





Predation Experiment

- Predators – juvenile *Gambusia affinis* 
- Prey – mosquito larvae (presumably, *Culex*) various instars
 - Cattle tanks baited with rotting fish 10 days ago 
- Turbidity – used sodium bentonite
 - NTU = 
- Structure – biological filter material (BIO-BALE), plastic ribbon material 
- 24 mesocosms (need to measure)
- Treatments
 - High and low turbidity
 - Presence and absence of structure

- What about a control? What are we trying to control?
- What about individual differences in predators?
- The mosquito larvae differ in size (different instars, age etc.), does that matter?
- General procedures
 - Fish should be starved for 24 hours (no exposure to food)
 - Standardize volume (water levels)
 - Trials should run 6 hours

- Letter tanks A-X (24)
- Predators will always stay with their assigned container (control for individual differences)
- Randomly assign treatments to tanks using RAND function in excel.

	tank	treatment
0.870617499664743	A	3
0.382979932020895	B	2
0.888770334239097	C	1
0.999420967563029	D	4
0.568380149993702	E	2
0.201783336495437	F	4
0.902490940802316	G	1
0.861481388068517	H	3
0.345863547341725	I	2
0.165694118153031	J	4
0.353847472920954	K	4
0.092768313199212	L	3
0.368531189199317	M	1
0.776552561977177	N	3
0.181758207717160	O	1
0.141671732754564	P	1
0.713515699633007	Q	4
0.175559645012018	R	2
0.593129697136991	S	3
0.389159211046183	T	2
0.017022713787250	U	5
0.264753580224336	V	5
0.473378963483402	W	5
0.248941900091604	X	5
0.730505349538064		

	Turbidity	Structure
1	Yes	Yes
2	Yes	No
3	No	Yes
4	No	No
5	Control	(U-X)

- Data sheet

Date	Tank	Treatment	# prey start	# prey end	notes
26-Sep	A	3			
26-Sep	B	2			
26-Sep	C	1			
26-Sep	D	4			
26-Sep	E	2			
26-Sep	F	4			
26-Sep	G	1			
26-Sep	H	3			
26-Sep	I	2			
26-Sep	J	4			
26-Sep	K	4			
26-Sep	L	3			
26-Sep	M	1			
26-Sep	N	3			
26-Sep	O	1			
26-Sep	P	1			
26-Sep	Q	4			
26-Sep	R	2			
26-Sep	S	3			
26-Sep	T	2			
26-Sep	U	5			
26-Sep	V	5			
26-Sep	W	5			
26-Sep	X	5			
Treatment	1	2	3	4	5
	Yes	Yes	No	No	No
	Yes	No	Yes	No	No
	No	Yes	No	No	No
	No	No	No	No	No
	No	No	No	No	No

- Start Trials
 - Trials should start between 8:00 and 9:00 am
 - Write your group number and date on data sheets
 - Ensure treatments on data sheets match treatments in plastic bins
 - Make sure all predators are in place and appear healthy
 - Put one container of mosquito larvae into each plastic bin
 - Trials should end between 2:00 and 4:00 pm

- After trials
 - Determine treatment assignment for all tanks
 - For each tank:
 - Move fish to a temporary small plastic bin
 - Make sure no prey were caught with the fish
 - Filter the container through fine mesh net, turbid or non-turbid water should be returned to source pools
 - Rinse contents of net into small container using 70% ethanol
 - Put preserved contents into vial
 - Put date, tank # and treatment on label paper, place label in vial.
 - Set up tank with water and structure as designated by new treatment
 - Place fish in temporary bin
 - Move to next bin and repeat
 - Ensure all treatments match what is on data sheets
 - Prepare 24 small plastic containers with prey