### 6 The Things Honu Do

You don't move around among a different species for most of your life without learning to read a lot of their body language, especially since it's in such large print.

— Terry Pratchett, Lords and Ladies

#### Honu behavior

The only way to observe most *honu* behavior is to dive with them using scuba. Even then, you will need many dives and some patience before patterns begin to emerge.

Since we've been lucky enough to dive for many years with the same turtles, we've collected pictures and videotape of *honu* engaging in all sorts of activities. We've studied these images and watched carefully in the water, and in this chapter we want to describe what we've seen. We'll tell scuba divers what to look for and give nondivers some idea of what *honu* are up to down there.

#### Honu in motion

Before we describe what we've seen *honu* do, we need to provide a little background about the language we use to describe *honu* as they swim.

Like most people, we used to think of turtles as slow, ungainly creatures. Then we saw a swimming *honu*. Their similarity to giant, graceful birds struck us immediately. That's why we often use avian terms in our descriptions.

We say that a swimming turtle is "in flight." Turtles getting up to leave are "taking off." Swimming *honu* "bank" to turn and "glide" to a "landing." Admittedly, landings are the least elegant part of the *honu* repertoire—they'll bump and scrape bottom, but that's true of some pilots, too.

Later we discovered how natural our inclination was. After all, both air and water are fluids, and the way birds and honu move through them is remarkably similar. The turtles use their front flippers to swim in almost the same way that birds use their wings to fly. When you see a honu in silhouette from below, the resemblance of the forelimbs to the wings of gliding birds such as frigate birds and terns is obvious.

In fact, scientists commonly use terminology borrowed from aviation to describe swimming marine turtles. Further, the shell of the *honu* has evolved to a streamlined wing shape that reduces drag and increases lift, so the comparison to flying is as appropriate as is it irresistible.

#### The observations

Assume that you've found a *honu kuleana*. You've mastered the techniques of recognizing when *honu* are uncomfortable and making them at ease. The turtles begin to trust you. What will be your reward?

As soon as the turtles are satisfied that you aren't a threat, they'll go back to their normal behavior. Your reward is to be ignored.

This is exactly what you want, because it lets you observe the daily life of *honu*, which can be interesting, educational, fun, and even funny to watch. If you're careful and really lucky, you'll win the ultimate prize: being treated like another turtle.

While we don't believe for a minute that *honu* mistake us for other sea turtles, we do know that they often treat us the same way that they treat their own kind—or at least like something big that is of no threat or consequence to them.

For example, we've noticed that a turtle swimming over the reef often changes course to get a look at a resting turtle. We therefore find a place to settle where we won't damage the reef, then stay quiet, exercise patience, and just observe. There's a reasonable chance that a turtle will approach.

If the *honu* is just curious, when this happens all you need do is keep your position and enjoy the encounter. Most of the time, the turtle takes a good look, decides you're not really that interesting, and continues onward. There are occasional exceptions, however.

One common "fly-by" involves an approach so close that there is slight contact, such as a gentle brush with a flipper. Perhaps a turtle will try this with you. If so, just relax and let it happen. It will be brief and surprisingly delicate, and you'll have a great story to tell your friends.

Once in a while, you might find that you've occupied the part of the reef that the approaching *honu* wants. Some turtles think they can use the same intimidation tactics on you that they use on other turtles. If you meet a *honu* that is determined to bully you, here's what to remember.

First, the right thing to do is just let the turtle win and give way. It's the turtle's home, not yours. Since you're an uninvited guest, please mind your manners and move well aside.

Next, keep in mind that *honu* don't attack. Instead, they use their size and natural armor plating to get what they're after. They might push you or settle down on you, but *honu* are not likely to bite. Besides, almost any act of resistance will probably drive the *honu* off, which is the last thing you want to see happen.

The turtles don't always try to muscle you away. Sometimes they are content to share their space. The *honu* glides in and plops down right next to you. This is one of the greatest thrills, because it means that the turtle has decided that you aren't a threat. Your obligation is to repay that trust by respecting the turtle. Look, but don't touch. When you move, move away from the turtle. Reinforce the idea that you're not harmful.

Honu, like most wild animals, take their cue from their companions. If you come upon a group of turtles resting together and one is startled into leaving, chances are that the herd instinct will take over and others will do likewise. On the other hand, if one of them is a tolerant turtle and shows no concern about your presence, the others notice and are more likely to stay.

