

THE
FLORIDA
SPINY LOBSTER

How to Catch It, Its Biology,
A Crawfish Cookbook,
and First Aid for Minor Diving Injuries

John Kappes



The Florida Spiny Lobster

The Florida Spiny Lobster

How to Catch It,
Its Biology,
A Crawfish Cookbook
and
First Aid for Minor Diving Injuries

John J. Kappes

Universal Publishers
Boca Raton, Florida

*The Florida Spiny Lobster:
How to Catch It, Its Biology, a Crawfish Cookbook, and First
Aid for Minor Diving Injuries*

Copyright © 2007 John J. Kappes
All rights reserved.

Universal Publishers
Boca Raton, Florida • USA
2007

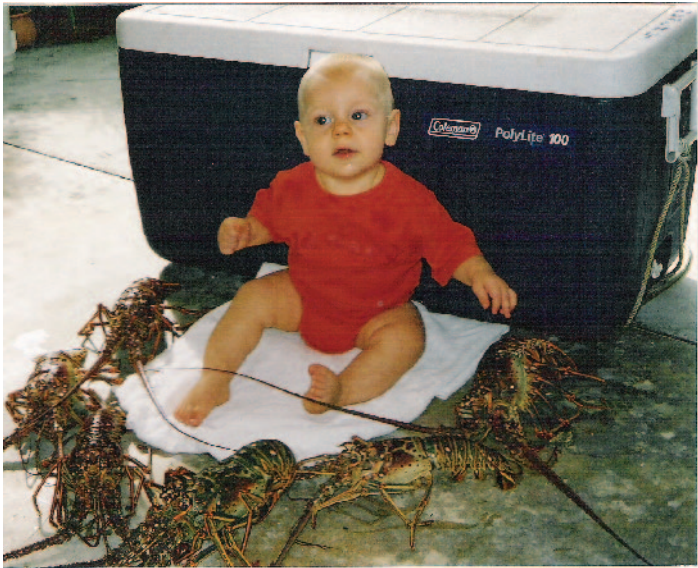
ISBN: 1-58112-970-X
13-ISBN: 978-1-58112-970-0

www.universal-publishers.com

Front cover: Frontal view of the Florida Spiny Lobster.

Back cover: Kathy Kappes McMillan (right), the author's daughter, and Candis Pezet (left), the author's granddaughter, with part of a day's catch of crawfish. Kathy and Candis have been diving for lobsters since they were old enough to put on a pair of flippers. Candis is the mother of Dylan, to whom this book is dedicated.

The front and back cover photographs were taken by Debbie Klein of Oceanographics Corp.



To Dylan
Son of the Sea

ACKNOWLEDGEMENTS

It was diving at night for *Panulirus guttatus*, the little spotted lobster, with a biologist named Gary Beardsley that I first became acquainted with the lobsters that live in Florida's warm waters. Many times, in the pre dawn hours of the morning, I sat watching while Gary and other biologists meticulously recorded data on what we'd captured from a deep channel in Miami. My contribution to the catch was usually meager in comparison to theirs, but I will forever be thankful for the experience.

At first, my interest in the night's catch was purely gustatory, but as time went by I became more and more interested in the biology of these fascinating creatures. Even the stings of Portuguese man o' wars and the bites of moray eels couldn't dissuade me from observing them at every possible opportunity. I spent many hours, my nose pressed against the glass of an aquarium, watching crawfish eat, molt, and interact with other marine creatures. All of what I saw was interesting. Some of it was strange. Some of it was downright funny. Much of what I saw is contained in the pages that follow. This small work is the culmination of many years of being mesmerized by this spiny animal that looks like it's walking it its sleep.

For much of what I've written on the biology of the spiny lobster, I've stood on the shoulders of scientists like William Herrnkind, Martin Moe, and Gary Davis. These are just a few of those whose work I have read and from whom I have borrowed, and I hope that I have done their work justice. Martin Moe's monumental work, "Lobsters", is a must-read book for anyone who has interest in the crawfish.

