

Sociable Fish.

BY FRANK T. BULLEN, F.R.G.S.

IN one of the most charming chapters of that truly charming book, Gilbert White's "Natural History of Selborne," the gentle author tells of some strange instances of sociability among the denizens of the farm-yard, a craving for companionship that brought into intimate acquaintanceship such widely differing animals as a horse and a hen, a doe and some cattle. This, as a proof that loneliness is an abnormal condition of life even among the lesser intelligences of creation, "gives to think," as our neighbours say; but probably few people would imagine that the same desire for society obtains even among the inhabitants of the deep and wide sea.

I do not now speak of such gregarious fish as compose the great shoals that beneficently visit the shallower waters washing populous countries, from whose innumerable multitudes whole nations may be fed without making any appreciable diminution in their apparently infinite numbers, but of those more varied and widely scattered species that are to be found near the sea-surface all over the ocean. In the ordinary routine of modern passenger traffic no observation of these truly deep-sea fish is possible, for in the first place the breathless panting of the propeller fills them with dread of the swiftly gliding monster whose approach it heralds; and in the next, the would-be observer has no time to catch even a glimpse of the inhabitants of that teeming world beneath him with, perhaps, the exception of a rapidly-passing school of porpoises or the hurried vision of a sea-shoudering whale.

No, for the deliberate observation neces-

sary in order to know something of the sea-people a sailing ship must be chosen, the slower the better, one wherein may be felt to its fullest extent by the mindless, sightless passenger the "intolerable tedium of a long voyage." In such a ship as this the student of marine natural history, provided he be not responsible to stern owners for the length of his passage, will welcome with great delight the solemn hush of the calm, when the windless dome above him is filled with perfect peace, and the shining circle upon which he floats is like the pupil of God's eye. Then, leaning over the taffrail, looking earnestly down into the crystalline blue, you may see the

bottom of the ship without visible support as if poised in a sky of deeper blue and more limpid atmosphere. The parasitic life that has already attached itself to the vessel is all busy living. Barnacles (Fig. 1), with their long, glutinous feet-stalks waving in the imperceptible motion, are expanding from between their shells delicate fringes of brown, that, all eyes to see and hands to hold, allow nothing that can feed them to pass them by.

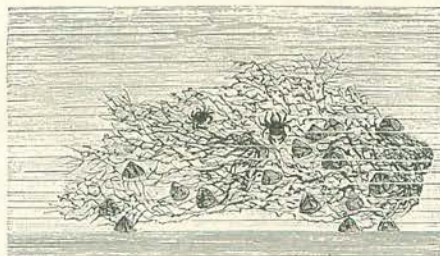
And as they flex themselves inward with the supplies they have drawn from the apparently barren water, you can fancy that the pearly whiteness of the shells gleams with a brighter lustre as of satisfaction. The dull-hued limpets (Fig. 2), like pustules breaking out upon the ship's

sheathing, may also be discerned, but less easily, because they have such a neutral tint and love to nestle amongst a tangle of dank, deep-green sea-moss, that, except where the light from above breaks obliquely down upon it, looks almost black.

But a little patient watching will reveal a set of tiny arms forth-darting from the



1.—BARNACLES, SHOWING FEET-STALKS.



2.—SEAWEED, WITH LIMPETS AND CRABS.

irregular opening in the apex of each limpet-cone. They, too, are busy continually, arresting every morsel, invisible to feeble human sight, that comes within their reach, and passing it inside for the up-keep of the compact, self-contained residence. And there, can it be possible, at all this distance from land? It is not only possible but undeniable that there is a *crab* (Fig. 2), an impudent, inquisitive little tangle of prying claws surrounding a disc about the size of a shilling. He strolls in leisurely fashion, but making a track at all sorts of angles, among the living fixtures, skirting each barnacle or limpet with a ludicrous air of contempt, as it seems. You can almost imagine him saying: "I never saw such a lot of dead-an' alive ornaments in my life. Say! how d'you like stoppin' in the same old spot for ever an' ever?" But, impervious to his rudeness, the busy creatures never cease their one set of movements, utterly ignoring his very existence. You cannot help but wonder what becomes of that little crab when the ship begins to move, for you know that he can't possibly hold on against the tremendous brushing past of the water. He isn't built for that.