Setting a good example is important when a turtle tries to bully you. The *honu* that is trying to intimidate is obviously unafraid, but what of other turtles that might be watching? If you show that you'll yield to a turtle, they'll gradually lose their fear of you. Eventually, you'll be able to get a much closer look.

One last point to keep in mind: Real etiquette means that you pay attention, learn which spots *honu* prefer, and don't squat in them. After all, it's their reef.

#### Disclaimer

Over the years, we've been privileged to witness countless turtle interactions. The problem is that we really don't know why honu act the way they do. We can tell you what they do, but we can only guess at the why. Sometimes their motivation seems obvious, such as the classic turtle turf



Makana, Hawaiian for "gift," usually occupied the same spot underneath a coral ledge on a reef finger that we soon began calling Makana's Ridge. On this occasion, the little juvenile had sat patiently for several pictures but eventually decided that enough was enough. This flipper swipe told us that the shoot was over.

tussle, but other actions look almost random. Perhaps they are — or perhaps *honu* have motives we just can't comprehend or weren't around to witness.

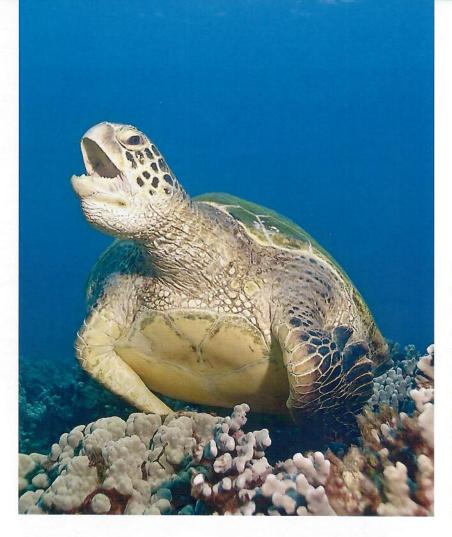
At any rate, the descriptions that follow are faithful reports of what we've seen *honu* doing, but we can only speculate why they are doing it. We thought that it is important to point this out.

#### Honu body language

We can't be sure that *honu* communicate to each other by the way they position themselves and the motions they make, but after seeing various postures and actions repeated so often, we find it hard to conclude otherwise. What follows are examples of "Turtle Talk" — a kind of *honu* body language — and what we think they mean.

Note that while these are *honu*-to-*honu* signals, we've seen them used on humans. Remember, once the turtles accept you as nonthreatening, they'll treat you much the same as they treat each other.

THE FLIPPER SWIPE. If *honu* signals were mountains, this one would be Mauna Kea, the Big Island volcano that's taller than Mount Everest



Wana, having just returned from taking a breath at the surface, asserts a claim to her spot by summoning up a yawn. In particular, the serrated lower jaw makes it an intimidating display. The honu are not likely to bite you, however.

from base to summit. It's the most important signal to recognize. The *honu* extends a flipper and brushes it briskly down from the eyebrow and past the cheek. It can be a casual swipe, done just once, or it can be a vigorous movement that is often accompanied by exaggerated neck and head motions.

The flipper swipe is a definite sign of irritation and serves as a rebuke: "Go away, you bother me." We've seen *honu* make this gesture toward other turtles, divers, and even fish. It's a clear and strong proclamation of annoyance, the equivalent of a human shaking a fist. There is no ambiguity in meaning here—if you see it, you should be immediately on your way.

THE YAWN. Turtles can't really yawn underwater, but they seem to do it anyway. They extend the neck, gradually opening the mouth to a gape and then slowly closing it. This is exactly the same as for a yawn, but of

If a honu has found a place to rest peacefully, there's a good chance another turtle will try to take the spot away. Although no other honu is in sight, an arriving turtle often decides that the only place to rest is the one that's already occupied. These pictures illustrate the typical spot-usurping strategy as exercised against both honu and human: Approach from behind and nip the rear flipper.





course no air is involved. Sometimes the *honu* holds the gape while gazing purposefully around.

The yawn seems to be a territorial signal. You'll see turtles do it most often immediately after they land. We think that in those circumstances the turtle is announcing, "I'm here now and I plan to stay."

