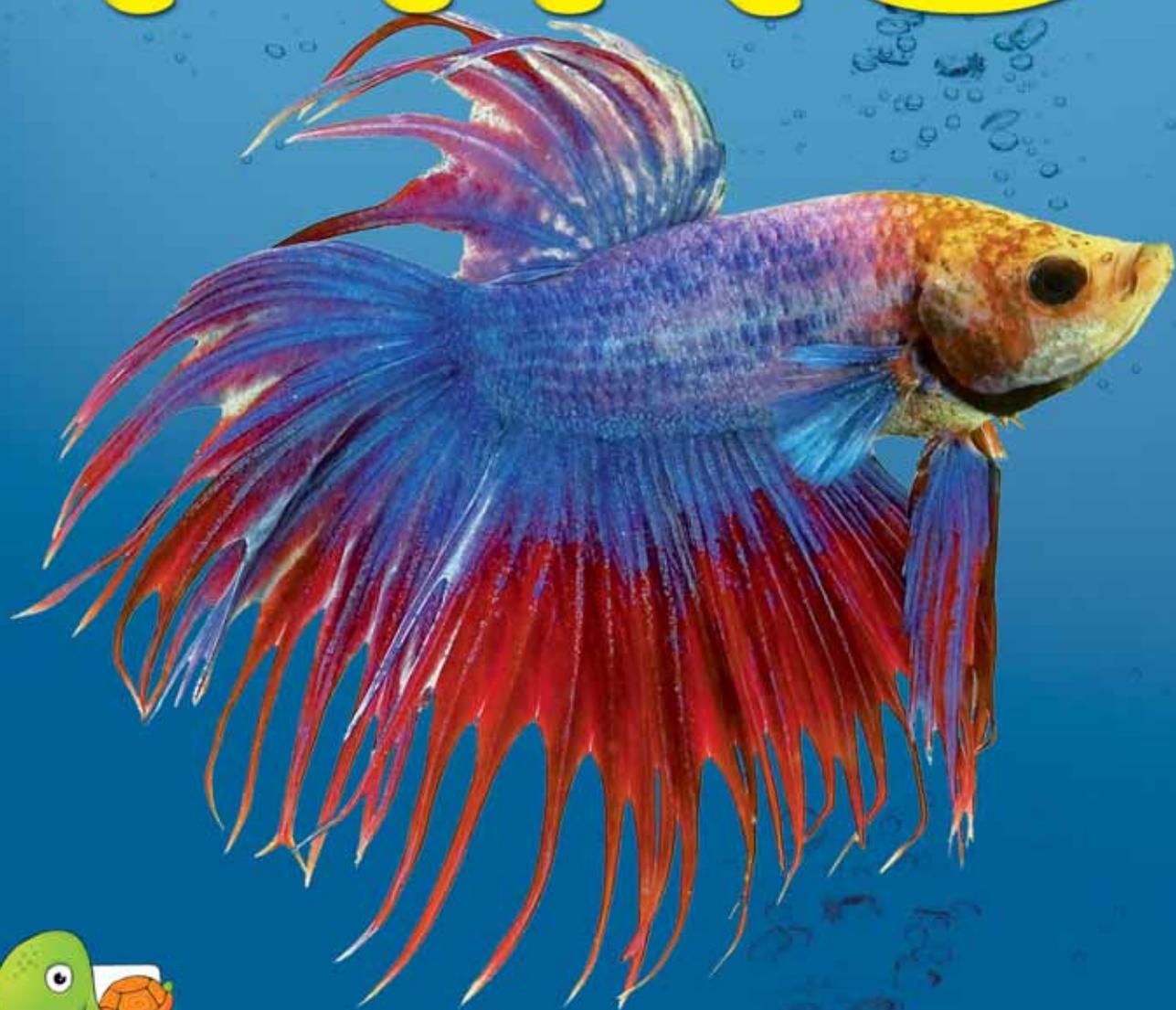


DESIGNED TO SURVIVE

ALL ABOUT FINS





An imprint of The Energy and Resources Institute

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First published in 2011 by
The Energy and Resources Institute
TERI Press

Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi 110 003, India
Tel. 2468 2100/4150 4900, Fax: 2468 2144/2468 2145
India +91 ■ Delhi (0)11
Email: teripress@teri.res.in ■ Website: <http://bookstore.teriin.org>

ISBN 978-81-7993-375-6
ISBN 978-81-7993-419-7 (set of 6 titles)

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Printed and bound in India

This book is printed on recycled paper.