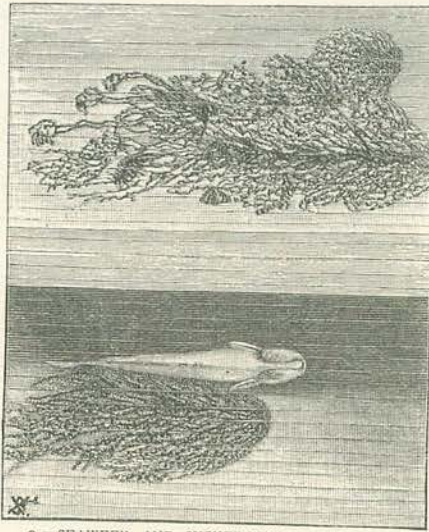
The other parasites, whether animal or vegetable, have, you notice, been busy for who shall say how long adapting themselves to every condition of their dependent life, so that now, whatever motion be made by the ship, they present to the onrush of the water just the right angle of surface that will allow it to slip over them easily, while at the same time they are always in a position to levy contributions. There is a puzzling lead-coloured streak along the copper near the keel to which your eye returns again and again, for although it will persist in looking like a place whence a strip of sheathing has been torn, there is yet a suggestion of quivering life about it which is certainly not the tremulous outline given to every inanimate object under water. Suddenly your doubts are set at rest—the mystery is solved. The steward has cast over the side some fragments of food that settle slowly downwards,

turning over and over as they sink and catching the diffused light at every point, so that they sparkle like gems. As they pass the almost motionless keel the leaden-looking streak suddenly detaches itself, and, almost startlingly revealed as a graceful fish, intercepts and swallows those morsels one after the other. You fetch a few more fragments, and, dropping them one by one, entice your new acquaintance nearer the surface, so that you may admire the easy grace of every movement, and study at your leisure the result of this creature's development along certain lines of inventiveness.

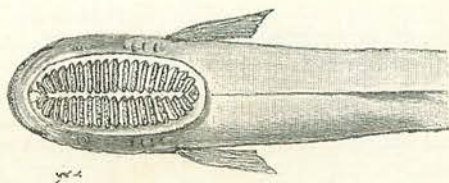
It is a *Remora*, or "sucker" (Fig. 3), a species of shark that never exceeds a dozen pounds in weight. Having all the shark's usual qualities of slothfulness, voracity, and timorousness, it is prevented from becoming ferocious also by its limitations of size and the feebleness of its teeth. And as it would be hopeless for it to attempt to prey upon other fish while they are alive, from its lack of the requisite speed as well as from the scarcity of fish of sufficiently small size in the deep waters which are its abiding-place, it has developed a parasitic habit, which saves it a whole world of trouble by insuring its protection, economizing exertion,

and keeping it in the midst of a plentiful food supply. All these objects are attained in the simplest manner possible, aided by an unflinching instinct guiding the creature in its selection of an involuntary host.

On the top of its head, which is perfectly flat, it has developed an arrangement which has, perhaps, the most artificial appearance of anything found in animated Nature (Fig. 4). It is in plan an oblong oval, with a line running along its middle, to which other diagonal lines, perfectly parallel to each other, extend from the outer edge. The whole thing is curiously like the non-slipping tread moulded upon the soles of many lawn-tennis shoes. This strangely-patterned contrivance is really an adhesive attachment of such strength that, when by its means the fish is holding on to any plane surface, it is impossible



3.—SEAWEED AND SUCKER-FISH ATTACHED TO SHEATHING.



4.—THE SUCKER OF THE SUCKER-FISH.

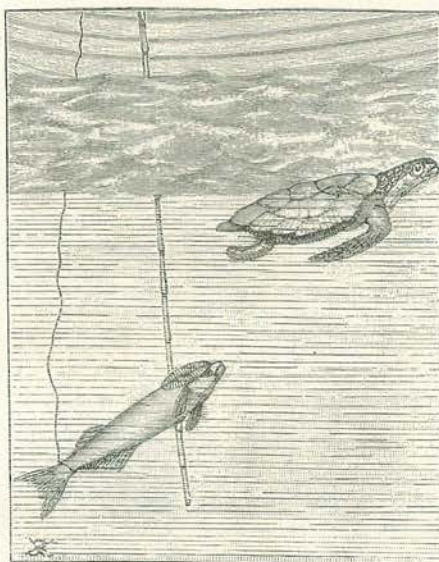
to drag the body away, except by almost tearing the fish in half. Yet by the flexing of some simple muscles the fish can release its body instantly, or as instantly re-attach itself. Of course, it always adheres to its host with its head pointing in the same direction as the host usually travels, because in that manner the pressure of the water assists the grip of the sucker and keeps the whole body lying flatly close to whatever is carrying it along. In this position it can perform all the natural functions. Its wide mouth gapes; its eyes, set one on either side of its flattened head, take in a most comprehensive view of the prospect, so that nothing having the appearance of edibility can pass that way without being seen and, if the speed of its host admits, immediately investigated. Thus its sociability is obviously of the most selfish kind. It sticketh closer than a brother, but affection for its protecting companion forms no part of its programme. Its number is, emphatically, One.

