## THE NEW FISHING HOLE

The Philippine Packing Corporation operating in Mindanao waters has succeeded in packing and shipping a good deal of Philippine tuna. But this tuna canning industry and all other branches of modern fishing in the Philippines confront problems unique to the islands, says Dr. Wallace Adams, our fisheries expert. What goes in tuna fishing on the California coast, for example, doesn't succeed so well here. On the California coast the tuna are hungry after a long migration across the Pacific. You lay out your seine, throw out chum for bait-chum being bait fish, some dead, some alive-and the tuna go after the chum ravenously and your seine gathers them in by boatloads; or you use books and lines, attracting with chum, and get similar lucrative results.

But this fails in the Philippines, or at best it succeeds indifferently. Here the tuna have not had a long journey on scant rations; they are not hungry, but fat and wary. It is hard to manipulate seines fast enough to make large hauls. Go after them with hook and line and you have equally new lessons to learn: you have to forget what you know about California fishing and learn new tricks for it here, for your tuna here prefer live schools of provender to scamper after to anything you offer by way of bait.

Purse seineing goes well on the California coast. This is a deep-water seine that closes at the bottom with a draw-rope, like a purse closes with a string. You bait the tuna to attract them to a central point. Then you lay out your purse seine, surrounding the tuna school with it and letting it sink around them; and then you apply power from your boats and draw the seine together. Now you are supposed, by all orthodox rules, to have the tuna in your seine. But in the Philippines they are found not to be in the seine. They have sounded; that is, they nave dived deep and swum out of reach of the seine. On the California coast, tuna don't act this way; they are hungry, and go after the bait while you close in on them with your purse seine.

More fundamental facts are also still unknown about our tuna. One is the cycle of their abundant appearance in these waters. These cycles usually run in multiples of 3 years. Fish will be olentiful one year, fewer the next and the next after after, plentiful again the third year after. Or this plentifulness may occur only every six years; but there are other cycles, sometimes of 2 years. What the tuna cycle here may be is not known. Tuna were abundant in Mindauao waters during 1932, less abundant in 1933, and what 1934 may turn up in tuna is anybody's guess.

It is just such conditions that our fisheries experts have always wanted a fishing boat for. They have wanted to observe the habits of fish in our waters scientifically, and especially to study the plankton.

Plankton is the microscopic marine life upon which small fish feed; larger fish feed upon these smaller ones: in Darvel bay on the east coast of Borneo Dr. Adams himself observed this sequence—silversides feeding upon plankton, hasabasa feeding upon silversides, skipjacks and tuna upon hasahasa, and after the tuna, sharks. Any scientific capitulation of knowledge about plankton in Philippine waters would tell much about the habits of our fish. The beginning must be with the plankton. (Japanese have observed it more than any other fishermen, they have a more extensive knowledge of Philippine fishing than anyone else).

People often regret the fact that the Philippines import large quantities of sardines, while their own abundant sources of sardines are not exploited much. We do import large quantities of California sardines, the pilchard. There is a reason. In fact, two reasons. First, California compels the packing of a certain portion of the sardine catch; if this were not so, the whole catch would be put through reduction, made into oil, fertilizer and meal, for the real profit of the industry is in reduction. But since a portion of the catch must be canned, it is canned accordingly and sold for what it will bring. The aim is to get back the cost and comply with the law

But California sardines would not be so cheap and plentiful were it not for the nature of the pilchard itself. Besides being a large sardine, the pilchard is easily scaled. Pick him up and shake him and his scales drop in a heap. In canneries, the scaling apparatus for pilchards is very simple. To this the Philippine sardine presents a contrast. Its scales are hard to remove, each sardine must be scaled by hand. Unless new methods are devised for scaling our sardines, we shall never can them in large quantities as a food staple such as the California sardine is.

However, our sardines are of excellent savor and of a size suitable for the specialty trade. There is a possibility that they will compete with the fancy packs of Spain, France, Norway and other countries whose sardines sell on quality rather than one price. This is about all our sardine offers, outside the markets where it is caught, until some special method of scaling it serves to lower the cost of canning it. And as in the case of tuna, we don't know accurately the habits of our sardines in our waters. All in all, the first commercial opportunity lies, Dr. Adams thinks, in packing our sardines as a food speciality, a new delicacy for exotic palates.

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