

A SPECIES MAINTENANCE PROGRAM FOR YOUR CLUB

Written by Russell McAndrews

Monday, 25 May 2015 23:49 - Last Updated Friday, 19 June 2015 12:56

Northeast Council of Aquarium Societies

General Meeting - June 2, 2002

MASTER PLAN

Introduction - by Roger W. Langton

Argument

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Goals

Genetics

Methods

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Resources

INTRODUCTION

As the months and years go by it will become increasingly apparent that the tropical fish and related hobby industries will survive only to the extent that the species are being successfully bred in captivity. If this is to be a long term success, it will be necessary for the aquarists and commercial establishment to breed fish in a manner that will maintain genetic diversity over the decades and centuries.

There are about 24,000 fish species that have been named. It has been estimated that 20% of these species are in danger of becoming extinct by the year 2050. Since most of the captive breeding efforts are currently focused on saving endangered mammals, the amateur aquarist will find opportunities to take the lead in preserving for posterity fishes that can be successfully bred in captivity. Conservation resources are very limited and fish are likely to be neglected, with many species going extinct unnoticed. A likely outcome of working to save the hobby will be that more and more fish that are extinct in nature will be found only in the tanks of aquarists. The amateur will thus be performing the important conservation goal of helping to preserve the earth's biodiversity. It is hoped that the current and future conservation aquarists will earn respect by becoming an important part of the legal process that acts to insure the survival of endangered species.

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Every local, national and international aquarium society is urged to initiate a program to encourage conservation. No doubt only the most dedicated will manage to do the job and you are encouraged to be among them. The purpose of this handbook is to assist conservation aquarists who are committed to achieving these goals.

- Roger W. Langton: Breeding Fish for Conservation - The role of the aquarist.

ARGUMENT

1ST. Evidence is plentiful for the need for freshwater conservation.

2nd. The global scope of conservation efforts will mean sparse resources.

3rd. Often the only available expert is an amateur.

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Ergo the right people for the job are amateur aquarists.

-- Readily available resources equate to less or no money required.

-- Stewardships skills for fishes are already in place.

GOALS

I. Attain the most genetically diverse gene pool possible. Mathematically, the greater number of founders the better. An even sex ratio is preferable given that the most limiting factor is given by the limited sex.

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II. Maintain the most genetically diverse gene pool possible.

GENETICS

I. Founders should ideally be confidently identified wild stock. Alternatively, as close to wild stock as possible may have to do. Individuals should not be related if it can be helped.

II. To maintain maximum gene pool diversity every male should be mated with every female. With Haplochromines the simplest way to accomplish this is to house a group of adults together. As each male in turn rises to dominance, he will mate with all the females in the tank. Where upon he can be removed. His successor will then do likewise and so on.

III. Isolation of each brood is necessary for tracking.

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METHODS

I. Procedures

II. Tracking

III. Co-ordination

IV. Communication

V. Participation

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PROCEDURES

Procedures need to be written so that standards can be uniform. Normal tasks such as procurement, housing and shipping of animals are such tasks. Most importantly, tracking and culling methods need to be agreed upon and adhered to. Additionally preservation of mortalities via freezing or fixing should be proceduralized.

TRACKING

Tracking of individuals and broods should be augmented with tank-specific logs depicting normal maintenance, diet, health care and fatalities.

CO-ORDINATION

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Program co-ordination should be handled by one or more species coordinators with oversight and tracking of all members of their species. Ideally three locations of each species should be sought. This precludes one or two accidents from wiping out the species. With well-established Haplochromine gene pools, males should be rotated between the gene pools to control genetic drift.

COMMUNICATION

Communication should be in two directions with handlers reporting observation and tracking to their coordinators and coordinator reporting overall progress to the participants. Regular reports simultaneously provide information back-up for ladder use of analysis.

PARTICIPANTS

While it might be nice to lay out some succinct, standardized requirements for involvement and then recruit people. It is more practical to use only a general guide of responsibility and means to screen participants. Foremost would be the parties' willingness to abide by standards of tracking/isolation and dispensation should they exit the program.

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HANDBOOK

A species specific handbook must be developed and distributed to participants and coordinators.

Resource information such as proven treatments for experienced symptoms and other techniques of stewardship should be included here.