I have used the word "host" intentionally, because the remora does not by any means limit its company to ships. It is exceedingly fond of attaching itself to the body of a whale, and also to some of the larger sharks. Indeed, it goes a step farther than mere outward attachment in the latter case, because well-authenticated instances are recorded where several suckers have been found clinging to a huge shark's palate. This is another stage on the way to perfect parasitism, because under such circumstances these daring lodgers needed not to detach

themselves any more. They had only to intercept sufficient food for their wants on its way from the front door to the interior departments. I have also seen them clinging to the jaw of a sperm whale, but that jaw was not in working order. It was bent outwards at right angles to the body, and afforded harbourage to a most comprehensive collection of parasites, barnacles especially, giving the front elevation of that whale an appearance utterly unlike anything with life.

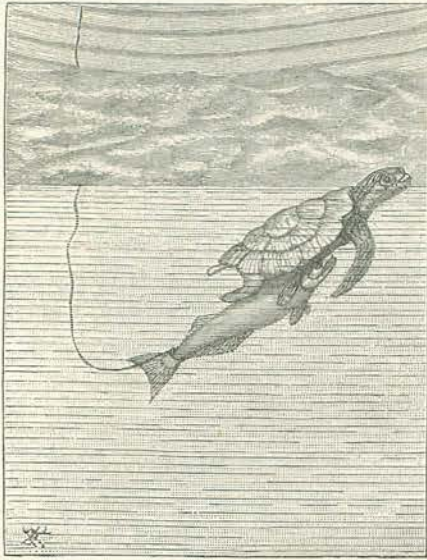
But John Chinaman has outwitted the superlatively lazy remora. By what one must regard as a triumph of ingenuity he has succeeded in converting the very means whereby this born-tired fish usually escapes all necessity for energy into an instrument for obtaining gain for other people. The mode is as follows: First catch your remora. No difficulty here. A hook and line of the simplest, a bait of almost anything that looks eatable lowered by the side of a ship, and if there be a sucker hidden there he will

be after the lure instantly. The only skill necessary is to haul him up swiftly when he bites, because if he be allowed to get hold of the ship again you may pull the hook out of his jaws, but you will not succeed in detaching him. Having caught a remora, the fisherman fastens a brass ring closely round its body, just at its smallest part before the spread of the tail. To this he attaches a long, fine, and strong line. He then departs for the turtle grounds with his prisoner. Arriving there he confines himself to keeping the remora away



5.—JOHN CHINAMAN'S SUCKER-FISH TRAP FOR TURTLE.

from the bottom of his boat by means of a bamboo (Fig. 5). Of course the captive gets very tired, and no turtle can pass within range of him without his hanging on to that turtle for a rest (Fig. 6). The moment he does so the turtle's fate is sealed. Struggle how he may, he cannot shake loose the tenacious grip of the sucker, and the stolid yellow man in the sampan has only to haul in upon the line to bring that unwilling turtle within range of his hands and lift him into the boat.



6.—THE TURTLE CAUGHT.

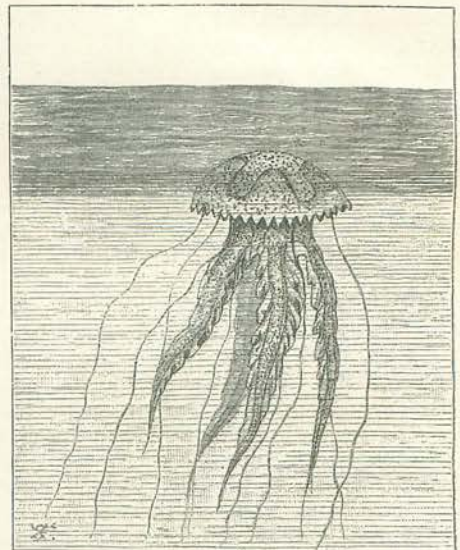
And this ingenious utilization of the sucker's well-known peculiarity has also commended itself to the semi-barbarous fishermen of the East African littoral, who are not otherwise notable for either ingenuity or enterprise.

