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THE BOOK ABOUT THE
SEA GARDENS OF
NASSAU, BAHAMAS

✻
STEPHEN HAWEIS

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PRESENTED BY
PROF. CHARLES A. KOFOID AND
MRS. PRUDENCE W. KOFOID

The Sea
Gardens
through a
Waterglass

*From a
painting by
Stephen
Haweis*

THE BOOK
ABOUT THE
SEA GARDENS
OF
NASSAU, BAHAMAS

STEPHEN HAWEIS

NEW YORK CITY
P. F. COLLIER & SON
1917

✓. Marine

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THE WORLD BELOW THE BRINE

Forests at the bottom of the sea—the branches
and leaves,

Sea-lettuce, vast lichens, strange flowers and
seeds—the thick tangle, the openings, and
the pink turf,

Different colors, pale gray and green, purple,
white and gold—the play of light through
the water.

Dumb swimmers there among the rocks—coral,
gluten, grass, rushes—and the aliment of
the swimmers,

Sluggish existences grazing there, suspended,
or slowly crawling close to the bottom,

The sperm whale at the surface, blowing air
and spray or disporting with his flukes,

The leaden-eyed shark, the walrus, the turtle,
the hairy sea-leopard, and the sting-ray;

Passions there—wars, pursuits, tribes—sight
in those ocean depths—breathing that
thick-breathing air as so many do;

The change thence to the sight here, and to the
subtle air breathed by beings like us, who
walk this sphere;

The change onward from ours, to that of
beings who walk other spheres.

From *Leaves of Grass*, by Walt Whitman.

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CHAPTER I

INVITATION

DOWN in the deep sea the imagination of man has always created palaces of mystery. The Sea King holds his court among his mermen, mermaids comb their long tresses with combs of gold, or lure mariners to destruction. Harpies that were half women and half bird infested the shoals of the ancient world, and Poseidon, driving his white-maned horses through the terrible element, is perhaps the oldest of the gods. Strangely enough, the history of Venus begins when she rose from the sea, and Davy Jones, suspected of being a Welshman, tends his locker wherever a ship may sink. Few, however, have been able to create anything convincing out of the tales which men invented to terrify themselves with in the days when the earth was young. We have never any clear idea about the undersea life of legend; we

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are never seriously interested in the composite creatures that are, after all, only grotesque monstrosities like the medieval conception of the angels of heaven or the devils of hell.

The sea covers two-thirds of the globe and contains more wonderful things than faint echoes of royal courts, creatures far stranger than mermen and harpies about which the mind refuses to work intelligently; only the scientist and naturalist have begun to give us a glimpse of the real romance of the ocean, and so far they have only given us facts without fancy, bones without life, specimens preserved in formalin or alcohol which the layman gazes at vaguely, wondering, with little more than a passing interest, why men devote their lives to the study of such things at all.

What is there to interest one in the deep sea that we can in any degree approach?

The sea is like a great library, the secrets of which are only given up to the eager lifelong student; but the shallow rock pools can be observed by any one, and the Sea Gardens in the "white waters" around the Bahama Islands provide an opportunity which can be found in very few other places at all. There are many hundreds of miles of apparently open sea which seldom exceeds three fathoms, or eighteen feet. With unaided eye there is much that can be recognised at that depth, while a glass-bottomed boat or water glass reveals more

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in a moment than a lifetime can ever fully realise or comprehend.

There are five principal types of ocean bottom: (1) Soft sand; (2) flat, sandy coral rock; (3) coral reef; (4) feather "bar"; and (5) "grass."

Upon sand and grass there are few bottom fish found except sand and flat fish of the stingaree order. Starfish, urchins, and some shells, the conch being the most important of them, complete the list for a casual observer. Here, however, are the sharks and other "floating" fish which live upon the shoals of goggle-eyes and each other indiscriminately. Shad may be sometimes seen in the shallows from the shore, and "bone" or "lady" fish also, but there are not many of the latter near Nassau. Sometimes large shoals are met with on the south side of the island, and a few are found at Old Fort, down west. All fish that live over sand are silver, or, if flat fish, sand colour with spots. Most hunting fish, indeed, are silver fish with blue or black backs, and are consequently nearly invisible as they lie in wait motionless for their incipient dinners; they are generally long and narrow, built for speed like a racing motor, and it is amazing how swiftly they can fly through the water when hooked or hunting.

The flat, sandy rock usually harbours some inhabitants, especially where a few feathers and ferns vary its monotony; but it is on the coral

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patches that the visitor will find most entertainment.

Most people know that coral is made by a tiny polyp, a microscopic flowerlike creature whose labors create islands and walls of hard lime upon which great ships may shatter themselves in a few minutes. Each tiny individual lives its little life and dies bequeathing its mite to the vast edifice of its family. Not everyone realises that there are hundreds of kinds of coral, and the details of their various habits do not interest the average tourist in search of diversion; the language in which the little known about them is written is such that only a few may read, but every lover of beauty can enjoy their forms and colours, while with the slenderest finger-post of knowledge concerning fish, fan and feather the gardens become a wonderland for the meanest imagination.

The amazing waste and wealth of nature should impress a man who is accustomed to value objects by their size or cost. A handful of chalk contains a myriad of homes of small shellfish; the sand of the sea is different in every part of the globe, but here of course it is largely composed of the pulverised remains of polyp dwellings.

Out of a million fish-children, the sons of one mother, how many arrive at maturity, and what dangers await the tiny miracle from the moment the ovum is fertilized until we catch a full-grown

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fish upon the baited hook! The minute perfection of everything in nature must tempt our jaded sense of wonder. Just as every atom of dust on a moth's wing is a feather of exquisite form and every variety of moth feather somewhat different, so the scales of any fish that we scrape off without thought are each a masterpiece of workmanship.

Colours—which most people think of as red, blue, yellow—are infinite. There is no end to the appreciable shades of any one colour, and every turn changes it to something no less perfect; still less is there a limit to the combination of colours.

Form appeals in some subconscious way to our reasoning faculties, while colour seems to touch something deeper and more primitive, like a note of music when once we have become sensitive to its influence. Leave one side the microscope of the scientist and the exact observation of a naturalist, and the general impression of the shapes and colours of fish and weed must hold the attention of one who is not dead to all sensuous and intellectual appeal.

And yet it is possible for visitors to go to the Sea Gardens, record rapidly the fact that they have seen the bottom of the sea and that seaweed grows there and fish swim, who yearn immediately for their chairs around the card table, deploring

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the "waste of time." They have eyes but see not, memories which are virgin ground after the experience as they were before.

It is because they have not been taught to see; perhaps also because they do not, as they think, know what they like. Many people would sincerely enjoy what at present they gape at without further mental process, if only they could find some point of contact with themselves in the abundant interest that awaits them, if only they would take the trouble to obtain it.

Only time and study can develop any interest to its fullest extent; but there is no creature so mean that a careful study of its habits and structure will not open a new world to the student. We should approach animals and all that has life through our common bond with them and endeavour to see what they see. If in Rome we can do as the Romans, so in imagination we can be a bird among birds and a fish among fish. There is always something as a common starting ground—the desire to live, to love and to eat. Through the primitive instincts common to all we must approach them; but if we have not the curiosity to go that far, we may at least take the trouble to find out what there is to see, if we take the trouble to go and see it. It is seldom possible with nature to see all in a minute, an hour, or a day. In the Sea Gardens many astonishing things are gath-

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ered together in the incredibly small compass of a quarter of a mile; but a thousand visits may easily reveal a thousand new surprises, and there is no end to its fascination once the child sense of wonder which should never die before God's handiwork is awakened.

CHAPTER II

HOW TO SEE THE SEA GARDENS

THE Sea Gardens of Nassau are situated at the east end of Hog Island, which is the island facing the town, the distance being about three miles. They lie between Hog and Atholl islands, the Government quarantine station, upon the side nearer to the latter.

