

## CHAPTER XIV.

### CORAL REEFS

IT was all plain sailing before the *Pearl*, and only necessary for her captain to keep her headed straight down the bay. When they were well clear of the land Tom Rogers tested the speed of the little craft by putting on all steam, until it seemed as if she flew along the top of the water, rather than in it, and Charley and Bobby in the bow, where they could have a full view during this trial of speed, could hardly control their joy.

Dare was quite as much excited as they were, but he concealed it in his desire to appear as grave and dignified as he thought the captain of a steamboat ought to appear.

Down Hillsboro' Bay the *Pearl* raced, and after about two hours of the exciting sport Captain Sammy explained that they had reached Tampa Bay, which accounted for the increased roughness of the water.

Mangrove Point, at the mouth of Little Manatee River, was passed, and then Dare steered the *Pearl* as near to the little chain of reefs as

he dared to go, heading her directly for Mullet Key as he began to leave them astern.

Captain Sammy left his position of lookout to resume the duties of cook, and when the yacht was nearly opposite Seminole, Charley, Bobby, and the cook had a nicely served dinner of fried fresh fish and plenty of vegetables.

Then the little captain, with the aid of the boys, spread the table again, and sent Charley to relieve Rogers while he took Dare's place in the pilot-house, so the captain and engineer had their dinner.

Bobby had been appointed dish-washer, and he waited upon this second table with very little skill and at the expense of two plates, which he broke through attempting to take them from the stove when they were so hot as to burn his fingers.

When Dare went into the pilot-house again the course of the yacht had been changed, and she was running down between Ana Maria or Palm Key and the main-land.

"I guess we'll lay up in Sarasota Bay tonight," said Captain Sammy. "It's about the half-way place to the mouth of the Caloosahatchee River, and there isn't any need of rushing any."

Dare was perfectly willing to come to an anchor anywhere the little man thought proper, and Captain Sammy took up his position in the

bow again, in order that he might direct the course of the yacht through the net-work of small keys and reefs that marked the entrance to Sarasota Bay.

The sun was still quite high in the heavens when the *Pearl* dashed along merrily into the waters of the bay, and came to anchor just inside a jutting point of land that formed a snug harbor, and not more than a quarter of a mile from the shore.

Outside, seeming to shut out the waters of the Gulf from the bay, could be seen Long Boat, Sarasota, and Long Keys, as if standing sentinel over the beautiful body of water that formed the bay.

All hands "turned to" under the little captain's orders to make everything snug for the night, and when that was done he said, in his gruffest and most commanding tones,

"Now, then, if you boys are goin' ashore, you want to do it now, for your father told me that you was goin' to find out all about how the reefs was made before you got back, an' I want you to tell me the whole story to-night."

The boys were greatly surprised at this command, for as yet they had had no time to learn anything of the formation of the reefs, and, of course, were unable to give Captain Sammy the slightest information.

Dare managed to say, however, that they

would go ashore for a short time, but that they could hardly tell anything about reefs.

Captain Sammy made no reply, but busied himself with his canvas bag, and the boys started for the shore in the little tender.

There was very little that was interesting to be seen on the shores of Sarasota Bay, and the boys returned to the yacht before the hour had passed; but, quickly as they had returned, they found supper waiting for them, Captain Sammy and Rogers having already had theirs.

When they had finished eating, and helped Bobby in his work of clearing up, they filed into the forward cabin, looking rather mournful, because they were apparently expected to recite a lesson they had never learned.

It was quite evident that some considerable preparation had been made for their reception, for the cabin table was covered with books, and, seated behind it, with his longest pipe in his mouth, and a pair of cracked spectacles on his nose, was Captain Sammy, assuming all the airs and graces of a country school-teacher of the olden days.

"Sit down and be quiet," said Captain Sammy, glaring at them as if he suspected they intended to disobey him.

The boys did as they were commanded, although Bobby was so awed that he only occupied a very small portion of his chair, and that di-

rectly on the edge, as if he believed it might be necessary for him to run away at any moment.

"Now, then," said Captain Sammy, sternly, "what are we come together here for?"

The boys were almost too much surprised to speak. They had come there because the little captain had ordered them to come, and surely he knew that.

"Don't know, do ye? Of course you don't, so there's no need of my askin' the question. Did I say you was to tell me what caused the Florida reefs, the like of which can't be found anywhere else in the country?"

"Yes, sir," replied Dare; "but we don't know, and it is just what we would like you to tell us."

"Why didn't you look at them an' find out as we was comin' along?" asked the little man, with a suppressed chuckle, as if he was having a great joke all by himself.

