

CREATING A STREAM AQUARIUM

by Konrad Schmidt, St. Paul, Minnesota

Most of us have noticed how stream fishes readily accept and use artificial currents provided by airstones or power filters. Unfortunately, they don't swim very naturally with their noses pointed up or down. Luckily for us and our fish, technology has come to the rescue. Small, easily concealed, submersible water pumps called powerheads are now available and will adapt to any undergravel system. Powerheads were "originally" designed to operate on top of the air filter stalks where they more efficiently draw water through the undergravel filter plates than through the age-old air-lift system. When the powerheads first became available, NANFA member Don Richmond thought of some interesting possibilities for his 70-gallon aquarium which contained mostly stream species and purchased two Penn-plax Sacem powerheads. He cut the air stalks just above the undergravel filter plates and placed the two powerheads on the "stumps" at opposite ends of the aquarium. He concealed the powerheads under limestone boulders and convincingly aquascaped the outlet tube into a narrow crevice. The end of the tube was plugged and a single row of holes running the length of the tube directed small jets of current horizontally across the bottom. The other powerhead produced an opposing flow that created an upwelling in the middle of the aquarium where the two currents collided.

Don's fish appeared to be very happy with the results, especially the Gilt Darters, Speckled Chubs, and Longnose Dace, which never seemed to get bored with riding the currents. They hovered a few inches off the bottom, gliding up and down as they shifted in and out of the mainstream. They rarely pursued the currents to their sources and seemed quite content at simply maintaining a somewhat stationary position. At feeding time, the seldom-seen "cave-dwellers" entered the arena and rode the currents as the food came to them. Perhaps the laziest fish in the aquarium were the sculpins, which simply plopped on the bottom with their faces into the current and inhaled the food when it bumped them on their noses.

Don has been running these pumps for two years without any problems, but he asked that I pass on an observation or two. Because the powerheads circulate much more water through the undergravel filters than do air pumps, the gravel clogs with debris sooner than normal, and can reduce the flow rate to almost a trickle. The aquarium then must either be cleaned, or--for most of us, who procrastinate--the gravel should be periodically vacuumed with specialized siphon tubes called gravel-washers, which are available at most pet stores. Don has also noticed an increase in water temperature of about five degrees due to the heat generated by the powerheads. This should be monitored in small or overcrowded aquariums to avoid

the possibility of reaching lethal temperatures.

Powerheads can be found at most pet stores and come in a variety of makes and sizes. I checked one store in St. Paul which regularly carries, or can order, the following items:

1. Penn-Plax Standard EP-201: Aquariums up to 30 gals.,  
118 gals./hr.  
Price: \$19.95
2. Penn-Plax Super EP-202: Aquariums up to 125 gals.,  
205 gals./hr.  
Price: \$29.95
3. Hagen AquaClear 200: 200 gals./hr.  
Price: \$16.69
4. Hagen AquaClear 400: 400 gals./hr.  
Price: \$24.95
5. Hagen AquaClear 800: 800 gals./hr (assumed)  
Price: Unknown--availabl  
Fall 1986
6. Sicce P-39: Aquariums up to 80 gals., 160 gals/hr.  
Price: \$28.79.

The salesman indicated that all powerhead sizes would work for my intended purpose. I'm sure there are several others to choose from, but they should always meet two criteria. They must be submersible and easily fitted with a customized outlet tube as previously described. The same store also carried three types of gravel-washers which ranged in price from \$7.00 to \$19.00.

Don's dual-powerhead system, admittedly, did not create typical stream conditions. Only one powerhead is really necessary, and would proved a more realistic, single-direction current, while an air pump could operate the remaining undergravel filters. These elaborate plans may sound like a great deal of work to provide our stream fishes with a more natural environment, and some may consider it a glorified hamster wheel, but I believe the end results are definitely worth the effort.

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NOTE: See also "An Aquascape for North American Stream-Dwellers" by William R. Kenny, AC, May 1983, 11.--Ed.