The other common use of the yawn occurs when another turtle (or

diver, for that matter) approaches. In this case, it seems to mean, "I feel crowded. Back off!" Naturally, you will.

Between turtles, an unheeded yawn can turn into a squabble. One turtle turns the yawn into a snap at the other. Usually the *honu* with the bigger gape wins. This is because a big yawn usually has a *big* turtle behind it.

THE NIP. On occasion, one turtle will nip lightly at another, usually on the trailing edge of a hind flipper. It seems to be more of a way to make a point rather than an attempt to injure. We've noticed that a nipping *honu* generally wants another turtle to move—a claim-jumping tactic, in other words.

We've had over 2,500 scuba dives with the *honu*, and perhaps half a dozen times a *honu* has nibbled at one of our flippers. We see those incidents as examples of the way tolerant *honu* treat divers as other *honu*. It's not a frightening experience at all; in fact, it's rather cute.

THE HEADBUTT. The headbutt — or if it's done from behind, the "goose" — is clearly another way to grab territory. The head goes down, the neck is drawn into a tuck, and the *honu* runs into the other turtle and shoves. This usually results in the victim moving, either voluntarily or not, and a new land claim for the perpetrator.

Occasionally the original occupier refuses to move or even contests the attempt. More often, the *honu* simply shifts over or leaves with a few flipper swipes toward the invader.

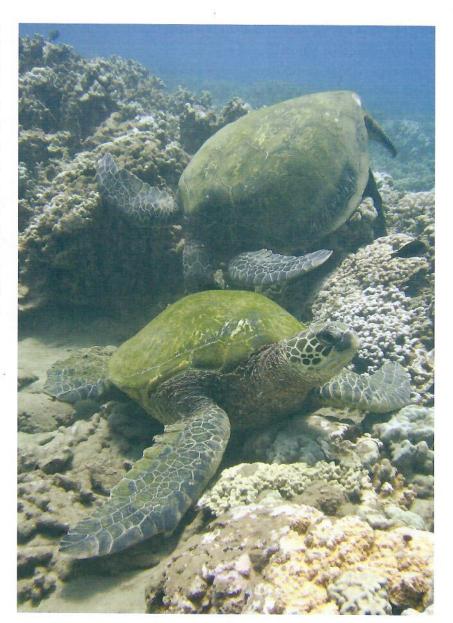
If you've earned the *honu*'s trust, and if you lie quietly watching them near prime *honu* resting terrain, you might well be subject to a headbutt — or maybe you'll be startled by a goose. In either case, there's nothing to fear. There's no sudden impact. You'll abruptly become aware that something big is trying to move you — but surprisingly gently. Of course you'll give the *honu* the space. After all, you are loitering near their bedroom.

THE TUCK. A turtle feeling crowded or imposed upon might show it with this posture: a subtle drawing in of the head, often with front flippers tucked under the plastron. The turtle seems to be trying hard to look grumpy. The result is a genuine turtleneck, just like the sweater.

This posture indicates that you've unwittingly gotten too close. Usually, backing away and allowing just a bit more space is enough to reassure the turtle and put it in a more social mood.

THE SPRAWL. This posture really isn't a signal, it's more of a statement. The meaning should be obvious to any couch potato. The turtle is completely comfortable and laid back. The translation is, "My universe

Another classic claim-jumping tactic is in progress. The honu in the foreground is about to be rudely butted from behind. On this occasion, the victim meekly surrendered the spot without a fuss or any sign of displeasure. Honu are typically mild mannered and easygoing.



is unfolding as it should." Like content humans, this is the mood a turtle seems to prefer. Remember that your approach, especially when made carelessly, can change that mood.

A sprawling *honu* is at rest. A turtle at rest prefers to stay at rest until the time comes to breathe. Few creatures like to remain at rest as much as Hawaiian green turtles do. They're great at doing nothing all day. They don't hang out "Do Not Disturb" signs, but they shouldn't need to. Re-



It would be hard to find a turtle more laid back than Amuala. That's one of the reasons we chose him as a subject for George Balazs' studies. He's also provided us with numerous photo opportunities. On this particular shoot, he'd allowed several photographs but finally had enough. He showed us the tuck. He retracted his neck, hunched his head down, and just generally tightened his body to signal that the shoot was over. This is a *honu* "grump," and a respectful diver will leave quietly.

member, making them move when they don't want to is a prime violation of *honu* etiquette and the Spirit of Aloha — not to mention the law.

