

## Seeking the Answers to Sickness Symptoms

**Don't waste time on disease diagnosis and focus on good fish husbandry.**

*By Stephen M. Meyer*

Over the past few months I have gotten a ton of letters from readers wanting to know more about recognizing and diagnosing diseases in goldfish and koi. I am, of course, all in favor of hobbyists educating themselves on fish diseases.

But the truth is, delving into the subtleties of signs and symptoms, divining the likely disease-causing agent and sorting through the myriad of partially effective treatments is not a good use of your time — unless you have an unusual and intense interest in fish health as a hobby in its own right. Ornamental fish disease treatment is gambling with the odds stacked heavily against you.

Most hobbyists, I suspect, are interested in keeping their fish healthy and would rather forget about fish diseases. If this sounds like you, then your time would be better spent improving your aquarium and backyard pond management skills. The single-most effective method for coping with fish health problems is to prevent them. And the single greatest cause of fish health problems is poor aquarium or backyard pond conditions.

For example, the problem most frequently reported by goldfish keepers, such as Tina Vitelli of Massachusetts, is a goldfish that cannot stay upright — so-called swimbladder disease. In almost all instances this is caused by a simple digestive problem, one easily cured by changing the feeding regimen. Neither the swimbladder nor a disease-causing organism is involved. Yet hobbyists toss away incredible sums of money on fish drugs trying to cure this "disease" only to have the fish die from what is essentially a bellyache.

If you notice that one or more of your goldfish has trouble staying upright, that the problem is intermittent and that it occurs regularly, think "diet." The animal is getting too much of the wrong form of fish food. Flake foods and dry pellets are notorious for producing this balance problem in goldfish. It is an artifact of their weird shape and thus their internal organ configuration. (Notice that this problem is never observed in koi, which eat the same fish foods.)

In an aquarium the problem can be remedied by eliminating flakes, cutting back on pellets and presoaking them when used. Substitute parboiled shelled peas and other vegetables. If you are the culinary type, try making your own goldfish cakes (many books contain recipes).

Tina mentioned in her letter that she planned to build a garden pond. I guarantee that this will solve the problem. Why? Her goldfish will spend its time grazing on algae, aquatic plants and aquatic invertebrates. Supplementary feeding with pellets need only be a minor part of the diet. This is why balance problems are virtually non-existent in goldfish kept in properly managed backyard ponds.

What is a properly managed backyard pond? One in which the fish load is low enough that the animals could do nicely on pond plants and invertebrates if you went on vacation for a week or more. In a properly managed backyard pond you should not have to feed the fish nearly as often as when they are kept in an aquarium.