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# ENGLISH ON SUNDAY

中央电视台电视教育节目用书

中央电视台电视教育部编

中国广播电视出版社出版



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## **PART I**

**This part of the magazine contains the scripts to some of our English on Sunday programmes, including drama serials, documentaries, feature films and also Forum, our monthly interview show.**

**The scripts are annotated, but instead of giving literal translations of difficult phrases and sentences, only a general explanation of the concepts underlying them will be rendered, so that viewers can work out for themselves the actual meaning of the words concerned. The scripts are followed by questions to test how well you have understood the content of the programmes; answers to these will be provided in each subsequent issue.**

# SHARK

Even if you go no closer to the sea than sticking one toe in the water on a summer holiday, you almost certainly have a built-in horror<sup>1</sup> and fear of sharks. Sharks have a very bad name.

A *Survival*<sup>2</sup> underwater team has been studying the behaviour of sharks over a wide range of the Pacific. When you have watched the result of the researches, we don't expect you to love sharks, but we do hope you will admire them for the magnificent creatures they are<sup>3</sup> and understand them a little better. We shall separate the comparatively harmless from the likely killers.<sup>4</sup> We'll discover what motivates them to attack and how aggressive some of them really are. Perhaps we'll even be able to take some of the horror out of<sup>5</sup> that dreaded word — "SHARK!"

If any species deservedly gives sharks a bad name, it is this monster, otherwise known as<sup>6</sup> the great white shark and sometimes as the White Death. This is the beast that wields those famous jaws.<sup>7</sup> The great white is the world's largest predatory fish. It can reach 21 feet in length and weigh up to three tons. It holds the dubious record of having made more attacks on man than any other species. It is impossible to pretend that the great white is anything but<sup>8</sup> what it is — a killer of fish, turtles, sea lions and men. It even attacks boats. It is distributed over most of the temperate seas of the world and even penetrates the Mediterranean. No one takes chances with<sup>9</sup> the great white. Even the protection of our team's shark cage seemed mighty flimsy<sup>10</sup> when one of these monsters was swimming around their boat.

Look at that extensible jaw — the better to bite with. And what bites! This Australian diver, Henri Bource, lost a right leg to a great white off Melbourne.<sup>11</sup> Another Australian, Rodney Fox, survived an attack by a great white that exposed rib cage, lungs and stomach. So much for the arch villain of the shark scene;<sup>12</sup> but now let's take a wider view of sharks as a whole.

This is the largest of them all. The whale shark<sup>13</sup> grows to 60 feet and weighs up to 90,000 lb. It has 3,000 teeth and doesn't use any of them. That's because it's largely a plankton feeder.<sup>14</sup> It's of a friendly disposition,<sup>15</sup> but a word of warning: a pair of boots was found in the stomach of one specimen.

Friendliness is not the most noted characteristic of the bizarre-looking hammerhead.<sup>16</sup> It has been known to attack man.

In the 350 million years that sharks have been around on earth,<sup>17</sup> they've evolved some strange forms. This is one of the strangest of the 300 shark species swimming in the oceans

today. It's a Pacific angel fish.<sup>18</sup> With its flattened appearance, it looks like a ray,<sup>19</sup> but it's a true shark. Like many of the bottom-living sharks,<sup>20</sup> it's quite harmless. Just like a ray, it often buries itself in sand.

The horn shark, too, is completely harmless to man except when it destroys his shellfish beds. It feeds largely on molluscs and crustaceans.<sup>21</sup> There are the specialised crushing teeth with which it does the job.

Some sharks give birth to live young.<sup>22</sup> Others carry their eggs inside their bodies where the embryos hatch just before they're born. A third group expels their eggs in leathery cases and then leaves them to hatch. Off the Californian coast, the camera team was lucky to discover egg cases of both horn and swell sharks.<sup>23</sup> Inside this spiral case a young horn shark is developing.