ALL ABOUT FINS



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The Energy and Resources Institute

A note by Dr R K Pachauri

The animal kingdom is replete with fascinating examples of a wide variety of species and the care with which nature has 'designed' each of these creatures. Animals, birds, and fish are equipped with unique tools necessary for their survival, right from unique tails, teeth, fins or claws to beaks or trunks.

This series focuses on animals and the amazing adaptation that nature has equipped them with to suit their habits and habitats. Some have tails that help animals move, while others possess tails that can kill; skin could serve as camouflage in a particular species but be used to breathe in others. The examples are as innumerable as they are remarkable.

As the human race moves towards industrialization and urbanization, we have been cutting down trees, polluting water bodies and contaminating the air, thus endangering the lives of many creatures of the wild. While learning about these wondrous creatures, I hope that our young readers will be inspired to protect the beautiful world brought alive on these pages and keep these fascinating species alive for generations to come.



R K Pachauri
Director-General, TERI
Chairman, Intergovernmental Panel on Climate Change



GONTEENTS

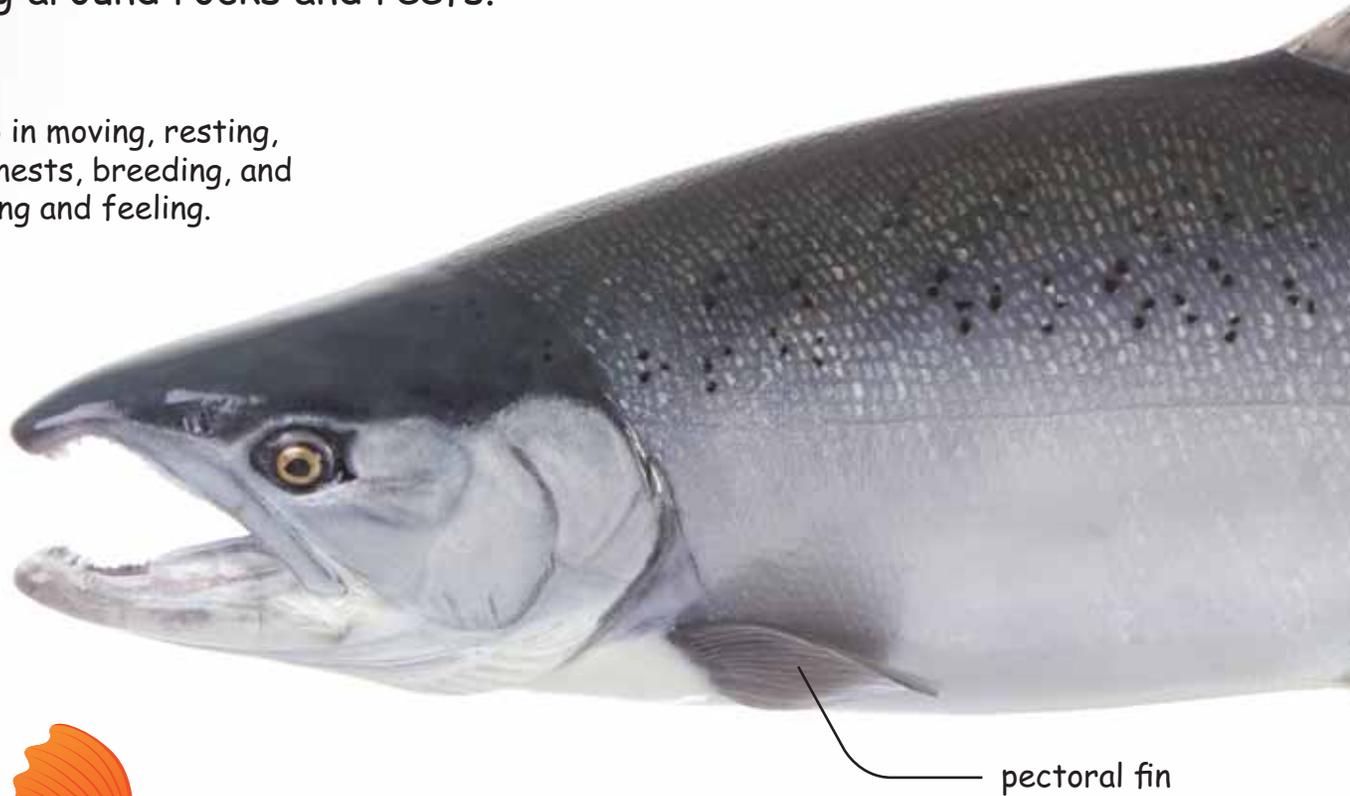
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FASCINATING FINS

A fish without fins is like a car without a steering wheel. This is because without fins, a fish can neither swim nor steer itself through water.

