolo

At dawn one morning in October next, the surface of the sea around some islands of the South Pacific will be a wriggling mass of green and reddish-brown, worm-like marine organisms. The palolo *will have risen once again. This article describes some of the legends and customs that in Western Samoa have grown around the* palolo, *which everywhere it is taken is greatly esteemed as an epicurean delicacy. It also explains how a formula has been developed for predicting the date of its rising, which for this year is forecast for October 19.*

By F. TOFA I'IGA PISA*

THE seafood *palolo* is held in epicurean esteem in Samoa, Fiji, Tonga, and those parts of the New Hebrides and the Solomons where it occurs. It has a delectable flavour, which is heightened perhaps by the tantalizing knowledge that it may be obtained only at dawn, and only once, or perhaps twice, in each year.

Palolo are actually worm-like sacs of eggs and of sperm from the female and male forms of a sea annelid[1] which spends its life in crevices in the coral depths, perhaps forty feet down. Once or twice a year it sets free a soft hind portion, while the head part, which is about one-fourth of the total length, stays in the coral deeps and begins the generative process afresh.

The sections released swarm on the surface of the sea in wriggling masses of long, thin tendrils that are mistakenly called worms. They may be of any length up to a foot or more. The female "worms" are filled with eggs, rich green in colour, and the males with reddish-brown sperm. Both apparently are enclosed in soluble sacs, for when daylight comes these dissolve, the contents mingle and sink below, and fresh life begins.

At the right time and places, enormous masses of the *palolo* are harvested. They are scooped up in small hand nets, and strained of surplus water frequently lest they dissolve.

Their arrival ashore is an occasion for rejoicing. In the old days, by mid-morning in Samoa runners would be met hurrying off with baskets of leaf packages of *palolo* as choice gifts to friends in other parts of the island where the natural swarming does not occur. Today, bus passengers perform this service more often than not.

Large quantities are eaten raw. Leaf packages of *palolo* are also made up for steaming in a stone oven, often with coconut cream. In the old days the feasting was a rare delight only once a year (except that those fortunate enough to have large supplies would re-cook them several times in order to have some available for special occasions during the twelve lunar months until the next *palolo* rising). Today, however, with the blessing of deep-freeze units, *palolo* is served at feasts and parties throughout the year.

When cooked, the glistening green colour of the eggs predominates. The food is rich in vitamin "A", riboflavin, phosphorus, and iron, and the flavour has that delicate tang of the finest sea foods, with a resemblance also to caviar.

Naturally, such a tasty and rare food has long attracted curiosity, and through the centuries, legends have grown around the mysteries of its origin and rare appearances.

Samoan Legends

There is a Samoan legend of conflict that broke out between the corals in the sea and the natural creatures inhabiting the soil. Both forces strove strongly until finally the coral army captured some worms alive, and put them as prisoners-of-war down in the reefs to serve the coral leaders. The captives were imprisoned for life except that they were allowed to rise to the surface of the sea just twice a year. Those occasions were once each in the lunar months known as *Lefanoga* or *Lotuaga* (now October), and *Taumafamua* or *Tagaloata'u* (now November).

There is a fable, too, that the *palolo* was born of unions between the coral

[1] *Palola siciliensis*, Grube, 1840. *Palolo viridis*, Gray, 1847. *Eunice viridis*, Krämer, 1903.

* Mr. I'iga Pisa, the principal author of this article, is a respected Samoan chief and an authority on Samoan folk-lore. He is now in his eighty-first year. He is famous, too, for having voyaged in a Samoan *paopao*—a small, open, outrigger canoe—over the 124 miles of ocean from Saipan to Guam, in 1915.

Grateful acknowledgement is made of information received for this article from Mr. Rob Wright of the Fiji Public Relations Office.—Editor.

Fijians gathering palolo with home-made scoops of various kinds. Right: Palolo in cloth scoop.

and the worms brought as captives from the land.

Another legend tells of conflict between the birds of the air and the fish of the sea. Fish well-equipped for fighting were drafted, but the *palolo* were ignored because of their weak, worm-like nature. Battle was joined and both sides suffered heavily, leaving unharmed only the *palolo*. But then humans waged havoc on them when they rose twice a year, and so it has continued from ancient times to the present.

