



# Animal Partners

by Scotti Cohn  
illustrated by Shennen Bersani



# Animal Partners

From the “crocodile’s dentist” to the “mongoose spa,” *Animal Partners* takes a whimsical look at the different types of symbiotic relationships of animals large and small. Although many animals live in groups of the same kind, here you will learn how some animals form unique partnerships with different species. After all, don’t we all need a little help from our friends?

It’s so much more than a picture book . . . this book is specifically designed to be both a fun-to-read story and a launch pad for discussions and learning. Whether read at home or in a classroom, we encourage adults to do the activities with the young children in their lives. Free online resources and support at [ArbordalePublishing.com](http://ArbordalePublishing.com) include:

- For Creative Minds as seen in the book (in English & Spanish):
  - Helping Partners
  - What Type of Partners?
  - Match the Animal Partners
  - Match the Habitat
- Teaching Activities (to do at home or school):
  - Reading Questions
  - Language Arts
  - Science
  - Math
  - Geography
  - Coloring Pages
- Interactive Quizzes: Reading Comprehension, For Creative Minds, and Math Word Problems
- English and Spanish Audiobooks
- Related Websites
- Aligned to State, Common Core, & NGSS Standards
- Accelerated Reader and Reading Counts! Quizzes
- Lexile and Fountas & Pinnell Reading Levels

eBooks with Auto-Flip, Auto-Read, and selectable English and Spanish text and audio are available for purchase online.

Thanks to Science Writer Loran Wlodarski for verifying the accuracy of the information in this book.

Award-winning author **Scotti Cohn** has had a love for poetry and fiction writing since childhood. In addition to *Animal Partners*, Scotti has written *On the Move* (CBC/NSTA Outstanding Science Trade Book); *Big Cat, Little Kitty* (Mom’s Choice Gold); and *One Wolf Howls* (Nautilus Silver Book Award) for Arbordale, as well as eight nonfiction books and numerous short stories and poems. She and her husband live in upstate South Carolina with five little kitties. Visit her website at [scotticohn.com](http://scotticohn.com).

Award-winning children’s book illustrator **Shennen Bersani** has two million copies of her illustrated books cherished and read by families throughout the world. She has been a freelance illustrator since 1989. She works primarily with colored pencils, sometimes using a mixed-media technique of colored pencils, crayon, and paint. Her art delivers a unique blend of realism, heartfelt emotion, love of nature, and life lessons for children of all ages. In addition to *Animal Partners*; *Sea Slime: It’s Eeuwy, Goey and Under the Sea*; *The Shape Family Babies*; *Shark Baby*; *Home in the Cave* (Gelett Burgess Award - Growing Up); *The Glaciers are Melting!*, and *Astro: The Steller Sea Lion* (Mom’s Choice Award Gold) for Arbordale, Shennen has illustrated a number of best-selling books, including, *Snakes: Long, Longer, Longest*; *Sharks: Big, Bigger, Biggest*; *Ocean Counting: Odd Numbers*; *Icky Bug Shapes*; and *My Sister, Alicia May*. Shennen and her family live near Boston. For more information, visit her website at [shennenbersani.com](http://shennenbersani.com).