John J. Kappes

I would like to thank Captain Ed Davidson of Marathon, Florida, Greg Glass of Islamorada, Ed Buck, of Philadelphia, and my son, John, for their input and encouragement. Also, Karen Namoff ARNP, for giving her time in reading the section on minor diving injuries and making pertinent recommendations. Not least of all, I'd like to thank my wife, Annette, for her patience and input.

TABLE OF CONTENTS

INTRODUCTION	11
BAG THAT BUG:	
HOW TO CATCH THE SPINY LOBSTER	13
The equipment	15
Finding your prey	18
Bagging the bugs	21
Crawfish keep some nasty company	24
Use common sense	27
Bullynetting	28
Bullynetting equipment	29
Taking care of your catch	32
Laws regulating the spiny lobster	33
Some areas are closed to lobstering	35
You have a special obligation	36
THE BIOLOGY OF THE SPINY LOBSTER	38
Where are its claws?	41
Where are they found?	46
What does the spiny lobster eat?	47
Where do little lobsters come from?	50
Knights in armor	66
How fast do they grow?	72
Regeneration	75
Natural enemies and defense	76
Nomads in armor	78
A strange ritual	82
A CRAWFISH COOKBOOK	83
Boiled lobster	83
Broiled lobster	83
Stir fried pineapple lobster	84

French fried lobster	84
Lobster stew	84
Crawfish enchilada	85
Gulf coast crawfish chowder	85
Broiled stuffed lobster	86
Lobster with vanilla sauce	87
Lobster dill wraps	87
Baked stuffed lobster	88
FIRST AID FOR MINOR DIVING INJURIES	89
Coral cuts and abrasions	89
Jellyfish, fire coral, and related stings	91
Scorpionfish and stingrays	96
Sea urchin spines	99
Sunburn.....	100
Err on the side of caution	101
Diver's first aid kit	102
INDEX	103
ABOUT THE AUTHOR	107

INTRODUCTION

Long before the white man came, it was a staple in the diet of the Calusa Indians who speared them from dugout canoes. Later, it fed the settlers of the Florida Keys and the builders of the long ago disappeared overseas railroad snacked on it. Today, the Florida spiny lobster, known locally as the crawfish, is the basis of a multi-million dollar commercial and sport fishing industry, and it is among the most hunted of nature's creatures. Even though its capture is strictly regulated by federal, state, and local laws, an estimated eighty percent of Florida's adult crawfish population falls victim to an almost overwhelming human onslaught each year.

The ability of the crawfish to survive under nearly interminable pressure from commercial fishing, sport divers, natural predation, disease, poaching, and habitat destruction is a testimony to its biological resiliency. Biologists figure that just about every adult lobster of legal size between Miami and Key West is killed during the legal crawfishing season, which runs from August 6th to March 31st, not to mention the illegal harvest which, everyone agrees, is substantial and goes on all year long. I've even heard the locals joke that the season never closes in the Florida Keys. Even so, by the time a new season comes around the crawfish population has usually replenished itself enough to give all but the unluckiest divers some success at catching them.

But some credit for the survival of this delicious decapod should go to the National Park Service for its decision to create lobster sanctuaries, first in Biscayne National Park and later in Everglades National Park. The Marine Sanctuaries that have been established

throughout the Florida Keys will also enhance the survivability of the species.

Not everyone agreed with the creation of the lobster sanctuaries. Divers who were suddenly cut off from their secret Florida Bay lobster holes screamed in anguish. Cries that this would mark the beginning of the end for commercial crawfishing were heard all the way to Washington when plans were first announced. But quite the opposite turned out to be true. As biologists predicted, the sanctuaries became nurseries for lobsters that eventually restocked reefs as far away as Key West, Dry Tortugas, Palm Beach, and beyond. Indeed, the spiny lobster fishery may have been saved from total collapse. Scientists believe that the new sanctuaries in the Florida Keys will help even more.

BAG THAT BUG: HOW TO CATCH THE SPINY LOBSTER

Call 'em what you want, crawfish, Florida lobster, bug, or spiny lobster. For the inexperienced lobster hunter, catching the spiny prey may be the most frustrating experience of a lifetime. I know. I've experienced it. Time was when I trailered my boat a hundred miles, rented an expensive motel room, spent a fortune on equipment, suffered an agonizing sunburn, experienced the painful stings of fire coral, hydroids and sea lice, got bitten on the hands by moray eels, and caught few, if any, lobsters.

