

CREATION OF A NEW BONYTAIL BROODSTOCK – AN UPDATE

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BACKGROUND



- *Gila elegans* broodstock at one facility
- Multiple stocks needed to prevent loss of species due to catastrophic event at any one facility
 - Large Mouth Bass Virus at facility in 2010
 - Multi-agency meeting in 2011 – prioritize secondary broodstock for Colorado River fishes, *G. elegans* was at top of the list
 - New broodstock would be located at additional facility
- Aim: 50 paired spawns to produce 1,000 individuals for future broodstock
 - 20 individuals (10 M and 10 F) per family

METHODS



- Secondary broodstock started in 2012 last spawns in 2014
- 1,349 individuals were genotyped at 18 microsatellite loci
 - All Individuals from two broodstock ponds
- Pairwise relatedness was calculated to find “unrelated” pairs
- Individuals were also chosen to:
 - Maintain allele frequencies between new (F3) and F1 and F2 stocks
 - Preserve rare alleles

RESULTS AND PROGRESS



- Limited space (15 TE species on station)
- Multi-year process
 - Grow outdoors – faster growth (7 months) early PIT marking
 - Contrast indoors – 12 months before PIT marking
- 50 pairs have been spawned
 - Last spawned in spring 2014
- Each family lot kept in separate pond or tank until PIT tagging
- To be kept at a yet to be determined facility
 - Facility visits and inspections will continue in 2015

ALLELE FREQUENCY OF FUTURE BROODSTOCK

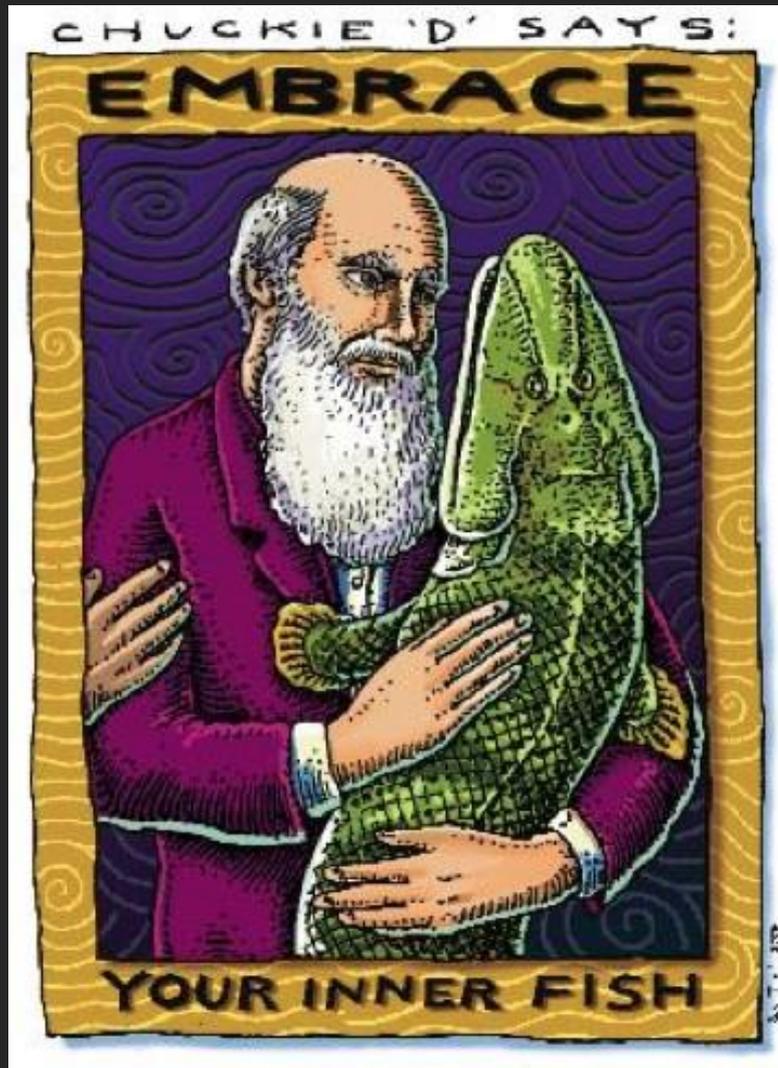
Locus	Allele	Future Brood Used in Recruitment Study	Current Brood Year 1	Current Brood Year 2
Gbig39	221	21.36	38.52	26.56
	223	18.09	1.59	12.89
	225	0.17		2.50
	231	2.60	1.12	1.80
	234	4.02	1.91	3.13
	238	2.51	2.07	4.61
	244	5.78	11.00	8.67
	250	1.01	0.96	2.42
	254	8.63	12.20	10.63
	255	7.29	4.78	5.23
	261	6.45	6.86	6.56
	267	16.08	15.63	11.80
	277	6.03	3.35	3.20

CONCLUSIONS



- Spawning of 50 bonytail for future broodstock is complete
- Selection of new facility is forthcoming – need facility reviews and inspections

THANK YOU



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