A glass-bottomed motor launch called *Bobbie* takes visitors from the Colonial Hotel each day at three o'clock for the sum of one dollar. It remains there anchored or moves slowly over the principal points of interest for about half an hour. A general impression of what is to be seen may very well be got in this way, and the boat has the largest window of any in Nassau.

Private glass-bottomed rowboats may be hired by the day by arrangements with their owners; they offer no particular advantage over the former, unless they be used for a more prolonged stay.

Another method is to take a small boat and some of the glass-bottomed buckets such as are used by

HOW TO SEE THE SEA GARDENS

the fisher folk and spongers throughout the island. For many reasons this is the better method if one wishes to study the submarine flora and fauna, but it is not to be recommended to anyone who is afraid to get wet and untidy. If one is interested one gets wet, and interest is certain. The advantage over other methods is that with a bucket one can follow moving fish with greater ease and watch particular specimens.

The Sea Gardens are entirely natural, and, one may add, entirely uncared for. Until recently it was customary to engage negro divers to drag up sea fans and feathers as mementoes; this has now been put a stop to by law, as the gardens became noticeably impoverished; but no effort has been made to replace in that spot any of the rarer specimens, nor has there ever been a single case of prosecution under this act. Still it has at least had the effect of stopping organised despoilment.

There is no law against the collection of specimens in any other part of the sea, and there are many reefs and bars which are even richer than the gardens, if less interesting at first glance.

The Sea Gardens are not unique; there are similar sights at Catalina off California, and at Bermuda, and in fact anywhere that coral is found in shallow waters. They are, however, a good example of this bottom. The current is swift (4-knot) and there is shallow water at either end.

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In the middle there is a deep hole and an overhanging rock forming a sort of cave in which very often large fish may be seen. For half an hour at slack tide the fishing may be very good, but for really important sport it is necessary to go rather further from ships and motor traffic. The gardens are a highway for every kind of craft at every hour of the day and night.

CHAPTER III

WHAT IS TO BE SEEN

THE *sea fan* is a flat, waving fan of delicate tracery which grows upon stones and rocks. The skeleton of it may be found hard and dry on most of the neighbouring beaches in great abundance. It is then dead beyond resurrection, as the spores have all been washed and scraped off the bones, and though some are found with the characteristic pale mauve or lemon yellow still upon them, they have never the beauty of the living fan. There are four kinds: (1) Purple; (2) yellow; (3) lavender blue; and (4) brownish yellow, with a rich violet stalk and veins.

The *fern* grows in long single branches, unlike the slimy seaweed with which northern people are familiar; most of these weeds are of a hard, coral-like substance upon a bony skeleton somewhat like vulcanite.

The *feathers* are similar, but grow in thick clusters. They are of many different colours and textures, some being smooth or overlaid with a

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silky fur, others rough and granulated. The deep sienna-yellow one is known as coral weed. It is not found in great abundance, but may be procured upon Dick Spank Bar, a shallow bar opposite the Hermitage, beyond the Eastern Fort. This is one of the best bars for collecting near Nassau.

Most of the weeds have no local or popular names, but two readily recognisable ones are the tough sea rod with its wiry branches, and the dagonium, a cluster of four-sided spiked purple leaves upon which the poisonous sea wasp is occasionally found.

Coral—With regard to coral it is different. There are local names for most of the principal varieties. The large circular pieces of brain coral, which are so dangerous to boats in the shallows, are often called negro heads. The baby-brain coral is similar but of smaller pattern. The stag-horn, cabbage, and butterfly coral—which by the way stings the unwary and may cause considerable annoyance for twenty-four hours—may easily be recognised once they are known. Only an expert can know all the forty-two varieties of local coral, and a visit to Mr. Kemp of Nassau East is probably the quickest means of learning about them. It is amazing how the magnifying glass will distinguish between two corals which to the naked eye are identical. Probably a complete

WHAT IS TO BE SEEN

study of coral could only be made at Washington, D. C.—at least at this end of the world.

With the primitive forms of life it is exceedingly difficult to determine just whether a thing is animal or vegetable. Roughly speaking, the difference lies in their food proclivities. Plants of all kinds feed upon carbonic acid, which they assimilate from the free carbonic-acid gas whether in air or water. The seaweeds proper are therefore vegetable. They are soft, slimy, or spongy as a rule, but there are some algæ that are almost entirely composed of lime and have every appearance of a close-branching coral. They are nevertheless nearer to the vegetable than the animal kingdom.

Most of the fans and feathers are the work of tiny creatures like coral polyps, which absorb nourishment from the myriads of microscopic animalcules in the water. Beneath the microscope these creatures are somewhat like flowers, each living in a hole or groove. When the tide is flowing, or coming in, these emerge from their holes to feed. The fan is then most brilliantly coloured. Specimens collected at turn of the tide are often bright on one side and comparatively dull on the other, the brilliant side having faced the flow of the water.

To preserve them with the best of their colour the fans must be brought to the surface in a closed

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vessel and killed by the addition of formalin to the water. The fan will then die with its flowers in bloom, and though no sea thing is ever as beautiful dead and dry as it is in the sea, these *frutti di mare* are sufficiently beautiful to find many purchasers.

It is interesting to know how the fans and corals plant themselves. They are propagated from seeds, or more properly eggs, that are washed away in the water from the parent colony. Wherever these settle they begin to grow, or die, according to the conditions they find. Sometimes they fall upon other corals and may be found like parasitic plants upon a tree. It is rather odd, perhaps, that more specimens are not found like this, or rather that so many are found entirely free from foreign growths; but it seems likely that each kind should have some means of protecting itself. Possibly only unhealthy specimens are thus imposed upon. It is reasonable to admit analogies to one kind of existence until a good reason suggests itself which disposes of them.

CHAPTER IV

SPONGES

SPONGES are somewhat different from the fans and corals, though of course like them in being the abiding places of animal colonies of tiny things.

Fans, feathers, and ferns are of various colours—blue, purple, yellow, and grey of many shades. Corals are nearly all yellow, but the staghorn type of coral is often pale mauve, and even pink.

The sponges that with us dwell in the bathroom are all black when alive. They grow like plants on the bottom of the sea, and it is possible to grow them by cutting them in pieces and planting them in the mud at the bottom of the sea. The sponge is the skeleton which is covered by a gelatinous film of flesh. When torn up with the “grains” or prong used for the purpose which is attached to a long pole, they die, and are kept in kraals until the fleshy material is rotten. The sponges are then beaten until it is all washed out, and they

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are then ready for the market. The natural colour of the sponge so prepared is the colour of the Nassau sponges—a dull-brown yellow, as a rule. Those which are pale yellow have been chemically bleached, and while the process does not do much harm, they are certainly less durable than those which are not so treated. No sponges in Nassau are bleached, and beyond a rough clipping undergo no other kind of preparation.

There are seven varieties of sponges that are commercially valuable, namely:

I. The Wool, in two grades—bar wool and mud wool. The best wool sponges come from Abaco, but the best Bahamian wool sponges are considered inferior to the best from Cuba and Florida.

II. The Velvet, in two grades—hard back and cay velvet. Here again the Abaco velvet sponges are considered the best, superior not only to those of Cuba and Tarpon Springs, but also those from the Mediterranean and elsewhere.

III. The Reef sponge.

IV. The Fine Hardhead sponge.

V. The Yellow sponge.

VI. The Grass sponge, which though large, holds little water and is not very durable.

VII. The Glove sponge.

Besides these there are the Bastard Grass sponge, the Key West sponge, and the Wire sponge.

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The Bahamian wire sponge is of no value, but there is a wire sponge in Cuba and Tarpon Springs which has a small commercial value.

One of the most perfect, if not absolutely the largest, wool sponge ever found in these islands is quite round and looks as if it had been carefully trimmed by a machine. It is, however, quite natural and measures six feet six inches in circumference. It can absorb nearly fifteen gallons of water. It is the property of Mr. Pritchard of Nassau.

