



# The Pearl Fisheries of Ceylon

By **HUGH M. SMITH**  
UNITED STATES DEPUTY  
COMMISSIONER OF FISHERIES

**AN ARAB DIVER FROM THE PERSIAN GULF, WITH NOSE CLIP.**

**A**S SOON as a traveler sets foot on the shores of Ceylon he comes under the subtle charm of the land, and is quickly imbued with the feeling that it would be most incongruous if such a climate did not produce the most luxuriant foliage, the most beautiful flowers, the most luscious fruits; if such a soil did not give forth the most wonderful profusion and variety of precious stones; if such surrounding waters did not yield the most resplendent pearls.

Ceylon has long been celebrated for its sapphires, rubies, cat's-eyes, moonstones, opals, amethysts, carbuncles, and emeralds; but none of these, nor all of them combined, have given to the island the fame and the romantic setting that have been conferred on it by the product of the limpid waters that bathe its coral strands and sandy beaches. The poetic name of Ceylon today is "The Pearl on India's Brow."

Colombo, the principal city of modern Ceylon, is a stopping place for all the steamers plying between Europe and Asia and Australia, and is therefore visited by thousands of tourists



**THE BEST PART OF A MILLION PEARL OYSTERS**



**CARRYING PEARL OYSTERS INTO GOVERNMENT KOTTOS**



**THE PEARLERS LOOK LIKE PIRATICAL CREWS**



**THE FLEET PREPARING TO START FOR THE PEARL GROUNDS**

and travelers each year. But the pearl fishery is so remote from Colombo that not one visitor in ten thousand ever goes there.

The pearl fishery of Ceylon and of India and the Persian Gulf is of great antiquity, and is thought to be the oldest established fishery now in existence. The Sinhalese records, going back to about 550 B. C., indicate that the fisheries were then well developed, and there is reason to believe that they flourished at least 500 years before. At a very early period the pearls brought the island into prominence abroad and were in great repute in Rome at the time of Pliny, who, referring to Ceylon under the name of Taprobane, wrote that it was "the most productive of pearls of all parts of the world."

From the most remote period of which there is any record, it would appear that the pearl fishery played a very important part in the history of Ceylon, having had more or less direct and intimate relations with every important aspect of the civilization of the island. The information available clearly suggests that from the earliest times the fishery was conducted in much the same way as in our own day—the same methods of obtaining the pearl oysters, of handling the catch on shore, and of extracting the pearls.

It is hardly necessary to state that the pearl oyster of Ceylon, like the pearl oyster of other lands, is not an oyster at all. It is more nearly related to the mussels than to the oysters, and it differs markedly from the latter in having a byssus, or a bundle of tough fibers, by which it attaches itself to the bottom.

There are pearl oysters and pearl oysters. There are the huge thick-shelled species of the South Seas, Australia, Philippines and Burma, that are as large as dinner plates and weigh 3 to 4 pounds as they come from the water; there are the small, thin-shelled forms of Venezuela, Japan, Persia and Ceylon, that are only a few inches in diameter and weigh only a few ounces.

The large pearl oysters produce the mother-pearl of commerce, which is so valuable that the fishery is profitable even when no pearls are obtained. The smaller mollusks have little value except for the pearls they yield.

The maximum size attained by the Ceylon pearl oyster is only 4 inches, and the shells are so thin that they may be crushed between the fingers of an average man.

Pearl oysters are found on all parts of the coast of Ceylon, but exist in sufficient abundance to support an important fishery only in the Gulf of Mannar, which is a large indentation between Ceylon and India, lying immediately south of the line of giant stepping-stones known as Adam's Bridge.

The area of the pearling grounds is about 300 square miles. The bottom is for the most part sand, diversified by outcroppings of calcareous rocks, which form flat or slightly inclined ledges, on which the pearl oysters grow. Aggregations of ledges constitute "pearls," or banks, which centuries ago received names that are still applied.

The largest and most important of these

grounds is Cheval Paar, lying from 9 to 13 miles offshore at a depth of 5 to 8½ fathoms, and extending about 6½ miles from north to south and 4½ miles from east to west.

Probably the most remarkable feature of the Ceylon pearl fisheries is the extreme uncertainty of the supply of pearl-bearing oysters, so that from early times, and doubtless from the very beginning, the fisheries have been most unreliable and intermittent.

It is a matter of record that during the nineteenth century there were only 36 years when fishing was possible. Mentioning only the longer periods of cessation, it may be noted that there were no fisheries in the years 1821 to 1828, in 1838 to 1854, in 1864 to 1873, and in 1882 to 1890.

