

Violaceous Euphonia (*Euphonia violacea*) at the Steinhart Aquarium:

Two case studies on breeding, parent-rearing and fledgling management in a tropical rainforest exhibit.

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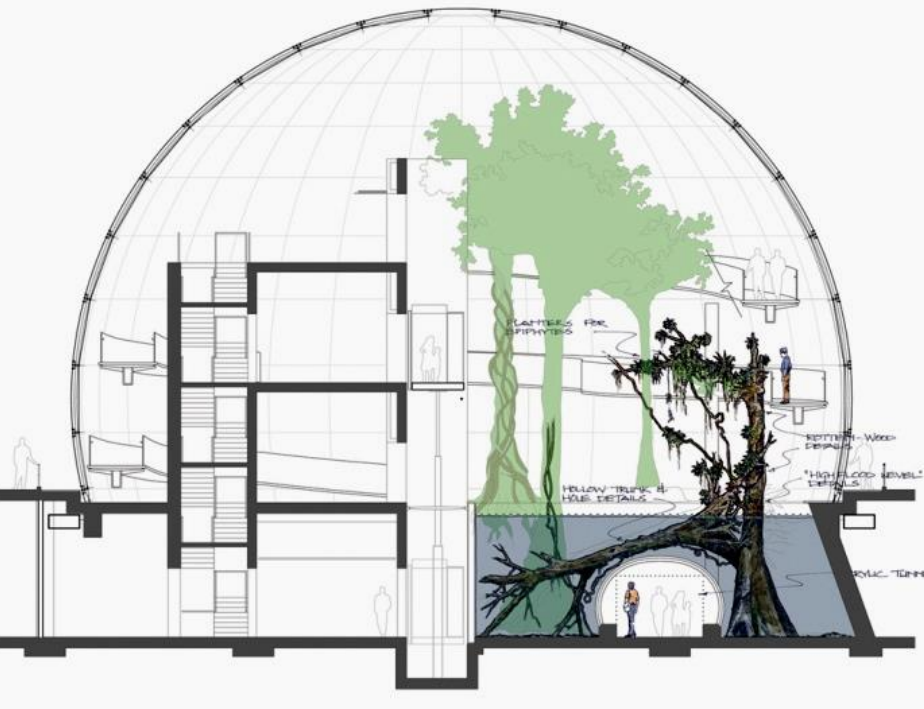
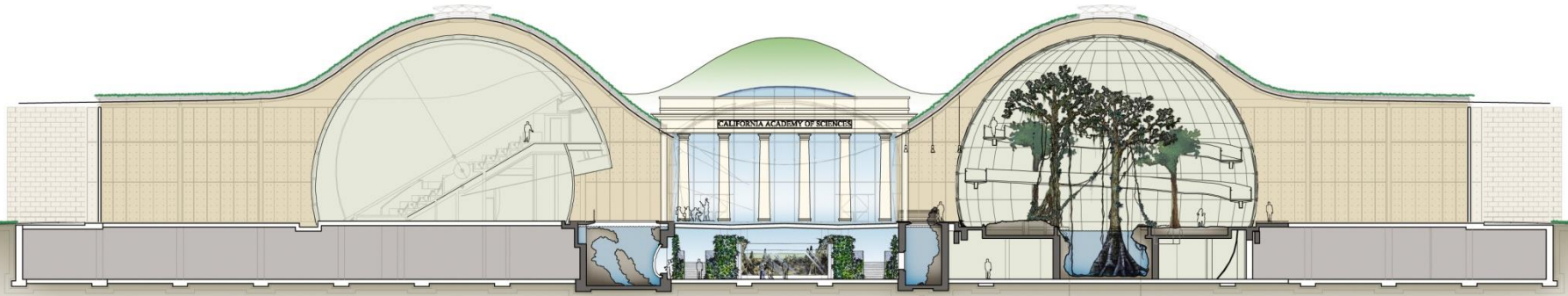
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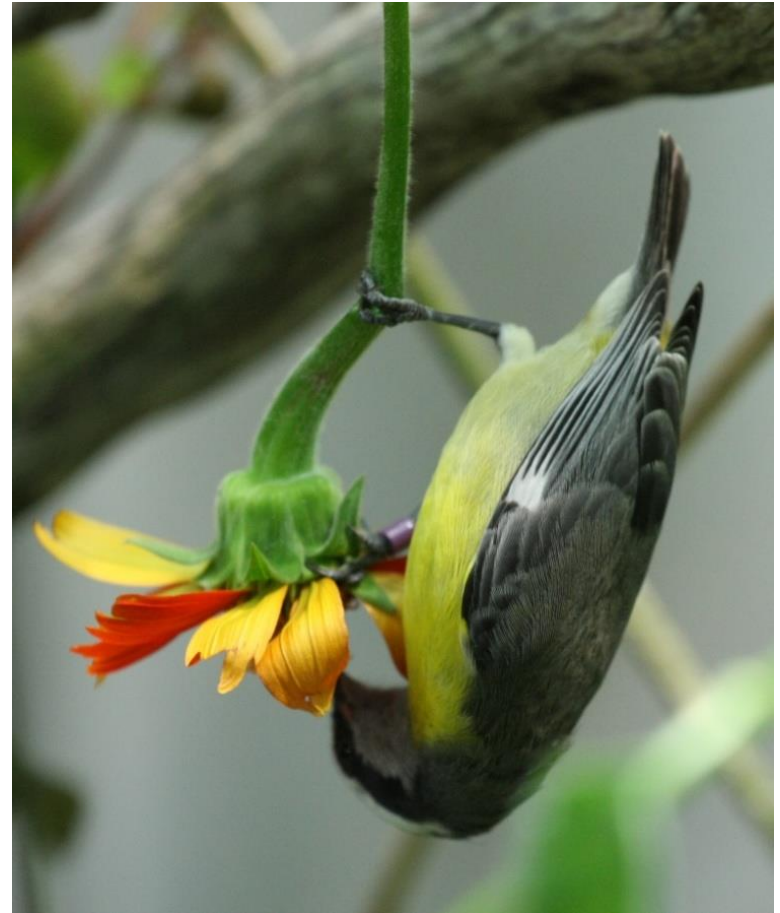