This so-called mermaid's purse<sup>24</sup> shelters a swell shark embryo. It will emerge in about five months. These egg cases are mostly laid by bottom-living sharks. The Australian wobbegong is one of the weirdest of the bottom-feeders. Wobbegong is an aboriginal word and has nothing to do with its style of movement. The wobbegong is a carpet shark, beautifully camouflaged even down to<sup>25</sup> the algae-like growths around its mouth.

Would you take this creature for a shark?<sup>26</sup> It is one, and rejoices in the name of *Heterodontus portus jacksoni*. It's the Port Jackson shark of Australia, another harmless shallow water species.

This large creature being caressed by Australian photographer, Valerie Taylor, is known Down Under as a tawny shark.<sup>27</sup> Almost everywhere else it's called a nurse shark. It's a bottom feeder with an unusually docile nature. It does have one unpleasant characteristic, though. If it does bite, it clamps on like a bulldog. Only death makes it leave go.<sup>28</sup> Even then, the jaws may have to be prised open.<sup>29</sup>

The leopard shark<sup>30</sup> is a close relative of our own dogfish, often politely known as rock salmon. It may not have occurred to you<sup>31</sup> that the fried fish you often get with your chips<sup>32</sup> is really a small shark. Though rather larger, the leopard is a member of the dogfish or smoothhound family.

And so we come to the shark-shaped sharks. The ones that understandably inspire terror, the sharks with undershot jaws and triangular dorsal fins usually shown menacingly cutting the surface.<sup>33</sup> The sharks, in fact, whose habits and behaviour, menacing and otherwise, we shall be watching here.

These are remoras, shark suckers, hitching a ride<sup>34</sup> behind the dorsal fin.

The *Survival* team began its operations in mid-Pacific. It chose Rangiroa Island because its scientific advisors, Dr. Don Nelson and Richard Johnson, had done much of their shark research there.

Men have been in close contact with sharks off Rangiroa for hundreds of years, often in too close contact ... Six years ago, a shark almost completely tore the calf muscle from the right leg of this Polynesian spear fisherman. Yet he continues to fish for his living,

believing that the encounter was just an unlucky accident and that, provided you read the signs right and abide by<sup>35</sup> the rules, the chances of it happening again are very slight. Of course, to make the equation work out,<sup>36</sup> the sharks have got to abide by the rules also. The fishermen maintain that this is exactly what the sharks do. They say that both they and the resident sharks are predators on the fish shoals off Rangiroa and that the sharks seem to recognize the fact.

The rules that have to be obeyed concern the handling of speared and particularly still struggling fish whenever sharks are around. Get the catch<sup>37</sup> to the surface quickly. Get under cover of the boat<sup>38</sup> as soon as possible. These are elementary and obvious precautions. More important is the fact that the fishermen have come to recognize,<sup>39</sup> through years of experience, when a shark means trouble. They can tell by<sup>40</sup> its swimming attitude and body posture.

Of course, an occasional fish has to be sacrificed to the rival fishermen.<sup>41</sup> It's a small price to pay for co-existence. That the human fishermen can co-exist at all<sup>42</sup> is due entirely to their instinctive recognition of what triggers off shark attack. That recognition fits closely with what Don Nelson and Richard Johnson have been finding out scientifically, over several years of study — as *Survival* discovered when it joined them to record their work.

The first species the team encountered is extremely active at night, an eerie time to go looking for a shark that averages eight feet in length. The whitetip reef shark<sup>43</sup> is extremely well-equipped with strong cutting and sawing teeth. It also has an inquisitive and persistent nature. It must therefore be treated with respect, though there are few records of the whitetip attacking man.

It tends to hunt the bottom layers for small fish and octopus. On the reefs off Rangiroa, it is partial to coral caves<sup>44</sup> where it would be only too easy for the divers to block its escape route. However, as we'll see, a shark that means to be aggressive usually gives quite definite signs. These whitetips are swimming in a completely normal and relaxed fashion. Lesson one, therefore, is that by no means all of the deadly-looking sharks are really dangerous, though this is rather like saying that by no means<sup>45</sup> all wild fungi are poisonous. The trick is to recognize the lethal ones. It has to be admitted, though, that the reef whitetip in this night dive weren't exposed to any feeding stimuli.<sup>46</sup> That experiment comes next and with a potentially far more dangerous species.