One look at its fins tells you a lot about a fish. For example, fish with slim, knife-like fins and narrow, split tails are fast swimmers. Fish with broad or small fins and wide, squarish tails are lazy swimmers, though they are quite good at rushing around rocks and reefs.

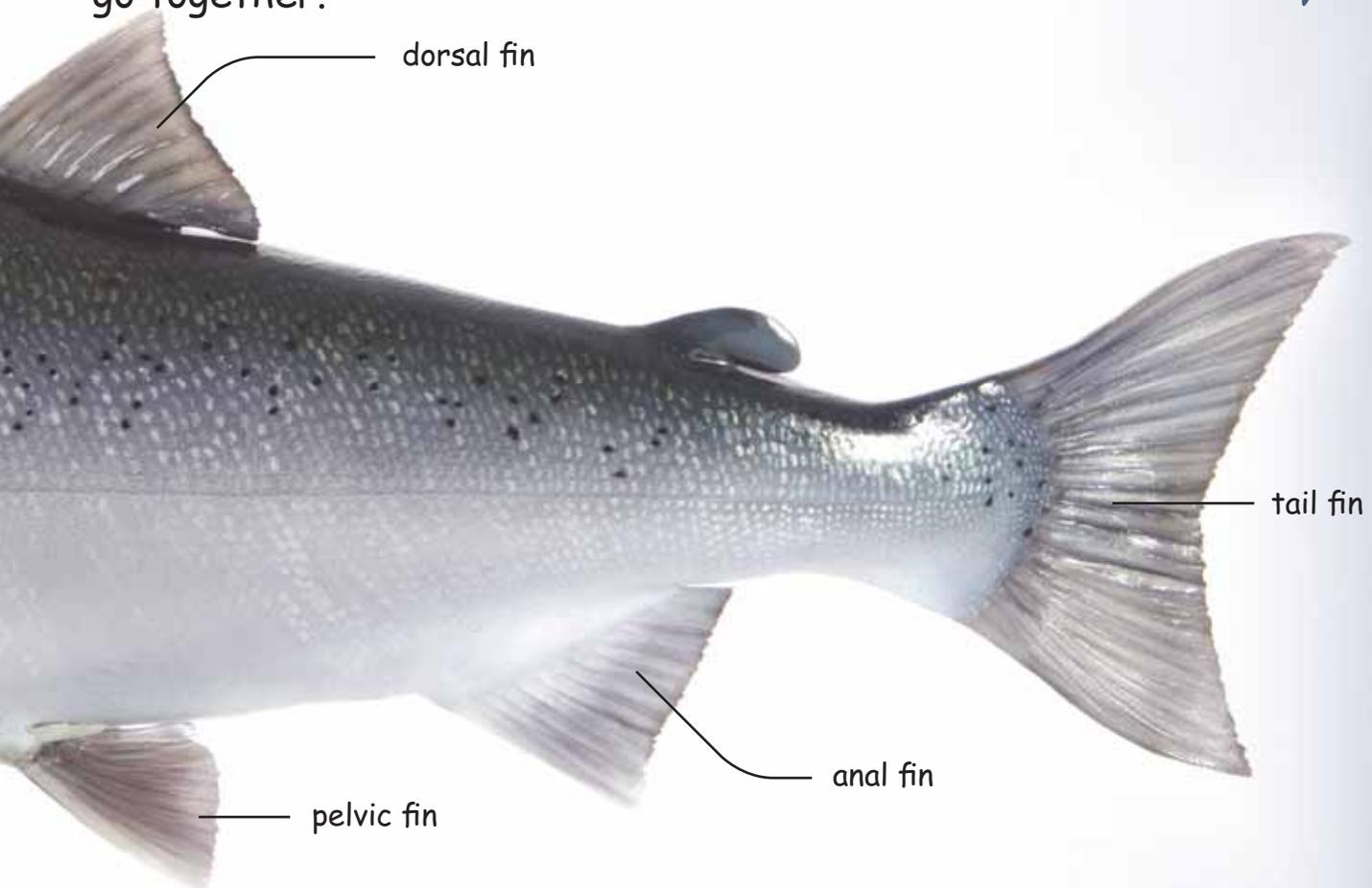
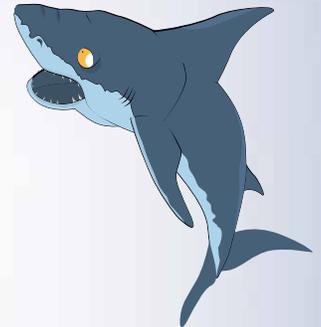
Fins help in moving, resting, building nests, breeding, and in touching and feeling.