I was even masochistic enough to stand at the dock and watch boatload after boatload of the spiny delicacies being unloaded by veteran lobster hunters who knew where to look and how to catch them. It was a humbling experience, and I have not yet fully recovered from that near fatal blow to my self-esteem. What follows might help you to avoid having the same experience.

The first bugs you go after will probably get away, but don't give up. You'll get better. I promise! Nothing will help your chances of catching those spiny rascals more than practice. As the saying goes, practice, practice, practice! And if you can tag along and watch someone who knows what they're doing, do it. One day with someone who knows how to catch your elusive prey is worth an entire season of trial and error on your own. Maybe he'll even chase a few your way.

It has been said that five percent of the divers catch ninety-five percent of the lobsters that are caught, and it's probably true. Unfortunately, the divers that catch them are usually tight-lipped about where they catch

them because they know that a good spot can remain productive for a long time if it's not over fished. They'll even use devious means to misdirect other divers, a tactic that I fell for quite a few times myself. And I must admit, I too am very reluctant to reveal my best spots.



Fig. 1. Spots that are loaded with keeper-sized lobsters can be found by the determined diver.

That means that the lonely neophyte is pretty much on his own, but not without a good chance of success if he's patient, has the right equipment, he's willing to accept that catching the first few of the elusive decapods isn't going to be easy, but that the reward at the dinner table will make it all worthwhile.

There's never a guarantee that you'll always get lobsters. This is particularly true late in the season when most of the keepers have been caught. Sometimes all you'll find will be "shorts" (lobsters that don't meet the

THE SPINY LOBSTER

minimum size law). It happens to the best of lobster hunters. It's a fact that many of the experienced divers hang their tickle sticks up after the season is a few months old and wait until the following season to start hunting again. But just keep on trying. Maybe you'll find that mother lode of lobsters that's been missed by everyone else, and you'll get your limit.

THE EQUIPMENT

The equipment you'll need is fairly simple, inexpensive, and easy to find. Many divers simply buy a "Lobster Assassination Kit" (doesn't sound very sporting, does it?). These are available in most South Florida dive shops and usually include the essential pair of gloves, a tickle stick, a hand net, the mandatory lobster gauge, and a bug bag. You can buy the kit or you can put one together yourself.



Fig. 2. The equipment necessary for catching lobsters includes a diver down flag, measuring gauge, hand net, tickle stick, pair of gloves, and bug bag.

Some divers go for the tail snare (sometimes called “the loop”) instead of the net and tickle stick, and they swear that once you’ve tried the tail snare, you’ll never go back. It’s a clever device that’s been in use, in one form or another, by lobstermen in the Caribbean for decades. It’s made up of a hollow plastic or metal tube that may be two or more feet long. A sturdy monofilament or wire line runs through the tube and forms a loop at the end that can be placed around a bug’s tail and pulled tight by the diver. The business end of the loop is usually covered by a plastic coating that protects the lobster from injury should it be a short that must be released. This effective bug-grabber is likely to be found only in dive shops.

The tickle stick is usually a fiberglass rod about two feet long, sometimes with a bend near the end. Some divers use pieces of old fishing rods. I buy quarter inch aluminum rods and cut them into three-foot sections that can be bent to match the situation. Just don’t use something that floats or you’ll be chasing it to the surface every time you relax your grip on it.

The most popular nets have an aluminum frame with a hoop opening of about a foot in diameter. If you can locate one with a clear monofilament net, that’d be best, but they’re nearly impossible to find. Most nets come with blue or green nets, and they work just fine.

Gloves must be thick and sturdy enough to protect your hands from the lobster’s formidable spines. Grabbing a bug is like grabbing a fist full of nails. The difference is that a fist full of nails won’t flip, wiggle, scratch, and stab in an effort to get away. Our spiny catch also has sharp plates on its abdomen that overlap when it flexes its tail, and they work like scissors. They can give a nasty cut or pinch to an unprotected hand.