Sharks do not seem to be territorial<sup>47</sup> or to defend a given part of a reef. However, the team discovered through telemetry<sup>48</sup> that they're much more regular in their habits than previously suspected. Telemetry means attaching small sonar transmitters<sup>49</sup> to the subjects of the experiment. With a shark, there's only one way to do this. Persuade the fish to swallow it. Don Nelson inserts the transmitter inside a dead bait fish. The mouth of the fish is sewn up and, with luck, the shark will soon be sending out underwater signals. The rest of the equipment consists of a receiver and an underwater, directional hydrophone.<sup>50</sup> The signals transmitted by the shark can be picked up through a mile or more of water. And



here's the intended mobile underwater sonar station —a grey reef shark. Out in the channel between the islands frequented by greys, the transmitted-equipped fish is attached to a float and lowered over the side. One of the diving team goes down to supervise the pick-up.<sup>51</sup> The receiver is switched on. And a grey reef shark moves in. Though sharks tear at large prey, they swallow small fish whole. Small transmitters, too, with any luck. The bait is seized. The first shark just takes the tail. Stimulated by the feeding activity, other greys move in. This, too, is a moment the divers have learned to watch. At Rangiroa, greys have attacked more fishermen than any other species . . . At last a grey swallows the head of the bait containing the transmitter and makes off<sup>52</sup> with it.

Telemetry of this and other grey reef sharks in the channel at Rangiroa has revealed some astonishing things about the regularity of their habits.<sup>53</sup> Greys which often hunt in packs<sup>54</sup> seem to lead a solitary life<sup>55</sup> on occasions. One individual spent each part of his day in a different location, moving regularly and on time to his next point of call.<sup>56</sup> In the case of the transmitter we've just seen swallowed, Don Nelson was able to get a fix on the shark<sup>57</sup> and follow it for some distance. When the signals finally indicated that the researchers had caught up with the sonar-bearing shark, the team found the fish had led them to a concentration of greys at a location they'd never suspected to be occupied by a whole pack.

Among their other amazing abilities, sharks are equipped with the most efficient prey detection devices. Since these same sensory organs are the ones that put man most at risk, it's vital to understand how they work and what they respond to. To avoid awakening those responses<sup>58</sup> is probably man's best defence against shark attack.

One of the major stimuli that lead sharks to their prey is sound, the sort of low frequency noises made by a struggling or wounded fish, for instance. Here the team prepares to create such sounds electronically and within range of a gathering of grey reef sharks. By means of<sup>59</sup> a complex system of hearing organs in the head and sensitive nerve endings along the centre of their flanks, sharks can detect both short and long range sounds, the latter up to distances of several hundred yards.

Because of the artificially created sounds, this is potentially a very dangerous situation. To a shark, that sound is exactly like the struggle of a wounded fish. The greys gradually move in and become more curious and excited.

Then come the signs for which the diver must watch the aggressive display which seems to have nothing to do with feeding motivation but which often preceeds an attack. It's betrayed by a series of exaggerated swimming movements. Watch that grey in the background.

The swimming action doesn't look very significant until you break it down<sup>60</sup> and analyse it. Note that lift of the snout<sup>61</sup> and arching of the back. See the way the pectoral fins point stiffly downwards.<sup>62</sup> Johnson and Nelson call this an agonistic display. The aggression may be directed at another shark, but it's a warning to the diver either to stay still or to back away slowly. Flight is often likely to trigger attack.

Sharks have extremely well-developed senses of taste and smell. When a bundle of dead fish is fixed to the seabed, they can detect their smell from a great distance and soon home in on the target.<sup>63</sup> With sharks excited by both sound and smell, it was time for the diving team to move to a safe distance. A feeding frenzy<sup>64</sup> can develop in a very short time with reef whitetips, blacktip reef sharks and greys all joining in. At times like this even comparatively harmless species can lash out in competition with each other.<sup>65</sup> In such a situation there's probably no such thing as a harmless shark. Far from harmless was one of the next sharks the team encountered. To find it, they travelled halfway across the Pacific to the coast of California.

