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Key to shark identification answers

There are some useful field guides for shark identification. Some of these guides include *The Sharks of North American Waters* by José Castro and *Sharks and Rays* by Tricas, Deacon, Last, McCosker, Walker and Taylor. Here we present the key identification of sharks found in the waters around Atlantic Canada as outlined by Scott and Scott in their book *Atlantic Fishes of Canada*. Follow the question guide, click the correct answer and use the diagram to help you with the term. With this key you can easily identify any of the 19 shark species that occur in the Atlantic waters of Canada. Below is a series of links. Click on the shark you've seen to determine its identity. Use this image to help you answer the questions below. The head is greatly expanded laterally; eyes located in the lateral extremities (Smooth Hammerhead (*Sphyrna zygaena*)) The head is not very expanded or enlarged laterally; Fusiform body and usually shark-like dorsal lobes of very enlarged caudal fins, as long as the head and body combined (Thresher Shark (*Alopias vulpinas*)) The dorsal lobe of the tail fin is almost the same size as the lower lobe, or only 2 or 3 times larger Gill gap or opening is greatly enlarged, the first pair almost meets above the throat, and all 5 seem to almost sever the head; minute and many teeth; well-developed lateral keel in caudal peduncles (Basking Shark (*Cetorhinus maximus*)) Medium-sized gill gaps, not elongated around the body; gills are not minute but well developed. The origin of the first clearly posterior dorsal fin of pelvic fin origin (Deepsea Cat Shark (*Apristurus profundorum*)) The anterior origin of the first dorsal fin of the origin of the pelvic fin Teeth are smooth and pavement-like; 2 dorsal fins, the second is almost as big as the first; the origin of the first dorsal overlapping posterior quarter of the pectoral fin; spiracles under and behind the corner of the posterior eye (Smooth Dogfish (*Mustelus canis*)) Sharp and pointed teeth; 2 Dorsal fins, the first larger than the second, the second first dorsal fin is sometimes very small Only slightly larger than the second and clearly behind the pectoral fin, the free edge of the first dorsal fin overlapping with the pectoral fin (Sand Tiger Shark (*Taurus Odontaspis*)) The first dorsal fin is clearly larger than the second Caudal peduncle and the caudal fin with one or more different lateral or horizontal keels , on the lower lobes of the caudal fins; teeth in adults with lateral cusps, one on each side of the main cusp, these lateral cusps are unclear in young Porbeagle (*Lamna nasus*) There is no secondary keel under the primary keel; teeth without lateral cusps Cockscomb-shaped curved teeth with a heavy fit and notch at the lateral margin, in the upper and lower jaws, a distinctive speckled or striped pattern on the body (Tiger Shark (*Galeocerdo cuvier*)) Triangular or pointed dipping teeth teeth, without a star-speckled or striped pattern on the body Teeth are slender and awl-like, the teeth are long anterior and arched back; the origin of the dorsal fin is entirely posterior to the base of the pectoral fin (Shortfin Mako Shark (*Isurus oxyrinchus*)) Teeth are wide and triangular, the margin is very eru, the same in both jaws that provide a straight cutting edge, the origin of the dorsal fin slightly overlaps the posterior part of the pectoral fin (White Shark (*Carcharodon carcharias*)) Caudal peduncle without differing lateral keel Teeth in the upper and lower jaws without conspicuous harmony, overall margin; anal fins come from a clear anterior to the origin of the second dorsal fin (Atlantic Sharpnose Shark (*Rhizoprionodon terraenovae*)) Teeth in the upper and lower jaws with striking harmony; the second dorsal fin comes from above or slightly on the face of the origin of the anal fin The first dorsal fin is arranged far back, the pelvic fin is closer than the posterior margin of the pectoral fin; medium length of pectoral fins, less than three times as long as the area; the ridge that is between the 2 dorsal fins of the Apex dorsal fin is widely rounded; the posterior end of the anal fin is long, reaching almost to lower the precaudal hole; posterior margin of the lower caudal lobe with convex lines; The tip of the dorsal fin, chest, and caudal is often white (Oceanic Whitetip Shark (*Carcharhinus longimanus*)) The tip of the dorsal fin is pointed, the posterior end of the anal fin is relatively short, and far from reaching the inferior peak of the precaudal dimples that develop well between the dorsal (Carcharhinus obscurus)) Dorsal Absent Anal fins without conspicuous spines at origin (Greenland Shark (*Somniosus microcephalus*)) , the spine is sometimes hidden by the skin teeth in the upper and lower jaws of the same upper and lower quadrilateral teeth, one cusp is directed laterally to form an almost continuous cutting edge; round dorsal fin spines; trailing edges of the upper caudal lobe throughout; body color is usually gray with light spots; about 90 cm long (Spiny Dogfish (*Squalus acanthias*)) Upper and lower teeth with 3 to 5 triangular cusps each; rotating dorsal fins are very well-mixed; the trailing edge of the upper caudal lobe is far away; uniform color dark brown to black; Length 60 to 90 cm (Black Dogfish (*Centroscyllium fabricii*)) Teeth in the upper and lower jaws are not the same as teeth in the upper jaw with only one cusp; spines of the dorsal fins hidden by the skin; the body is covered with flat overlapping denticle (Shark (*Centroscymnus coelolepis*)) Teeth in the upper jaw with 5 upright cusps; striking dorsal fin spines; the body is covered with different skin spines (Rough Sagre (*Etmopterus princeps*)) Starting with Questions. Determine whether the statement in the first box (1a) or the second box (1b) best describes the characteristics of the shark you want to identify. (See this page on shark anatomy if you need help.) Click the link in the row that best matches your shark. Your choice will take you to a link to the species profile page for that shark or the next appropriate pair of questions. Ask questions, each time choosing the characteristic that best suits your shark from two options. This will lead you to a final option that identifies sharks. 3a) Snout short, blunt and spacious; small eyes; the distance between the base of the dorsal fin and the origin of caudal peduncle is about 1.5 to 2.0 times the base length of the dorsal fin; lower jaw with six rows of teeth Bluntnose Sixgill Shark 3b) Snout is more pointed and narrow; large eyes; the distance between the base of the dorsal fin and the origin of the caudal fin is about 2.5 to 3 times the base length of the dorsal fin; lower jaw with five rows of teeth Bigeye Sixgill Shark 4a) Anal fin absent Question 5 4b) Anal fin presents Question 9 6a) First spine on top or posterior to the angle in the pectoral fin; the midpoint of the base of the pelvic fin is much closer to the origin of the second dorsal fin than to the back base of the first dorsal fin Question 7 6b) The spine of the first back is almost above the midpoint of the inner margin of the pectoral fin; the midpoint of the base of the pelvic fin around the middle between the base of the first dorsal fin and the origin of the second dorsal fin Question 8 7a) The first dorsal fin feels larger than the second dorsal fin; anterior nasal flap with a small and narrow secondary lobe; usually striking white spots are present on the body side of Spiny Dogfish 7b) The second dorsal fin is almost as big as the first dorsal fin; anterior nasal flap with a large and wide secondary lobe, almost like a barbel; dark color without striking white spots on the sides of the body Roughskin Dogfish 8a) The inner margin of the pectoral fin is very concave, the inner angle of the pointing is acute. Cuban Dogfish 8b) The margin in the sunken pectoral fin is weak, deep corner around the right corner of Longnose Spurdog 9a) Caudal peduncle with one or more keel or ridge Questions 10 9b) Peduncle Kaudal without keel or ridge Question 17 10a) Two keels present, a strong keel on the caudal peduncle and a short secondary keel at the base of the Porbeagle 10b kaudal) One keel or ridge on the peduncle caudal , there is no secondary keel at the caudal base. Question 11 11a) The mouth is located at the end of the snout; coloring of a series of rounded spots and narrow transverse stripes; three to four large ridges along the back and sides of Whale Shark 11b) Lower mouth; color is not like above; there is no such ridge along the back and Question 12 12a) Keel on the ridged kaudal peduncle developed weak Question 13 12b) Keel on the well developed caudal peduncle Question 14 13a) Spiracle present; the first dorsal fin comes even with

