

The Canadian Field-Naturalist

SUPPLEMENTARY MATERIALS:

Size records and demographics of an Eastern Painted Turtle (*Chrysemys picta picta*) urban population near the northern limit of the species' range in eastern Canada

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TABLE S1. Input values used to calculate population size estimates for male, female, and juvenile Eastern Painted Turtle (*Chrysemys picta picta*) in Rockwood Park, New Brunswick, from 2014 to 2016.

	Sampling period											
	Males				Females				Juveniles			
Last capture	1	2	3	4	1	2	3	4	1	2	3	4
Sample 1		8	0	1		13	1	0		5	3	1
Sample 2			3	5			7	9			4	7
Sample 3				3				8				10
Total marked	0	8	3	9	0	13	8	17	0	5	7	18
Total unmarked	9	1	0	0	14	3	0	0	9	8	6	3
Total caught	9	9	3	9	14	16	8	17	9	13	13	21
Total released	9	9	3	9	14	16	8	17	9	13	12	21

TABLE S2. Jolly-Seber estimates for the proportion of the Eastern Painted Turtle (*Chrysemys picta picta*) population in Rockwood Park, New Brunswick marked in sample two (Spring 2015), sample three (Late Summer 2015), and sample four (Spring 2016).

Sample	Males	Females	Juveniles
Two	0.900	0.824	0.429
Three	1.000	1.000	0.571
Four	1.000	1.000	0.864

TABLE S3. Straight midline carapace length (MCL; Method D in Iverson and Lewis 2018) growth (cm) for Eastern Painted Turtle (*Chrysemys picta picta*) in Rockwood Park, New Brunswick over (1) an annual period from Late Summer 2014 to Late Summer 2015 or Spring 2015 to Spring 2016; (2) overwinter period from Late Summer 2014 to Spring 2015 or Late Summer 2015 to Spring 2016; and (3) summer period from Spring 2015 to Late Summer 2015 or Spring 2016 to Late Summer 2016. Negative values are caused by measurement error, but have not been corrected to avoid creating a bias in the data.

Growth period	Group	<i>n</i>	Mean (cm)	SE	Range
Annual	Females	17	0.46	0.13	0.00–1.60
	Males	6	0.56	0.16	0.00–1.00
	Juveniles	14	1.99	0.09	1.45–2.70
Overwinter	Females	14	−0.03	0.02	−0.20–0.10
	Males	8	−0.04	0.03	−0.20–0.00
	Juveniles	14	0.08	0.05	−0.25–0.40
Summer	Females	12	0.40	0.13	0.00–1.20
	Males	3	0.48	0.29	0.00–1.00
	Juveniles	4	1.88	0.06	1.70–2.00

TABLE S4. Statistical significance (P) for annual ($n = 37$), overwinter ($n = 36$), and summer ($n = 19$) growth of Eastern Painted Turtle (*Chrysemys picta picta*) in Rockwood Park, New Brunswick from a multivariate Generalized Linear Model with normal distribution and identity link function for the dependent variables. MCL = straight midline carapace length.

Dependent variable	Independent variables	Wald χ^2	df	P
Annual growth	(Intercept)	139.551	1	<0.001
	Year	1.464	1	0.226
	Sex/age	22.172	2	<0.001
	Initial MCL	68.872	1	<0.001
Overwinter growth	(Intercept)	0.632	1	0.427
	Year	1.208	1	0.272
	Sex/age	2.898	2	0.235
	Initial MCL	0.853	1	0.356
Summer growth	(Intercept)	108.384	1	<0.001
	Year	0.854	1	0.355
	Sex/age	8.509	2	0.014
	Initial MCL	46.571	1	<0.001

TABLE S5. Statistical significance (P) of sampling session, sex/age, and straight midline carapace length (MCL) of Eastern Painted Turtle (*Chrysemys picta picta*) captured in Rockwood Park, New Brunswick from a multivariate Generalized Linear Model with normal distribution and identity link function for the dependent variable weight ($n = 35$).

Independent variables	Wald χ^2	df	P -value
(Intercept)	79.215	1	<0.001
Sampling Session	0.559	1	0.455
Sex/Age	36.161	2	<0.001
MCL	189.467	1	<0.001

TABLE S6. Surface water chemistry of Crescent Lake, 19 August 2008 (unpubl. data from Atlantic Coastal Action Plan Saint John).

Characteristic	Result
Salinity	0.28568 ppt
pH	6.75
Fecal coliform	400 cfu / 100 ml
Ammonia (free available)	0.00159 mg/L
Ammonia (total)	0.12889 mg/L
Orthophosphate (total PO ₄)	0.03409 mg/L
Total suspended solids	-30 mg/L

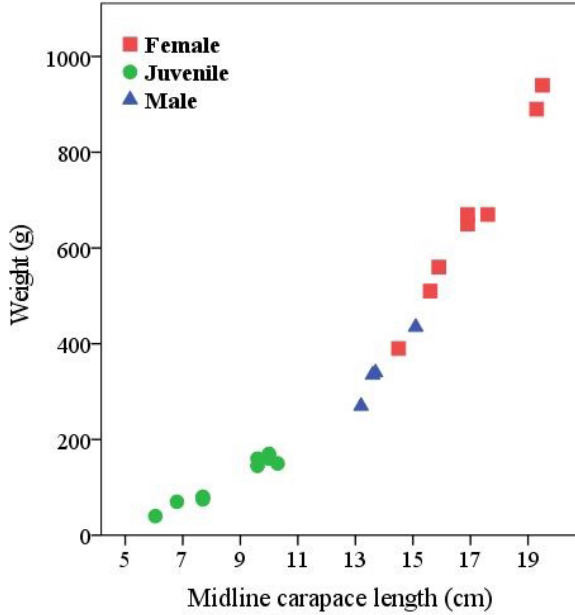


FIGURE S1. Weight and straight midline carapace length of adult male and female and juvenile Eastern Painted Turtle (*Chrysemys picta picta*) captured in Rockwood Park, New Brunswick. Juveniles had a lower weight to length ratio than adults.

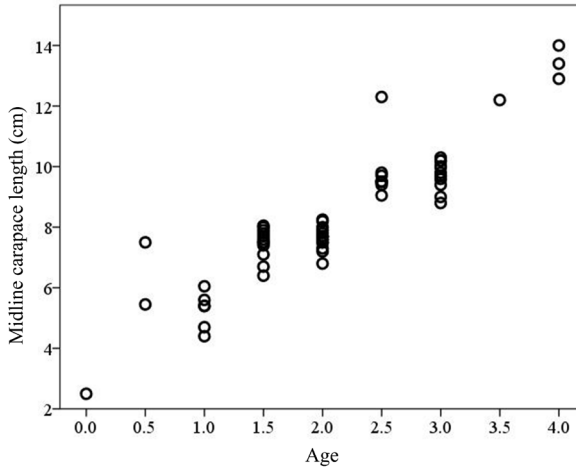


FIGURE S2. Straight midline carapace length for each age class of juvenile Eastern Painted Turtle (*Chrysemys picta picta*) captured in Rockwood Park, New Brunswick. Age was estimated by counting growth rings. Recaptures were included but each individual was not included more than once per sampling session. We assigned hatchlings observed in the Spring with no growth accumulated to age class 0 years for a starting point. Estimated ages of 0, 1, 2, 3, and 4 years are measurements taken from the Spring sampling sessions; estimated ages of 0.5, 1.5, 2.5, and 3.5 years are measurements taken from the Late Summer sampling sessions.

Literature Cited

Iverson, J.B., and E.L. Lewis. 2018. How to measure a turtle. *Herpetological Review* 49: 453–460.