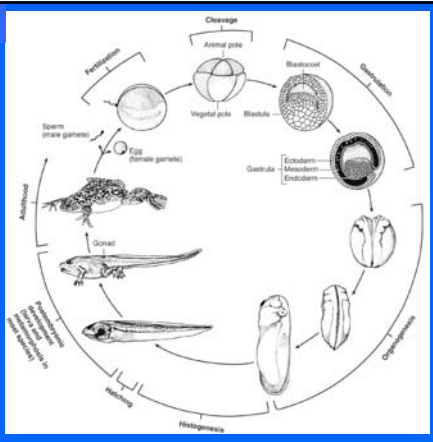


Life history



Life History Strategies

Fertilization to death



Side-blotched lizard

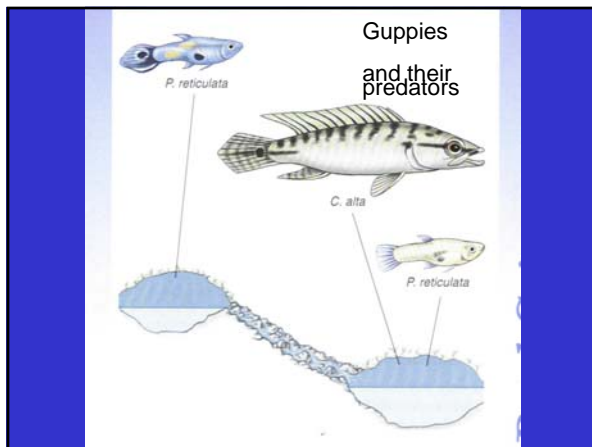


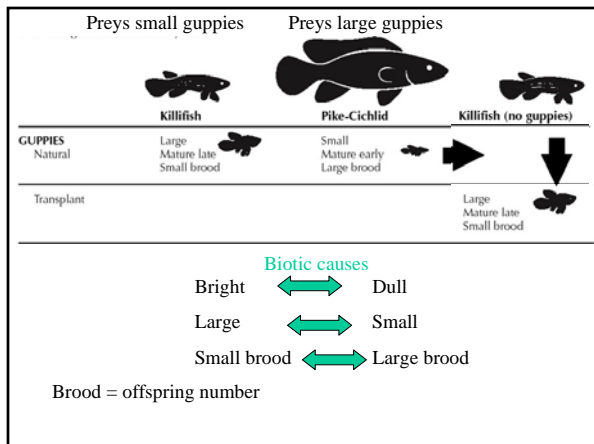
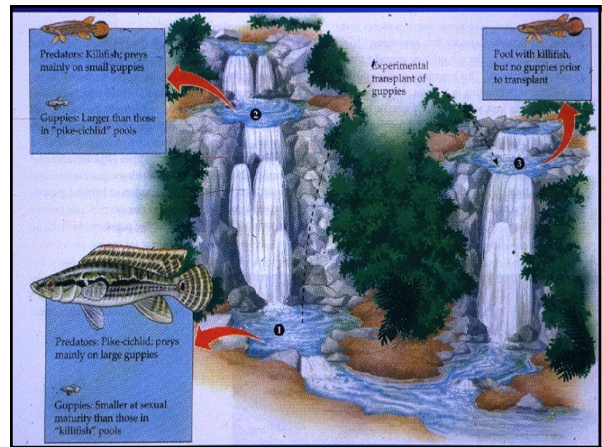
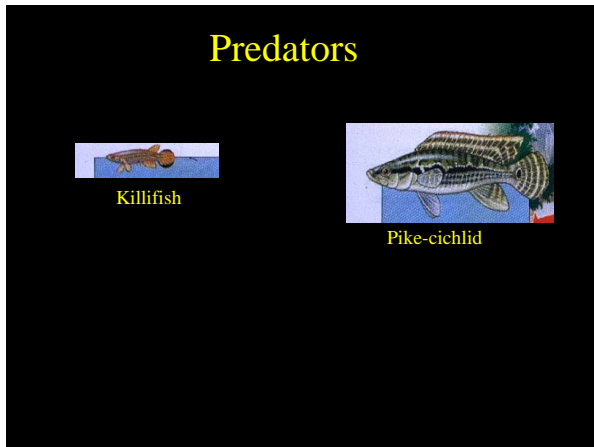
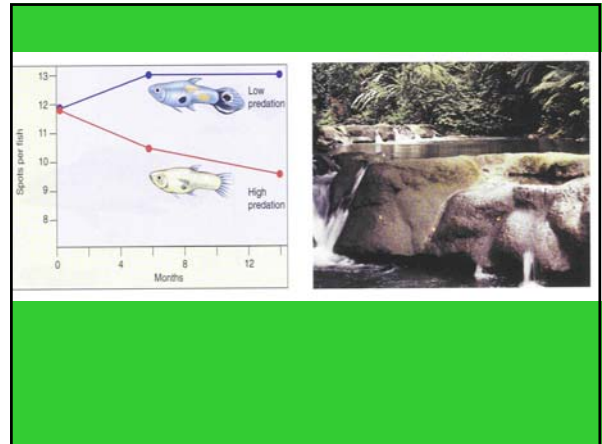
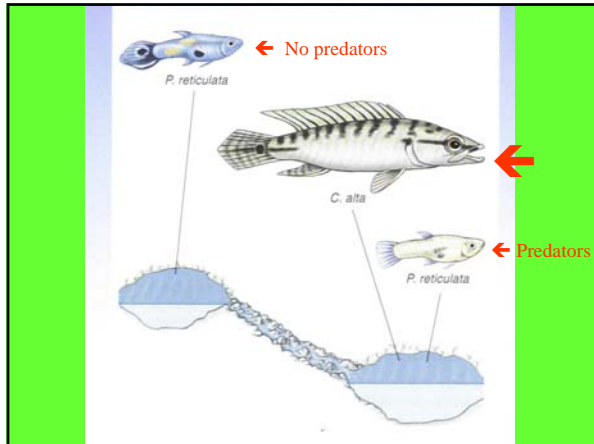
Lizards. Side-blotched lizard, *Uta stansburiana*.