the base behind the pectoral fin; pectoral fins are quite enough irregular ribbon of color or elongated spots Tiger Shark 13b) Spiracle does not exist; the first dorsal fin comes well past the base of the pectoral fin; pectoral fins are very long; blue cobalt uniform color Blue Shark 14a) Gill slits long, lengthening almost the entire height of the head; minute gear and addictive Basking Shark 14b) Gill gaps shorter, does not extend the full height of the head; large, protruding and upright teeth Question 15 15a) The origin of the anal fin is well placed behind the base behind the second dorsal fin; all the teeth are very biri, the top is flat and broadly triangular; black spots are usually in the axil of the pectoral fin; dark gray color above and laterally with white belly and bottom snout White Shark 15b) The origin of the anal fin is placed at the middle base or behind the second dorsal fin; fine-edged teeth, not too flat, narrow triangles and like blades; black axe spots are always lacking; cobalt blue color on top and lateral with belly and white snout bottom Question 16 16a) Snout is very pointed; pectoral fins are much shorter than the head; origin of the anal fin under the middle base of the second dorsal fin; the second simficial teeth of the jaw relapse; small eyes Shortfin Mako 16b) Snout bluntly pointed; pectoral fins during the head; origin of the anal fin under the back base of the second dorsal fin, straight simfisial teeth or just a slight relapse; Longfin Mako 17a large eyes) Head flattened dorso-ventrally and expanded laterally, Question hammer or shovel 18 17b) Head is not flattened dorso-ventrally and expanded laterally Question 21 19a) The head margin is broadly convex without being visible at the snout end of smooth hammerhead 19b) The head margin is broadly convex straight with a noticeable indentation at the snout end of Question 20 20a) The second back fin is small , the free rear end is about twice the vertical height of the fin; the first dorsal fin is high, pointed narrow, the posterior margin is very falcate; pelvic fin margin directly to Hammerhead 20b Weak spread) Large second dorsal fin, free rear end, shorter or equal to the vertical height of the fin; the first dorsal is broadly triangular, the posterior margin is almost straight to a little falcate; The margin of the pelvic fin is very falcate Great Hammerhead 21a) The back lobe of the caudal fin is very elongated, almost for a distance from the snout end to the precaudal hole Question 22 21b) The back lobe of the caudal fin is not elongated, much shorter than the distance from the snout end to the precaudal hole. Question 23 22a) The head is flattened between the eyes with a pronounced and deep groove at the nape above the gill gap; the eyes are very large, the horizontal diameter is less than the vertical diameter, with the orbit extending to the top of the head; the back end of the origin of the first dorsal fin is located in the middle between the base of the dorsal fin and ends origin of the pelvic fin Bigeye Thresher 22b) The head is curved between the eyes, no grooves exist on the nape above the gill slit; eEye smaller, horizontal horizontal approximately equal to the vertical diameter, does not extend to the top of the head; the back end of the origin of the first dorsal fin is located much closer to the base of the rear pectoral fin than the upper or outer totermination of the origin of the pelvic fin Thresher 23a) The first and second dorsal fins are about the same in size Question 24 23b) Two dorsal fins of unelike size, the first feels larger than the second Question 28 24a) The low dermal ridge is present in the center line of the back surface between the first and second dorsal fins Question 25 24b) No low dorsal dermal ridges are is on the midline of the back surface between the first and second dorsal fins Question 26 25a) The upper labial groove is shorter than the lower labial groove; the angle of the lower lobe of the caudal fin is pointed and directed backwards; distal margin of very concave pectoral fin Narrowfin Smoothhound 25b) Upper labial groove slightly longer than lower labial groove; the lower lobe angle of the caudal fin is widely rounded; distal margin of pectoral fins almost straight Smooth Dogfish 26a) Head pointing; large pointed and repetitive teeth protrude from the mouth of Sand Tiger Shark 26b) Blunt head; teeth pointing but not relapsing or protruding from the mouth Question 27 27a) Barbel is large and clearly present in the margins of each nostril; no precaudal holes; like sidewalk gear with middle ridge Nurse Shark 27b) No barbells in the margin of each nostril; precaudal holes are present; matching erectile teeth in larger, smoother individuals in young Lemon Shark 28a) Dorsal, pectoral, and white-tipped caudal fins (black leads to juveniles); the first dorsal fin is widely rounded; Large pectoral fin, paddle-shaped with rounded tip Oceanic Whitetip Shark 28b) The tipped white fin, dorsal fin and first chest are not broadly round Question 29 29a) Anal fin of anterior origin for both dorsal fins of origin; larger individuals with white lateral patches; pectoral fin with white margin Atlantic Sharpnose Shark 29b) Posterior of anal fin origin to or even with second dorsal fin origin; lateral white spotting less in all sizes Question 