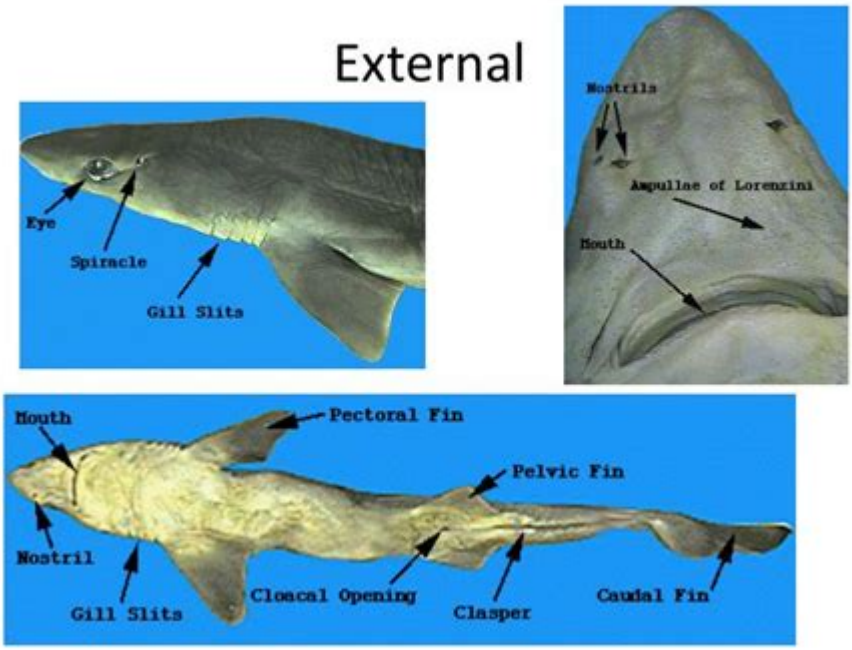
Dogfish Shark External Anatomy



Dogfish Shark External Anatomy: A Comprehensive Guide

Introduction:

Ever wondered about the sleek, streamlined form of a dogfish shark? These fascinating creatures, often used in biology classrooms for their readily available anatomy, offer a window into the world of cartilaginous fishes. This comprehensive guide delves into the intricate details of dogfish shark external anatomy, providing a detailed look at its key features and their functions. We'll explore everything from its fins and gills to its sensory organs, equipping you with a thorough understanding of this remarkable animal. Prepare to dive deep into the world of the dogfish shark!

Understanding the Dogfish Shark's Body Plan

The dogfish shark, belonging to the genus Squalus, exhibits a classic shark body plan, perfectly adapted for its predatory lifestyle. This streamlined shape minimizes drag in the water, allowing for efficient movement and ambush predation. The key external anatomical features are crucial to understanding its survival strategies.

1. Body Shape and Size:

Dogfish sharks are characterized by their fusiform (torpedo-shaped) body. This streamlined design is crucial for minimizing water resistance during swimming. Their size varies depending on the species, but generally ranges from 2 to 4 feet in length.

2. Skin and Dentition:

The dogfish shark's skin is covered in dermal denticles – tiny, tooth-like scales – that provide protection and reduce drag. These denticles are embedded in the skin and arranged in overlapping rows, creating a remarkably smooth surface despite their texture. Their jaws are lined with multiple rows of sharp, triangular teeth, perfectly suited for grasping and tearing prey. These teeth are constantly replaced throughout the shark's life.

Detailed Examination of External Features

Let's now look closely at the specific external anatomical features of the dogfish shark:

1. Fins:

Dogfish sharks possess several fins that play vital roles in locomotion, balance, and steering. These include:

Dorsal Fins: Two dorsal fins, located on the back, provide stability and prevent rolling. The first dorsal fin is larger and possesses a sharp spine.
Caudal Fin (Tail Fin): Heterocercal in shape (meaning the upper lobe is longer than the lower), the caudal fin is the primary source of propulsion. The asymmetrical design contributes to efficient swimming.
Pectoral Fins: Located on either side of the body behind the gills, these fins provide lift and control during swimming.
Pelvic Fins: These paired fins located ventrally (on the underside) are smaller than the pectoral fins and play a role in stability and maneuvering.
Anal Fin: Located on the ventral side behind the pelvic fins, this single fin contributes to stability and maneuvering.