It was this last long series of recurring failures that induced the Ceylon government to secure the services of an eminent English biologist for a comprehensive investigation of the pearl-oyster grounds and of the causes for the disastrous failures. The result was that a great deal was made known concerning the conditions of life of the pearl oyster, and for the first time information was afforded the government by which the industry might be placed on a stable basis. Forthwith, in spite of a vigorous protest, the government leased the pearl fishery to a private syndicate and retired from the business from which it had been obtaining a large but not steady income.

As we study the life of the Ceylon pearl oyster, two points of transcendent importance are disclosed: (1) The mollusk is prolific to an incalculable degree, and (2) it is subject to an overwhelming mortality, which at times completely nullifies its productivity.

The numbers of oysters produced are absolutely beyond comprehension. A few years ago, on one pair five miles long and two miles wide, small pearl oysters were ascertained to be present to the number of 10,000 per square yard, in places forming a layer over the bottom nine inches deep; one diver, who was down only 30 seconds, brought up 3,225 young oysters by actual count. This condition of the grounds was determined in November by the government inspectors; in December of the same year no oysters whatever were found—all had disappeared as if by magic. On another bank, known as the Periya Paar, scientific experts in the year 1902 estimated the number of young oysters at one hundred thousand million, but so insecure was their existence that on inspection a few months later it was found that all had been swept away.

This destruction is due to a variety of causes, but principally to two: physical agencies, such as the burying of the oysters by sand, which are ordinary responsible for only 4 to 5 per cent of the mortality; and animals, particularly fishes, of the pearl oysters, and are so charged with fully 90 per cent of all the losses to which the young and full-grown mollusks are subject.

Up to a few years ago, and for more than a century before, the British officials in Ceylon had absolute control of the fishery, and de-

termined when a fishery should occur and what grounds should be opened to the divers. This determination was based on an examination of the various grounds in the November preceding a fishery, and a preliminary inspection of the particular grounds selected in the following February. The advance inspection of the oyster beds on which it is proposed to permit the divers to work is for the purpose (1) of ascertaining the approximate number of pearl oysters that may be taken, (2) of marking the areas on

which fishing is to be allowed, (3) of specifying the number of boats on each area and the number of days that are to be devoted to the fishery, and (4) of making an official valuation of the prospective pearls in order that the fishery may be advertised.

News that a fishery is to be held travels as by wireless telegraphy throughout Ceylon, India and other parts of the east, and at the prescribed time 30,000 to 50,000 people gather in a few days on a strip of desert sand, with the Persian Gulf on one side and the jungle on the other, at a point convenient to the pearl-oyster grounds.

It can readily be understood that the pearl town is a place of intense activity from the moment the government agent opens the fishery. The mere existence of the people would alone be sufficient to give great bustle and life; but added to this are the special industries dependent on the various phases of the pearl fishery.

As soon as the fishery is over, the entire place seems to dissolve in a day as if by magic, the people hurry to their homes, the pearl town lapses again into a solitary sandy waste, and the beasts of the jungle take possession. Marichukaddi may spring into being the next season, but may remain non-existent for many years.

There is no particular style of vessel specially required in the pearl fishery, and consequently we find a great diversity of rigs, depending largely on the regions from which the divers come: narrow single-masted canoes with an outrigger, square-sterned luggers, large sailing lighters, three-masted canoes, and clumsy dories. Some of the larger vessels carry 65 men, of whom about half are actual divers, and the average crew of the entire fleet is 30 to 35 men.

Owing to the boisterous seas and strong winds of this region, the fishery can be conducted only during a period of a few weeks in March and April, when the northeast monsoon has waned and the southwest monsoon has not begun. The fishery is thus of briefer duration than any other pearl fishery of importance, and is characterized by a strenuousness that is quite foreign to the east.

The fishing boats start for the grounds soon after midnight, so as to be ready for work as soon as daylight comes, about 6 a. m. They take positions about the government vessel moored over the particular ground selected, and remain actively engaged until noon, when the entire fleet sets sail and starts for the shore. As there is a crowd of pearl merchants eagerly awaiting an opportunity to speculate, there is considerable rivalry among the diving boats in the matter of reaching land and discharging their catch as soon as possible, and consequently one witnesses some wild scenes of excitement when the oysters are being unloaded in the surf and the natives are rushing into the kottus with their catch.

Except for a loincloth, the divers are naked. Their fingers are covered by flexible leather shields to protect them from the rough corals

and shells. In order to facilitate the descent, each diver employs a flat, oval stone, weighing 30 to 50 pounds. The stone is perforated at one end to receive a rope, and close to the stone a kind of stirrup is made in the rope to accommodate the diver's foot. The stone is suspended at a depth of 4 to 5 feet below the surface by means of a cord attached to an outrigger.