Dive shops offer more different kinds of gloves than you can shake your tickle stick at, but my favorites are

THE SPINY LOBSTER

the vinyl coated ones. They're tough, last a long time and only cost a few bucks. Dive shops always have them. I prefer the kind that's snug around the wrists. Turning them halfway inside out after a day of diving helps them to dry out better.

A measuring device (lobster gauge) is required by law and must be in the diver's possession while he's in the water. They're inexpensive and they're available at all dive shops in bug country. Tie it to the handle of your net or to your tickle stick so that it's easy to reach.

You are required by law to have a dive flag displayed when you're diving. It warns other boats that there's a diver in the water and that they should stay. Unfortunately, down flags are often ignored by boaters, and some boaters don't even know what the flag means.

The diver-down flag should be visible from 360 degrees and you should stay within 100 feet of it. Present regulations call for a diver-down flag displayed on boats to measure at least 20 x 24 inches. There must also be a stiffener to hold the flag out to maximize visibility. Diver-down flags on floats may still measure 12 x 12 inches.

If you're diving from shore, you should mount a diver-down flag on a buoy and tow it along with you. Buoyed dive flags are sold in almost all dive shops. Some clever divers rig a buoy from an inner tube or a Styrofoam ring that holds their flag and their catch as well. A snorkler might find it easier to throw his catch into a buoyed bag than to lug a bug bag around with him as he swims. A small anchor can be improvised to hold it over a spot that the diver wants to work at for a while.

A bug bag that has a one-way door that opens inward works great. With one of these gadgets you need only to shove your catch, tail first, through the trap

door and it'll swim into the bag. There's no fiddling around with drawstrings or purse latches. These are also available in dive shops. Make sure it has a drawstring at the bottom. That way you'll need only to loosen the string and shake them out. Don't forget to retie the drawstring before you go back for more. I did once, and when I turned to count my catch the bag was empty. It would have been pretty embarrassing if anyone had been around to see my lobsters walking out of the bottom of my bag.

Be sure to include a shirt that will protect your arms and body from the inevitable stings of fire coral and hydroids. I like the "skins" that I buy in my favorite dive shop. They cover me from neck to flippers. A buddy of mine wears old long-sleeved shirts and worn out long pants when he goes diving for lobsters. When he shows up at the dock, he looks more like he's going to paint the house than to go diving for lobsters.

FINDING YOUR PREY

Okay, now you have the necessary equipment. Your next trick is going to be finding the stilt-legged critters. This might prove to be the most difficult part of your lobstering expedition. Great-looking reefs that look like prime lobster habitat will be totally void of the spiny creatures, but a water-logged old sheet of plywood lying in the middle of nowhere might yield a limit. Finding good lobster spots takes patience.

You probably already know that lobsters are nocturnal, and that they tend to hide during the day. This means that you have to find their hiding places if you're going to catch them, and you might have to cover an awful lot of territory to do it. A lot of lobster hunters do their searching for lobster spots a week or so before the season starts. GPS and LORAN make it easy for

THE SPINY LOBSTER

them to return to any good spots they find. That way, if they get out early, they can beat other divers to the good locations. I've seen divers returning to the dock with their limit of lobsters when I was just starting out.

But don't just look for lobsters; look for places where lobsters might be hiding. A ring of bare sand usually surrounds structures where lobsters are hiding. It's a product of the foraging of lobsters and other critters that hide there. Look for the long, spiny antennae that can often be seen reaching out into the open water from the nooks and crannies in which they're hiding. But don't count on being able to see their antennae. Frequently, they're hiding too far back in a hole for their antennae to show.

Look for fish activity, too. I don't know if the fish attract the lobsters, the lobsters attract the fish, or if maybe both are attracted to some quality that a particular reef might have. I do know that a lot of fish activity near the bottom can be a tip that lobsters are close by. And when you dive down to check out a spot, listen for the croaking sounds that they often emit when they're disturbed.