2. Gills:

Five to seven gill slits are visible on the sides of the head, just behind the eyes. These slits lead to the gills, the respiratory organs where oxygen is extracted from the water. The location and number of gill slits are important taxonomic characteristics.

3. Sensory Organs:

Dogfish sharks possess several highly developed sensory organs crucial for locating prey in their environment.

Eyes: While relatively small compared to some other shark species, their eyes provide good vision, particularly in low-light conditions.
Lateral Line System: A network of sensory pores running along the sides of the body, the lateral line system detects vibrations and water currents, helping the shark sense prey and navigate.
Ampullae of Lorenzini: These electroreceptor organs, located around the snout and mouth, detect minute electrical fields generated by the muscle contractions of prey, allowing the shark to locate them even in murky water or darkness.
Nostrils: Although not involved in respiration, the nostrils (nares) are used for detecting chemicals in the water, contributing to the shark's sense of smell.

Conclusion:

Understanding the external anatomy of the dogfish shark is crucial for appreciating its remarkable adaptations to its marine environment. From its streamlined body shape and protective dermal denticles to its highly developed sensory organs and specialized fins, every feature contributes to its success as a predator. This detailed exploration provides a solid foundation for further investigation into this fascinating creature.

FAQs:

1. What is the difference between the dogfish shark and other shark species? Dogfish sharks are characterized by their smaller size, typically found in deeper waters compared to some larger, coastal shark species. Their specific anatomical features, such as the number of gill slits and the shape of their fins, distinguish them from other shark families.

2. Are dogfish sharks dangerous to humans? While possessing sharp teeth, dogfish sharks are not typically considered dangerous to humans. Attacks are extremely rare.

3. What is the purpose of the sharp spine on the first dorsal fin? The spine serves as a defensive mechanism, offering protection against predators.

4. How do dogfish sharks reproduce? Dogfish sharks reproduce through internal fertilization and ovoviviparity, meaning that fertilized eggs develop within the mother's body until they hatch.

5. Where can I find more information on dogfish shark anatomy? You can find detailed anatomical information in scientific literature, university biology textbooks, and reputable online resources specializing in marine biology and ichthyology.

dogfish shark external anatomy: *The Dissection of Vertebrates* Gerardo De Iuliis, Dino Pulerà, 2006-08-03 The Dissection of Vertebrates covers several vertebrates commonly used in providing a transitional sequence in morphology. With illustrations on seven vertebrates – lamprey, shark, perch, mudpuppy, frog, cat, pigeon – this is the first book of its kind to include high-quality, digitally rendered illustrations. This book received the Award of Excellence in an Illustrated Medical Book from the Association of Medical Illustrators. It is organized by individual organism to facilitate classroom presentation. This illustrated, full-color primary dissection manual is ideal for use by students or practitioners working with vertebrate anatomy. This book is also recommended for researchers in vertebrate and functional morphology and comparative anatomy. The result of this exceptional work offers the most comprehensive treatment than has ever before been available. - Received the Award of Excellence in an Illustrated Medical Book from the Association of Medical Illustrators - Expertly rendered award-winning illustrations accompany the detailed, clear dissection direction - Organized by individual organism to facilitate classroom presentation - Offers coverage of a wide range of vertebrates - Full-color, strong pedagogical aids in a convenient lay-flat presentation

dogfish shark external anatomy: *How to Dissect* William Berman, 1985-06 A guide for dissecting animals, beginning with the earthworm and progressing to more complex anatomies such as grasshopper, starfish, perch, and ultimately a fetal pig. Includes a chapter on dissecting flowers.