Sharks aren't by any means<sup>66</sup> confined to tropical seas. This blue shark is common round the south coast of Britain. It's not by nature<sup>67</sup> a man-eater, though the blue is the very model of what most people think a killer shark should look like. It eats fish but, of course, not these particular fish. They're probably following it closely to feed on the scraps left over from the shark's own meals.<sup>68</sup> They're safe if they stay where they are.

As a fish-eater, the blue is equipped with all the wonderful hunting devices that sharks have evolved over 350 million years. That large eye gives fair sight, at least when spotting movement rather than shape. Nasal pits detect smells more dilute than one part per million.<sup>69</sup> Along the flank — this is a mako<sup>70</sup> — there's a row of nerve endings and sensitive pits, called the lateral line. These can detect movement of prey at close ranges. Motive power comes mainly from a tail whose upper lobe is usually far larger than the lower one. The downward drive of this causes the shark to plane forward<sup>71</sup> on its flattened under-surface and wing-like pectoral fins.

A great deal remains to be learned about sharks,<sup>72</sup> particularly about their sensory apparatus. To carry out a series of experiments, mainly on the blue shark, the underwater team journeyed from Rangiroa Island in mid-Pacific to a group of islands off the California coast, Santa Catalina and San Clemente.

The water off the Californian coast, in the region of San Diego, is quite warm enough to suit several species of sharks. Not only warm, but rich. Rich in underwater vegetation and rich in the fish life on which blues and other more dangerous sharks live. This queer looking creature is a large bat ray.

Californian sea lions hunt the giant kelp beds.<sup>73</sup> Sea lion mothers are no lovers of sharks. There is at least one species here, the mako, that sometimes eats their pups.<sup>74</sup> Fear of sharks is a possible reason for this sea lion cow's aggressiveness to the camera.

So these were the waters in which our team was going to work. The shark cage was necessary because you can never quite be sure, 60 miles off San Diego, what is going to turn up.<sup>75</sup>

In charge of photography was Stan Waterman and behind him Chuck Nicklin, and Howard Hall, all extremely experienced in working with sharks. Clarice Prang, a young scientist studying locomotion and the bite power of sharks, joined the team.

The safety cage was able to ascend and descend like a lift by means of compressed air.<sup>76</sup> Attracted by ground baiting from the boat with oily dead fish, a very large blue shark was early on the scene.<sup>77</sup> It's always a gamble whether sharks are going to turn up when you want them. Once one fish comes to the groundbait, others are likely to follow. So the whole photographic team goes over the side to meet their guests.

When a team as large as this is working with sharks, it's only too easy for one of them to be surprised by an unexpected attack. So the group includes safety men whose job is to watch for danger. They're armed with explosive powerheads<sup>78</sup> only to be used in extreme emergency.

These transparent Chinese lanterns are primitive organisms called colonial salps.<sup>79</sup> Primitive they may be,<sup>80</sup> but salps were one of the first creatures to have a rudimentary backbone.

On the very first dive, the team struck it lucky.<sup>81</sup> Big blues, detecting the smell of the groundbait, began to show up in considerable numbers. As sharks go,<sup>82</sup> blues have a pleasant disposition, though it never does to take this for granted.<sup>83</sup> When excited in a feeding frenzy, even they are likely to lash out. Nor should a diver be fooled by that under-shot mouth. A blue shark doesn't have to roll on its back to bite any more than does any other shark.<sup>84</sup> A moveable jaw that pushes the teeth forward sees to that.<sup>85</sup>

When a shoal of food fish appears, the danger men keep an extra sharp lookout. The attitude of the apparently docile<sup>86</sup> blues could change. Nevertheless, the cage is basically not to escape from them.<sup>87</sup> But this is something different — a potentially lethal hammerhead. The shark that wears its eyes on stalks has a bad reputation for attacking man. This hammerhead is about ten feet long. The horizontal plane on which the eyes are mounted doesn't hinder the hammerhead when it comes to biting.<sup>88</sup> The hammerhead soon fades away but the unpleasant character who follows it has come to stay.