#### The honu's castle

Your home might be your castle, but if you're a *honu*, your castle is where you like to rest. The nature of the *honu* is such that where they rest is the same place that they rested yesterday—and the day before that, the month before that, and probably even the year before that. In other words, they have what scientists call "site fidelity to underwater refugia,"



One of the reasons honu are so amusing to watch is their obvious delight in just lying around, even in awkward positions you'd think were uncomfortable. Here two honu illustrate the posture we call the sprawl, conveying a tranquil mood that we find equally relaxing.

which is a fancy way of saying that they are extremely faithful to specific spots on the reef.

It has long been accepted that *honu*—and sea turtles in general—prefer to remain in the same small area. Even before scientific studies provided confirmation, there were numerous anecdotes about turtles with strong site fidelity. For example, fishermen reported accidentally catching the same turtle repeatedly at the same spot. Even when the "nuisance" *honu* was transported and released many miles away, it would not be long before the fishermen would pull up their nets only to find that their nemesis had returned.

After we had been diving with the *honu* for a while, we realized that this site preference was a lot more specific than anything we'd found reported. We noticed that the same turtles rested in *exactly the same place* on the reef—year after year after year! In fact, the location where we see a *honu* turns out to be a reasonably reliable way to know who that *honu* is. It's not perfect, of course, so we don't depend on this technique for anything but a sense of who's around, but it is still a useful thing to know.

Perhaps the most impressive turtles in this respect are the ones that



Another joy of long-term observation: In the late 1980s there weren't many turtles at Hono-kōwai. We'd seen fewer than a dozen *honu* before we met this turtle in 1990. She carried tags and was the largest *honu* we'd ever seen. She felt so old to us that we called her Tutu, Hawaiian for grandmother. How wrong we were. Later we discovered that Tutu was a young adult female back then. Her first recorded nesting season was just two summers before. Every summer for the next fifteen years, either we saw Tutu or the monitors at French Frigate Shoals did. This photo is one of a series, taken as she took advantage of a pointed coral mound for a plastron scratching session. The worn coral shows how much Tutu and other *honu* use this location.

migrate to the nesting grounds and then come back to settle into precisely the spot on the reef that they'd left months earlier.

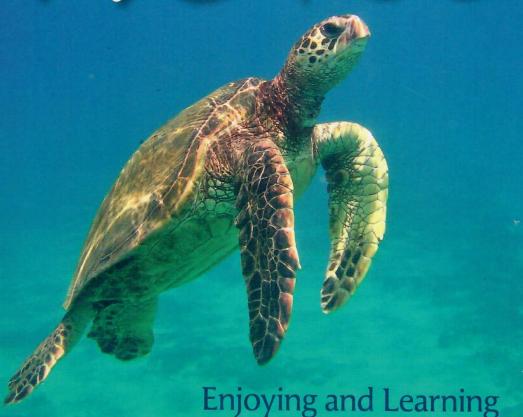
Some Honokowai females have external tags. In other cases, we've recorded the external temporary marking made at the French Frigate Shoals and reported it to George Balazs. Every summer, we compile a list of the females that we've identified and that we expect to migrate. The fine folks monitoring the nesting beach keep watch for these *honu*, verifying that they've nested. We then wait patiently for their return.

Tutu (U521), Shredder (A240), Mendelbrot (U359), Tiamat (122C), Pu'i-

pu'i (U249), Lomi (U164), and Raphael (PIT tag) have all made the risky journey, most of them several times. They all have reliably returned to the reefs of Honokōwai after each trip. We can count on Tutu and Tiamat in particular to snuggle down into precisely the places that they left several months before.

The faithfulness of sea turtles to their nesting beaches is legendary. Based on our observations at Honokōwai, the faithfulness of the *honu* to their special spots on the reef is equally remarkable.

# THE BOOK OF HHONOMA



Enjoying and Learning about Hawai'i's Sea Turtles

PETER BENNETT AND URSULA KEUPER-BENNETT

#### To Clothahump

Clothahump, the first sea turtle we ever met, known at our dive site from 1988 to 1993. Sketch in watercolor pencil on illustration board, 10" x 15". Ursula Keuper-Bennett, winter 2003.