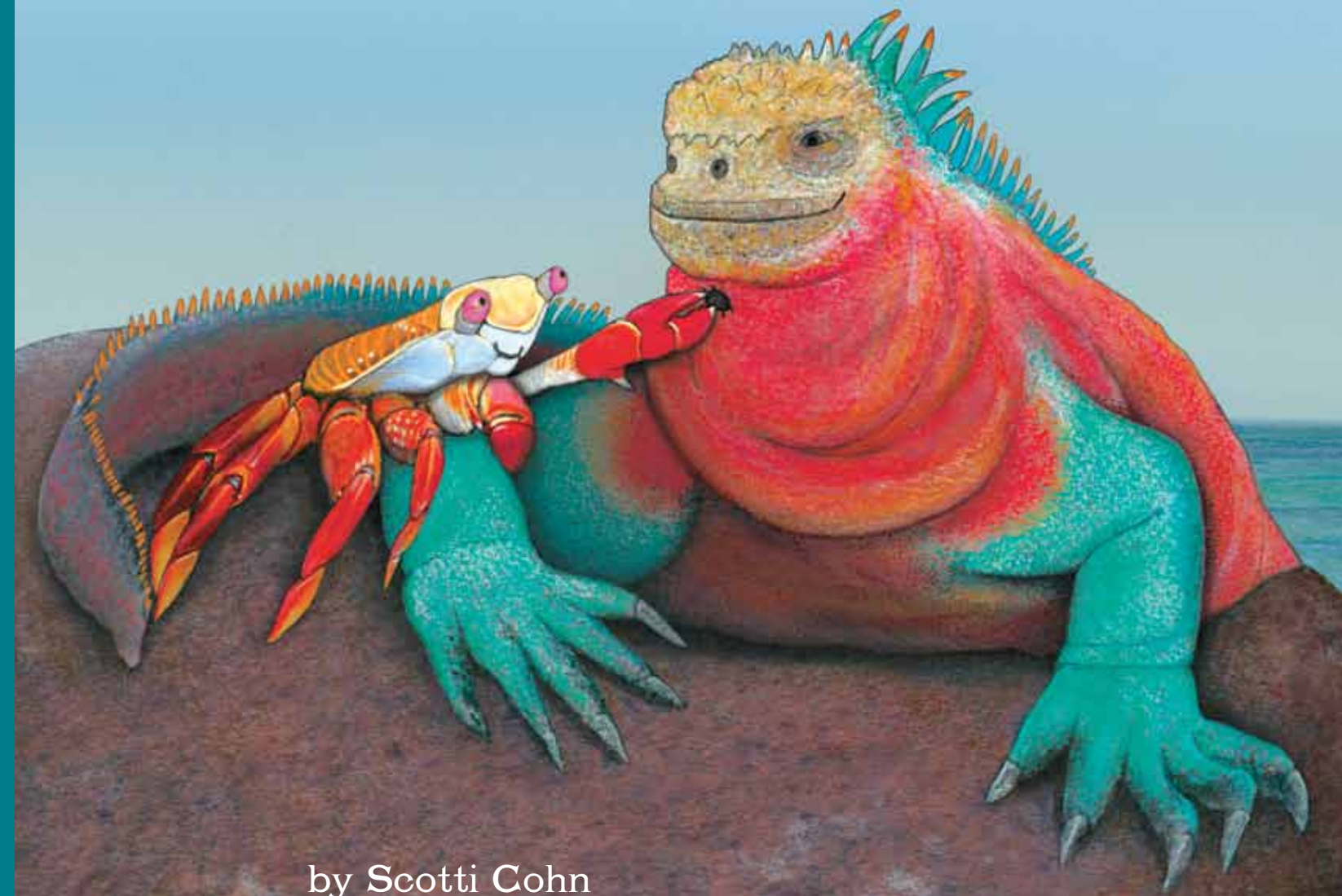


Scotti Cohn



Shennen Bersani