Before we dismiss the remora to his beloved rest again it is worthy of notice that he himself gives unwilling hospitality to another sociable creature. It is a little crustacean, rather like an exaggerated woodlouse, but without the same power of curling itself into a ball. It is of a pearly-white colour, very sluggish in its movements, but with tenacious hooks upon its many legs it holds on securely to the inside of the sucker's mouth near the gill-slits, being there provided with all the needs of its existence, without the slightest effort of its own. Its chief interest to naturalists lies in its strange likeness to the fossil trilobites so plentifully scattered among various geological strata.

But while you have been watching the remora a visitor from the vast openness around has arrived, as if glad of the society afforded by the ship. Yet in this case the idea seems a fond conceit, because the newcomer is only a "jelly-fish," or "Medusa" (Fig. 7). It is really an abuse of language to use the word "fish" in connection with such an almost impalpable entity as the Medusa, because while a fish is an animal high up the scale of the vertebrata, a Medusa is almost at the bottom of the list of created things. When floating in the sea it is an exceedingly pretty object, with its clear, mushroom-shaped disc

uppermost, and long fringe of feathery filaments, sometimes delicately coloured, waving gracefully beneath with each pulsation of the whole mass. It has no power of independent locomotion, no—but, there, it is not easy to say what it *has* got, since if you haul one up in a bucket and lay it on deck in the sun, it will melt entirely away, leaving not a trace behind except two or three tiny morsels of foreign matter which did not belong to its organism at all. Yet if one of these masses of jelly comes into contact with your bare skin it stings like a nettle, for it secretes, in some mysterious way, an acrid fluid that serves it instead of many organs possessed by farther advanced creatures. As the present subject passes beneath your gaze you notice quite a little cluster of tiny fish smaller even than full-grown tittlebats, perhaps a dozen or so, who look strangely forlorn in the middle of the ocean. It may be that this sense of loneliness leads them to seek the shelter of something larger than themselves, something which will be a sort of rallying point in such a wide world of waters.

Perhaps the lovely streamers dangling have aroused their curiosity, but, whatever the motive, you see the little group huddled round the Medusa, popping in and out from the edge of the disc, through which you can plainly see them as they pass beneath. It is quite pretty to watch those innocent games of the sportive little fish, but presently you notice that one of them doesn't play any more. He is entangled among those elegant



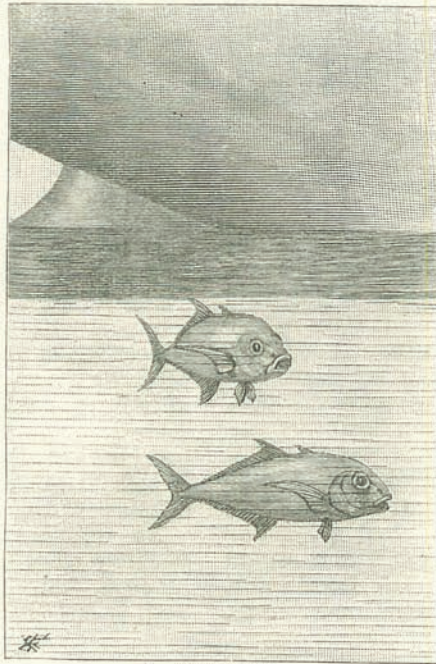
7.—THE MEDUSA, OR JELLY-FISH

fringes and hangs like a little silver streak, brightening and fading as it is turned by the pulsatory movement of the Medusa. And if you could watch it long enough you would see it gradually disappear, absorbed into the jelly-like substance by the solvent secreted by the Medusa for that purpose. Still unconscious of their companion's fate, the other little victims continue to play in that treacherous neighbourhood, voluntarily supplying the needs of an organism immeasurably beneath them in the sum-total of all those details that go to make up conscious life.

Closely gathered about the rudder and stern-post is another group of larger fish, the several individuals being from 4in. to 8in. long, and most elegant in shape and colour. They evidently seek the ship for protection, for they scarcely ever leave her vicinity for more than 2ft. or 3ft. If one of them does dart away that distance after some, to you, imperceptible morsel of food, it is back again in a flash, sidling up to her sheathing closer than ever, as if dreadfully alarmed at its own temerity. A small hook baited with a fragment of meat will enable you to catch one if only you can get it to fall close enough to the rudder — no easy matter, because of the great overhang of the stern. In the old-fashioned ships, where the rudder-head moved in a huge cavity called the rudder-trunk, I have often caught them by dropping my hook down there, and very sweet-eating little fish they were. Sailors call them "rudder-fish," a trivial name derived from their well-known habit, but they are really a species of "caranx," and akin to the mackerel tribe, which has so many representatives among deep-water fish (Fig. 8). They are, perhaps, the most sociable of all the fish that visit a ship far out at sea; but they present the same problem that the crab did a little while ago: What becomes of them when a breeze springs up and the vessel puts on speed?