As with most of the sea creatures very little of the life story of sponges is known to us, but the matter is beginning to attract students with a view to making sponge farming an industry. Only one is in regular working order at Tarpon Springs, which has been in existence for five or six years, though there are others which are in the experimental stage. Mr. Christie, secretary of the Nassau Marine Products Board, is in charge of one of these, and it has been established beyond doubt that sponge farming is practicable and profitable, and will some day be extensively practised.

The best sponges live upon a mud bottom, from which they absorb nourishment in the form of minute organisms known as plankton. At times, whether during certain seasons or after attaining a certain growth is not known, the sponges give

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off a number of eggs which resemble a swollen white bean. The egg attaches itself to any hard substance in the mud, and if undisturbed becomes a good, sizeable bath sponge in about three years.

In a farm the sponges are grown from small pieces of living sponge attached to a cement disk, which is then merely planted and the pieces left to grow.

Most sponges have several conspicuously large holes at the top, while near the roots may be noticed others which differ somewhat from the usual ones. They are not so large as those at the top, but larger than most of the others. These are called the oscula, and are lined, when the sponge is alive, with small tentacles which have a convulsive movement. The oscula are in fact mouths which suck the mud containing the plankton into the body of the sponge, while the large orifices at the top are really excretory organs through which the sponge expels what it does not use. Sponges therefore are a kind of automatic filter which lives upon the germs that its fibrous body is constructed to intercept.

Sponge dealers differentiate between "roller" sponges and others, classing them as a separate variety or grade. The roller, however, is a mud sponge which, for one cause or another, has broken loose from its moorings. It then rolls

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about on the bottom until it dies; but it never, as many suppose, attaches itself to anything once it has broken its root hold. It does not die at once, for even when removed from the sea it may live for days; but to roll is not part of its life or faith, and probably it expires after a few weeks' exercise. Sponges are creatures of sedentary habits; the strenuous life is too much for them.

The noncommercial sponges are very numerous. The loggerhead is very large and abundant upon the sandy stretches called the "white waters" around the islands.

It has been suggested that a fortune awaits the man who will convert the loggerhead into fertilizer, for which it is certainly adapted. No one has ever attempted it so far as I have been able to discover, but it is rumoured that an attempt is now being made at Spanish Wells. They are generally round and well formed, about the size of a large football. They must not be confused with the black *bêche-de-mer*,* or sea spade as it is sometimes called. Like the loggerhead, it is commonly thought that this *bêche-de-mer* is of no use except as potential fertilizer, the edible kind being

* The commercial value of the various kinds of *bêche-de-mer* has not been determined. Probably all are eatable, but some kinds shrink up to nothing in the process of desiccation.

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brown. Plenty of these may be found also, but they are not fished for in these islands, as there is no local market for them. They may be seen in greatest numbers very early in the morning and late in the evening. They probably bury themselves in the sand by day and come out to feed at night.

It is curious that a commodity which fetches as much as five dollars a pound in any market should find no patron in the Bahamas. Dried *bêche-de-mer* has often touched this figure, and in China the demand is inexhaustible, while New York restaurants have at times made a specialty of it. It is supposed to possess aphrodisiac qualities. About twenty years ago someone tried to develop an industry in dried *bêche-de-mer* at Golding Cay: the attempt was unsuccessful because the people did not understand the process sufficiently well, and their product would not keep.

One may mention in passing that the word "cay" for island, as Golding Cay, Salt Cay, etc., is a corruption from the Spanish "Los Cayos" ("The Little Islands"). Lucayos was the name given by the early Spaniards to the whole Bahama group, for the legend is that the Bahamas were discovered upon St. Luke's Day. There is no rhyme or reason beyond similarity of sound to the American "Key" in Key West.

The differences between the various grades of

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sponge are so subtle that only a lifelong study of them can distinguish one from another. The wool sponge is whiter than the others; the yellow is yellower. The little reef sponges used for toilet and surgical purposes are conspicuously different from the rest; but though the grass sponge is apt to grow in fantastic shapes more often than others, it is not an infallible means of recognising it, as almost any of them may rival it in eccentricity on occasion.

The purple or yellow cup sponges are curious. They are found attached to the rocks by a thick stalk—"Venus cups," the largest variety is sometimes called—which is often eighteen inches high and occasionally very much larger.

Then there are thick fingers of brilliant scarlet or crimson. These are the finger sponge, or when tubular are called the organ sponge, from their resemblance to organ pipes. Similar to these are others of a delicate violet colour. Still another species is a deep oily crimson which looks nearly black in the water; the colour can be used to dye cloth and can be squeezed out in a few minutes. The sour sop sponge is green or yellow and is of several varieties. In texture it is soft, and tears easily. It cannot be used for anything nor satisfactorily preserved except in formalin.

The finger sponge should be found within the glove sponge, but it isn't. It grows in long, nar-

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row branches, not unlike many seaweeds. It is, however, a true sponge and may be found in rope-like tangles above high-water mark whenever the sea throws up its refuse.

CHAPTER V

COMMON OBJECTS OF THE SEA FLOOR

OF the other common objects which the visitor to Nassau may notice when visiting the local bars in the sea, it is hard to decide what to include and what to exclude from a list of this kind, which is necessarily inadequate for any but the most casual observer. One may meet with anything at any moment. It may happen that the first starfish you see is four-fingered, for example. These are nevertheless extremely rare, the two commonest being the five-pointed—the Indian-red one, and the brown with yellow markings. They are easily dried and preserved in approximately natural colours and decorate many a Nassau table neatly painted in surprising colours. Thus they please the local sense of beauty more than *au naturel*. Utilitarians use them for electric-light shades, as the skin is thin enough to permit a quiet glow, or you can plant seeds in them or wear them as a hat. Nearly every sea creature that can be preserved at all can be used for many sorts

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of unsuitable employment. Sometimes I am glad they are so useless to man, their beauty is so transitory; kill them and they become ugly at once, maltreat them and they become offensive. Alive and in their own place they awaken our tireless wonder and respect, unrelated to stomach or pocket. It is good that there should be something in the world so separate and different from business life, so intensely beautiful and dignified!

The sea lily has five fingers also, of varying length. It is a buff-coloured starfish, fragrant without being tempting, and, like its prototype of the fields, it is seldom seen to toil or spin.

Under every stone and among the rocks—which in New Providence, by the way, are nearly all of Oölitic limestone—another creature may be seen resembling five emaciated centipedes attached to a button. It is called the “queen starfish,” and can crawl rather rapidly when disturbed. It is quite harmless.

One of the oddest creatures in the sea is the sea pigeon, a long black shape as thick as a small cable, the head of which is like a crown of very soft feathers, and is very often seen in shallow muddy stretches near the shore. It has a near relative that is colourless, and resembles the diaphanous intestines of some surprisingly airy sheep. They also have a certain power of locomotion and can withdraw their plumes like a sea

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anemone. They are also found striped with brown or grey, but when taken out of the water it is hard to believe that they are the same creature, for they are so filmy and flimsy that it is astonishing how they hold together at all. They are not even like jelly, in substance they resemble nothing but themselves.

In some parts of the sea one comes upon great numbers of sea urchins, or sea eggs as they are called in the Bahamas. There is a village of the black ones on the hither side of the lighthouse. Sometimes they are armed with long spines and sometimes short ones. Most of them have thin spines, but there are some varieties which have thick pencils, but slightly smaller where they join the shell. These pencils are used by the children in the South Seas for slate pencils. Immediately round Nassau, however, this species is not common. The commonest is certainly the large black one, with spines like long knitting needles. They are not at all nice things to tread on, for if the tip of one of these spines lodges in the flesh it is exceedingly hard to get out; they are extremely brittle and covered with almost invisible barbs. Though they are not, as is commonly supposed, poisonous, wounds caused by any sea creature are liable to become infected very easily, especially in hot climates. They should be cared for at once.

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Another variety has short, white spines upon a dark shell, they live upon the patches of grass bottom, and their shells are the round dome-shaped things one finds with small protuberances arranged in regular patterns. These are the "processes" upon which each spine is articulated in such a way that it is capable of a certain amount of movement. Each is, in fact, a perfect ball socket. It is found on the beaches bleached to a chalky whiteness, and it is interesting to note that the shell, which is apparently in one piece, is composed of several segments dovetailed together.