# Animal Partners



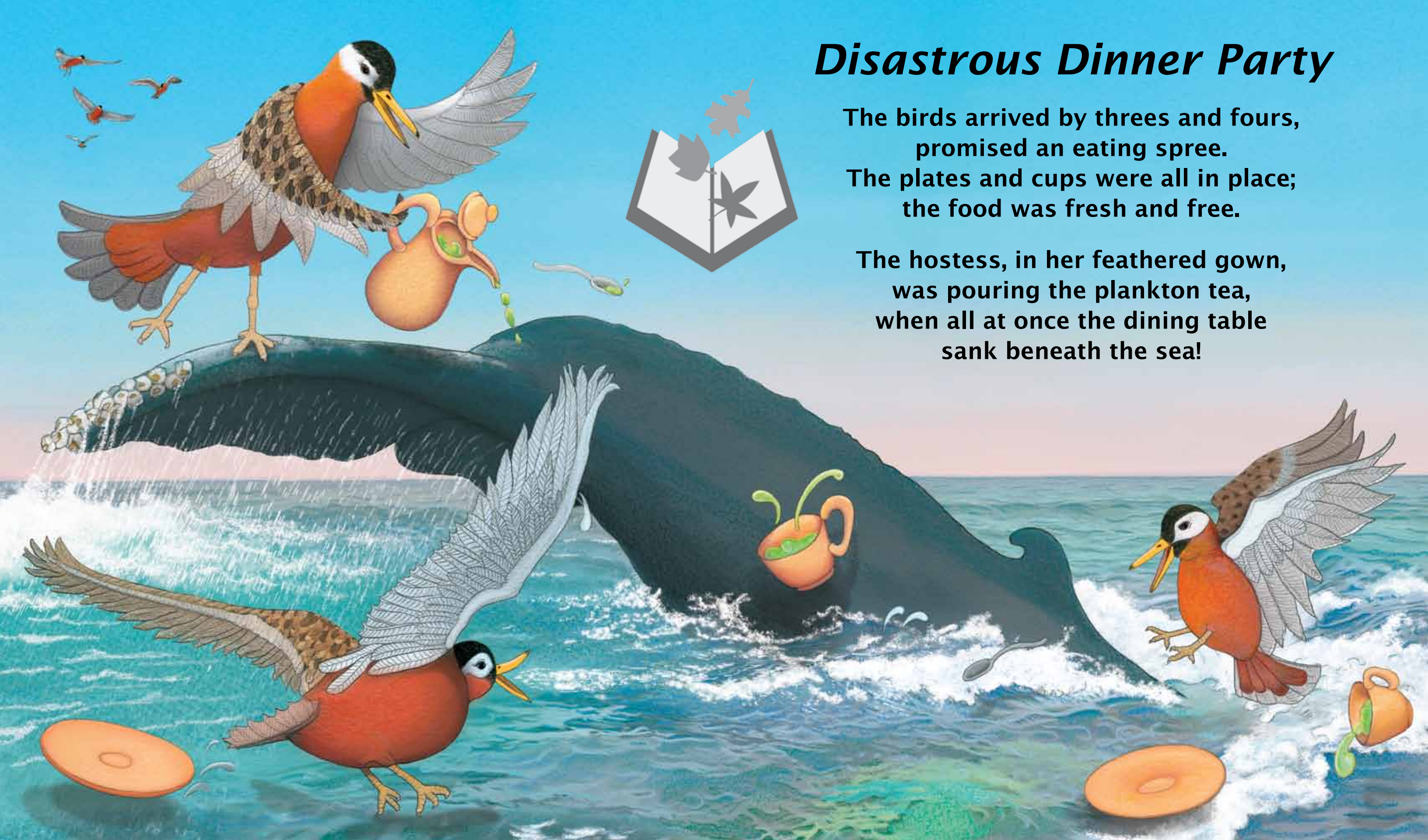
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