I have often watched them at the beginning of a breeze, swimming steadily along by the side of the stern-post, so as to be clear of the eddies raised by the rudder; but it was always evident that a rate of over three knots would leave them astern very soon. Not less curious is the speculation as to whence they come so opportunely. There seems to be very few of them, yet an hour or two's calm nearly always shows a little company of them cowering in their accustomed place. As you watch them wonderingly, a broad blaze of reflected light draws

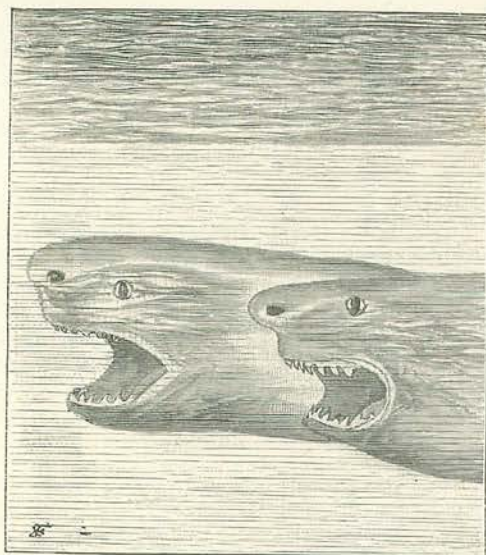
your attention to the splendid shape of a dolphin gliding past and exposing the silver shield of his side to the sun's rays, which radiate from it with an almost unbearable glare. At that instant every one of the little fish beneath you gather into one compact bunch, so close to the stern-post that they look as if part of it. When they can no longer keep up with the ship's protecting bulk how do they escape the jaws of such beautiful ravenous monsters as that which has just passed? The swift flying-fish cannot do so, even with the swallow-like speed that he possesses and the power of skim-



8.—RUDDER FISH.

ming through the air for a thousand yards at a flight. What chance, then, can our shrinking little companions possibly have, or how do they survive amidst so many enemies? It is an unsolvable mystery.

What is this cold grey shadow stealing along through the bright blue water by the keel? A shark, and a big one, too (Fig. 9). No one doubts the reason for *his* sociability; in fact, he (or she) is credited by most sailors with a most uncanny knowledge of what is going on aboard any ship he chooses to honour with his company. We need not be so foolish as to believe any of these childish stories, especially when the obvious explanation lies so closely on the surface. Heredity accounts for a great many things that have long been credited with supernatural origins,



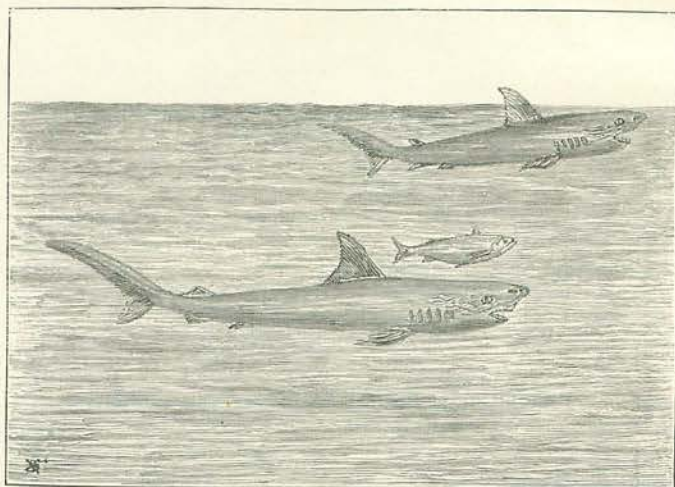
9.—SHARKS.

and the shark's attachment to the society of ships is so plainly hereditary that the slightest thought upon the subject will convince any unbiased person of the reasonableness of the explanation. For many generations the shark, born scavenger that he is, has learned to associate the huge shadow cast by a ship with food, not perhaps in such mountainous abundance as that provided by the carcass of a dead whale, but still scattering savoury morsels at fairly regular intervals. From its earliest days—when, darting in and out of its mother's capacious jaws, it has shared in the spoil descending from passing ships—to the end of what is often a very long life, ships and food are inseparably associated in whatever answers to its mind in the shark. Man, alive or dead, always makes a welcome change of diet to a fish that, by reason of his build, is unable to prey upon other fish as do the rest of his neighbours.