A big mako. This is what the team had been hoping to film and the reason they had brought the safety cage. A wise precaution when you look at those teeth. As soon as the mako arrived on the scene, several sea lion cows<sup>89</sup> appeared as if to keep their eye on<sup>90</sup> the big killer who sometimes snatches their pups from around the nearby islands.

For a diver, a shark feeding frenzy is a thing to stay well clear of.<sup>91</sup> The excited feeding activity that follows was created by heavy baiting with dead fish so that it could be mainly filmed in safety from the surface. It illustrates a number of fascinating things about shark behaviour. That's a blue savaging the basket containing the groundbait. Watch the swimming action, large upper lobe of tail driving the shark on those wing-like pectoral fins. Observe the typical seizing, shaking and sawing action of the bite.

Keeping close to the cage, the team did film some of the action with the more predictable blues from underwater. A frenzied blue takes a bite out of a companion. This blue wasn't going to let go at any price,<sup>92</sup> even risking being hauled out of the water. Watch the jaw open to snatch that fish-head.

It's when the water becomes clouded with fragments of tissue and blood that sharks appear like vultures on a kill.<sup>93</sup> Blues so far.<sup>94</sup> but suddenly there's a stranger in their midst - a mako. Note the more evenly-sized upper and lower lobes of the tail, the shorter jaws armed with some particularly ferocious teeth. And here in a small mako are those teeth. Their main purpose is to hold a fish once it's caught. During the filming of the sequence you've just seen, diver Steve Early got raked across the head by a shark; luckily only his wet suit hood<sup>95</sup> was damaged. To kill a shark was the last thing the team wanted. They maintain that recent fiction and feature films have resulted in<sup>96</sup> divers killing far too many sharks on sight<sup>97</sup> or for so-called sport. Nevertheless, during the filming, the responsibility for protecting the team lies with the safety men. This was one case when a mako came too close for comfort.<sup>98</sup> The safety man had to make an instant decision to fire his powerhead. There's no bullet in it. A blank charge<sup>99</sup> does the damage.

A number of the sharks bore large wounds which were almost certainly the result of attacks, probably unintentional, by their own kind, during feeding frenzies. That's an unusual species of remora, or shark sucker, attached to this badly scarred blue.

No one has ever tried hand-feeding<sup>100</sup> blue sharks before. The team found it was fairly safe, provided there wasn't too much fish blood in the water to excite the sharks to a frenzy. Anyone who wishes to discourage unwelcome attentions from a shark is advised not to grab it by the fins. Even a small fish is too strong to hold and it gets rather angry. A safer way to deal with a boisterous shark is to seize it by the nose. This one temporarily went limp. Richard Johnson, one of the team's advisors, advocates banging an attacking shark on the nose—as a last resort. The nose is where many of its sensory systems are concentrated. During this part of the filming, casualties were fortunately light. Camera-man Howard Hall came too close to a blue shark when it was shaking its prey. He got away with a slightly gashed wrist.

Once the shark grounds had been firmly located by those comparatively lighthearted encounters, the time had come to begin a series of experiments which were the true purpose of the expedition. The first concerned the means by which sharks detect fish prey, and for that matter,<sup>101</sup> human prey. A lot still remains to be discovered that may one day help the survivors of shipwrecks and air disasters. The object of the first experiment was to test the relative strengths of three main feeding stimuli. First for smell. This container was packed with oily fish bits whose effect on sharks has already been seen. Big makos were soon on the spot.<sup>102</sup> So were the big blues.