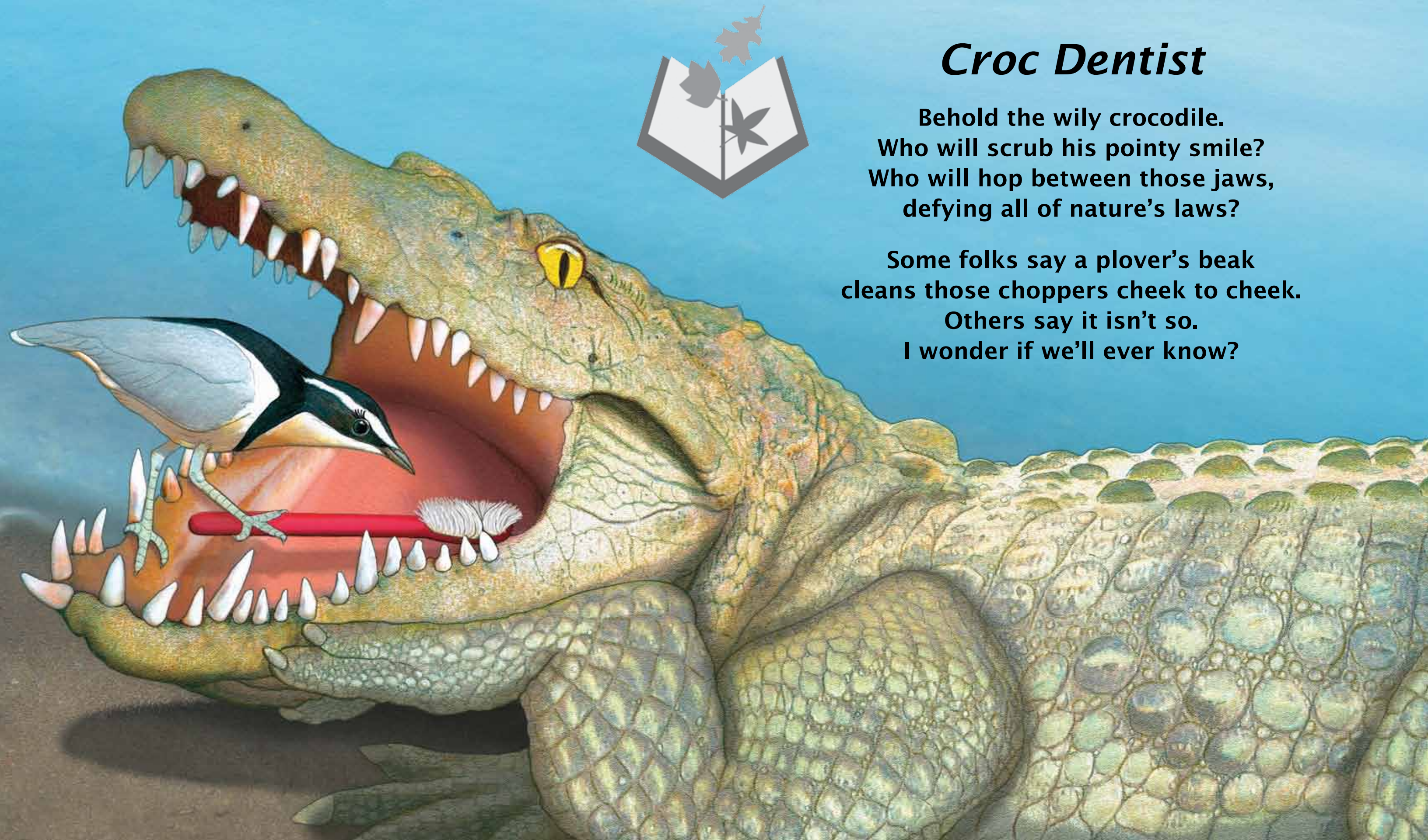
# *Disastrous Dinner Party*