dogfish shark external anatomy: *Vertebrates* Norman K. Wessels, Elizabeth M. Center, 1992-05

dogfish shark external anatomy: ,

dogfish shark external anatomy: A Laboratory Manual for Comparative Vertebrate Anatomy Libbie Henrietta Hyman, 1922

dogfish shark external anatomy: Guide to the Study of the Anatomy of the Shark, Necturus, and the Cat Samuel Eddy, 1960

dogfish shark external anatomy: Essays and Observations on Natural History, Anatomy, Physiology, Psychology, and Geology. By J. H.; Being His Posthumous Papers on Those Subjects, Arranged and Revised, with Notes: to which are Added, the Introductory Lectures on the Hunterian Collection of Fossil Remains, Delivered in the Theatre of the Royal College of Surgeons of England, March 8th, 10th, and 12th, 1855, by Richard Owen. [Edited by Sir R. Owen.] John HUNTER (F.R.S.), 1861

dogfish shark external anatomy: Essays and Observations on Natural History, Anatomy, Physiology, Psychology, and Geology John Hunter, 1861

dogfish shark external anatomy: *Essays and observations on natural history, anatomy, physiology, psychology, and geology v. 2* John Hunter, 1861

dogfish shark external anatomy: AWIC Series , 1989

dogfish shark external anatomy: Shark Biology and Conservation Daniel C. Abel, R. Dean Grubbs, 2020-09-01 Feed your fascination with sharks! This complete resource enlightens readers on the biology, ecology, and behavior of sharks with approachable explanations and more than 250 stunning color illustrations. Studies of shark biology have flourished over the last several decades. An explosion of new research methods is leading to a fascinating era of oceanic discovery. Shark

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dogfish shark external anatomy: *Essays and Obversations on Natural History, Anatomy, Physiology, Psychology, and Geology* Richard Owen, 2022-06-11 Reprint of the original, first published in 1861.

dogfish shark external anatomy: Vertebrate Biology Donald W. Linzey, 2012-02-13 Arranged logically to follow the typical course format, Vertebrate Biology leaves students with a full understanding of the unique structure, function, and living patterns of the subphylum that includes our own species.

dogfish shark external anatomy: *Fish* Peter B. Moyle, 1995-03 Engagingly written, with both learning and humor, Fish bridges the gap between purely pictorial books and scholarly texts, and provides a succinct summary of fish biology and conservation for students and fish enthusiasts.

dogfish shark external anatomy: *Hyman's Comparative Vertebrate Anatomy* Libbie Henrietta Hyman, 1992-09-15 The purpose of this book, now in its third edition, is to introduce the morphology of vertebrates in a context that emphasizes a comparison of structire and of the function of structural units. The comparative method involves the analysis of the history of structure in both developmental and evolutionary frameworks. The nature of adaptation is the key to this analysis. Adaptation of a species to its environment, as revealed by its structure, function, and reproductive success, is the product of mutation and natural selection–the process of evolution. The evolution of structure and function, then, is the theme of this book which presents, system by system, the evolution of structure and function of vertebrates. Each chapter presents the major evolutionary trends of an organ system, with instructions for laboratory exploration of these trends included so the student can integrate concept with example.

dogfish shark external anatomy: Dogfish Dissection Manual Bruce D. Wingerd, 1988 This series of complete and compact laboratory manuals leads students through every stage of the dissection process for rats, rabbits, frogs, and dogfish. Each of the manuals, corresponding to specimens most often used in high-school and undergraduate courses in general biology, zoology, physiology, and comparitive anatomy, guides the student through a complete dissection with easy-to-follow directions and accurate, clearly labeled illustrations. Anatomical structures appear in the sequence encountered during an actual dissection: First the external anatomy, then the skeletal, muscular, digestive, respiratory, circulatory, urogenital, and nervous systems.

dogfish shark external anatomy: The Dissection of the Dogfish Edwin Chapin Starks, Lot Duncan Howard, 1926

dogfish shark external anatomy: Commercial Fisheries Review , 1964

dogfish shark external anatomy: Biology Laboratory Manual Darrell S. Vodopich, Moore,