Beyond the fish bits is a container holding a transmitter of low frequency sounds. These resemble the vibrations made by struggling or wounded fish. The waving white object is a visual attractor, a dummy squid.<sup>103</sup> Squid are a particular shark delicacy. Which of the three known shark attractors would achieve the most response? The electronic fish begins its simulated struggles.<sup>104</sup> At the first attempt, a number of sharks arrived

and milled around indiscriminately. This was thought to be because too much fish oil had accidentally been released.

The next day, the experiment was tried when there were known to be no sharks in the immediate area. The result, though far from conclusive,<sup>105</sup> was more interesting. A single blue arrived. It approached the sonar device. Then it headed for<sup>106</sup> the fish-baited lure, attracted by the oily smell. It nosed this for some time. Then it made off as if to inspect the other attractors. Having circled the visual signal, and apparently dismissed it, it became strongly attached to the audio imitation of a struggling fish and actually mouthed the transmitter . . . Of course such tests have to be carried out at length<sup>107</sup> and with many different species, but this blue shark does seem to suggest that it finds the sound of a wounded fish irresistible. It doesn't care for<sup>108</sup> the visual enticement of the beckoning squid. This backs up<sup>109</sup> the belief that sharks' eyesight is used mainly in the initial approach.<sup>110</sup> Unless it then finds attractive sounds or smells, it probably doesn't stay around long.

Scientist Clarice Prang's study concerns shark locomotion - the precise manner in which they swim; also the bite-power of the jaws. Clarice worked mainly from inside the cage. She takes her bulky slow-motion camera from a team-mate. To give her the close-ups<sup>111</sup> she needs, the baits were attached directly to the outside of the cage, one of them containing a bite gauge. Straight away,<sup>112</sup> Clarice began to wonder who was watching whom. Chuck Nicklin adjusts the fish inside which one bite-gauge has been planted. The gauge consists of a metal rod surrounded by ball-bearings. The amount by which the rod is dented by the ball-bearings gives a reading in pounds per square inch of force exerted.<sup>113</sup>

Soon there is a fine gathering of sharks around. It's typical of sharks when unsure of themselves that they circle the prey, getting closer and closer as their confidence builds - another piece of behaviour that divers would do well to remember. Eventually, when the circle gets small enough and their confidence big enough, they usually move in for the kill . . . In this case, it's the closeness of bait to cage that is disconcerting them. But as will be seen, they eventually overcome their apprehension.

Here comes the first attack on the bite gauge. Watch how the shark's eyelids close, presumably to protect the eye, when it shakes the bait. This big blue has taken an ordinary fish bait. But the nearer one has got a second bite gauge. The tube can be seen nearly out of the fish as the shark shakes the bait. In fact this small blue was more intent on<sup>114</sup> shaking than biting and eventually shook the gauge right out of the fish. Chuck Nicklin was able to retrieve the gauge in order to load it inside another bait. While he did so, he was besieged by sharks practically storming the cage to get at the baits. This blue has the tail end of one of the fish it has just swallowed sticking out of a gill slit.<sup>115</sup>

On the last day of filming off San Diego, the big makos grew bold enough to turn up in force<sup>116</sup> around the cage. The bite gauge was waiting for them and, as if anxious to show the blues that they really understood what a shark bite is all about,<sup>117</sup> they eventually gave a beautiful performance. Look at the trailing edge<sup>118</sup> of this mako's dorsal and

pectoral fins, and you'll see the streamer-like parasites<sup>119</sup> there . . . A little discouragement until both cameras are ready. Those are parasites, behind the anal fin, too . . . At last, both cameramen are ready to film, but now the mako is reluctant. At the first attempt, the shark simply cuts the rope . . . Finally, a perfect grab. These mako bites were later analysed. The tips of the shark's teeth were found to have exerted a pressure of 8,000 lbs. per square inch.