Another kind is oval with short, brown bristles. It is known as the "beaver egg," and lives in the sand. Its presence is detected by the type of mound its presence causes, and must be dug out.

The sea bisquit and the Macassar egg are similar to the beaver. The sand dollar, the bone of which seems to be allied to these, is really the bone of a kind of cuttle fish upon which the queen conch feeds. Alas, that queens should devour dollars even in the sea!

There are three noticeably different conch shells. The queen conch has a broad, flat base, which is brown and ribbed with creamy bands. The common conch is the one in which the pink pearls are usually found, and it is also the one from which cameo brooches and other trinkets

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are made. The thick pink lip is exported in large quantities to Italy, where it is carved. The pearls are generally oval, and vary in colour from pink to white. They have none of the charm of the oyster pearl, but perfect specimens occasionally fetch very large prices. The value is chiefly a matter of fashion, but in combination with other stones very beautiful jewelry is sometimes made with them. The third kind of conch has a comparatively fine shell, and in many points it is the plebeian of the family. Nassau cooks pride themselves upon their conch salads. It is not to be despised either by the most fastidious of epicures when properly prepared; but although probably all are edible, only the common conch (*Strombus gigas*) is regarded as food.

Conch and lobster are the principal baits used in fishing.

The Bahamas are also known as the best place for finding the costly ambergris. It is of a dull, grey colour, and resembles a stone, except that it floats on the water much better. For this reason it is generally fishermen who find it, but it may also be found washed up on the shore. Though used for making the finest perfumery, it has itself only a delicate fragrance of tarred rope with a vague reminiscence of spices. Ambergris is usually worth about fifteen dollars an ounce to us, but is a sore affliction to the whale which habi-

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tually lives in the colder waters of the north. It comes south, like many of us, to recuperate or die and to take the warm waters which the Gulf Stream provides. If it fails to get rid of its ambergris, it dies and soon finds its way to the rocks. Ambergris is eaten greedily by fish. Though it seldom falls below five dollars an ounce, the market is more easily glutted than in any other commodity, owing to the small amount actually required. The largest lump ever found here was discovered at Spanish Wells; it weighed several pounds, and through skilful selling probably reached four figures easily. Near by was found the carcass of the whale that also contained more of it. The local rumour that it realized forty thousand dollars is probably as true as most rumours. But ambergris is certainly rare and costly, though there is not a continual or universal demand for it.

CHAPTER VI

FISH, THE PEOPLE OF THE SEA

SURPRISING and beautiful as the ocean bottom may be, it is still a negligible quantity when we consider the finny monsters of the deep. However lovely the virgin forests or the most sophisticated of Italian gardens, human interest centres around what is like itself—vital, active, moving.

The plants of the sea correspond to the plants of the land. There are no doubt forests of great trees quite comparable to those of our world which man will never wander in but as brother to the driftwood, flotsam and jetsam.

Fish are the people of the sea, far more numerous than men upon land, far stranger both in their appearance and habits, far more different one from another than the races of men. They live in an era when the monsters of antiquity are not all dead. Leviathan, which is half animal and half fish, still sports in the great plains of the ocean. It is he who supplies us with bones for corsets and the "best cod-liver oil." Whales

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are cetaceans of the same order as the dolphin, grampus, and porpoise—warm-blooded animals not unlike the elephant, hippo, cow, and sheep. The largest creatures in the world live in the sea, as do the smallest also. If we admire strength, we must marvel at the sea people, for they are the strongest creatures in relation to their size that

The moon fish - nat. size

exist, and the swiftest also. They have more radiant colouring than can be found anywhere in the animal or mineral kingdom. Only the butterflies and some flowers begin to approach them, and very few equal the glitter and lustre of the

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humblest fish. Man is conscious of how different they are to himself, and seldom thinks of the things he has in common with them or any other creature. We are, perhaps, rather primitive souls still. A new shape or sound terrifies until we become accustomed to it and know it to be harmless. Yet in what contempt man holds his former antagonist and quarry! The genius

of mankind, common property in the rod or gun, is a means which few animals succeed in outwitting altogether, though they do as well, perhaps, as the individual human, were it necessary for him to invent his weapon anew each time. If mackerel are easily caught, it is also not hard to delude the half-witted people of our city slums, while there are lawyers fully as hard to catch

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as grey mullet, and many as hard to hold as an eel or a soapfish!

Like ourselves, fish are divided into three principal categories—the mountain crag dwellers, the hunting tribes of the slopes and plains, and the denizens of the valleys in the deep sea. Are these perhaps large, opulent, indolent office dwellers, those who perhaps “have capital involved,” but do nothing energetic themselves beyond open their mouths when the food comes? Who knows but the habits of divers fish are in some way inter-related as one trade depends on another among us. We do not know; with all our wisdom we are still at the stage of determining only what is, what it does, and how. Let us remember that we are at the beginning, that none can ask the “why” of the animal kingdom as yet, though there is no reason to suppose that some day we may not find within it parallels to our own interests and pursuits.

It is not my purpose to attempt any serious classification of the fishes mentioned in this book. I am not concerned even with exact descriptions, but only an attempt at general identification by shapes and colours, so that the visitor may know the local names of fishes in Nassau, which he may be sure will vary considerably if he leaves the immediate vicinity, and be able to recognise them in the Sea Gardens or the Fish Market.

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The Fish Market, however, will not be found very attractive, owing to the way the fishermen skin, mangle and prepare for cooking the produce of their nets. What might be one of the wonderful sights of the world, far eclipsing the celebrated fish markets in the Channel Islands, in the south of France and in Italy, besides being a lucrative attraction for the colony, is little better

than a shambles so far as its looks go. The fish are kept alive in the fishing boats until ready for market; one by one they are stunned with a club and sometimes beaten into an unrecognisable heap if overrefractory. Turbot are always skinned, large parrot fish and grouper are both skinned and split, while very many fish that are a little harder to catch practically never come into the market at all, and their beauties are reserved in consequence for the man who takes the trouble to go after them.

Those who are accustomed to northern waters

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will find the parrot fish, the angel fish, and the trigger fish the most remarkable in shape and colour.

There are three principal varieties of each of these:

I. The Common Parrot; Yellow Angel; Turbot.

II. The Rainbow Parrot; Black Angel; Ocean Turbot.

III. The Blue Parrot; Spanish Angel; Ocean Tally.

The parrot fish are locally known as pugs, while the red parrot seems to be identifiable only with the Scotch porgy. In the parrot fish the beak is covered with skin, but there are certain other fish similar in most ways to the parrots called rimbers* which have the beak uncovered. It is cloven in the middle and each side is capable of slight movement. The blue rimber is bluish; the commoner are the brown, and grass-green ones are also met with.

Turbot is the local appellation of the queen trigger fish, though why the great flat fish, the pride of a thousand kitchens, should share its name with the trigger fish is a matter for the House of Assembly to decide. The turbot is also called the gunfish, owing to the strong upright

* Rimber is pronounced with a long *i*.

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spine on its back which resembles a trigger. You cannot force this spine down without breaking it, and it is not easily broken; the third spine, however, is easily moved and unlocks the first, so that it can be easily moved.

The ocean turbot is only met with in deep water; it is dull-coloured and ugly in comparison with

the queen trigger, which is gorgeous in green and gold. The ocean tally is sometimes seen in shallow water. One may often be seen opposite the lighthouse, and as they are exceedingly difficult to catch, it will probably remain there. His name is "Bill," and for my part I shall slap his face if I catch him for the insults he has heaped upon my own piscatorial powers! This fish is very long

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from the dorsal spine to the tip of the nose. He is a grey blue in the water, irregularly spotted with a deeper shade. The tail is also long and transparent, not unlike that of the cowfish, which

may often be seen in the market, for its flesh is highly esteemed and considered rather like chicken.