As I have said elsewhere, the shark eats man because man is easy to catch, not because he likes man's flesh better than any other form of food, as many landmen and even sailors believe. But the shark is only able to gratify his sociable instincts in calms or very

light airs. He is far too slothful, too constitutionally averse to exertion, to expend his energies in the endeavour to keep up with a ship going at even a moderate rate of speed. Let the wind drop, however, and in few parts of the sea will you be without a visit from a shark for many hours. In one vessel that I sailed in the skipper had such a delicate nose that he could not bear the stench of the water in which the day's allowance of salt meat had been steeped to get some of the pickle out of it. So he ordered a strong net to be made of small rope, and into this the meat was put, the net secured to a stout line, and hung over the stern just low enough to dip every time the vessel curtsied. The plan answered admirably for some time, until one night the wind fell to a calm, and presently the man at the wheel heard a great splash behind him. He rushed to the taffrail and looked over, just in time to see the darkness beneath all aglow with phosphorescence, showing that some unusual agitation had recently taken place. He ran to the net-lanyard, and, taking a good pull, fell backward on deck, for there was nothing fast to it. Net and meat were gone. The skipper was much vexed, of course, that the net hadn't been hauled up a little higher when it fell calm, for, as he told the mate, anybody ought to know that 30lb. of salt pork dangling overboard in a calm was enough to call a shark up from a hundred miles away.

As this particular shark, now sliding stealthily along the keel towards the stern, becomes more clearly visible, you notice what looks at first like a bright blue patch on top



10.—SHARKS AND PILOT-FISH.

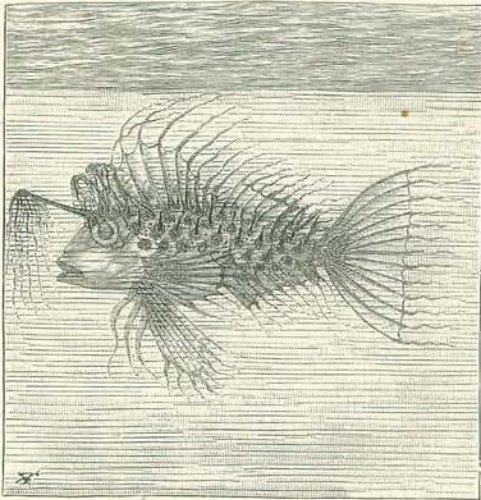
of his head. But, strange to say, it is not fixed; it shifts from side to side, backwards and forwards, until, as the big fish rises higher, you make it out to be the pretty little caranx that shares with the crocodile and buffalo birds the reputation of being the closest possible companion and chum of so strangely diverse an animal to himself (Fig. 10). And now we are on debatable ground, for this question of the sociability of the pilot-fish with the shark has been most hotly argued. And perhaps, like the cognate question of the flight of flying-fish, it is too much to hope that any amount of first-hand testimony will avail to settle it now. Still, if a man will but honestly state what he has *seen*, not once, but many times repeated, his evidence ought to have some weight in the settlement of even the most vexed questions. Does the pilot-fish love the shark? Does it even know that the shark is a shark, a slow, short-sighted, indiscriminating creature whose chief characteristic is that of never-satisfied hunger? In short, does the pilot-fish attach itself to the shark as a pilot, with a definite object in view, or is the attachment merely the result of accident? Let us see.

Here is a big shark-hook, upon which we stick a mass of fat pork two or three pounds in weight. Fastening a stout rope to it, we drop it over the stern with a splash. The eddies have no sooner smoothed away than we see the brilliant little blue and gold pilot-fish coming towards our bait at such speed that we can hardly detect the lateral vibrations of his tail. Round and round the bait he goes, evidently in a high state of excitement, and next moment he has darted off again as rapidly as he came. He reaches the shark, touches him with his head on the nose, and comes whizzing back again to the bait, followed sedately by the dull-coloured monster. As if impatient of his huge companion's slowness he keeps oscillating between him and the bait until the shark has reached it and, without hesitation, has turned upon his back to seize it, if such a verb can be used to denote the deliberate way in which that gaping crescent of a mouth enfolds the lump of pork. Nothing, you think, can increase the excitement of the little attendant now. He seems ubiquitous, flashing all round the shark's jaws as if there were twenty of him at least. But when half-a-dozen men, "tailing on" to the rope, drag the shark slowly upward out of the sea, the faithful little pilot seems to go frantic with—what shall we call it?—dread of losing his protector, affection, anger, who can tell?

The fact remains that during the whole time occupied in hauling the huge writhing carcass of the shark up out of the water the pilot-fish never ceases its distracted upward leaping against the body of its departing companion. And after the shark has been hauled quite clear of the water the bereaved pilot darts disconsolately to and fro about the rudder as if in utter bewilderment at its great loss. For as long as the calm continues, or until another shark makes his or her appearance, that faithful little fish will still hover around, every splash made in the water bringing it at top speed to the spot as if it thought that its friend had just returned.