The Basics: The Osher Rainforest at Steinhart Aquarium



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- **90' glass sphere, four levels**
- **100,000 gallon open-topped Amazon tank**
- **Currently 12 species of neotropical passerines**
- **Immersion exhibit with live butterflies (USDA containment)**
- **Horticulture (planted walls) stimulate nesting activity!**



The Basics: The Osher Rainforest at Steinhart Aquarium



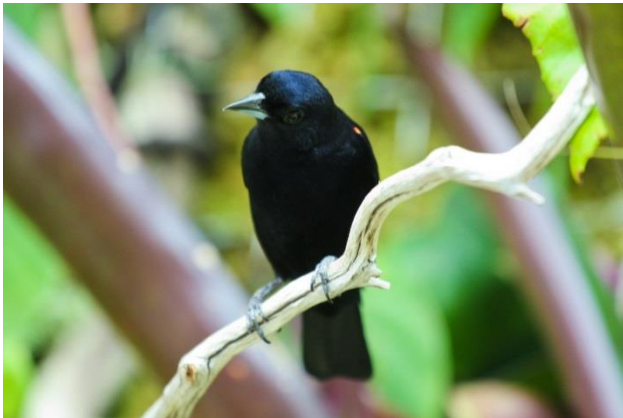
Flooded Forest tank at bottom of the exhibit



The collection

Current exhibit collection

- 1.1 Saffron Finch (*Sicalis flaveola*)
- 1.2 Violaceous Euphonia (*Euphonia violacea*)
- 1.0 Silver-beaked Tanager (*Ramphocelus carbo*)
- 0.1 Red-shouldered Tanager (*Tachyphonus phoenicius*)
- 0.1 Opal-rumped Tanager (*Tangara velia*)
- 0.1 Rufous-crowned Tanager (*Tangara cayana*)
- 2.2 Red-legged Honeycreeper (*Cyanerpes cyaneus*)
- 1.1 Bananaquit (*Coereba flaveola*)
- 1.1 Blue-gray Tanager (*Thraupis episcopus*)
- 1.0 Blue-necked Tanager (*Tangara cyanicollis*)
- 1.0 Bay-headed Tanager (*Tangara gyrola*)
- 1.0 Turquoise Tanager (*Tangara mexicana*)