These then are some of the facts about those fabulous jaws. Terrifying as sharks are to most people,<sup>120</sup> they are also wonderful and beautiful creatures. And their menace must be kept in proportion.<sup>121</sup> Fewer than a hundred shark attacks on man occur yearly and less than half of these are fatal. On the other hand, three hundred people a year die from bee stings<sup>122</sup> in the United States alone, though it must be said that a lot more people are exposed to bees than to sharks. Thanks to the work of men like Don Nelson and Richard Johnson, we are learning that sharks are not completely unpredictable killers. Recent discoveries about shark behaviour will certainly help to save human lives - provided you can remember how to behave when faced by a hungry shark.

## Notes

1. built-in horror: 固有的恐惧; built-in: 内在的, 机内的, 内藏式
2. *Survival*: 其原意为“幸存的”, 此处为--部关于幸存野生动物的系列片片名。
3. admire them . . . are: 对这些奇妙的动物赞叹不已。
4. likely killers: 此处指, 可能吃人的鲨鱼
5. take some of the horror out of: 从……中减少一些恐惧
6. otherwise known as: 在其它场合叫做, 别名为……
7. that wields those famous jaws: 使用血盆大口、尖牙锐齿伤人而闻名的;  
此处 jaws 指鲨鱼吃人的大嘴。美一描写大白鲨吃人的电影名为“Jaws”。
8. anything but: 绝不是
9. takes chances with: 对……冒险, 掉以轻心
10. mighty flimsy: 根本不顶用
11. lost a right leg . . . off Melbourne: 在墨尔本附近海域让大白鲨咬掉了一条右腿
12. the arch villain of the shark scene: 鲨鱼故事中的元凶
13. whale shark: 鲸鲨
14. it's largely a plankton feeder: 它基本上是靠吃浮游生物为生的
15. of a friendly disposition: 性情温和
16. hammerhead: 双髻鲨
17. around on earth: 在地球上游弋, around: 到处活动
18. angel fish: 扁鲛

19. ray 鳐鱼
20. bottom-living sharks: 居住在海底的鲨鱼
21. feeds . . . on molluscs and crustaceans: 主要靠吃软体动物和甲壳类动物为生
22. give birth to live young: 直接下小仔, 胎生; 此处 live 为形容词
23. horn and swell sharks: 虎鲨和绒毛鲨
24. mermaid's purse: 保护绒毛鲨胚胎的外囊
25. camouflaged even down to: 甚至一直伪装到……
26. take this creature for a shark: 把这个动物当作鲨鱼
27. tawny shark: 光鳞鲨; Down Under: 对欧美人来说, 指澳大利亚
28. leave go: 松开
29. prise open: 撬开
30. leopard shark: 半带皱唇鲨; dogfish: 角鲨; rock salmon: 角鲨的商品名
31. It may not have occurred to you: 你过去也许没想到
32. chips: 此处指炸土豆片, 在西方常与炸鱼一起卖, 称作 fish and chips.
33. cutting the surface: 破水而出; 此处 surface 指水面
34. remoras, shark suckers, hitching a ride: 鲼, 吸附在鲨鱼身上的寄生物, 在免费搭车旅行哩。
35. abide by: 遵守
36. to make the equation work out: 为了使这种规定有效; 此处 work out: 进展顺利, 成功。
37. the catch: 捕获的鱼
38. get under cover of the boat: 到船里躲起来
39. have come to recognize: 终于明白了
40. they can tell by . . . : 他们能根据……作出判断
41. the rival fishermen: 竞争的渔夫, 此处指鲨鱼
42. at all: 在任何方面, 全然, 在最小的程度上。
43. white tip reef shark: 长鳍真鲨
44. partial to coral caves: 偏爱珊瑚洞穴
45. by no means: 绝不
46. weren't exposed to any feeding stimuli: 未受任何食物的刺激
47. territorial: 指动物具有专门棲留一处的习性
48. telemetry: 遥测
49. sonar transmitters: 声纳发射机
50. directional hydrophone: 定向水听器
51. pick-up: 拾起; 此处指吞食装有发射机的鱼饵
52. makes off: 匆匆离去
53. the regularity of their habits: 它们的习惯的规律性
54. in packs: (动物)成群结队地
55. lead a solitary life on occasions: 有时过着孤单的生活
56. point of call: 常去的地点
57. get a fix on the shark: 获得鲨鱼的位置数据; 此处 fix 指通过观测确定的运动物体(如船、卫星)所到达的位置。
58. to avoid awakening those responses: 为了避免引起鲨鱼(感官)的警觉

