

OCEANOGRAPHY

Great Coral Reefs in Pacific Have Clams Four Feet Long

Pacific Science Congress Hears Report on Study Of Unusual Formations at Bottom of Ocean

CORAL reefs 1200 miles long, extending as far as 150 miles from the coast line, and sheltering huge clams four feet long and weighing more than a hundred pounds, were described by Prof. C. M. Yonge of England's University of Bristol, speaking before the Sixth Pacific Science Congress at Palo Alto, Calif.

"No ocean contains so rich a growth of coral reefs as does the Pacific," he told the Congress. "Fringing reefs bound the land within the tropics especially along its western shores and atolls are scattered far and wide throughout the South Seas. But the greatest coral formation of all is the Great Barrier Reef of Australia. This immense series of reefs extends along the northeastern shores of Australia from the tropic of Capricorn in the south almost to the shores of New Guinea in the north, for a total distance of more than 1200 miles. It is made up of thousands of individual reefs which extend in places as far as 150 miles from the coast."

Biology Studied

The biology of the corals which form these reefs was examined by the Great Barrier Reef Expedition, which worked for more than a year in 1928-29 on a small coral island midway between the outer reef and the mainland.

"Corals are essentially sea anemones which have acquired the power of forming massive limey skeletons," Prof. Yonge explained. Many grow to a great size, forming colonies which may be rounded and massive, branching and tree-like, or flat encrusting sheets, according to the region where they grow. Corals of the first type are found especially on the exposed outer surface of reefs, those of the second type in sheltered water in the lee of reefs, and of the third type on the summits of reefs where the surf sweeps over when the tide is out.

"Corals are all carnivorous. They feed, usually by means of delicate tentacles armed with batteries of stinging cells, on the minute animals which drift in the

surface waters. Most corals only expand by night when alone; the animal life is abundant near the surface.

"Within their tissues are contained countless numbers of minute plants called zooxanthellae. It had been thought that these contribute to the food of corals, but this was found not to be the case. They do automatically remove the waste products formed by the corals and in this way probably aid in the remarkable rate of growth possessed by corals. These can frequently double the bulk of their skeletons in six to twelve months, and it is this rapid growth which has made possible the formation of reefs many miles in length, of great depth and thickness, which are capable not only of resisting the destructive action of the Pacific breakers, but actually growing out against the full fury of the sea.

"Corals are among the most successful and most highly specialized of all marine animals and different kinds of corals are adapted for life in all regions of the reefs. On and in the reefs live an immense and diverse assemblage of animals and plants of all kinds and many, notably the fish, of great beauty. The most spectacular of all are the giant clams which may attain a length of more than four feet and which weigh more than a hundred-weight. These gigantic 'cockles' are the largest bivalve shellfish ever evolved."

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ENGINEERING

Cleaning Long Pipe Lines Is Strange, Tough Task

ONE of the strangest housekeeping jobs in the world is the task of cleaning the huge pipe lines which sprawl over much of the United States carrying gas and oil from the fields of Oklahoma, Texas and Louisiana to the great consuming areas in the midwest and Ohio River basin.

Twenty-four inches in diameter and even larger, the pipe-lines crawl up hill and down dale, under and over rivers



NOT CAMOUFLAGE

It is called a "scarifier," yet is not used to scare folks but for cleaning pipe lines.

carrying precious liquid and gaseous cargoes to markets.

Stretches of 1,200 miles of continuous pipe are no longer a novelty in the land. Over 300,000 miles of pipe are now in use.

When an overland pipe line for high-pressure gas transmission accumulates dirt, getting it out without tearing up the pipe is no mean task. Hundreds of pounds of mud, rust and dust may lodge in a section only a few hundred yards in length where the pipe dips down into a valley. In some known cases the carrying capacity of pipe lines has been reduced 25 per cent. by foreign materials.

Charged with cleaning the pipes is the "go-devil" and his related fellow the "scarifier." The latter is a strong, sturdy mean-looking device with 24 hardened steel blades that scour out caked dust and oily mud. Blown through the pipe in front of a blast of pressure of from 3 to 10 pounds to the square inch, the scarifier cuts into the slime and prepares the pipe for the go-devil.

The go-devil is a four-foot section of 12 and three-quarter inch pipe from whose sides projects row after row of steel "fingers" along the length of the core. At the tail end of the device is a