The angels are deep, narrow-built fish, the first of which (the yellow angel) is of an exquisite blue and yellow in the water. The angels have both dorsal and oval fins long and tapering, which trail like an indolent pennant as they swim. Out of water they are seen to have myriad gilt scales which diminish to a fine speckle on the fins, and

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several distinctive blue and black patches of colour which, however, are not absolutely invariable in every specimen. It may be that these marks come and go; they do not, however, change rapidly, if at all.

The black angel is blackish or brown or grey with a diaper of gilt scales. The underside of his pectoral fins is an exquisite yellow, with which also his tail is tipped. He has a white muzzle and a fringe of teeth that are like a solid mass mounted in a pair of jaws which fold or extend like a fancy folding kodak.

The Spanish angel has a rich velvety black head and tail, but the body is of a flaming cadmium gold.

Among the coral rocks may occasionally be seen two or three other fish which resemble the angel fish that I believe have no local names, a black fish of the characteristic angel shape with transverse yellow lines which are sometimes white, and another with broad white and black stripes. It may be the latter belongs more to the family of "four eyes," a small yellow or whitish fish with a fine herringbone pattern of blue all over and a large round black spot near the tail. Like these also is another without the round spot, but a black stripe over the head and nose. These are the eyed chæto* and the striped chæto.* They have a

* *Chætodon capistratus* and *Chætodon striatus*.

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long dorsal fin with short spines sharply defined, and have no trailer.

The common parrot is green with an orange stripe upon the cheek and an exquisite rose-coloured dorsal fin. It is to be distinguished from

The Common Parrot fish

the rainbow parrot, which is much more brilliant in colour and always has a small yellow spot beside a black one on the back of the gill and another on the tail, which is beautifully shaped and striped. The blue parrot is pale blue or whitish when small, but becomes much darker when it grows large. Dead or alive, it is like a huge carved turquoise, sometimes uniform but often splashed with green. The parrots have a blunt

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beak, and their teeth are like a solid mass of round grains of marble, which they use for nibbling the coral rock on which it is thought they may possibly feed to some extent. They live in captivity under good conditions, but it is thought that they cannot be at their best without coral, for they are always delicate and never so bril-

the cow fish

liant in an aquarium as they are in the sea. High up in the order of oddness comes the cowfish and sudeay; both are box fishes, the cowfish being a little narrower than the sudeay, having also a longer tail. Its chief difference, however, are the two small horns in its narrow forehead. Seen head on, both fish are nearly triangular and are

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covered with a diaper of six-sided plates instead of overlapping scales. The colour of the cowfish is gold and green and black, and the sudeay black and white, but their patterns not only differ between individuals, but are ceaselessly changing with every mood. They are so rapid as to seem almost like the changes in a kaleidoscope. The box or trunk fish are the fishy submarine, armour-plated throughout, and so hard that only the hammer of Thor could make an impression on them. For toughness, though, the porcupine fish probably holds the belt, though he can't wear it owing to the prickles. When caught this fish swells up to a nearly circular shape, and is covered with sharp, erect spines which call for thick leather gloves. A big fisherman told me that "for a bit of fun" he once dropped a rock that he could only just lift over his head on to an inflated porcupine fish. The "fun" was, of course, to explode it, but the fish won. The rock bounced high into the air again, for it happened to hit square, while the piscatorial expert had to skip sideways like a spider on a warm shovel. The porcupine fish also has a hard beak with which the wise do not tamper, as it often succeeds in nipping right through a stout steel hook.

Next in order of strangeness comes the pipe or spike fish, which is often about a yard long, exceedingly narrow, as its name suggests, and

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striped longitudinally with brown or black and white. It has a long, cylindrical, toothless mouth, and may occasionally be taken with small fish for bait. For all it looks like an emaciated *vieux*

marcheur of the pike family, it is no fighting fish, and is never seen to swim at all rapidly. It seems to hang suspended on an invisible wire that may be attached anywhere, and so hang in any position. It probably cultivates a dead-stick appearance to enable it to approach its prey. Oddly enough, small fish do not seem to fear its presence as they do that of a barracuda. It will often come among them when they are investigating a conch bait, which it will inspect critically but never eat. Probably each knows to a fin-breadth how near it may safely be suffered to approach, and a healthy fish must know exactly its own powers of escape. Let it once be tethered to a hook, though it swim crooked never so little, indi-

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cating a weakly or wounded condition, and it is likely to disappear down the long tubular mouth as if by powerful suction, probably the explanation of its curious construction.

The first fish to attack a bait are generally the hardheads, a tiny yellow fish which I suspect of being baby slippery dicks; then the smaller slippery dicks and soapfish, the first looking grey green in the water and the latter grey white with a black stripe. The larger slippery dicks, sometimes called the pudding wife, are equally varied in colour by a dark stripe between their yellow heads and olive-green tails. When large they are chiefly green, but all are amazingly striped and spotted with exquisite colours, the most distinctive

Soap fish

markings being a few scattered black spots about the head. The tail is not spotted at all, but is striped with purple and blue. The soapfish, which seems white, is like a milk opal. Its amazing

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colours, if not very brilliant, defy description by their delicacy. The eye is a rich orange gold and scarlet; and upon its tail are herringbone stripes of scarlet and yellow. The hogfish is a brilliant gold with a light purple back; its dorsal fin is long and beautifully dentated. It has prominent teeth and uncommonly soft lips, which curve like a cheerful smile. The grunt is one of the com-

The hog fish

monest fish. It swims in shoals among the rocks, and is locally known as of several kinds, the yellow and the boar grunt being the most noticeable. They are a strong yellow with stripes of pale blue. The boar seems to have a slightly longer head with noticeably regular blue stripes on it. In the water the head appears purplish grey. They are easily

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caught, but in the shallow waters seldom exceed twelve inches in length.

The hind or coney is of two kinds, black and white. The black is a deep brownish purple with

red and orange spots and a dark mottle; the white, a pale cream colour with orange spots slightly banded with grey. Its yellow fins are tipped with black. This fish also is called the sailor's choice. It will bite at almost any bait, but the immense distension of the jaws indicates a fish diet, which it catches by short dashes from its lair beneath the rocks.

Like the hind is the negro or nigger fish, which looks from above like a brown fish with white belly; when caught, however, it comes up a dark copper purple with small turquoise spots. That is his only joke. I have never been able to make

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sure whether this is an illusion of the water or whether the colours change through shock on the way to the surface. The nigger fish has a smaller mouth than the hind and is more gracefully built.

Immense shoals of hell hammers are often seen. They are a grey fish with a black tipped tail and

The sailor's choice

dorsal fin. They are like the Margate fish, which is a uniform grey silver all over, but with a touch of violet orange in the mouth. Like the Margate in colour are the chub and bream. The chub has a much smaller mouth, though, which is also true of the bream. The bream, however, is of brighter silver, and is wider and more oval than either of the others. It is much like the bream of our rivers and lakes. The porgy or churchman, with its excessively bigoted expression, is also similar in colour; the great head and unshaved, bald-headed

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appearance of it, together with its large eyes, make it easily recognizable. These are not so often seen around the shallower reefs, though they visit from the deeper fishing grounds occasionally.

The same is true of the jack, a mackerel-like fish, grey with a blue stripe and deeply furcated tail, which swims in small shoals. The jack is swift and a fierce fighter if hooked. It watches

the shoals of small fish and occasionally makes rapid dashes among them. It is best taken by trolling behind a boat, and though fish bait or even a piece of conch will occasionally tempt him to risk his precious life, he is likely to be very suspicious of a sad-looking fish attached to a string anywhere in the vicinity of a boat shadow.

Sometimes for like reasons amber fish and albacores will hang around a coral patch; but these, like the dolphins and bonita, belong more to the deeper waters. They are large fish, great fight-

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ers, and often grow very big indeed. Forty and fifty pounds is not an unusual weight for them. The amber fish is slightly tawny and swims in company with a few friends or a shoal, while the albacore is almost always alone. The bonita, on the other hand, likes to go with the crowd, many hundreds often being met with together; and, though good sport, it will often infuriate the angler with its whole-hearted contempt for any dinner attached to a line or leaping along in an unnatural way in the wake of a fast-moving boat.