	Southern	Northern
Food	Beetles, ants, grasshoppers, termites	Beetles, ants, grasshoppers, crickets
Body size	Large	Small
Female size	Large at sexual maturity	Small at sexual maturity
Eggs per season	More	Fewer

Season → Long Short






TIME AND ENERGY Budget

- Growth
- Maintenance
- Foraging
- Reproduction

Not maximize, optimize
Trade Offs


BEHAVIORAL



Rock Pipit

	Mild Winters		Harsh Winters	
	Hours	% of day	Hours	% of day
Foraging	6 1/2	72%	8 1/2	91%
Resting	1 1/2	20%	33/60	8%
Territorial Defense	1/2	8%	7/60	1%

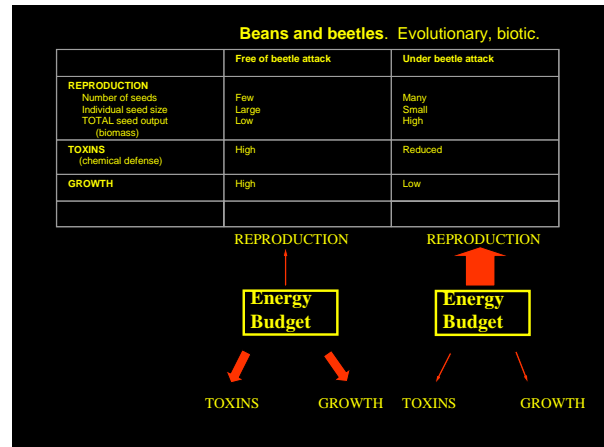
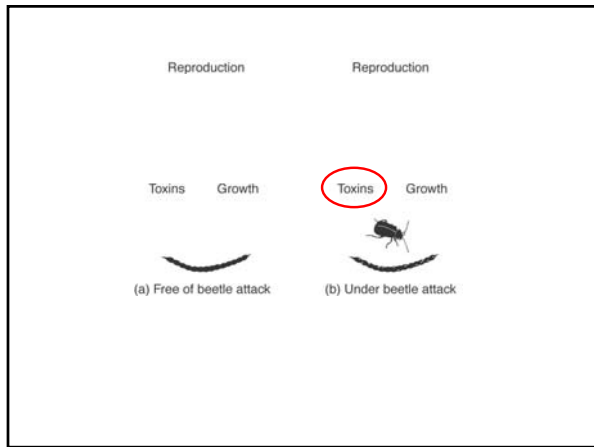
GENETIC



Swifts

	Clutch Size	Young fledged
Mild years	2 3	1.9 2.3
Harsh years	2 3	1.0 0.9

David Lack Determinate (indeterminate)



CONCLUSIONS

- **Life History**
Each stage adaptive
Adaptive features
Life history strategies
- **Trade Offs**
Optimize not Maximize
- **Energy Budgets**
Tool to set up and summarize survival alternatives

