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	fable I. Gener gen	us Dendro	roductive bates (se	e Summers & N	bited in poison frogs of the IcKeon, 2004).
Guard Eggs	Care type	Clutch attendance	Tadpole transport	Egg feeding	Taxonomic groups
Dendrobatidae	Uniparental male care	Male	Male	None	Most members of Dendrobates (36 species)
	Uniparental female care	Female	Female	Female only	Histrionicus group (4 species)
	Asymmetric binarental care	Male	Female	Female only	Histrionicus group (4 species)
hytotelm size in relation to parental care and mating strategies in two species of Peruvian poison frogs	Biparental care (symmetric)	Male	Male	Female, but directed by Male	Vanzolinii group (5 species)





## Cued Hatching

- 4-7 individuals of snakes
- Fasted for at least 24 hours
- Exposed hatching-competent clutches to snakes
- Found that the ability to accelerate hatching in response to risk in all spp







# Amphibian Larvae Predators

• Fish

• Birds (wading)

MammalsInvertebrate

















# Phenotypic Plasticity

- What is phenotypic plasticity?Amphibian Larvae use phenotypic plasticity to adapt to the presence of a predator • Height of tail fins
- Parsley frog and Mediterranean painted frog vs. crawfish, mosquitofish, and dragonfly larvae How does the invasive/native nature of species influence tadpoles' plastic responses to predators?

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### Phenotypic Plasticity Parsley Frog Mediterranean Painted Frog • Had taller tailfins when exposed to • No significant difference between dragonfly larvae the painted frog larvae. • Had longer tailfins when exposed • Invasive species may need more time to evolve to crawfish

















# Chemical Defenses • Secretions produced by granular glands • Often distributed throughout the body • Wide array of compounds • Natural compounds • Defensive compounds











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Defens	ive strategies presented by post-r	Table 1. netamorphic anurans and their predators.	putative main function against
	Behaviour	Variation	Possible main function against predators
1	Immobility or remaining motionless		Avoid visualisation
2	Crouching down		Avoid subjugation
3	Thanatosis or death feigning		Avoid subjugation
4	Contracting		Avoid injuries during subjugation and ingestion
5	Chin-tucking		Avoid subjugation
6	Phragmosis		Avoid subjugation
7	Puffing up the body		Avoid subjugation.
	Body-raising	Logs vertically stretched	Avoid subjugation
		Logs laterally stretched	Avoid subjugation
9	Body-tilting		Avoid subjugation
10	Stiff-legged behaviour		Avoid visualisation
11	Head-up sharp bend		Avoid subjugation
12	Eye-protection		Avoid injuries during subjugation and ingestion
1.5	Unken reflex		Avoid subjugation

	Beberine	Variation	Provible main framtion against produces
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15	Elipping costs the back		Acceld antipogrations
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71	REarsed Buttings		Accord antipagations
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2.8	Meaning gapwag		Arrend managements
24	Tranguer peristanation		Avoid antipagations
.2.5	#hgheling		Averaid importances
20	Reviser approximition	Retine growtharbug	Accessed integrations
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22	Pholony aggression	Ramo Berrine	Accord Instructions Accord Instructions
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