

THE SEAHORSE CHRONICLES

UNDERSTANDING SEAHORSE DISEASES AND TREATMENTS

PART 1 of 3

by BERNARD HARRIGAN

Years ago while I was feeding my seahorses their breakfast of defrosted Mysis Shrimp, I noticed that one of them didn't come out to eat. Searching the tank, I found him hiding behind some live rock. Using the handle of my algae scraper, I gently tapped him to the front so I could take a better look at him. I dropped a couple of shrimp near him. He snickered one down as he slowly descended to the bottom. I knew something was wrong, but I was late for work and had to leave.

When I got home that night, I checked out the tank. The same seahorse was lying low behind the rocks. The rest of the seahorses were staring at me, wondering what was holding up their dinner. To my seahorses, I imagine that I'm nothing more than an aquatic waiter, but I see myself as a whole lot more. I'm their caretaker, their caregiver, and their guardian. I was going to find out what was wrong with one of my wards.

I tapped him out again, and poured in some live brine shrimp which I picked up on my way home. The others snapped them up quickly, pursuing them with vigor. Live food seems to take their natural feeding instinct and rev it up a notch or two, like blood in the water does for sharks. This did not happen to the lethargic seahorse. He'd weakly slurp down any shrimp that would swim by. There was no pursuit, no hunting, no chasing or tracking that the other seahorses exhibited. I scanned him carefully while he was idle on the bottom. There were no sores or signs of infection on his skin. His eyes looked normal. His fins were a little frayed, but nothing alarming. He wasn't pregnant. If anything, he looked thinner than the rest.

I was puzzled, so I read everything I could get my hands on dealing with seahorse disease, and

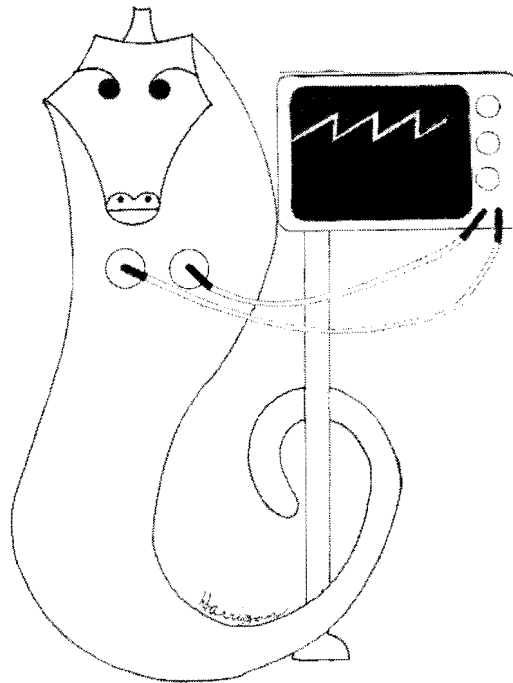
fish disease in general. Sadly, I didn't find much that was helpful. I didn't like the fuzzy pictures of diseased fish, or the blurry pictures of pathogens under a microscope. I really hated how the information was organized, but mostly I didn't like my seahorse being ill and not being able to come up with some answers.

Dismayed, I used the best advice I could gather and crossed my fingers. I set up a hospital tank, treating the water with a copper-based medication. I did a freshwater dip on the sick seahorse, and placed him in it. I even installed a U.V. sterilizer on the main tank. Sadly, he died a little over a week later.

That memory was prominent in my mind as I wrote this article. I have tried to break down the following information to make it as user-friendly as possible. The Directory of Symptoms is broken down so that each symptom lists the diseases connected to it, and not the other way around. If you notice three symptoms that your sick seahorse has, each one of these symptoms will tell you what diseases are associated with it. You can then see one or two diseases that could be the culprit. Then, you start looking at what other symptoms each disease has. Understand that all symptoms don't necessarily show up in every case, but I find that this system makes diagnosis easier.

