part of a long-term study. Blanding's Turtles (*Emydoidea blandingii*) are rare on the west side of Algonquin Park, with only 3 nests and 14 sightings recorded between 1959 and 2003 (Brooks et al. 2003. Reptiles and Amphibians of Algonquin Provincial Park. The Friends of Algonquin Park, Whitney, Ontario. 48 pp.). On 8 June 2010, we observed a female *E. blandingii* (24.2 cm straight line carapace length, 1810 g mass) nesting. This female laid a clutch of nine eggs, of which one egg was noticeably larger than the others (Fig. 1A). The largest egg weighed 17.0 g, and had a length of 3.94 cm and a width of 2.71 cm. This egg mass is 1.2 g greater than the largest mass previously reported for this species (Ernst and Lovich 2009. Turtles of the United States and Canada, 2nd ed. Johns Hopkins University Press, Baltimore, Maryland. 827 pp.). The other eight eggs ranged from 11.4 to 12.3 g in mass (mean ± SE = 11.6 ± 0.13 g), 3.46–3.64 cm in length (mean ± SE = 3.53 ± 0.025 cm), and 2.33–2.49 in width (mean ± SE = 2.38 ± 0.018 cm). The large egg was 14.5, 6.2, and 6.5 standard deviations larger than the mean mass, length, and width, respectively, of the other eight eggs in the clutch.

The clutch was reburied and caged *in situ* to protect the eggs from predators, and the nest was monitored daily for hatchling emergence. On 3 September 2010, nine hatchlings were observed on the ground surface under the cage. One of these hatchlings was substantially larger than the rest, and this hatchling presumably emerged from the large egg (Fig. 1B). The largest hatchling weighed 13 g, and had a straight line carapace length of 3.85 cm. The other eight hatchlings weighed 8.4–9.0 g (mean ± SE = 8.7 ± 0.08 g) and had straight line carapace lengths of 3.36–3.46 cm (mean ± SE = 3.40 ± 0.012 cm). To quantify the change in mass during development, a ratio of hatchling mass to egg mass was calculated. This ratio was found to be similar between the largest egg (0.76), and the mean for the other eight eggs (0.75).

Pelvic aperture width constraints have been suggested as an explanation for deviations from egg size/clutch size relationships predicted by optimal egg size theory in small-bodied turtle species (Congdon and Gibbons 1987. Proc. Natl. Acad. Sci. USA. 84:4145–4147; Rollinson and Brooks 2008. Oikos 117:144–151). Our observation of an anomalously large egg relative to others in the same clutch supports the idea that, at least in this case, a large-bodied turtle's egg size may not be morphologically constrained, and may still deviate from optimal egg size theory. Also, because the change in mass during development was similar regardless of size, the requirements of embryological development may not constrain egg size. Overall, our observation suggests that Blanding's Turtles may not experience the same constraints on egg size as other species. This may leave traits, such as egg, clutch, and hatchling size, free to respond to external selective pressures making Blanding's Turtles an optimal model for examining such traits.

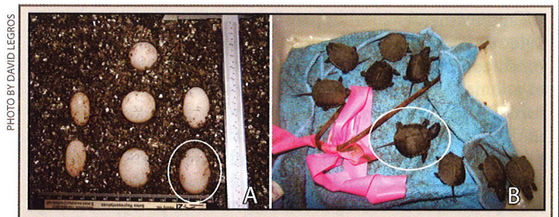

PHOTO BY DAVID LEGROS

FIG. 1. A) From left to right, two Painted Turtle (*Chrysemys picta*) eggs, three Snapping Turtle (*Chelydra serpentina*) eggs, and two Blanding's Turtle eggs. The unusually large Blanding's Turtle egg is encircled. Photo by Patrick Moldowan. B) A picture of the clutch of Blanding's Turtle hatchlings, with the unusually large hatchling encircled.

Financial support for this work was provided by NSERC and Laurentian University, and in-kind contributions were provided by Algonquin Provincial Park (Ontario Ministry of Natural Resources) and the University of Guelph. All work was carried out under an approved Laurentian University Animal Care Committee protocol and was authorized by permits from the Ontario Ministry of Natural Resources.

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***EMYDOIDEA BLANDINGII* (Blanding's Turtle). HATCHLING BEHAVIOR.** *Emydoidea blandingii* is a semi-aquatic emydine turtle that occupies wetland habitats in the northcentral and northeastern United States and southeastern Canada. Adults overwinter aquatically to avoid freezing and desiccation (Edge et al. 2009. Can. J. Zool. 87:824–834), but hibernacula used by hatchlings and juveniles are not well known. It has been suggested that hatchlings might overwinter in the nest cavity, in aquatic habitats, and occasionally on land outside the nest cavity (Ultsch 2006. Biol. Rev. 81:339–367), but conclusive field data are lacking.