When ready to descend, the diver places one foot on the stone, the other on the rim of a rope basket attached to a rope, inflates his lungs, loosens the slip-knot holding the stone, and sinks rapidly to the bottom. There he at once disengages his foot and quickly crawls over the bottom, tearing loose all the oysters he can reach and putting them in the basket. When near the limit of his endurance, he gives a signal with the basket rope and is quickly hauled up by the watchful attendant, or "manduck," with whom the diver is provided. The helper has meanwhile pulled up and secured the diving stone, and when the basket is hauled in he hauls the catch from the miscellaneous refuse that is attached to the oysters.

The divers usually operate in pairs, with a common attendant and diving stone. The descents occur at intervals of five or six minutes. The best divers are careful to dry their bodies thoroughly after each descent and to take sufficient rest. Between dives they often smoke a pipe or cigarette, sometimes while in the water just preparatory to a dive.

The divers have learned by experience that they may increase the length of their submergence by making a number of deep, forced respiratory efforts before taking the plunge. Most exaggerated stories have been told and are still current regarding the length of time the divers can remain under water.

The Arab divers wear nose-clasps of flexible horn attached to a cord around their neck, while the divers of other races simply compress their nostrils by hand during the descent. This practice can hardly make any difference in efficiency, and we must conclude that the expertness of the Arabs depends on an aptitude born of long experience.

Their usual time below the surface is 60 to 75 seconds, the normal maximum not exceeding 90 seconds, while the Tamil and Moormen divers range from 35 to 50 or 60 seconds, depending on the depth. There is a well authenticated case in 1887 of an Arab who remained under for 109 seconds in water 7 fathoms deep.

Under the arrangement that has prevailed for many years, the divers are allowed to retain one-third of their catch, to dispose of as they please. The government retains the remainder and sells it at auction.

It is a very difficult matter to extract the pearls from perfectly fresh oysters either by sight or by touch, or by both combined; consequently it has long been the practice to allow the decomposition of the soft parts before the search for the pearls is begun.

The oysters are piled into dugout canoes and covered with matting or else set aside in coarse sacks for 7 to 10 days. Bacterial putrefaction is supplemented by the work of blowflies and their larvae, and at the end of the period stated the disintegration, decomposition and digestion of the oysters have progressed so far that there is little left but pearls, shells, slime and foreign matter adhering to the shells, together with a large volume of maggots. The first step in the cleaning process is the flooding of the canoe to the brim; then the naked natives, ranged on either side of the vessel, remove the shells, washing and rinsing them and removing any detritus in which a pearl may lodge.

Eternal vigilance must be exercised by the owners to prevent the theft of pearls and one of the precautions taken is to forbid the washers to remove their hands from the water except to drop at their feet the cleaned shells.

The shells having been removed, the canoe is filled with water again and again, and the gurry is kneaded and stirred in order that the lighter fluff may be floated off. The water is finally decanted, and the heavier debris containing the pearls is removed with scrupulous care and wrapped in cotton cloth, undergoing a preliminary search for the largest pearls and numerous subsequent examinations in the course of drying.

The dried matter is then sifted and sorted and gone over again and again; and then, when it would appear that even the dust pearls must all have been extracted, the debris passes for a final search into the hands of women and children, whose sharp eyes and delicate touch enable them to discover an amazingly large quantity of small pearls. The material then remaining is offered for sale and always finds ready buyers.

The most productive fishery in the recorded history of Ceylon was held in 1905. Three hundred and eighteen vessels participated, and during the season that extended from February 20 to April 21 over 81,000,000 pearl oysters were landed, whereas the best previous fishery, in 1891, yielded only 44,000,000. On a number of days over 4,000,000 oysters were obtained, and one day, when 5,005,000 were taken, a record was established that may never again be equalled.

## An Attempted Abduction

By **MICHAEL J. PORTER**

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"I'll hunt him down, if I have to put bloodhounds on his trail!"  
"Now, major!" soothed the wife.  
"Now, papa!" soothed the daughter.

"The scoundrel shall not escape!" roared the major as he paced the room. "I'll have the police after him within an hour—within a quarter of an hour!"