Euphonia History

- Various acquisitions since 2008
- 5.9 casualties to date
- Heavy casualties in initial acquisition due to salmonella
- Some casualties due to glass strikes
- Some casualties due to male-male aggression
- Successfully housed 1.1 in 2009
 - Nesting, egg laying occurred
 - Suspected fertility issues with male
- Recently acquired 1.1 to group with our existing 0.1



Current breeding pairs

**Pair A: “Yellow-right” male + “Purple-left” female
(acquired both Jan. 2012)**

**Pair B: “Yellow-right” male + “Orange-left” female
(acquired Oct. 2009)**



Nesting: Pair A, clutch #1

- **May 2012 nest built**
- **Easy-access location**
- **Sulphachlorpyridazine in nectar prior to hatching**
 - *Atoxoplasma* preventative
 - Present in collection, only mortalities have been Banaquit fledglings without tx
- **Only female observed sitting on nest**
- **Stanchioned nest area off from Public**



Nesting: Pair A, clutch #1



- **Candled eggs at day 14**
- **2 out of 3 fertile**
- **17 day incubation**
- **Nest checks conducted every day until eggs were laid**
- **Observed female closely to pinpoint hatch date**



Chicks: Pair A, clutch #1

- Hatch date 6/11/12 (17 day incubation)
- Foods offered: frozen spiders, frozen crickets, frozen fruit flies, live tiny silkworms, live waxworms, live fruit flies. Noticed female eating primarily blueberries, banana, peas, mazuri softbill at this time.
- Observed both parents feeding chicks. (Male noted feeding only after a week after hatch date). Only female observed sitting on nest.



Fledgling management: Pair A, clutch #1--a different approach

- Predicted fledge date based on literature
- Captured 2 fledglings and used as lure for parents
- Caged parents and fledglings added to closed gallery
 - Cages 4'X 30" X 3'
- Self-feeding 30-33 days.



Fledgling color change: Pair A, clutch #1

- 2 fledglings for comparison
- Chin-spots noted as first change (47 days)
- 2 males!



Nesting: Pair B, clutch #2

- June/July 2012 nest built (interrupted due to our caging of the male)
- Difficult to access location (no candling or nest checks, only distant observations)
- Sulphachlorpyridazine in nectar prior to hatching
- Only female observed sitting on nest



Chicks: Pair B, clutch #2

- Hatch date 7/17/12 (15-18 day incubation).
- Foods offered: frozen spiders, frozen crickets, frozen fruit flies, live tiny silkworms, live waxworms, live fruit flies. Extra blueberries, banana, peas added to passerine diet at this time.
- Observed both parents feeding chicks. (male observed feeding after first week). Only female observed sitting on nest.



Fledgling management: Pair B, clutch #2

- Predicted fledge date based on prev nest.
- Captured 3 fledglings and used as lure.
- Parents and fledglings added to closed gallery.
- Self-feeding 35-45 days.



Fledgling color change: Pair B, clutch #2

- 3 fledglings for comparison
- Chin-spots noted as first change (38 days)
- Noticed other early indicators
 - Primary feather color (14 days)
 - White spots on primaries



- 2 males, 1 female!
- Available for surplus for breeding purposes.

Nesting: Pair A, clutch #2

- Both females nest building simultaneously.
- 4 eggs laid. Nest abandoned after 1 week.
- This female took over other female's nest.



Nesting: Pair B, clutch #2 (in progress)

- Nest built Sept. 2012, Chicks hatched Oct 4, 2012
- After eggs were laid, non parent female took over incubation and chick rearing
- Difficult to access location—no candling or frequent nest checks
- Sulfachlorpyridazine in nectar prior to hatching
- Only female sitting on nest. Male observed feeding chicks after first week
- 1 week away from fledge, will allow to fledge into the exhibit with minimal intervention



Summary

	# Eggs (Literature 3-5 eggs)	# Infertile	Incubation Period (Literature 12- 14 days)	Fledge (Literature 21- 22 days)	Self-Feeding (Literature 24- 30 days)	Color Change Onset (Literature 28- 35 days)	Resulting Offspring
Pair A Clutch #1	3	1	17 Days	17 Days	30-33 Days	47 Days	2.0
Pair B Clutch #1	4	1	15-18 Days	17-20 Days	35-45 Days	38 Days	2.1
Pair A Clutch #2	4	1	Abandon	_____	_____	_____	_____
Pair B Clutch #2	4	0	18 Days				

Acknowledgements

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Literature References:

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Thanks! Any questions?



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