59. by means of: 凭借, 利用
60. break it down: 把它分解, 分成若干小块
61. lift of the snout: 口鼻部的升起
62. See the way . . . downwards: 请看胸鳍僵硬地指向下方的模样
63. home in on the target: 死死地对准目标逼近
64. feeding frenzy: 进食时的狂乱
65. lash out in competition with each other: 在互相争夺食物中打起劲来
66. by any means: 无论如何
67. by nature: 就其本性而言
68. left over . . . meals: 鲨鱼留下的残羹剩饭
69. Nasal pits . . . per million: 鼻孔能嗅到比百分之一还要淡薄的气味
70. mako: 鲭鲨
71. plane forward: 滑水前进
72. A great deal . . . sharks: 许多关于鲨鱼的情况尚待了解
73. kelp beds: 海草床
74. pups: 海兽的小仔, 此处指小海狮。
75. turn up: 出现, 发生
76. by means of compressed air: 利用压缩空气
77. on the scene: 来到现场
78. explosive powerheads: 一种用来炸死鲨鱼的炸裂弹
79. colonial salps: 群体海桶(一种原始有机物)
80. Primitive they may be: 尽管它们很原始
81. struck it lucky: 走运, 运气好
82. As sharks go: 就鲨鱼而言
83. it never . . . granted: 轻信这一点是绝对不行的
84. A blue shark . . . any other shark: 大青鲨鱼象任何其它鲨鱼一样, 用不着转身就会咬人的。
85. sees to that: 负责那项工作(咬人)
86. apparently docile: 表面上温和
87. the cage is basically not to escape from them: 笼子主要不是用来防范它们(大青鲨)
88. when it comes to biting: 当需要咬人时, 此处 come to 的意思是: 涉及到。
89. sea lions cows: 母海狮, cow: 象、鲸、海兽等的母兽。
90. keep their eye on: 它们的眼睛盯着
91. a thing to stay well clear of: 应该远远地避开的一件事
92. wasn't going . . . at any price: 无论如何也不打算放开
93. vultures on a kill: 在啄食猎物的秃鹫
94. Blues so far: 到现在只有大青鲨
95. wet suit hood: 潜水服头罩
96. have resulted in: 造成, 导致
97. killing . . . on sight: 一见鲨鱼就杀, 因而杀得太多了。
98. a mako . . . for comfort: 一条鲭鲨游得太近, 使人感到不安。
99. blank charge: 无弹丸传爆管
100. hand-feeding: 用手喂
101. for that matter: 就那件事而言



102. on the spot: 到达现场, 在现场
103. dummy squid: 假鱿鱼
104. simulated struggles: 模拟的挣扎
105. far from conclusive: 远不是结论性的
106. head for: 朝……而去
107. have to be carried out at length: 必须充分地进行
108. care for: 关心, 理会
109. back up: 支持
110. initial approach: 最初接近(鱼饵)
111. close-ups: 特写镜头
112. straight away: 立刻
113. a reading in . . . exerted: 给出以每平方英寸多少磅为单位的作用力的读数
114. be intent on: 专心致志于
115. gill slit: 鳃的裂缝
116. turn up in force: 大批地出现
117. what a shark bite is all about: 被鲨鱼咬一口究竟是什么滋味
118. trailing edge: 后沿
119. streamer-like parasites: 飘带般的寄生动物
120. Terrifying . . . to most people: 尽管大多数人谈鲨色变
121. be kept in proportion: 适当地保留
122. die from bee stings: 被蜂螫死

(钱德生 注释)

### Questions

1. How do sharks detect prey?
  2. Are all sharks man-eaters?
- (Answers to these questions will be given in the next issue.)