Anything that swims in these waters may happen to be in the Sea Gardens, which seems to be a highway for fish as much as for craft. I have seen a fifteen-foot shark there, the fish shark, or grey nun, which is blue grey and has a sharp nose and ghastly smile. The round-nosed brown sand shark also I have met with swimming round the Hog Island landing stage. But sharks are not numerous unless there is something special to attract them. They are the scavengers of the sea, and are certainly on to their job. The hammer-headed shark has been caught at times in the harbour, but is rather scarce. As its name implies, it is an odd-looking creature. It grows very large and fierce, but there are so few accidents on record from sharks that one may safely say the danger is a good deal overstated. Unless

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ravenously hungry, a shark will not attack a man in the water until it is sure that he is absolutely helpless. A splash will often frighten him away for good, though he may return again and again to see if the swimmer is dead yet or sufficiently weakened to eat. I believe sharks very seldom attempt to eat anything that is perfectly healthy. It is perhaps the cemetery as well as the scavenger of the sea, though it includes the not-quick-enough among the already-dead.

Although one may see large fish of many kinds, the things which attract the visitor most are the tiny fish, and the shallowest water is naturally the best to see them in. There is an exquisite little creature called the bottle fish of an intense Prussian blue. It is somewhat of the jack shape, and never exhibits any enthusiasm about any kind of fodder. A perfect live sapphire so brilliant that it seems at times to be lit from within, it is easily the most astonishing of the small marvels. The bluehead* is of the slippery-dick order, with a bright blue head, two black bands dividing a sky-blue band, and a green tail. It bites voraciously, as at times does also the cockeyed pilot in its vertical stripes of black and yellow; this is sometimes called the butterfly fish, but is not so named in Nassau. Their mouths are so small that it is very hard to catch them, but the tiniest

* Sometimes called the rainbow fish.

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trout hook upon a fine thread is likely to be their undoing in skilful hands.

Of course with a net these little fish might be caught, but nobody has a net of small enough mesh to hold them, and as they live in and out of the most amazing network of coral grottoes, it would be a problem how to get the net up without letting them escape.

Careful search round suitable rocks may sometimes discover the moonfish, which is the most delicately beautiful creature. It is banded with black and white of exquisite colour, with two long ventral and one similar dorsal fin. The tail seems to be sharp-pointed, but in a tumbler of water, in which the little creature will live for a day or two, if the water is frequently changed, it is just possible with the naked eye to distinguish a filmy fin encircling what is actually only the central spine of the tail. Its nose is blunt and round, and the eye, which is not small, seems to wear a black stripe right through it. I believe it never grows much larger than an inch and a half, while specimens are often found no longer than half an inch. If it is abundant anywhere, I cannot find the place. Only by wading and carefully scrutinising likely corners can it be found at all. I have found only three or four rocks where it lives; but when bathing in possible places, a water glass and a butterfly net will be found a fruitful source of

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diversion. The smokefish is another comparatively rare little fish which may be met with on the south side of Atholl Island. I have not seen it anywhere else. The little blue-and-yellow fish,

the blue beauty, can be found anywhere in similar localities. This fish is also intensely brilliant, but the blue is redder than that of the bottle fish—that is to say, it resembles more an ultramarine, and may even verge upon purple. It is liberally splashed with yellow. A large specimen may be two inches long. When removed from the water tiny rings of yellow around a black dot will be seen in regular order upon its sides, but the blue disappears almost at once. It will live for twenty-four hours in a bucket of water, and if put back

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may become a violet blue the instant it touches the water. Blue, I take it, therefore is the symbol of its joy, and when at home it is always happy. Yes, there are many points of difference between the fish world and our own!

One of the most attractive fish which may be seen anywhere there is the squirrel fish, or, as he is called in Nassau, the big-eyed john. In the water he is usually a pale exquisite mauve, with

indications of dark bands of a yellowish colour. The dorsal fin is a bright saffron, and his great eyes, by which he may be chiefly identified, are a dark purplish blue. He may sometimes be attired in the colour of the domestic goldfish with silver stripes from head to tail. This colour prob-

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ably indicates sorrow or discomfort, for some reason, or even anger, as the mauve gives way to this hue almost immediately the fish is hooked, and becomes more pronounced as it dies; the eyes then become deep black surrounded by crimson. The squirrel is armed with two knifelike spines on his gill cases which he distends to protect himself; they give a clean cut that is likely to be quite painful for an hour or two, but it has no serious aftereffects. He is one of the fish that live in holes, and the same specimen may be seen in the same place for a long time if left undisturbed. A big squirrel, however, is not likely so to remain in his home for very long after being located, as they bite upon any kind of bait except nuts, and are themselves excellent eating.

The grouper may also be seen in shallow water, though the shallower the shoal is the smaller he is apt to be. When small, groupers are known as hamlets. They require a large fish bait and a large fishhook, though they will bite upon conch or lobster if a sufficiently large hunk is delicately recommended to their notice. The Nassau grouper, in contradistinction to the red grouper, is one of the most interesting fishes in these seas. It is common throughout the West Indies, and is much respected for its table qualities. The grouper has at least seven distinct changes of colour raiment, and one is not more common than the

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other. In the market, however, it is seldom seen to be anything but very dark—the fear colour, having been lately thrown out on the deck from the fish-well of the smack and beaten to death

with a club. Very few people look their best after such treatment.

I quote Dr. Townsend of the New York Aquarium in his interesting pamphlet, "Chameleons of the Sea." He says:

"In one the fish is uniformly dark without markings of white; in another it is uniformly creamy white without dark markings; in a third it is dark above with pure white underparts; in a fourth the upper half is sharply banded, the lower half creamy white; in a fifth the uniform dark coloration is deeply suffused with red; in a sixth the body is snowy white below, dusky above,

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with a medium black band from the pectoral fin to the tail; in a final phase the fish is mottled with white."

These observations were made from the fish in captivity at the New York Aquarium. I have observed the fish in his black-and-white-striped phase in infinite variety, of which, as Dr. Town-

send remarks, "no two photographs of this banded phase are alike, the extent of the markings being dependent upon the degree of handling."

I have observed that the banded phase in the sea very often is black and olive-greenish yellow instead of white, and one specimen I saw opposite

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the Nassau lighthouse was pure white sprinkled with smallish black spots of different sizes all over. Counting these as phases not covered by the doctor's description, we have nine distinct changes of appearance, all of which can be assumed almost instantaneously. In its dark phase it is called a deer grouper in Nassau.

Animal and fish coloration is usually supposed to be for protection, and without doubt it is often so used; but it seems far more likely that Dr. Townsend is right in suggesting that fish colour changes are emotional and under perfect control by the fish. All fish have probably got this power in a greater or smaller degree. In the tropical fish, however, the changes are often violent and immediate, but even with the northern fish, which, like their brothers on shore, disapprove of conspicuous attire and frequent changes, we may guess that all individuals are not any more alike in reality than some people erroneously suppose Chinamen to be.

Often in the neighborhood of the wharves, especially in the shallows, you may see two long narrow fishes lying motionless near the surface. The narrowest has a long, sharp nose like a sword-fish, and is pale yellowish green with bright blue fins and beak. This is the houndfish waiting to prey on the tiny fish fry should one seem weakly or venture too far from the shoal. It can shoot

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through the water like an arrow and catch the unwary one in its long birdlike bill, which is armed with sharp teeth like the jaws of the ancient ichthyosaurus. The other is of a grey silver colour and is smutched with marks of brown—a baby barracuda on the same errand as his cousin, the houndfish. Both these fierce little fishes may grow into veritable monsters if the little nigger boys who catch them with a thread and a bent pin do not delude their infant minds to-day. The houndfish is often found longer than a yard and a half, but a fish of that length, though it only weighs six or seven pounds on the scales, has a mouthful of sharp green nails which can tear a man's arm open as easily as a comb goes through butter. When large, the houndfish is very dark blue above with amazing sides of silver. About the head especially the blue is glorious and intense, and the green teeth accentuate its beauty. When hooked, it does not give much account of itself for its size, but remembering how light a fish it is owing to its peculiar arrowlike build, perhaps it should not be despised as much as it is. Often it will leap high out of the water, shaking its head and twisting every way to be rid of the ugly corner of the dinner. On trout tackle it is quite a triumph to catch a big one, and they are excellent eating, though a few people are prejudiced against them on account of the green,

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unwholesome look of the bones. The garfish, or ballahoo, a corruption of the Spanish balaju, which has a long-pointed underjaw tipped with crimson and a very short stiff upper lip, has also the same peculiarity.