1989

dogfish shark external anatomy: A Photographic Atlas for the Zoology Laboratory Kent Marshall Van De Graaff, John L. Crawley, 1995

dogfish shark external anatomy: *College Zoology* Robert William Hegner, 1926 Excerpt from College Zoology: This book is intended to serve as a text for beginning students in universities and colleges, or for students who have already taken a course in general biology and wish to gain a more comprehensive view of the animal kingdom. It differs from many of the college textbooks of zoology now on the market in several important respects: (1) the animals and their organs are not only described, but their functions are pointed out; (2) the animals described are in most cases native species; and (3) the relations of the animals to man are emphasized. Besides serving as a textbook, it is believed that this book will be of interest to the general reader, since it, gives a bird's-eye view of the entire animal kingdom as we know it at the present time. Within the past decade there has been a tendency for teachers of zoology to pay less attention to morphology and more to physiology. As a prominent morphologist recently said, Morphology ... is no longer in favor ... and among a section of the zoological world has almost fallen into disgrace (Bourne). The study of the form and structure of animals is, however, of fundamental importance, and is absolutely necessary before physiological processes can be fully understood; but a course which is built up on the old-fashioned morphological lines is no longer adequate for the presentation of zoological principles. In writing this book the author has attempted, not only to describe the most important structural features of the various types of animals, but also to point out the vital phenomena as expressed in the functions of the organs.

dogfish shark external anatomy: Chordate Zoology P.S.Verma, 2010-12 FOR B.Sc & B.Sc.(Hons) CLASSES OF ALL INDIAN UNIVERSITIES AND ALSO AS PER UGC MODEL CURRICULUMN Contents: CONTENTS:Protochordates:Hemicholrdata 1.Urochordata Cephalochordata Vertebrates : Cyclostomata 3. Agnatha, Pisces Amphibia 4. Reptilia 5. Aves Mammalia 7 Comparative Anatomy:lntegumentary System 8 Skeletal System Coelom and Digestive System 10 Respiratory System 11. Circulatory System Nervous System 13. Receptor Organs 14 Endocrine System 15 Urinogenital System 16 Embryology Some Comparative Charts of Protochordates 17 Some Comparative Charts of Vertebrate Animal Types 18 Index.

dogfish shark external anatomy: General Zoology Laboratory Guide Charles F. Lytle, John R. Meyer, 2004-05 General Zoology Laboratory Manual is ideal for the laboratory that emphasizes the dissection and microscopic study of live and preserved specimens. Recognized for its accuracy and readability, this manual is comprehensive in its representation of the major groups of animal phyla.This new edition is suitable for a wide range of course needs and structures.

dogfish shark external anatomy: *Laboratory Anatomy of the Vertebrates* Robert B. Chiasson, William J. Radke, 1993

dogfish shark external anatomy: Sharks of New England Alessandrao De Maddalena, 2010-09-01 Those who think sharks are a predominantly tropical species will be in for quite a surprise when they learn that the cold waters of New England are home to 33 different species. The aim of this book is to provide both accurate scientific information on sharks and to profile those species that inhabit the waters of New England.

dogfish shark external anatomy: The Dogfish Shark Addison Earl Lee, 1963

dogfish shark external anatomy: *A Photographic Atlas for the Biology Laboratory* Kent Marshall Van De Graaff, John L. Crawley, 1994

dogfish shark external anatomy: Tooth and Claw Robert M. Johnson III, Sharon L. Gilman, Daniel C. Abel, 2023-05-09 This book provides a comprehensive coverage of the biology, ecology, and conservation of top predators--including big cats, wild dogs, sharks, raptors, marine mammals (Orca and others), snakes and lizards, and humans--but it is not encyclopedic in its approach. While it incorporates up-to-date scholarship from practitioners working with a diversity of top predators, the book is also accessible for non-experts. The book is illustrated with a original art and many color photographs--

dogfish shark external anatomy: Audio-visuals Relating to Animal Care, Use, and Welfare D'Anna J. B. Jensen, 1993