"I don't think the keys look different from any island," said Dare, who now almost began to think that Captain Sammy knew no more about the matter than they did.

"That's just because you don't know anything about it," said the little man, triumphantly.

Inasmuch as the boys quite agreed with him in this assertion, they said nothing, and he was disappointed, if he had thought he was going to provoke any argument.

"Now listen to me;" and Captain Sammy

straightened himself up, in order that his words might be more impressive. "I know all about it without any book, but I'll just keep one in my hand as I go along, for since my eyesight's got so bad I can't hold on to some of these names as I used to. In the first place, the Florida reefs don't run up the coast this way, though some folks hold that all the keys and reefs along the coast should be reckoned in with 'em; but in that I have my opinion, and you can have yours. The Florida reef, the way we call it down here, starts from a leetle north of Cape Florida, an' runs some miles beyond Key West. All that is one big bank of coral, with here an' there spots where it's been built high enough to come atop of the water, an' then the sand washes up on it, the mangrove-trees grow, an' then they're keys, like them you can see out there in the offing."

Captain Sammy stopped long enough to assure himself that the boys were paying strict attention, and then continued:

"The reef runs in a regular curve, croppin' out just a little here an' there, from Virginia Key, which is next to Cape Florida—an' everybody knows the cape is on Key Biscayne—to a leetle west of the Marquesas, where it opens up in Reef Channel an' Key West harbor. Then it runs nigh on to sixty miles sou-sou-west, an' then about a hundred an' forty miles west-sou'-west—perhaps a leetle more westerly; but that's

neither here nor there. Then for about thirty miles it runs west-nor'-west, taking in the Tortugas. Now, you keep them pints of the compass in your mind, in case you should ever want to coast around that way, an' you an' I won't have any trouble."

Captain Sammy glared over his glasses, in order to learn if there was any chance of trouble then; and finding that there was none, he said, solemnly,

"Now, of course, these reefs are bein' built all the time, an' what you wants to know is how that's done. Here goes for the way these scholars put it, an' you can have your 'pinion 'bout it, an' I can have mine. A reef is a regular limestone wall that a little animal they call a polyp builds, by sucking in the water that has got lime in it, and throwing the lime out on to the places where they want to build. These leetle animals can't work where the water's more'n fifteen fathom deep, so, you see, they have to curve around just as the land curves. Now, they go to work an' build great knobs—coral-heads, we sailors call 'em—all the way around in this fifteen fathom of water, an' they keep pilin' 'em up till they are about six fathom from the surface. Then they stop, for they're sharp, these little polyps are, and they know that they can't work when they come just so near the surface. Then another kind, pretty near like them, that can't work ex-

cept in shallow water, come along an' build on top the coral-heads another kind of stone. Then the third sort of little fellows come an' put on the finishing touches just at the top of the water, making the coral that fine and delicate that it looks like leaves an' grass."

The little man stopped only long enough to wipe his glasses, and then continued:

"Now, you see, this reef is a regular limestone wall, straight up an' down to seaward, an' slopin' toward the land. Well, in time the waves grind the coral that's on the top into sand; then the mud that's in the water washes up, and, take everything together, it makes tolerable good soil. All the mangrove-trees around about shed the most part of their seeds in the water, because, you see, growing over it, they can't help themselves, and the seeds float around till some of them get washed up on to these reefs. Once they get into that sand they grow, and that settles it so far as the reefs go, for then folks or turtles can live on 'em, and they're keys. Now, that's the way the books have it that the reefs and keys are made; and if I should happen to have a different opinion to that, you see, you ain't bound to take it that I'm right, because you an' I never had a reg'lar introduction to each other."

The boys were at a loss to understand how the want of an introduction could affect a fact, and they urged Captain Sammy to give them

his idea of the formation of the reefs, or, at least, to tell them how it differed from that which he had stated as coming from "books."

But the little man was so decided in his refusals, and so guarded in his replies to any of the questions intended to draw him out, that they soon came to the conclusion that his opinions did not differ in any way from those of the authorities he had quoted.

"You see, there's a good deal more about this end of this snug little State that you ought to know," said Captain Sammy, as he laid aside his pipe, which had long since "gone out," took off his glasses, and closed his book with a bang that caused the boys to jump; "but I sha'n't tell you about it now, for it will keep until we run on to it; and, besides, I want you to go to bed now, so we can make an early start in the morning."

By the way Captain Sammy spoke the boys knew that there was no use in trying to prolong the conversation, and they crept into their berths, feeling that an hour after sunset was altogether too early to go to bed on the first day of the cruise.