

Living With The AEFW PLAGUE

By Richard Ross



This *Acropora valida* shows the 'bite marks' that are a tell tale sign of Acro Eating Flatworms

IMAGE BY MARC LEVENSON



On an *Acropora* that has been left to dry for a few minutes, Acro Eating Flatworms become easily visible

IMAGE BY GRESHAM HENDEE



Acro Eating Flatworms and a US dime for scale

IMAGE BY JONATHAN HALE

Acro Eating Flatworms (AEFW) are terrible, evil, vicious, icky things. They can kill your *Acropora* corals, they are difficult to find, and treating them in a captive reef has long meant tearing down the entire tank. There is no in-tank treatment for AEFW. The traditional method for eradicating them involves pulling all acroporid corals out of the show tank for a regimen of dips while, leaving the display aquarium *Acropora* free for as long as it takes to totally eradicate the flatworms from the system. As for the infected corals, disposal was the most surefire way to get rid of the pests. Another approach involves fragging the infected corals and throwing away the bases where the eggs are generally laid. Dipping chemicals are available, but they can be harsh and can sometimes harm corals if not used carefully.

My first AEFW infestation occurred in 2006. I pulled out every *Acropora* from my tank. I dipped my corals, waited, then dipped them some more. The process did seem to rid my tank of AEFW, but I also lost some irreplaceable corals and reduced others to mere nubs. It was a heavy price to pay, but the pests went away. Since I understood the necessity of dipping and quarantining new corals, I thought my tank would be safe from re-infection.

Two years later, in January 2008, I noticed that one of my *Acropora* colonies was looking odd. Interestingly enough, this colony was the survivor of the previous battle with AEFW. The coral's color was fading, but not bleaching, and looked like a photo being digitally desaturated. The colony was still easily removable, and I pulled it out of the tank and dipped it. It was a horror-movie moment...the bottom of the container was littered with AEFW. I pulled up two other colonies and was nauseated to discover the same results. I have no idea where the AEFW came from. Perhaps they snuck in through my quarantine procedures, or I simply didn't get them all in my previous treatments. Either way, the evil creatures were back.

I was devastated for about an hour. It had taken my tank over a year to recover from the last infestation, and now I was going to have to tear down my tank again. That thought was enough to lead me to consider abandoning the hobby altogether. Then my brain reasserted itself. This time, I decided not to tear down the tank I had worked so hard to create. This time I was going to try living with AEFW.

I knew from my friends at Bay Area Reefers and Manhattan Reefers that having AEFW is not the 'death sentence' it was 2 years ago. In fact, the method for living with acro eating flatworms is perversely easy, considering the heartache this pest has caused – all you need are some fish and a turkey baster.

The goal is to get the flatworms off the corals and into the water column. With a turkey baster, blast the coral with tank water from various angles using light to medium blasts from the baster. Repeated blasts quickly dislodge the AEFW from the corals' branches, allowing them to float in the water where fish snap them up. Some people even use a small power head, which works well, although there is concern about damaging the corals' tissue with such a strong jet of water.

The first few weeks I tried blowing AEFW off my Acropora, I found tons of them. A few quick squirts in the same place (rather than one long powerful squirt) yielded a cloud of worms. Quickly, the fish in the tank learned that the baster in the tank meant snack time. In my aquarium, I have seen chromis, lubbocks wrasse, flame wrasse, yellow 'coris' wrasse, neon dottybacks and skunk clowns chase and eat free floating AEFW.

After the initial week of basting the corals, the AEFW population began to vanish. At 5 or 6 weeks after deciding to live with AEFW, I haven't been able to find any individuals at all in my bi-weekly basting. I am not sure if this method has eradicated these pests, although it may be possible. I am, however, thrilled at the prospect of not having to tear down my tank again.

The only drawback so far to living with AEFW is that I do have to tell people I am trading with, that my tank is infected. It's a little odd, and some people have a negative reaction. But to my surprise, I've discovered most don't care all that much; they assume every coral they get is infected with something and act accordingly. At a recent frag swap, I labeled my corals as 'Possible AEFW in tank' and yet all of them got quickly picked from the swap tables.