I've even assembled diseases into groups. Most diseases in

the groups have crossover symptoms and crossover cures. Each group has been given a Roman numeral, and is broken down with the Causing Agent, Symptom, Treatment, and Comments at the end to cover information I feel is important. I hope it's useful to you, not just in seahorse keeping, but in aquatic husbandry in general.



Directory of Symptoms

- **Body appears swollen:** Most noticeable in the mid-section, or as patches on the skin. - B.D., I.P., P.D.
- **Breathing rapidly:** The fish has obvious difficulty with breathing. - E.P., P.D.
- **Eating difficulties:** The seahorse has trouble eating, or a loss of appetite. - B.D., E.P., I.P.
- **Eyes bulging (Exophthalmos):** One or both eyes protrude from the socket. Commonly called "Popeye," it was once thought to be a disease in itself instead of a symptom of a number of ailments. - B.D., I.P.
- **Frayed fins:** The fins look ragged or torn. - E.P.
- **Jaw locked:** The mouth appears to be stuck either open or closed. - P.D.
- **Parasites are visible:** You can see cottony growths, flukes, lice, or worms. - E.P., I.P.
- **Pouch appears swollen:** Males are bloated beyond the plumpness you will normally see with pregnancy. - B.D.
- **Scratching itself (Flashing):** The fish scrapes itself against items in the tank as it swims. - E.P.
- **Skin develops bubbles:** Bubbles protrude through the thinnest skin, most noticeable around the eyes, head, neck, and tail. - B.D.
- **Skin changes color in areas:** There could be ashy-like patches (Turbidity), grey velvet, or pink. - E.P., P.D.
- **Skin has open sores:** Sometimes the sores will be bloody. - E.P., P.D.
- **Skin is peeling:** The skin is shedding as if after a sunburn. - E.P., P. D.
- **Skin is slimy :** The seahorse is producing excess mucus. - E.P., P.D.
- **Skin has spots or bumpy growths:** Spots colored white, gold, brown, red, or black depending on the specific disease, or cauliflower-like growths, whitish or pink in color. - E.P.
- **Swimming difficulties:** The fish has trouble maintaining its balance, or swims wildly. - B.D., I.P.
- **Weight loss:** The eyes look sunken-in and the abdominal area is pinched. - B.P., I.P., P.D.

Legend

I - B.D. - Buoyancy Diseases

II - E.P. - External Parasites

III - I.P. - Internal Parasites

IV - P.D. - Putrescent Diseases

Stay away from copper-based medications when treating seahorses.

Copper is very noxious to them, and when combined with antibiotics, or even malachite green, it can be lethal. Besides, there are better treatments on the market that aren't as dangerous to your fish.

Different groups of antibiotics are either Gram-Positive, Gram-Negative, or Full-Spectrum (also called Wide-Spectrum). H.C. Gram, a biologist from the late 1800s, came up with a way to stain bacteria that helps classify, diagnose, and treat bacterial diseases. Later known as the Gram Staining Technique, a dye of crystal violet is first applied to the bacteria, followed by a solution of iodine. They will all be stained blue at this point. The bacteria is then washed with alcohol as a destaining agent. The Gram-Positive bacteria will remain blue. A safranin dye is then used to color up the Gram-Negative bacteria.

The different reactions are due to the different structuring in their cell walls. Gram-Positive bacteria has a dual-layered wall. In Gram-Negative bacteria, the cell walls are thinner. To make up for its thinner walls, Gram-Negative bacteria produces a toxic chemical, Lipid A, in its membrane. The membrane and cell wall are two different parts of the cell. This toxin, along with certain proteins, destroy intruding substances trying to get through. Lipid A also causes most of the symptoms you get when dealing with a Gram-Negative bacterial disease.

Even with all these layers of defenses, bacteria are porous. They need to be, in order to survive. Different antibiotics can permeate different defenses that the bacteria have developed. But, understand that bacteria are forever evolving, and coming up with new defenses and immunities to medications. That's why you should always complete the full treatment regimen when dealing with antibiotics, even if the fish (or you for that matter) appears healthy. The bacteria will become immune to the antibiotic if it is not completely wiped out of the host's system.