"But, major!"  
"But, papa!"  
Marjorie had been uptown to do some shopping. The major had been talking of buying an auto, and expected to close the deal that day. If the event came off the machine would be at the depot to meet her as she came home on the 7 o'clock train. She had only stepped off when a man touched her arm and raised his cap and said:

"This way to the auto, please."  
So her father had closed the deal, and was probably sitting in the auto outside waiting her appearance! But he wasn't. The machine was tenanted, but the man gave her a hand to reach the tonneau, and as she seated herself it whizzed away. It didn't take the right direction, but she didn't notice this fact for a minute. When she did she called out:

"You are going wrong! You must turn around!"  
"I'll get you there, all right," was the reply.

Then Miss Marjorie opened the door and leaped straight out, to lose her balance as her feet touched the ground and fall and roll over and over in the mud. At the same time she screamed. It wasn't a dainty little scream, but a long-drawn

scream that was heard a quarter of a mile away and started men running for the scene.

"Here—what's the matter!" demanded the driver of the auto as he came to a sudden stop.  
"Help! Help!"  
Speech was put on and the auto disappeared.

"By George, Miss Graves!" exclaimed a first comer, who at least knew the girl by sight, "but this is about the boldest thing I ever heard of around here!"

"Was—was he trying to carry me off?" was gasped.

"Sure thing! Yes, ma'am, it was a bold attempt at abduction, and the wonder is that he didn't have a confederate to choke you into silence and helplessness. By George, but this village is getting to be worse than New York city!"

The scoundrel had been noticed at the depot by men who thought he acted suspiciously. No one had taken the number of the auto, and it was considered useless to follow.

The major hadn't closed the deal for the auto, and he wasn't at the depot—either with or without it. Of course, Miss Marjorie had a story to tell when she got home, and it was the attempted crime that roused the father's ire. Was this the twentieth century? Was the police force of the village, consisting of two men, being paid enormous salaries to catch criminals red-handed or to play checkers and sleep? The major asked a great many other questions that neither his wife or daughter could answer, and wound up with the threat to have the state militia called out.

Meanwhile something had happened at a manor house two miles away, Marjorie's screams, and the major's cuss-words and calls for help, from the brook where he was fishing, and he was soon on the scene. He dodged here and there and shouted instructions, but the major was repeating the Lord's Prayer and his daughter continuing her screams. The only way was to take a flying leap for the footboard as the machine came along. It needed courage and confidence, but the young man landed right, and soon discovered what was wrong and remedied it.

Miss Marjorie reached the ground to faint away, and the major fell out to gasp and swear and tell what he would do to the seller of the machine. It was for Harry to act as chauffeur to get them home, and when he had done so and been invited in he mustered up the courage to tell the story of the attempted abduction.

The result he told his sister-in-law and Miss Forest three hours later.  
"The major called me a scoundrel," he said.

"And then said he owed me his life."  
"And the daughter?"  
"She said I must be an idiot to make such a mistake, and then added that she was glad I did."

"And—"  
"Ask my wife and me to visit you about a year from now."

### ONE OF MAN'S LIMITATIONS

He Can Work Wonders, but Finds Difficulty in Growing Hair on Bald Pate.

"We are all weak creatures," said Mrs. Corney, laying down a general principle.

"So we are," said the beadle. Just think, for example, of the number of fabulously rich and powerful men, including John D. himself, who have to wear wigs. Bald heads stand as glaring emblems of mankind's limitations. We can slice continents in half with great canals or push towers higher into the heavens than the ancient Babel, but we all feel like weak creatures again the minute we hear a barber saying to a shiny-pated customer: "Try a little tonic, sir?"

A wonderful creative genius had Browning, but when this great man "experimentally" shaved off his beard one day, he must have felt as small and powerless as an ant to hear his wife order: "It must be grown again this minute."  
And so it is with none of the up-

Ruth Forest was coming down that evening for a stay of two weeks with her old school chum, Mrs. Thurston, a bride of two years. Harry Thurston, brother of the husband, had already been there a week. It was for him to take the auto and meet Miss Ruth. She would surely be looking for somebody to meet her, and there could be no mistake.

With that spirit of carelessness so prevalent with young men, he selected a tall, willowy girl, instead of a short, stout one, and bore her away. He fully intended to introduce himself and do some talking after getting clear of the depot, and when he lost his passenger in the way he did he was too astonished and rattled to do the right thing. There came an instant suspicion that he had somehow picked up the wrong young lady, and in his frustration he put on speed and disappeared.

Arriving home, his explanation was that Miss Ruth was not among the passengers that got off. This passed all right for half an hour, and then the missing guest showed up to disprove it. Harry then owned up, and after a gasp of astonishment, his sister said:

"A rather tall, slim girl, eh?"  
"Yes."  
"And she knew you were headed wrong?"  
"Yes."

