



FACULTATIVE PAEDOMORPHOSIS IN NEWTS: A FASCINATING POLYPHENISM THREATENED BY ENVIRONMENTAL CHANGE

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Paedomorphosis is a major developmental process that bypasses metamorphosis and allows reproduction in larvae. In newts and salamanders, it can be facultative with paedomorphs retaining gills and metamorphs dispersing on land. Although paedomorphs are often associated with deep alpine lakes, they can also be present in semi-permanent ponds where they can survive drying by metamorphosing on the basis of environmental cues. Being paedomorphs in such risky conditions remains advantageous as it allows an early reproduction (i.e. progenesis), yet at the price of low reproductive immediate pay-offs. Female biased sex-ratios are yet found in natural populations of paedomorphs due to the higher metamorphosis rate and lower sexual activity of paedomorphic males. The persistence of both phenotypes in coexistence in the same pond or lake is favored by resource partitioning. Indeed, the trophic specialisations of each morph explain their different diet patterns and their preferences for different micro-habitats. This shows that facultative paedomorphosis is a trophic polyphenism and that its selection is not only caused by the advantages of life in water versus on land, but also through an optimal use of aquatic resources. Sadly, the low number of populations of paedomorphs and their restriction to the aquatic habitat make them particularly vulnerable. There are indeed declining at a very high rate across all their distribution range. For instance, the most remarkable populations of paedomorphs, previously known as subspecies in the Balkans all vanished. The main driver of this decline is the introduction of alien species, extirpating first paedomorphs and then metamorphs. The only hope is that, being a polyphenism, paedomorphosis shows fast resilience but this is not likely in isolated areas where populations constitute evolutionary significant units. Conservation actions should therefore take place to remove threats and protect the main populations of paedomorphs as a highly valuable part of diversity.

DILLON

DOES OPHIDIOMYCOSIS (SNAKE FUNGAL DISEASE) AFFECT THE FITNESS OF WILD EASTERN FOXSNAKES (*PANTHEROPHIS GLOYDI*)?

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Program at a Glance

Sunday, September 22nd

Plenary Keynote Address (Redpath Museum Auditorium)

9:15 Mathieu Denoël (Université de Liège, Belgique) Facultative paedomorphosis in newts: a fascinating polyphenism threatened by environmental change

Session 5 (Redpath Museum Auditorium)

Chair: Hannah McCurdy-Adams

Session 6 (Redpath Museum Room 106)

Chair: Lea Randall

10:00	Hughes	Dubois
10:15	Mazerolle	Randall
10:30	Break	
11:00	Galway	K. Yagi
11:15	Lougheed	Gallon
11:30	Trudeau	A. Yagi
11:45	McCurdy-Adams	Dionne

12:00 Lunch Break

Meeting: Captive Rearing and Introductions Working Group (Redpath Museum Dawson Gallery)

Session 7 (Redpath Museum Auditorium)

Chair: Constance Browne

Session 8 (Redpath Museum Room 106)

Chair: Pamela Rutherford

14:00	Bonin	Andrews
14:15	Zagorski	Van Drunen
14:30	Browne	Lee-Yaw
14:45	Break	
15:15	Gunson	Gray
15:30	Seburn	Clemente-Carvalho
15:45	Bulté	Rutherford

16:00

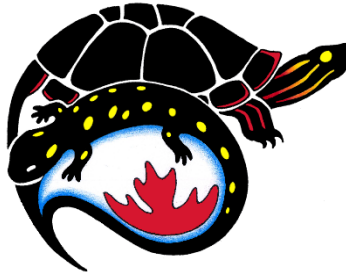
16:45 *Meeting: Chorus Frog Conservation and Recovery Group discussion (Redpath Museum Room 106)*

Monday, September 23rd

Field Trip to Parc de la Rivière-des-Mille-Îles

8:30 Departure from McGill University (Sherbrooke St.)

15:30 Return (time approximate)



**6th Annual Meeting of the
Canadian Herpetological Society
6^{ème} congrès annuel de la
Société d'Herpétologie du Canada**



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MUSEUM**

McGill University