© 2009 University of Hawaiʻi Press All rights reserved Printed in the United States of America

14 13

6 5 4 3 2

Library of Congress Cataloging-in-Publication Data Bennett, Peter, 1947-

The book of honu: enjoying and learning about Hawai'i's sea turtles / Peter Bennett and Ursula Keuper-Bennett.

p. cm.

"A Latitude 20 Book." Includes bibliographical references. ISBN 978-0-8248-3127-1 (pbk.: alk. paper)

1. Green turtle—Hawaii. I. Keuper-Bennett, Ursula, 1949— II. Title.
QL666.C536B46 2008
597.92'809969—dc22

2008008660

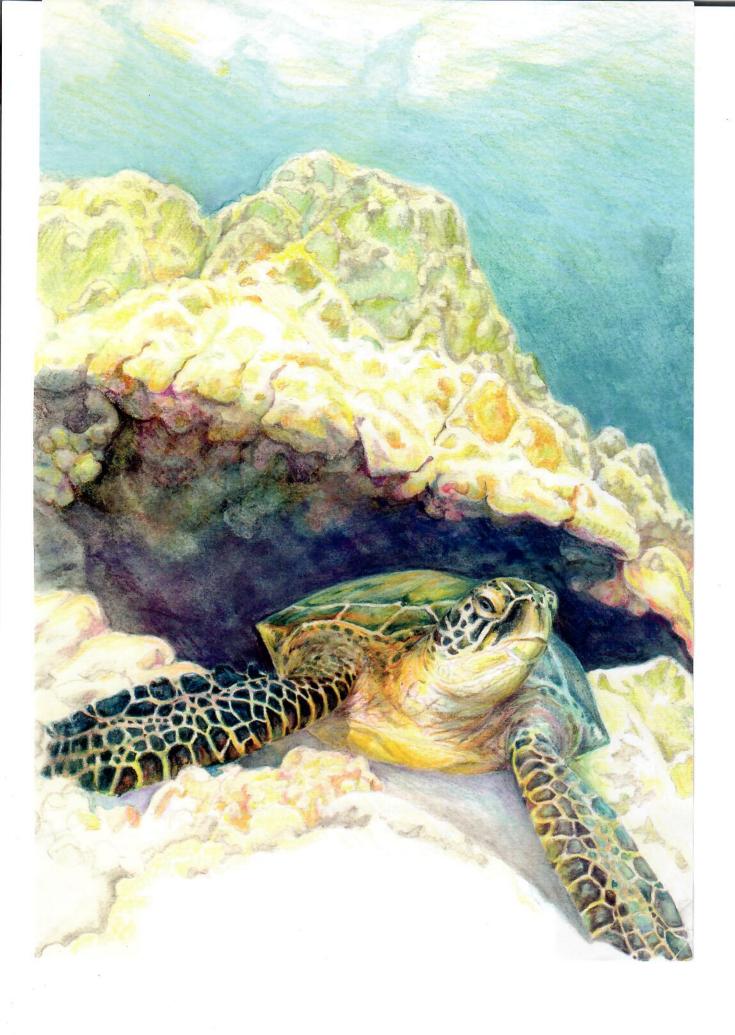
University of Hawai'i Press books are printed on acidfree paper and meet the guidelines for permanence and durability of the Council on Library Resources.

Designed by April Leidig-Higgins

Printed by Sheridan Books, Inc.

## HONU

Enjoying and
Learning about
Hawaiʻi's
Sea Turtles



#### Contents

Acknowledgments ix

#### 1 How It All Began 1

A promise kept 1 Finding answers 2

#### 2 So You Want to See a Turtle 5

Best place in the world to see sea turtles 5
Spotting honu without getting wet 6
Snorkeling with honu 14
Kayaking with honu 18
Diving with honu 20
Finding honu underwater 23
The nature of honu 26

#### 3 About Honu 29

Why are they called green turtles? 29 A little sea turtle biology 29

#### 4 Life as a Honu 43

The honu's life cycle 43
Nesting 47
Hatchlings 53
New arrivals 60
Younger and older honu 63
Sorting out the sexes 65

#### 5 Honu at Home 69

Honu homebodies 69 The kuleana and its 'ohana 69 Honu at rest 78 Honu feeding 78 The faithful *honu* 85 Social structure 86 Can't we all just get along? 86