Enthusiastic anticipation of the annual event is indicated in the old Samoan names for the months of July (*Palolomua* = first promise of *palolo*) and August (*Palolomu'i* or *Toepalolo* = last before the *palolo*). During these months the re-cooked leaf packages of the preceding year's catch could be consumed—but only on ceremonial occasions—in anticipation of the next rising. September was named *Mulifā* (= the end of season), and it was then that new canoes would be hewn for the *palolo* season to come. Similarly, in Fiji the importance of the occasion was signified in the names of the months involved in the phenomenon.

Origin Of The Name

According to a Samoan belief, the origin of the name *palolo* arises from the fact that *palolo* time heralds also the advent of a rich hook-and-bait fishing season, when special ceremonial food is prepared.

Green coconuts are picked. The juice is drunk from them and replaced with sea water, and the nuts are then cooked with banana leaf and placed carefully on the stones of a house foundation. They remain so for some twenty to twenty-eight days, with pieces of shell over the corks to keep off the sun. When the coconut kernels are found to have softened, and after a day of successful hook-and-bait fishing, the chiefs and orators assemble for an oven-cooked feast of taro, yam, pork, fowl, and fish. Taro leaf tips are spread on a broad banana leaf, and the softened coconut kernel is shaken out of the stored nuts and mixed with them. This mixture is made up into leaf packets, and is called *Samilolo* (*sami* = sea water; *lolo* = fatty or oily).

Pa is the name for fish hooks, and also for trolling lures shaped traditionally from selected shells, often with tails of feather or hair. Thus the word *pa*, on which the success of the fishing depended, was linked with that of the *lolo* which featured in the feast to celebrate it, to form the name *palolo*.

On the other hand Turner, who wrote of Samoa in 1884, and Krämer in 1903, were informed that the name was derived simply from *pa*, which also means to burst open, and *lolo* from the oily-seeming masses discolouring the sea's surface.

A Herald Of Spring

It is beyond question, however, that the word *palolo* signifies not only the tasty product of the annelid, but identifies for the people of Samoa the blooming of spring which in the Samoan calendar was the beginning of a new year.

It is also the season of excellent fishing, of abundant rains (the rainy season being called the *Vaipalolo*), and of scented blossoms soon fruiting in the trees, thus attracting pigeons to add to the flush of good fare.

Balolo In Fiji And Tonga

Samoan legend may suggest that the name *palolo* originated in Samoa; yet it is known in both Fiji and Tonga as *balolo*.

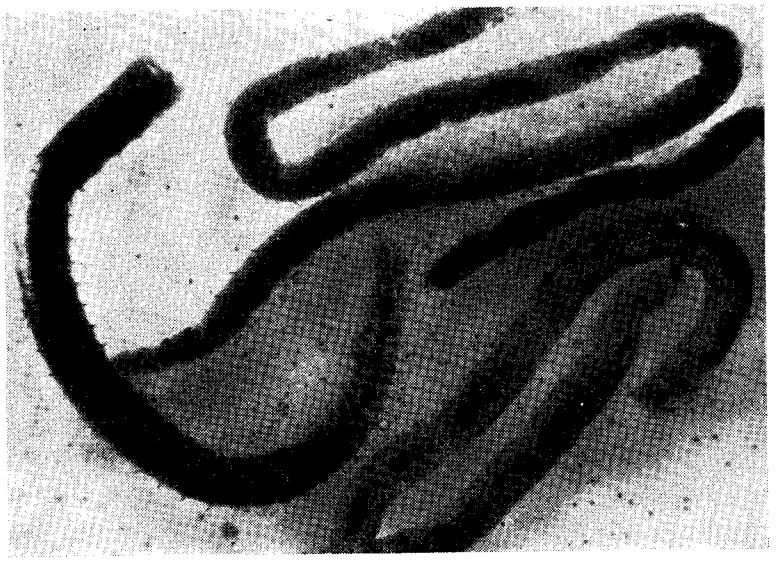
Over the past few years in Fiji, the *palolo* harvest has fallen off considerably in some places where it was formerly abundant, while in other areas of the Group the rise has increased. There is no apparent reason for this.

Also, in Fiji it has been found that while fishing is good at *palolo* time, some varieties of fish, which at other times are perfectly safe to eat, then become toxic and cause fish poisoning. Commonest offenders are the *walu* (Spanish mackerel), *saqa* (jack trevally) and several species of cod and snapper. This is not the same toxicity which affects other fish in various parts of the Group all the year round. Consequently it is local practice to view with suspicion any fish caught in the *palolo* area during and after the risings.