30 30a) Low ridge present between the first and second dorsal fins Question 31 30b) Low ridge absent between the first and second dorsal fins Question 37 31a) The length of the fin near the end of the second dorsal fin is more than twice the height of the vertical fin; The first dorsal fin is short with a rounded tip of Silky Shark 31b) The length of the free end of the second dorsal fin is twice or less the vertical height of the fin; the first dorsal fin is higher and not rounded Question 32 32a) Snout is long and pointed, the distance between the nostrils at the bottom of the snout is 0.5-0.6 snout length; big and green eyes in life Night Shark 32b) Snout shorter and more the distance between the nostrils at the bottom of the snout is greater than 0.6 snout length (snout end to mouth); eyes smaller and never green in life Question 33 33a) The first dorsal fin located in front of the body, originally upper or anterior anterior pectoral fin axil (or at least closer to axil than the free rear end) Question 34 33b) The first dorsal fin located further back on the body, its origin up or posterior to the back end is free of pectoral fins (or at least closer to the free rear end than to origin) Question 35 34a) First the dorsal fin is large, the vertical height is greater than 10% snout is quite long and round, the length is about half the height of the first dorsal fin Sandbar Shark 34b) The first dorsal fin is smaller, vertical height less than 10% of the total length; snout is longer and rounded or blunt pointed, its length is almost equal to the height of the first dorsal fin Bignose Shark 35a) The free back end of the second dorsal fin is short, its length is about equal to the height of the fin; grayish-brown to olive gray color in life with pronounced dark edging on the margins of kaudal fins, especially the lower lobes, and at the anal and second ends; snout is short and widely rounded; upper teeth with narrow cusps, 13 upper teeth and 12 lower teeth on each side of the Jaws of Caribbean Reef Shark 35b) The free rear end of the second dorsal fin is longer, nearly 1.5 long; grayish-brown color becomes gray in life without pronounced dark edging on the margins of the kaudal fins, especially the lower lobes, and at the ends of the anal dorsal fins and secondly;dorsal fins; snout is quite long; upper teeth with narrow cusps, 13 upper teeth and 12 lower teeth on each side of the jaw Question 36 36a) The first dorsal fin is high with an almost straight anterior margin and a pointed tip, snout length about 3/4 or less than the fin height in all sizes; the second dorsal fin is somewhat larger, the length of the back end is free 1.3-1.7 times the height of galapagos Shark 36b) The first dorsal fin is lower with a round anterior margin and a slightly rounded tip, the length of the snout is about equal to or greater than the height of the fin in all but large adults; the size of the second dorsal fin is somewhat smaller, the length of the back end is free 1.6-2.1 times the height of Dusky Shark 37a) Snout is short and wide round, the length of the snout is much shorter than the width of the mouth; the upper teeth are broadly triangular and ale, without a notch on the outer margin of Bull Shark 37b) Snout is longer, snout length equal to or longer than the width of the mouth; upper teeth upright and smooth or with fine harmony, or with narrow, sloping cusps and edges of ale Question 38 38a) A black or dusky place at the snout end, more pronounced at the younger and more diffuse in larger individuals; yellowish-green color becomes brownish in life, fades to gray after death; teeth with narrow, sloping cusps, and blacknose shark dipping edges 38b) No black spots or dusk at the snout end; erect and smooth teeth or with smooth harmony 39 39a) No black or dusk tips on fins; Upright, narrow, and smooth teeth Finetooth Shark 39b) Tips black or dusk on fins; teeth with a wider base and smoother erasi Question 40 40a) Anal fins with black black tips young (total length less than 70 cm); the origin of the first dorsal fin is located at the level or behind the free end of the pectoral fin; long snout; the height of the first dorsal fin is less than the length of the snout except in large adults, when it becomes about equal or slightly larger; eyes small, horizontal diameter is a quarter or less than the first length of gills open Spinner Shark 40b) Snout shorter; the height of the first dorsal fin is always greater than the length of the snout, snout about 2/3 of the height of the first dorsal fin in large adults; eyes larger, horizontal diameter one third larger than the length of the gills first opened Blacktip Shark Shark

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