#### 6 The Things Honu Do 89

Honu behavior 89 Honu in motion 89 The observations 90 Disclaimer 91 The honu's castle 97

#### 7 Those Other Guys 101

'Ea 101 Other strangers 104

#### 8 Honu Relationships 109

Honu and ancient Hawaiians 109 Honu in the era of exploitation 111 Honu in the era of protection 112 Honu today 113

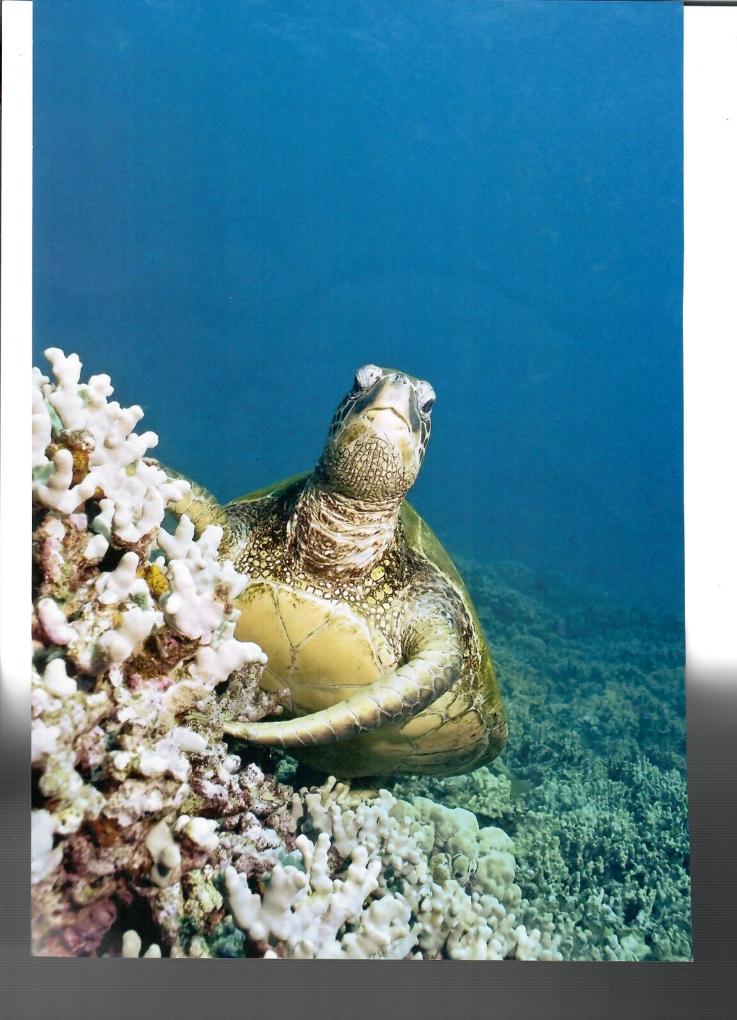
#### 9 Honu in Distress 119

The good news 119
Hatchlings as prey 120
Swimming with sharks 120
Humans and honu 125
FP and honu 130

#### 10 Of Honu and Foxes 137

A perfect allegory 137

For further reading 141



#### Acknowledgments

This book would not exist without the help and encouragement of numerous people. First among these is our mentor and good friend George H. Balazs, who taught us not only about turtles but also how to approach a subject (not just turtles, but any subject) in a thoughtful, rigorous, and scientific manner.

We are equally indebted to Jose Danobeitia, one of the original founders of MVS Solutions Inc. and president since its inception. His support for our efforts has never flagged, and without it our turtle experiences simply would not have been possible.

We also must thank (in no particular order) Eve Clute, Skippy Hau, Glynnis Nakai, Tim West, Randy Miller, Mickey McAfee, John Gorman, Kalei Tsuha, all the owners of Captain Nemo's/Pacific Dive over the years, the numerous beach people of Kamehameha Iki Park (who have helped protect 5690's nests and hatchlings), and especially Blue Robinson of the Nohonani and its resident managers, George Kragca and Pete Macdonald (both deceased), Pat Cerretani, and Bill Lentz. Special thanks to Wayne and Margot. Thanks to our editors Keith Leber and Lee S. Motteler, and to the University of Hawai'i Press for taking on this project.

Finally, thanks to everyone who cares about the turtles. They need all the friends they can get.