Predicting The Risings

Intriguing aspects of the *palolo* are the seeming mystery of its rare appearance, the beliefs held regarding the timing of the risings, and the formulas developed for predicting the latter.

In Fiji, records for many years have shown two risings coinciding with two consecutive last quarters of the moon, of which the first must be after October 15th—though one would expect some



Left: Freshly-gathered palolo. Surplus water is drained off frequently lest they dissolve.

Above: Broken specimens of palolo, about four times natural size. The females are filled with eggs, rich green in colour, and the males with reddish-brown sperm.

more natural cause than one related to the introduced European calendar. Burrows records that predictions by wise men of Fijian fishing were only sometimes correct.

According to Samoan reckoning, the *palolo* will rise to the surface—and most plentifully above occasional deep holes within the encircling reefs—on the seventh morning, i.e. the last quarter after the full moon (*malupeaūa*) which comes nearest to the end of October. (Full moon is counted as the first night when the moon rises after sunset.)

But here again the recently-introduced Western calendar introduces an uncertain note, for two full moons could occur at about the same distance in time before and after the end of October, and which would it be? Then, again, a "full" moon may fall uncertainly between two successive days, so that attempts on succeeding days may be needed to find the right one, or there may be risings on both. The uncertainty as to time has been part of the fun.

Samoan legend regards it as essential, too, that all who go out to gather *palolo* should be garlanded with *leis* of the scented blossoms then coming into season; otherwise the *palolo* might quickly dissolve before being taken ashore.

A Successful Prediction

During the uncertain months of 1942 there were wartime blackouts in Samoa, and night fishing was forbidden. The Samoans pleaded for permission to fish just on *palolo* night alone. The United States Marine Corps Commander agreed, but insisted that as permission could be granted for one night only, it had better be the right one.

So the approximate Polynesian formulas were examined, but with the feeling that probably this natural phenomenon would be induced not by variable calendars but by other natural occurrences. Thus a theory grew that, as late October and early November are the times when the sun on its way southward reaches its zenith over Samoa, its position overhead would send light directly down into the deeps and begin to activate the reproductive processes of the annelid. The last quarter of the moon in Samoa coincides with low tides at daybreak. Thus at the beginning of a new day there would be minimum water pressure, while the dawn itself would perhaps be the final stimulus in the chain of natural events encouraging the *palolo* to be released below and to rise.

This was the theory developed and tried in Samoa in 1942, and it worked perfectly. The *palolo* rose in abundance at dawn on the day predicted.

How would the theory apply this year, exactly twenty years later? At Apia, the sun will be nearest its zenith on October 30th next. Full moon will occur during the night of the 12th-13th. As the last quarter will occur at 9.48 p.m. on the 19th, the theory would anticipate some rising of the *palolo* at dawn on the 19th, and perhaps more on the 20th. But as the sun's zenith will be achieved somewhat after these days, a further rising may take place on the next succeeding last quarter, i.e. the dawn of November 18th.

In Fiji, where latitudes range from approximately S.15° 45′ to S.19° 10′, the sun will be nearest its zenith on November 6th in the most northerly parts of the Group, until November 18th in the most southerly parts. With the date-line difference from Samoa, the dawn at last quarter of the moon on November 19th seems a likely time for Fiji, but perhaps differences in latitude, and consequently of the sun's maximum effect, may induce risings earlier in the north and later in the south?

Time will tell.

Funds For Next Year's South Pacific Games

In making an appeal recently for funds for next year's South Pacific Games, the Governor of Fiji, Sir Kenneth Maddocks, said that most of the finance for the games was being contributed by the Government of Fiji and the South Pacific Commission. The people of Fiji were being asked to supply the rest.

Mr. H. H. Madam, chairman of the fund-raising committee, said that the original target figure for funds for the Games had been £5,000, but it now appeared that this would have to be doubled.

Mr. John Wisdom, chairman of the publicity committee, said that brochures on the Games, and about Fiji, would be distributed at the Commonwealth Games to be held in Perth in November. Posters advertising the Games will soon be released for display throughout the Pacific Islands, Australia, and New Zealand.

So far, about thirteen Pacific territories have indicated that they will take part in the Games, which will be held in Suva from August 29-September 7 next year.