The barracuda when large is reputed to be poisonous, though small ones are considered good

to eat. I suspect that the accidents of poisoning which arise from eating barracuda are really due to the negro habit of splitting and drying the fish in the sun; eating it therefore in a somewhat "lofty" condition. It may be all right to eat pheasants high, but fish may not be so treated; a simple drying process is almost certain to be unsuccessful with any fish as thick as a big barracuda. The barracuda is of the same family as the "mighty luce" or pike of our rivers, which it resembles in

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many particulars. Its teeth are almost triangular and are very formidable; as with many other of the sea creatures, they are likely to grow in the roof of its mouth as well as along the edge of the jaws. The barracuda is a fighting fish, and is more to be feared by bathers than any shark, for it will attack anything, though accidents very seldom occur. A fierce and powerful specimen, however, when seven or eight feet long, demands something stronger than silk and fine-drawn gut to accomplish his downfall. Four feet is an average length for the angler's barracuda, and that is long enough to occupy him with rod and line for some time. His pride does not begin to awaken to boasting point, though, until he has landed the kingfish, petro, dolphin, albicore, or bonita, all of which may be found in Nassau waters. These, however, hardly belong to the scope of the present book, for though a stray specimen may occasionally be met with in the Sea Gardens or around the neighbouring reefs, they cannot be said to be a likely sight at all.

Deep in holes and lying very still against the rocks may sometimes be seen the glassy-eyed snapper, a fair sized crimson fish with white markings and very sinister blue eyes. Another variety is grey, if the two are not identical; both are called rockfish by natives, who assert that they never bite at any bait during the

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day, but may sometimes be taken with fish bait at night.

The blue tang has a vivid and beautiful colour. This fish swims in small companies, and is sometimes seen to be nearly white, the colour of its repose. There is also another small model of this

type which is grey with a white mark on the tail. Both are armed with a sharp-sheathed spine on the tail like the surgeon fish, which is dark in colour and, I suspect, identical with the latter.

There are apparently no eels in these waters if the moray, which is as much like an eel as possible, be not included among them. The moray is often four feet long and occasionally but rarely twice that size. It is an evil-looking creature with

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curved teeth like those of a boa constrictor, and holds its prey securely until it decides to go the way of least resistance, but of most misfortune. It is a greenish yellow with closely distributed brown spots all over it, the head being almost a purple. I have caught one specimen which was white with small brown speckles, having a few large brown-black spots well defined, which I think must be very scarce, as I have not met any-one else who has seen it.

It is interesting to quote a passage from the Memoirs of Peter Henry Bruce, Esq., "a military officer in the services of Prussia, Russia and Great Britain," who gives the following information with regard to the fish of the Bahamas in the year 1744:

"The sea hereabouts abounds with fish unknown to us in Europe; those of prey are crocodiles, alligators, sharks, dolphins, swordfish, sea devils, spermaceti whales, grampuses, porpoises, seals, nurses, and snappers; those for food are the king fish, jew fish, hog fish, pork fish, mutton fish, rock fish, margaret fish, cuckold fish, coney fish, angle fish, bill fish, hound fish, gar fish, parrot fish, blue fish, sucking fish, tang fish, trumpet fish, porjes, grupers, jacks, hynes, old wives, grunts, skates, schoolmaster, breams, ten pounders, stingers, ryspree, mullets, senets, baracuda, shipjacks, albecores, rainbow threshers, mackrel, hedgehogs,

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pilots, shads, pilchards, sailor's choice, squirrels, and cavaly; many of these are excellent eating, but such as feed on copperas backs are poisonous, affecting the joints of those who eat them with itching pains, and the disorder goes off by rubbing the parts; the method used to distinguish the fish is by putting a spoon or piece of silver into the water in which it is boiled, which turns black if the fish is poisonous. They make plenty of oil from the nurses, seals, etc., and a beneficial whale fishery might be established here, as that fish comes in great numbers to wean their young among the islands, and several have been thrown ashore full of the spermaceti; there is likewise found in the shore much ambergrise. Their shell fish are conques, perriwynkles, coneys, sogers, wilkes, cukolds, craw fish, lobsters, crab; they have also the land crab and many sorts of tortoises, of which the hawkbill is the most valuable for its fine shell and the green kind for eating; the greatest number of which are taken at the Bimini Islands. There is also ambergrise found in considerable quantities on these shores."

CHAPTER VII

FISHING

VERY little information, and almost no tackle, can be got in Nassau for the comfort and delight of anglers. It is surprising that when such a feature is made of the fishing in Florida that nothing should be done about it in the Bahamas. I suppose the absence of tarpon is the chief cause, though indeed there are tarpon at the Bemini Cays.

The best places to fish vary according to what you want to catch and whom you talk to. There are floating fish everywhere, though they are in greatest numbers anywhere but in the immediate vicinity of the wharves. Even there, however, I have seen sharks and large houndfish. Barracuda may be found everywhere. I have seen one nearly six feet long opposite Sawyer's Dock within ten yards of the wall.

The best trolling ground near Nassau is from the reef outside Long Cay, past the lighthouse, up the ocean side of Salt Cay and round to the south

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side of it. Another good fishing ground is beyond Sandy Cay, and south toward Porgy Rocks. The reef on the west side of Sandy Cay is about the most interesting to see anywhere in the neighbourhood. It is full of fish of every kind.

The best fishing, however, is found beyond Old

The black bait-snitcher

Fort, twelve miles to the west, and it is far less visited than the other fishing grounds.

In Old Fort Bay are also a series of interesting reefs along the sandy stretches between which are often found bone or lady fish—probably as good a fighting fish for its size as any. There are not many found elsewhere on this side of the island,

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though to the south large shoals are occasionally netted by the fishermen.

Between the lighthouse at Nassau and Beacon's Cay the fishing may be quite good at times. It is best to go at turn of tide, especially at high tide. Anchor anywhere inside the bar, throw out dead goggle-eyes as ground bait, cut up and whole, while the tide is going out, and it will be surprising if some of the large hunting fish are not attracted in to see where they come from.

For bottom fishing, the bar outside Long Cay is considered good and all the water where the steamers anchor outside.

For observation fishing the reef on the south side of Hog Island from the landing jetty to the next bay is a perfectly good reef. The Sea Gardens at slack water are also interesting, and on either side of Atholl Island is a chain of rock patches which are all good on their own day. Visitors will soon learn to distinguish the reefs for themselves; on sunny days they are easy to find, on cloudy days they are just as easy to miss, but with these few to begin with ample sport may be obtained.

Local tackle consists of cotton line and blunt hooks; nearly all hooks need sharpening on a file anyhow. Every bit of more sophisticated tackle must be brought from the States. First with regard to big fish Abercrombie & Fitch and Kiffe

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or any of the other sporting goods dealers will supply the right tackle. Here is a list of tackle such as I should equip myself with:

Stiff rod six feet long;

One good winch capable of taking two hundred yards of line;

Two hundred yards medium linen line;

Steel wire;

One-half to three-quarter inch swivels;

Round flat leads suitable for bending (ordinary sheet lead will do);

Hooks Nos. 2 and 5 for large fish, Nos. 8 and 10 for smaller fish, Nos. 15 and 20 for bait catching, and a few of the smallest hooks obtainable for fishing with thread over coral rocks;

One reel of strongest thread;

Pliers and wire cutter;

One good, strong knife;

One small hatchet;

One small file for sharpening hooks;

Spoon baits, and perhaps a flight to spin a natural bait.