No doubt there is a mutual benefit in the undoubted alliance between pilot-fish and shark, for I have seen a pilot-fish take refuge, along with a female shark's tiny brood, within the parent's mouth at the approach of a school of predatory fish, while it is only reasonable to suppose, what has often been proved to be the fact, that in guiding the shark to food the pilot also has its modest share of the feast. It is quite true that the pilot-fish will for a time attach itself to a boat when its companion has been killed. Again and again I have noticed this on a whaling voyage, where more sharks are killed in one day while cutting-in a whale than many sailors see during their whole lives.

Hitherto we have only considered those inhabitants of the deep sea that foregather with a ship during a calm. Not that the enumeration of them is exhausted, by any means, for during long-persisting calms, as I have often recorded elsewhere, many queer denizens of the middle depths of ocean are tempted by the general stagnation to come gradually to the surface and visit the unfamiliar light. Considerations of space preclude my dealing with many of these infrequent visitors to the upper strata of the sea, but I cannot refrain from mention of one or two that have come under my notice at different times. One especially I tried for two days to inveigle by various means, for I thought (and still think) that a stranger fish was never bottled in any museum than he was. He was sociable enough, too. I dare say his peculiar appearance was dead against his scraping an acquaintance with any ordinary-looking fish, who, in spite of their well-known curiosity, might well be excused from chumming up with any such "sport" as he undoubtedly was (Fig. 11). He was about 18 in. long, with a head much like a gurnard and a tapering body resembling closely in its contour that of a cod. So that as far as his



17.—A FISHY "FREAK."

shape went there was nothing particularly *outré* in his appearance. But he was bright green in colour—at least, the ground of his colour-scheme was bright green. He was dotted profusely with glaring crimson spots about the size of a sixpence. And from the centre of each of these spots sprang a brilliant blue tassel upon a yellow stalk about an inch long. All his fins—and he had certainly double the usual allowance—were also fringed extensively with blue filaments, which kept fluttering and waving continually, even when he lay perfectly motionless, as if they were all nerves. His tail was a wonderful organ more than twice as large as his size warranted, and fringed, of course, as all his other fins were, only more so. His eyes were very large and inexpressive, dead-looking in fact, reminding me of eyes that had been boiled. But over each of them protruded a sort of horn of bright yellow colour for about two inches, at the end of which dangled a copious tassel of blue that seemed to obscure the uncanny creature's vision completely.

To crown all, a dorsal ridge of crimson rose quite two inches, the whole length of his back being finished off by a long spike that stuck out over his nose like a jibboom, and had the largest tassel of all depending from it. So curiously decorated a fish surely never greeted man's eye before, and when he moved, which he did with dignified slowness, the effect of all those waving fringes and tassels was dazzling beyond expression. I think he must have been some distant relation of the angler-fish that frequents certain tidal rivers, but he had utilized his leisure for personal decoration upon original

lines. This was in the Indian Ocean, near the Line; but some years after, in hauling up a mass of Gulf weed in the North Atlantic, I caught, quite by accident, a tiny fish, not two inches long, that strongly reminded me of my tasselled friend, and may have been one of the same species. I tried to preserve the little fellow in a bottle, but had no spirit, and he didn't keep in salt water.

By far the most numerous class of sociable deep-sea fish, however, are those that delight to accompany a ship that is making good way through the water. They do not like a steamer—the propeller with its tremendous churning scares them effectually away—but the silent gliding motion of the sailing-ship seems just to their taste. As soon as the wind falls and the vessel stops they keep at a distance, only occasionally passing discontentedly, as if they wondered why their big companion was thus idling away the bright day. Foremost among these, both in numbers and the closeness with which they accompany a ship, are the "bonito," a species of mackerel so named by the Spaniards from their beautiful appearance. They are a "chubby" fish, much more bulky in body in proportion to their length than our mackerel, for one 18in. long will often tip the scale at 30lb. Their vigour is tremendous; there is no other word for it. A school of them numbering several hundreds will attach themselves to a ship travelling at the rate of six to eight knots an hour, and keep her company for a couple of days, swimming steadily with her, either alongside, ahead, or astern; but during the day-time continually making short excursions away after flying-fish or leaping-squid scared up or "flushed" by the approach of the ship. Not only so, but as if to work off their surplus energy they will occasionally take vertical leaps into the air to a height that, considering their stumpy proportions, is amazing.