"Then it must be some one living in or near the village. She didn't command you to stop? She didn't demand to know where you were taking her?"

"Not a command nor a demand," answered Harry. "She just opened the door and jumped, and as she jumped she screamed—Lord, how she screamed!"

"Well, young man, I think you have got yourself in trouble. I believe the girl you tried to abduct was Marjorie Graves, only daughter of Major Graves, one of the most peppery men in four counties."

"But it was a simple mistake."  
"Yes, but the trouble will be to make him believe it. And the lamentable part of the whole thing is that I wanted you and that particular girl to fall in love with each other."

"Can't we do it just the same?"  
"Why, Major Graves won't let you come within ten rods of his house! And if you were to meet the young lady elsewhere what could you say?"

"I guess you'll have to match me up with some one else. She ought to have had a placard hung about her neck stating who she was. All her fault."

The major's deal for the auto went through three days later, but he did not let the excitement of it turn him from the trail of the would-be abductor. He made many moves, but he got no clew. Ten days later he and Miss Marjorie were riding out. The major had taken three lessons in running the machine and felt that he knew all about it. He had done very well for an hour at a slow pace—so well that he decided to "hit 'er up" to about thirty. The daughter protested, but the hitting took place, just the same. Half a mile had been covered when the machine swerved out of the highway into an unfenced meadow and began to cut up all kinds of circus tricks. It wiggled and wobbled. It ran in circles. It shaved the whiskers off of stumps.

Young Harry Thurston heard Miss Marjorie's screams, and the major's cuss-words and calls for help, from the brook where he was fishing, and he was soon on the scene. He dodged here and there and shouted instructions, but the major was repeating the Lord's Prayer and his daughter continuing her screams. The only way was to take a flying leap for the footboard as the machine came along. It needed courage and confidence, but the young man landed right, and soon discovered what was wrong and remedied it.

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roarious levity of some of our contemporaries, but rather with a sympathetic appreciation of the stupendous nature of his task, that we begin to watch the year long "demonstration" of a Chicago hair tonic manufacturer who recently was instructed by a municipal Solomon to prove the merits of a specific by growing hair on a bald-headed policeman—Collier's Weekly.

**Wine Had the First Call.**  
The marquis of Wellesley, when lord lieutenant of Ireland, was at a table with a party of Irishmen who were chiefly Orangemen, and in the dining room hung a painting of the Battle of the Boyne, which in that country is usually called the Victory of Boyne Waters. The company wishing him to pronounce an opinion, invited him to change his seat.

"Surely, my lord!" said one, "you would not turn your back on Boyne Waters?"  
"Oh, I never look at water when I can get wine," Lord Wellesley answered, pointing to a bottle of claret that stood before him.

### WILL MAKING TOO CARELESS

Blackmail and Extortion Would Be Decreased if the Formalities Were More Elaborate.

How haphazard the preparations for the making of a will in this country are apt to be! Whom does the average lawyer invite to attest the solemn disposition of his client's estate? His stenographer, some student in the office, or casual acquaintance on the same floor; wholly unfamiliar with the

testator, if not mere birds of passage; whose faculties, perfunctorily exercised, can recall nothing but the hazy fact of signature when tested subsequently on the witness stand.

Why, in connection with one of the most serious of human affairs, should we disdain the use of ceremonials which would give an inherent probative force to our action? A writer in Scribner's asks. If it be argued that dying testators cannot always procure the attendance of an official whose affidavit and seal would carry weight,

and that in a free country they ought to be at liberty to call on strangers to attest their signatures rather than on friends who know them and might babble, it would seem reasonable that legislatures should at least establish some presumption of validity in favor of wills executed under more formal conditions. Let the formalities—the safeguards—be as elaborate as those who frame our laws deem necessary. If they have the popular Anglo Saxon prejudice against the notary as a routine functionary who might become an

easy tool, it would be a simple matter to require also the affidavit of physicians or even of a judge after careful interrogation as a condition precedent to the erection of a rampart between testators and their greedy kin.

Surely our society needs some such protection. The blackmail and extortion current here are practically unknown in foreign countries where the notarial system of attestation prevails. If it were the law that a will carefully executed under prescribed forms should have the presumption of valid-

ity, and could be set aside only by convincing testimony, we should have taken a long step toward checking the crying abuse of speculative attacks on wills. Assuming also—though this is not yet settled—that there may be inherent difficulties, either of law or propriety, in the way of probate before death, the present situation might be further improved by imposing some restraint on the action of distant relatives.

Dream of beefsteak means pot luck.