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In trolling, at least forty yards of line should be let out, though fish will bite much nearer. A steel wire leader should terminate the line arranged thus:

Bait; swivel; 6 feet; swivel; 1 foot; swivel; line.

Attach sufficient lead to keep a few inches below surface. The lines may be attached to a stiff stick, set upright in the boat, by a slip noose. Many anglers have found it easier to watch for the knot to slip than to hold the line all the time. Tying the line is unsatisfactory, as by the time the fish is noticed often all is over but the shouting and the exhausted fish is nearly dead. If a hand line is used, stout gloves are necessary — very necessary.

The usual bait is a small fish of any sort, but the goggle-eye is undoubtedly the best and should be tied on to the hook in such a way that it swims well. The local method is to hook the fish through the tail and trust to Providence, which is good enough for live bait but not at all safe with a boat travelling between five and ten miles an hour. Small fish bait are usually procured by employing a man to "spin" for them among the shoals of fish fry in the market slip, a long and tiresome process. The spinning is done by twisting a thread so that it spins a bare white hook or bent pin among the shoal, a stationary bait of any kind

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being seldom successful. Why none takes the trouble to net these baits and keep them in a floating box for sale is a mystery, until one knows that nothing in Nassau can be left in the water for a day without continual supervision, as there is a bird which eats everything from oars and tackle to anchors and brass boat fittings.

Conch and lobster are the best baits for bottom fish, but fish, perriwynkles, or any other shellfish will do—if you can get them.

Whether a large or small hook is used, it is always better to have a piece of wire immediately next to it, if only a couple of inches, as many of the common fish have teeth which make short work of a line, especially if it cannot be pulled in at once. For houndfish, a piece of cork is sometimes used on the line about a foot from the hook to ensure the bait keeping close to the surface. A piece of skin with some of the flesh from the barracuda's belly is perhaps the best bait for it when trolling, as it is white and very tough. Houndfish require plenty of time to champ and turn the bait before swallowing. They will often drop it and take it up again several times before they finally swallow it, and it is useless to strike sooner, as it can be only an accident that will lodge the sharpest hook in the hard beak with any safety. Barracuda may be struck more quickly, for they bolt a bait much like a dog does

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a piece of stolen meat. Kingfish must be struck immediately, and if not hooked will seldom come back, as most of the others will, again and again. Along sandy stretches the old wife may sometimes be taken with live bait or trolling, and even conch. They are not very numerous, but excellent sport. I have seen small ones fight like trout. Bonefish are taken with conch or soldier crab; the latter probably the best. These may be obtained by the simple process of going into the bush on your hands and knees and looking for them. The bait question is ever a serious one in Nassau, as no one makes any provision for anglers. Suffice it to say where soldier crabs are found at all there are generally plenty of them. A rubbish heap near a kitchen window, especially out of town, is a likely hunting ground, and they can be kept in a covered box almost indefinitely, as they will eat anything. Beware their claws, however, for small as they are, they can draw blood with ease, and a large one will lift a piece of flesh right out of a careless finger.

With these few hints a beginner may fairly start in the path of learning something about the local fishing. Much may be added to them by any experienced angler, but as there is no brother of the angle skilled in the use of rod and line in Nassau, little can be learned about that art. The

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only fisherman who can render any assistance beyond those who believe in strong lines and stronger arms, are those who come from afar; and if this meets the eye of any such with a generous nature in the matter of fish talk, I shall be glad to hear from him.

CHAPTER VIII

POISONOUS FISHES OF THE WEST INDIES

AN extended inquiry into this class of fishes was recently made by Mr. C. Tate Regan, the results of which were given in an official report to the British Museum. The report covers not only the waters of the Bahamas and the Bermudas, but the whole of the West Indies. I have taken the liberty of using that portion of it which I believe will prove of interest and value to those contemplating a sojourn in that quarter. He says:

“The fishes known as poisonous are the following: Barracuda, cavally, jack, yellow-billed sprat (*Clupeathrissa*), goatfish, grouper, *Tetrodon*, *Diedon*, *Scarus*.

“Below I take them in this order and make some remarks as to what is known as to their poisonous nature. I follow this with some general remarks and with some recommendations.

“Barracuda or barracouta is a generic term for fishes of the genus *Sphyræna*, of which there are three species in West Indian waters. The largest of these species (*Sphyræna barracuda* or *picuda*)

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is a valuable food fish, but it has long been known that individual specimens may be poisonous, causing severe illness and even death. There is evidently something more in this than ptomaine poisoning due to eating fish that is not fresh, and the probability is that the poisonous quality of the flesh is not directly caused by the barracuda feeding in certain places or on smaller poisonous fish.

"It seems more likely that barracuda are poisonous when suffering from an infectious disease. Plee has stated that when barracuda are poisonous this can be recognized by a thin white fluid running out of the flesh when it is cut, whilst Poey says that poisonous barracuda have the teeth blackish at the roots.

"However, no real investigation of the matter on scientific lines has been made, and it is quite likely that were such investigation made the cause might prove to be quite different from what has been supposed.

"Cavally or cavalla or caballa. These names are applied to *Scombromosus caballa*, a large fish of the mackerel family (Scombridæ) rather similar in appearance to the barracuda, and like it a valuable food fish. The flesh of fishes of this family decomposes very rapidly in the tropics and cases of poisoning by this species are probably due to this cause.

"These names are also generic terms for fishes

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of the genus *Caranx*, belonging to the horse-mackerel family (Carangidæ). There are a number of species in the West Indies; several are good food fishes, but some may be seriously poisonous at times. The flesh of these fishes decomposes rapidly, and it seems probable that this is the only reason why some species may be poisonous. But in other species there is evidently something more, and it seems likely that at the approach of and during the breeding season the genital glands may form a poisonous secretion.

“Jack (*Caranx plumieri*). From Schomburgh’s ‘History of Barbadoes’ Hughes reports that the jack (*Caranx plumieri*) are in some seasons of the year, especially when caught in Christ Church parish or thereabouts, very poisonous, and that at such times there were in their gills two small red lumps. When they are suspected of being poisonous an experiment is tried upon a duck, by giving her one of them to swallow, and if at that season it is poisonous, the duck dies in about two hours.

“Yellow-billed sprat, the *Clupes thrissa* of some authors (*Opisthonera oglinum* of modern writers) is an important food fish of the herring family (*Clupeidæ*); it is said to be extremely poisonous when taken in certain localities; it is likely that these will prove to be localities to which these fishes resort when breeding.

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“Goatfish is a generic term for fishes of the red mullet family (Mullidæ); I cannot find any reference to these fishes as poisonous.

“Grouper is a generic term for fishes of the genus *Epinophelus* of the sea perch family (Serranidæ). The species are numerous and valued as food; some are reputed to be poisonous at certain seasons, probably during the breeding season. *E. catus*, *E. tigris* and *E. venenosus* are suspected West Indian species.

“Many species of perrot wrasses (Scaridæ) and many plectognaths, especially globe-fishes.

“Tetrodon and porcupine fishes (*Diedon*) are known to be poisonous, their flesh containing a poisonous secretion.

“These fishes, of course, are not used as food.

“Poisonous fishes are found chiefly in tropical seas. Those that are normally poisonous are generally well known to be so and are not used as food, but there is a tendency to regard as poisonous others that resemble them in coloration, food, or habits, and to refrain from eating many brightly coloured or reef-dwelling species that may be quite wholesome.

“Those that are sometimes poisonous may be so owing to the decomposition of the flesh; this would apply to all fishes, but especially to species whose flesh decomposes very rapidly, such as most Scombridæ and Carangidæ.

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"Some species may be poisonous at certain seasons; this is generally the breeding season, when the genital glands may form a poisonous secretion.

"Some species may be poisonous when suffering from certain diseases.

"In all probability these are the most important classes of poisonous fishes; locality and nature of food are probably not directly responsible for the poisonous character of the flesh."

RA

3/9/76