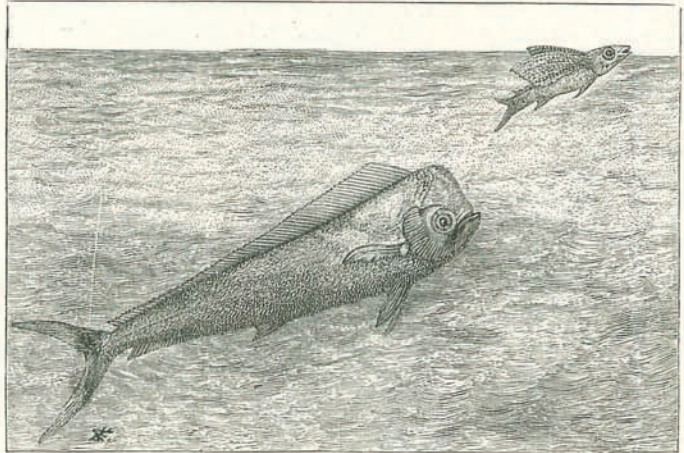
The probable reason for their sociability is, I think, that they know how the passing of the ship's deep keel through the silence immediately underlying the sea-surface startles upward their natural prey, the flying-fish and loligo (small cuttle-fish), and affords them ample opportunities for dashing among them unobserved. In any case, to the hungry sailor, this neighbourly habit of theirs is quite providential. For by such simple means as a piece of white rag attached to a hook, and let down from the jibboom end to flutter over the dancing wavelets like a flying-fish, a fine bonito is easily secured, although

holding a twenty-pounder just out of the water in one's arms is calculated to give the captor a profound respect for the energy of his prize. Unlike most other fish, they are warm-blooded. Their flesh is dark and coarse, but if it were ten times darker and coarser than it is it would be welcome as a change from the everlasting salt beef and pork.

The dolphin, about which so much confusion arises from the difference in nomenclature between the naturalist and the seaman, has long been celebrated by poetic writers for its dazzling beauty. But between the sailor's dolphin, *Coryphæna Hippuris* (forgive me for the jargon), which is a fish, and the naturalist's dolphin, *Delphinus deductor*, which is a mammal, there is far more difference than there is between a greyhound and a pig. Sailors call the latter a porpoise, and won't recognise any distinction between the *Delphinus* and any other small sea mammal (except a seal), calling them all porpoises.

But no sailor ever meant anything else by "dolphin" than the beautiful fish of which I must say a few words in the small remaining space at my disposal. For some reason best known to themselves the dolphin do not care to accompany a ship so closely as the bonito. They are by no means so constant in their attention, for when the ship is going at a moderate speed they cannot curb their impatience and swim soberly along with her, and when she goes faster they seem to dislike the noise she makes, and soon leave her. But, although they do not stick closely to a ship, they like her company, and in light winds will hang about her all day, showing off their glories to the best advantage, and often contributing a welcome mess to the short commons of the fo'c's'le. Their average weight is about 15lb., but from their elegant shape they are a far more imposing fish than the bonito. They are deepest at the head, which has a rounded forehead with a sharp front, and they taper gradually to the tail, which is of great size. A splendid dorsal fin runs the whole length of the back, which, when it is erected, adds greatly to their appearance of size.

No pen could possibly do justice to the magnificence of their colouring, for, like "shot" silk or the glowing tints of the humming-bird, it changes with every turn. And when the fish is disporting under a blazing sun its glories are almost too brilliant for the unshaded eye; one feels the need of smoked glass through which to view them. These wonderful tints begin to fade as soon as the fish is caught; and although there is



12.—DOLPHIN CHASING A FLYING-FISH.

a series of waves of colour that ebb and flow about the dying creature, the beauty of the living body is never even remotely approached again, in spite of what numberless writers have said to the contrary. To see the dolphin in full chase after a flying-fish (Fig. 12), leaping like a glorious arrow 40ft. at each lateral bound through the sunshine, is a vision worth remembering. I know of nothing more gorgeous under heaven.

The giant albacore, biggest mackerel of them all, reaching a weight of a quarter of a ton, does seek the society of a ship sometimes, but not nearly so often as bonito and dolphin. And although I have caught these monsters in the West Indies from boats, I never saw one hauled on board ship. It would not be treating the monarch of the finny tribe respectfully to attempt a description of him at the bare end of my article, so I must leave him, as well as the "skip-jack," yellow-tail, and barracouta for some other occasion. Perhaps enough has now been said to show that sociability is not by any means confined to land animals, although the great subject of the sociability of sea-mammals has not even been touched upon.