dogfish shark external anatomy: Audio-visuals Relating to Animal Care, Use, and Welfare Jean A. Larson, 2000

dogfish shark external anatomy: Digital Zoology Jon Houseman, 2001 This CD-ROM provides students in the whole animal Biology courses such as General Zoology, Invertebrate Zoology and Vertebrate Zoology with an interactive guide to the specimens and materials that they will be studying in their laboratory and lecture sessions. Lab modules are the biggest components of Digital Zoology, and each contain illustrations, photographs and annotations of the major structure of organisms and microscope slides commercially available from the suppliers used by high schools and universities. Lab modules are combined with explanations of the various animal groups and interactive cladograms that allow students to investigate the major evolutionary events that have given rise to the tremendous diversity of animals that we find on the planet.

dogfish shark external anatomy: *A Bibliography of Sharks and Related Species* , 1987

dogfish shark external anatomy: Integrated Principles of Zoology Cleveland Pendleton Hickman, 1961

dogfish shark external anatomy: The Anatomy of the Dogfish Shark Richard Roy Stuart, 1952

dogfish shark external anatomy: Laboratory studies in integrated principles of zoology Cleveland P. Hickman, Frances Miller Hickman, Lee B. Kats, 2000-08 This text provides coverage of the basic biological principles of zoology.

dogfish shark external anatomy: *Sharks* Gene Helfman, George H. Burgess, 2014-05-15 Do sharks lay eggs or give birth to live young? Do sharks sleep? How long do they live? How likely are shark attacks? This book answers your questions about some of nature’s most misunderstood animals. Answering every conceivable question about sharks, authors Gene Helfman and George H. Burgess describe the fascinating biology, behavior, diversity (there are more than 1,000 species worldwide), and cultural importance of sharks, their close relationship to skates and rays, and their critical role in healthy ecosystems. Helfman and Burgess take readers on a round-the-world tour of shark habitats, which include oceans as well as lakes and even rivers (as far up the Mississippi as St. Louis). They describe huge, ferocious predators like (Great) White and Tiger sharks and species such as Basking and Whale sharks that feed on microscopic prey yet can grow to lengths of more than 40 feet. The mysterious and powerful Greenland shark, the authors explain, reaches a weight of 2,200 pounds on a diet of seal flesh. Small (less than 2-foot long) Cookiecutter sharks attack other sharks and even take a chunk out of the occasional swimmer. Despite our natural fascination with sharks, we have become their worst enemy. Many shark species are in serious decline and a number are threatened with extinction as a result of overfishing and persecution. Sharks: The Animal Answer Guide presents a perfect mix of current science, history, anthropology, intriguing facts, and gripping photographs. Whether your fascination with sharks stems from fear or curiosity, your knowledge of these animals will improve immensely when you consult this book.

dogfish shark external anatomy: Film & Video Finder , 1997

dogfish shark external anatomy: Biology Goodman, 1989

dogfish shark external anatomy: An Illustrated Laboratory Text in Zoology Richard A. Boolootian, Donald Heyneman, 1975

dogfish shark external anatomy: Sharks and Rays Timothy C. Tricas, Leighton R. Taylor, 1997 Maligned and misunderstood, sharks are possibly the most feared, yet the most fascinating sea creatures. Of about 350 known species of shark, only a handful are a threat to humans. In reality, it is humans who pose the greater threat, hunting and fishing some species to the verge of extinction. Diverse in appearance, they range from the tiny cookiecutter or cigar shark, to the massive whale shark. Stranger still are the rays, with names such as the banded stingaree and the Javanese cownose ray. Curiously shaped like craft from outer space, some are so highly colored they could be the creation of a whimsical painter. This book represents the most up-to-date information and

thinking on our understanding of these extraordinary inhabitants of the deep - their highly developed senses and intellect, and their ecology, biology, and behavior. What is being done to protect them? In what ways are they still being exploited? Sharks and Rays highlights the advances being made in shark and ray conservation.

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