Small patch reefs with big coral heads that are surrounded by turtle grass are great places to look because the bugs tend to be concentrated. Lobsters love to forage in the grass at night. Dive down and peek into the cave that exists under almost all big coral heads, but don't touch the coral! It's delicate. Let your eyes adjust to the dim light and take a good look. Sometimes our quarry is deep inside or even hanging upside down from the dark ceiling of the cave. Some divers take a flashlight along for this purpose even though it may be mid-day. If it's a big head and you're free diving, take several dives before moving along. Structures like this are worth a good look.

In places where the current is strong and the bottom is mostly grass, you'll find undercuts, places where the current has eroded the sand from under the grass. From the surface they show up as sharply defined white spots on the dark bottom. They often harbor large numbers of small lobsters, but be sure to check behind the little guys. It seems like the big guys sometimes push the little guys to the front, taking the deep, safer part of the hole for themselves.

For decades, the locals have been dropping materials intended to attract crawfish. They're usually unmarked and used to be fair game for whoever found them. However, the latest regulations forbid taking lobsters from any artificial habitat. Ice molds, flattened oil drums, old toilets and drain pipe were traditional favorites.



Fig 3. For decades the locals have been dropping stuff like this flattened oil drum on the reef tract to attract spiny lobsters.

THE SPINY LOBSTER

Loading pallets that have been weighted with rocks have been sunk in some places and they're particularly attractive to lobsters for some reason.

Lobsters love wrecks of all kinds because of the abundant hiding places they provide. They'll often scoop out the sand beneath the wreck to create their own cozy caves in which to hide. I remember a wrecked car that was resting on the bottom of a canal on Big Pine Key. It was filled with lobsters during the closed season, but it was always cleaned out by time I got to it when the season opened. Obviously, the locals knew about it too.

Ghost traps (lost commercial traps) are sometimes loaded with lobsters. The crawfish that have been in a trap for a long time might be in bad condition or even dead. However, it's illegal for a non-commercial lobsterman to take lobsters out of any trap, even an abandoned one. If you find a ghost trap, knock a hole in it so it won't keep on killing.

BAGGING THE BUGS

Never grab a lobster's antennae. NEVER! All you'll get is a handful of antennae and you'll leave a lobster that has been deprived of its primary means of defense. Learn to estimate a lobster's size before you try to catch it. There's no reason to risk injuring a lobster that's probably too small to keep.

Once you find your quarry, use the tickle stick to guide it out of its hiding place and into the open by gently "tickling" its tail, sides, and antennae. If you can reach behind a lobster and tap it on the tail you can almost always get it to walk forward. It's a rare lobster that won't cooperate if you tickle the underside of its tail. Success at doing this depends on your making no

quick or jerky movements. When a lobster's instincts tell it that it's threatened, it'll either flee or wedge itself inextricably into a hole. When a lobster decides to wedge itself into a hole, nothing short of dynamite will get it out.

Two divers working together will usually do better than one working alone, especially when you're working around a big coral head. It's sometimes easier to guide a lobster out to where your buddy is waiting on the other side with his net. Also, you'll have someone to blame when a lobster escapes.

Once you succeed in tickling your prey out of its lair, the net must be strategically placed so that the lobster can be guided into it. Your lobster will usually turn and walk backward to escape the tickle stick, so with gentle touches to its sides and antennae, you can steer it. When it's close to the net and the tail is aimed at the center of the hoop, give it a tap on the head, and with a powerful flip of its tail, it'll swim backwards into the net (if you're lucky). They're amazingly agile. You might see it take a 180 degree turn and smack you in the face.

Remember, the compound eyes of the lobster are superb when it comes to detecting movement, and they're stalked so that they can see what's behind them, so the net must be held motionless. Always guide the lobster into the net. You won't get many lobsters by aggressively chasing them around and trying to scoop them up with your net.

If you're lucky enough to get the clever crustacean into the net, the next trick will be keeping it there. Their ability to swim right back out of it is uncanny. The best tactic is to press the frame to the bottom, and grab your catch from outside the net to get control over it, being careful not to cause it injury. But very often the bottom is rocky and uneven, so pressing the net to the bottom just won't work. When this happens, give

THE SPINY LOBSTER

the net a quick flip so that the frame closes off the bottom of the bag.