The birds arrived by threes and fours,  
promised an eating spree.  
The plates and cups were all in place;  
the food was fresh and free.

The hostess, in her feathered gown,  
was pouring the plankton tea,  
when all at once the dining table  
sank beneath the sea!







## ***Croc Dentist***

**Behold the wily crocodile.  
Who will scrub his pointy smile?  
Who will hop between those jaws,  
defying all of nature's laws?**

**Some folks say a plover's beak  
cleans those choppers cheek to cheek.  
Others say it isn't so.  
I wonder if we'll ever know?**





# ***Sea Turtle's Lament***

**Barnacle, o barnacle,  
where'd you come from, barnacle?  
Were you born or were you hatched?  
How'd we come to be attached?**

**We're not alike, as you can see.  
Why are you so stuck on me?  
And why my foolish fascination  
with such a clingy, crude crustacean?**



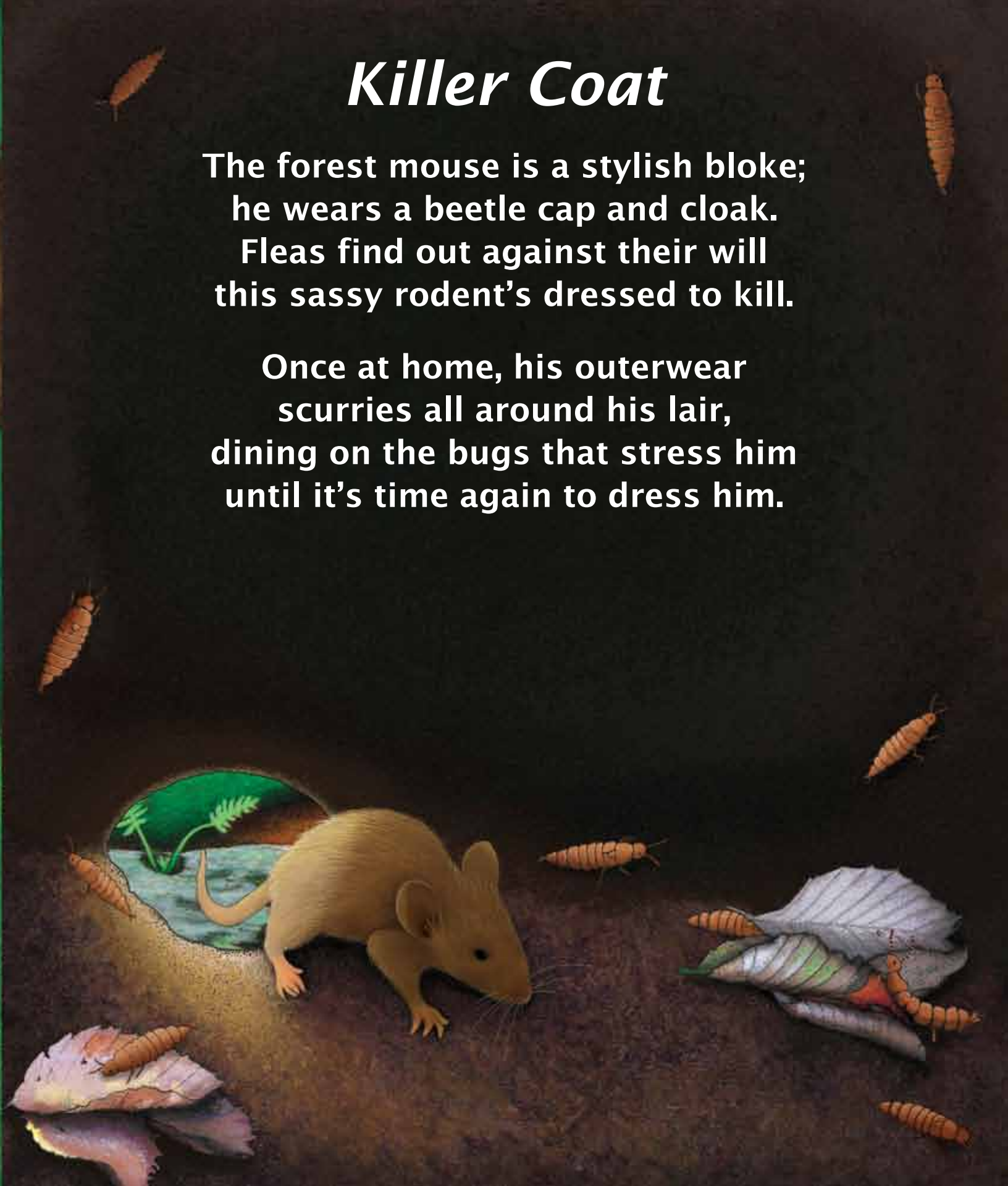




## *Killer Coat*

The forest mouse is a stylish bloke;  
he wears a beetle cap and cloak.  
Fleas find out against their will  
this sassy rodent's dressed to kill.

Once at home, his outerwear  
scurries all around his lair,  
dining on the bugs that stress him  
until it's time again to dress him.





# For Creative Minds

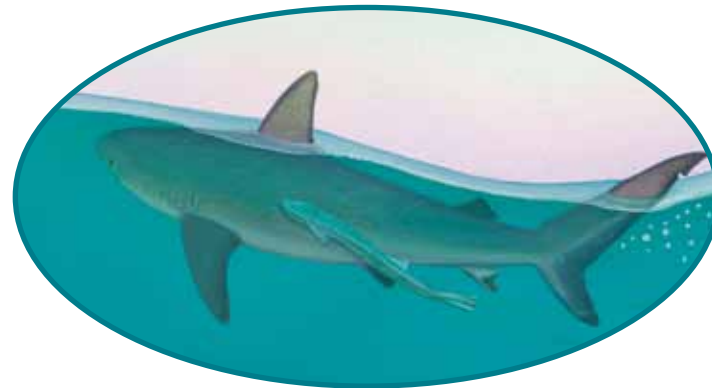
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## Helping Partners

Living in the wild can be hard. Not all animals can survive by themselves. Many animals live in families or even larger groups (herds, flocks, pods, etc.). Some animals team up in a close partnership with other kinds of animals. These pairings are called symbiotic relationships.

There are three types of these relationships:

- A “**win-win**” relationship (**mutualism**) means that the animals help each other and depend on each other to meet their own needs.
- In a “**win-stay the same**” relationship (**commensalism**), one animal benefits but the other one is not hurt or helped.
- One animal in a “**win-lose**” relationship (**parasitism**) wins by hurting the other animal. For example, a flea on a dog is a parasite. These insects guzzle blood to live. To get the blood, they attach themselves to dogs or other animals. The host dog or animals does not benefit at all. The parasites can pass germs that cause diseases.



## What Type of Partners?



**Mutualism:** One partner eats bugs and parasites from the other animal partner. The one partner gets food and the other partner stays clean.