Fins usually come in pairs. These are called pectoral (located behind the fish's head) fin and pelvic (located on the underside of the fish) fin. But there are some fins that have no partners. These are dorsal (top), caudal (tail), and anal (near the tail) fins.

Most fish use all their fins, especially the tail fin, or caudal fin, to move forward. The pectoral and pelvic fins help them steer and stop. Dorsal fins make sure fish do not lose their balance, while anal fins keep them stable.

Fins are used in climbing or searching and finding food. Fish use fins to swim fast or slowly. Some fish can even fly because of their fins! Some fins strike fear, while others are there just for show. Whatever their shape or colour, fins and fish always go together.



Fin fact

Some fish use their fins for lifting, walking, holding on or for protection.



WALKING FINS

Some fish use their fins as 'legs' to walk in water. Fins can also serve as support when fishes decide to take a rest. In some cases—like the northern snakehead of South East Asia—fish use their fins to take a walk on land!



CAT WALK

The 'walking' catfish uses its pectoral fins to roam around. This fish lives in ponds or pools that often disappear when the weather is dry.

That is when the catfish decides to shift over to land in search of another water body. It moves like a soldier in a trench, using its pectoral fins as 'legs'.



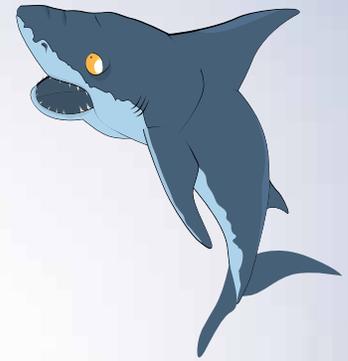
Red lizardfish



The walking catfish uses its pectoral fins to keep itself upright as it wiggles forward like a snake.

HOP, SKIP, AND JUMP

Quite often, mudskippers leave their sea homes and arrive on land. Here, they can survive for three-and-a-half days! During low tide, they use their fins to skip across mud. The fins also help mudskippers when they climb the roots of mangrove trees!



Fin fact



While moving on the seabed, anglers use their strong pectoral and pelvic fins. It makes them look as if they are walking!



Mudskipper

WAITING FOR A MEAL

The red lizardfish uses its long pelvic fins as crutches to rest on the seafloor. However, it will be a mistake to think that the lizardfish is lazy. In fact, it is a fierce hunter that waits for its prey as it rests on its fins.

FLYING FINS

There are fish that can zip through air just like birds, thanks to their fins! Some of them are not that good at flying, but they do still manage to fly out of harm's way. These wing-like fins also express emotions. For example, they are often spread out when a fish feels threatened.

TAKING OFF

It is said that fish developed their gliding ability to escape being killed. Besides their large pectoral fins that come in handy while flying, some of them have large pelvic fins as well.



JUMPING JACK

Atlantic flyingfish are experts at jumping out of water at the first sign of danger. Sometimes, they jump as high as 200 metres! Once they are airborne, they can glide over short distances by rapidly beating their tails. The large pelvic fins of the Atlantic flyingfish help keep their body up as they move through air.



The Atlantic flyingfish catches air current with its pectoral fins and then moves forward by beating its tail back and forth.

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Publisher : **TERI Press**

ISBN : 9788179933756

Author : **Shona Bagai**

Type the URL : <http://www.kopykitab.com/product/8364>



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