If there's a hole in your net, your lobster will find it. Take some tiny tie-wraps along so you can make a quick repair. Grab the lobster through the net and, once you get hold of it, hold it tight. Relax your grip and it'll slip away with a powerful flip of its tail. You might just see an opportunistic grouper or barracuda gulp down the gourmet dish you planned for yourself.

If your bug escapes, follow it. They usually don't swim very far, and you can almost always get a second chance at netting it.

Be careful not to injure your lobster when you're untangling it from the net. This is particularly true if there is any question about whether it is of legal size or if it might be carrying eggs. Remember, undersized lobsters must be released unharmed. If you determine that your catch is less than legal size, simply swish the net through the water so that it turns inside-out, and the lobster will usually free itself and swim away.

The struggle isn't over yet. Your catch will claw and scratch at you. It'll rake you with its antenna spines, and it'll try to pinch you with the scissor-like sharp corners of its abdominal plates. Relax your grip and it'll slip out of your hand with powerful flips of its tail.

Hold the lobster firmly by the tail, and measure it by hooking the gauge over the notch between the horns on its head, being sure not to include the membrane between its eyes. If it's less than three inches to where the tail begins, it's a short. If there's the slightest doubt about its being of legal size, don't risk the fine. Release it unharmed. If it's a keeper, slip it into your bug-bag tail first so that the forward pointing spines won't snag on the netting.



Fig. 4. Lobsters are measured by hooking one end of the gauge over the notch between the horns and stretching it over the carapace.

CRAWFISH KEEP SOME NASTY COMPANY

The spiny lobster keeps company with a regular rogue's gallery of marine critters. The one I'm most afraid of is the scorpionfish (*Scorpaena spp*). Its dorsal spines are like hypodermic needles and are used to inject venom that can cause incapacitating pain. Getting stabbed by one of these rascals will bring your lobstering expedition to an abrupt end. Reaching into a hole for a lobster without knowing what else might be in there is like asking for a sting from one of those ugly fish.

THE SPINY LOBSTER

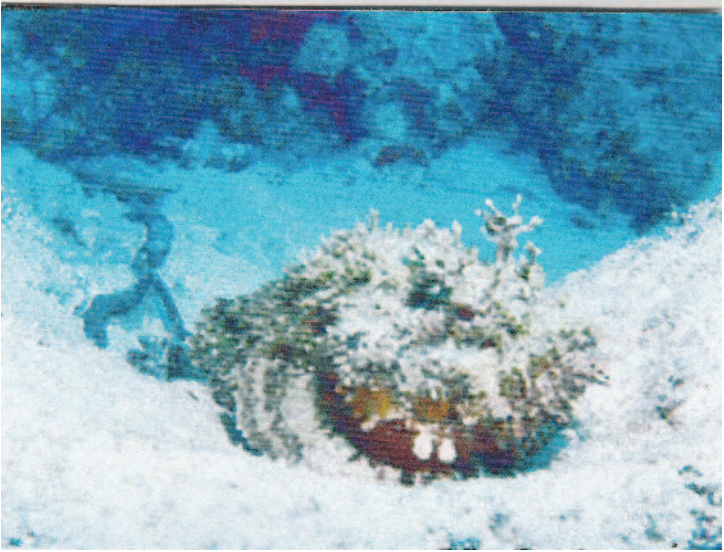


Fig. 5. Scorpionfish are not aggressive, but if you blunder into one, the twelve dorsal spines can inject venom that will bring a pleasant day in the water to a painful end.

Moray eels (*Gymnothorax spp.*) even have teeth on the roofs of their mouths, and one that's just a foot long can bite clear through a glove. They're everywhere on the reefs, but the only time that I've been bitten was when I was reaching deep into a hole trying to get my hand on a stubborn lobster. There was no malice on the part of the eel. It was simply its way of expressing its resentment toward someone who invaded its privacy. It was following its instinct to defend its home against an intruder, but having had this experience is one of the reasons why I like to use a net and a tickle stick. No more reaching into dark caves with just a gloved hand for me.