- When whales come to the surface for air, red phalaropes (a type of sea bird) eat parasites from their backs.
- Egyptian plovers are sometimes called “crocodile birds” based on observations that these plovers pluck bits of meat from the teeth of open-mouthed crocodiles. Scientists are still studying this relationship.
- Up to thirteen beetles cling to the Costa Rican cloud-forest mouse’s fur and face, eating fleas. When the mouse sleeps, the beetles eat bugs in the mouse’s burrow.
- Banded mongooses eat ticks from warthogs.
- Tickbirds eat ticks and flies from the backs of rhinoceroses.
- Sally lightfoot crabs eat algae from marine iguanas that live on the Galapagos Islands.
- At a “cleaning station,” wrasses eat parasites and algae from fish and eels. They might even swim into the mouth and gills of the fish being cleaned!

**Mutualism:** One partner uses the other one to scare away predators or to attract prey. The smaller partner eats food left over from the larger partner’s meal.

- The boxer crab holds a sea anemone in its pincers, waving it to scare away predators.
- Atlantic horse mackerel live between the tentacles of the Portuguese man-of-war. Somehow they avoid being stung and are protected from predators. The fish’s bright colors, as well as its small size, attract prey for the man-of-war.

**Commensalism:** One partner rides on the other partner without hurting the ride-giver.

- “Fake scorpions” (pseudoscorpions) catch a lift from flies and other insects by holding onto legs or abdomens.
- Remoras cling to sharks and a few barnacles hitch rides on sea turtles or whales.

**Commensalism:** One partner hides from predators without hurting their animal partner.

- Emperor shrimp avoid predators by hiding on the skin of sea cucumbers.

**Parasitism:** Some good relationships can turn bad.

- A few barnacles hitching a ride on a sea turtle may not hurt the sea turtle (commensalism) but too many barnacles may cause the sea turtle to not be able to swim as well, hurting the turtle.
- If tickbirds peck at and draw blood from backs of rhinoceroses, they end up hurting their “friends,” turning a mutualistic relationship into a parasitic relationship.



## Match the Animal Partners

Find the animals partners that belong together.



barnacle



Sally lightfoot crab



mackerel



red phalarope



fake scorpion



Portuguese man-of-war



whale



sea turtle



fly



marine iguana



beetle



tickbird



mongoose



wrasse



emperor shrimp



eel



sea cucumber



rhinoceros



Costa Rican cloud-forest mouse

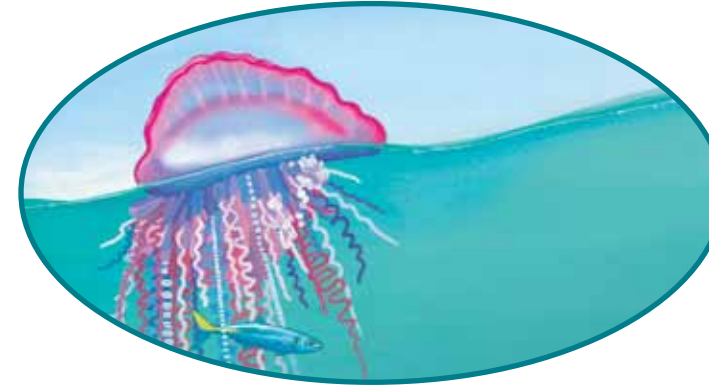


warthog

Answers: barnacle/sea turtle; Sally lightfoot crab/marine iguana; mackerel/Portuguese man-of-war; red phalarope/whale; fake scorpion/fly; beetle/Costa Rican cloud-forest mouse; mongoose/warthog; tickbird/rhinoceros; wrasse/eel; emperor shrimp/sea cucumber

## Match the Habitat

Which animal partners live in the ocean and which live on land?



mackerel/Portuguese man-of-war



beetle/Costa Rican cloud-forest mouse



mongoose/warthog



emperor shrimp/sea cucumber



wrasse/eel



tickbird/rhinoceros

Answers: Ocean: mackerel/Portuguese man-of-war; emperor shrimp/sea cucumber; wrasse/eel; Land: beetle/Costa Rican cloud-forest mouse (rainforest); banded mongoose/warthog (African savanna); tickbird/rhinoceros (African savanna)



To my family, with whom I share a mutualistic (“win-win”) relationship.—SC  
 While doing research for the illustrations, I cruised out to Stellwagen Bank Marine Sanctuary on a New England Aquarium Whale Watch boat. Out on the sea I, in awe, witnessed humpbacks and minke whales breaching and feeding. My heartfelt thanks goes out to my family and friends for their continued support of my work. *Danke vielmals*—SB  
 Thanks to Science Writer Loran Wlodarski for verifying the accuracy of the information in this book.

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