Meanwhile, my Acropora corals are experiencing good color and growth. Even the colonies that were fading are recovering nicely. So far, living with AEFW has been far less costly than tearing down my tank again.



Acro Eating Flatworm egg masses typically are laid on bare coral skeleton on the underside of Acropora branches

IMAGE BY JONATHAN HALE

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How To Avoid AEFW

At this stage in the hobby, more and more pests seem to be taking advantage of aquaria free from whatever keeps them in check in the wild. Thus, it makes sense to assume that any new coral, wild or captive grown, is infected with something. A good dipping regimen for new specimens is a bare minimum, and a quarantine system is even better.

Chemical dips can help to eradicate pests before they enter your main system. A good general dip for new corals, recommended by Bay Area Reefers, is Povidone Iodine. The strength of the dip varies with different kinds of coral, and general dipping guidelines are as follows:

- Acropora:** 3ml/liter 25 min.
- Montipora:** 2ml/liter 10-15 min.
- Zoanthids:** 3-4ml/liter 25 min.
- LPS:** 3ml/liter 25 min.
- Soft Corals:** 3ml/liter 25 min.

Flatworm and Acropora



IMAGE BY JONATHAN HALE

Close up of the 'bite marks' left on Acropora by Acro Eating Flatworms



IMAGE BY JONATHAN HALE

After the dip, the pests should be stunned enough to blow right off the coral with a turkey baster, or by swishing in the dipping container. A final inspection for any eggs or pests, and their removal if necessary, and the coral is ready to be rinsed in clean tank water and then moved into quarantine. There are also commercial products available that people have had success with – follow the manufactures recommendations for dips with these products.

Quarantine in conjunction with dipping is the best way to go. I have a 20 gallon tank with a sandbed, 150 watt DE DIY fixture, skimmer and HOB filter for circulation located in the stand under my show tank so it's ready to go anytime I get something new.

After dipping, observe the new corals in quarantine for 3 or more weeks, treating as necessary until you are sure any and all pests have been controlled. Then, you can move them to your show tank secure that you have done your best to prevent your tank from becoming infested with evil beasties.

Of course, since no regimen is foolproof, another important skill to have is...

Identifying AEFW In Your Tank

AEFW are flatworms that appear to feed only on Acropora coral, ingesting the corals' zooxanthellae. It is speculated that this allows the flatworms to blend in perfectly with the flesh of the coral. However, it may simply be the case that they are masters of transparency. Either way, it is virtually impossible to spot them on a coral in the water of an aquarium. Taking the coral out of the water

for a few minutes makes detection easier. As the coral dries, the flatworms become readily apparent. However, removing the coral may be difficult or impossible, and letting it dry for more than a few minutes may stress and damage the coral.

An easier way to spot them in a tank is to find what some people call 'bite marks' on otherwise healthy looking Acropora, which occur mostly on the trunks and undersides of the coral. Sometimes the 'bite marks' aren't visible until after the AEFW have been removed from the coral via dipping or blowing the AEFW off with a baster.

If You Don't Want To Live With Them...

If you want to eradicate the AEFW from an infected tank, you probably need to remove all the Acropora so you can treat the corals. This will allow the flatworms to die off while there are no Acropora in the tank for them to eat. Unfortunately, there are differing estimates about how long AEFW can survive without Acropora to eat and how long it takes their eggs to hatch. I would play it safe and leave them out of the tank for at least a month which still doesn't guarantee that you'll get them all.

You can treat the corals in a quarantine tank with the dips above or with other medications. Levamisole, sold as a pig dewormer by vets and farm supply stores, or Aquarium Products' Fluke-Tabs seem to be popular options. However, there is conflicting information on dosage and length of treatment. If you are interested in these solutions, please ask your local fish store or check online reefing communities for the most up-to-date recommendations.