Here we report on a putative communal terrestrial overwintering of post-emergent Blanding's Turtle hatchlings. Five individuals were found in a hollow subterranean root while conducting a radio-telemetry study of three species of hatchling turtles (*E. blandingii, Glyptemys insculpta, Chelydra serpentina*) in Algonquin Provincial Park, Ontario, Canada. Epoxy was used to attach VHF transmitters (0.55 g, Advanced Telemetry Systems [ATS], Isanti, Minnesota) to the carapace of hatchlings upon emergence from their nests. Hatchlings were tracked every 1–3 days using a 3-element Yagi antenna attached to a R410 Scanning Receiver (ATS, Isanti, Minnesota). On 17 September 2010, Blanding's Turtle hatchling #373 was tracked to the base of an alder root system but was not visually located. The location was narrowed down to a 1 m^2 area and marked with flagging tape. On 22 September, Blanding's Turtle hatchling #247 from the same clutch was tracked to the same 1 m^2 but neither turtle could be visually located despite several hours of searching through the leaf litter. After several days of not moving, the hatchlings were assumed to have been predated and cached below ground, so the area was excavated by hand to preserve any existing tunnels and animal remains. On 27 September 2010, the two hatchlings with transmitters were located alive and dormant inside a hollow root that was 14 cm in diameter and 25 cm below the soil surface. In addition, three other live Blanding's Turtle hatchlings were within 15 cm inside the same root. All five hatchlings were identified as siblings by a clutch-specific notch in their marginal scutes given at emergence on 20 August 2010. Because the turtles were observed inside the root in late fall, we presume that they had selected this site for overwintering. The root was along the border between an alder swamp and a softwood forest. This location was 63 m from their nest and it is unknown how the turtles entered the root.

There are two possible explanations for how the five sibling turtles chose the same hollow root. The first is that the hatchlings were using conspecific cues to follow each other. Although the use of chemical cues has been suggested for other species (Tuttle and Carroll 2005. Northeast. Nat. 12[3]:331–348), their use has not been experimentally demonstrated for freshwater turtle hatchlings. The other possible explanation is that all five turtles were using the same cues to detect appropriate hibernacula to enter the root. Considering there were over 50 hatchlings from seven nests that hatched surrounding the wetland that fall, the probability of five hatchlings from the same clutch entering the same root without using conspecific cues would seem to be low. Although there is no experimental evidence of hatchlings following conspecific cues to reach hibernacula, our observations add to the body of evidence suggesting that chemical cues from other hatchlings are important.

FIG. 1. Five sibling Blanding's Turtle (*Emydoidea blandingii*) hatchlings in a putative hibernaculum consisting of a hollow tree root 25 cm below the soil surface. The turtles were observed on 27 September 2010.

The hatchlings were tracked again on 5 October 2010. The two turtles with transmitters (#s 247 and 373) were no longer inside the root and had moved 8 m and 6 m, respectively. Both hatchlings were buried in terrestrial forms, and there was no standing water at either location. The root was re-opened to check for the other three hatchlings, but none was found. It is likely that the disturbance we caused during excavation of the root system caused the hatchlings to move to a different overwintering site. However, because the hatchlings had been immobile in the root system for 5–10 days before being disturbed, we suspect that they would have overwintered in this location. Temperatures during the week of excavation were already dropping below freezing, which would have limited the mobility of hatchlings.

To our knowledge, our observations are the only known account of hatchling freshwater turtles using communal terrestrial hibernacula outside of the nest chamber, as well as the only account of Blanding's Turtle hatchlings using a hollow root system as a refuge. Future work should identify important characteristics of such sites, what cues hatchlings use to find hibernacula, and whether hatchlings can successfully overwinter in such sites.

Financial support for this work was provided by Environment Canada's Habitat Stewardship Program, the Ontario Species at Risk Stewardship Program, NSERC, and Laurentian University. In-kind contributions and financial support were provided by Algonquin Provincial Park (Ontario Ministry of Natural Resources). All work was carried out under an approved Laurentian University Animal Care Committee protocol and was authorized by permits from the Ontario Ministry of Natural Resources.

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***ERETMOCHELYS IMBRICATA* (Hawksbill Sea Turtle). PELAGIC JUVENILE.** *Eretmochelys imbricata* occurs throughout the tropical and subtropical oceans (Meylan and Redlow 2006. *In* P. Meylan [ed.], Biology and Conservation of Florida Turtles, pp. 105–127. Chelonian Res. Monogr. 3). In the Western Atlantic Ocean they have been observed from the southern USA to southern Brazil, throughout Central America, the Bahamas and Caribbean Sea (Meylan and Redlow 2006, *op. cit.*). After hatching, a Hawksbill undergoes a pelagic phase until attaining about 20 cm in carapace length; thereafter, it migrates to coastal regions or islands and establishes a residence, changing to a benthic phase, where it feeds and finds refuge until reaching sexual maturity (Chacón 2004. WWF-Programa Regional para América Latina y el Caribe. San José, Costa Rica). *Eretmochelys imbricata* is currently listed as Critically Endangered by the IUCN (2010. IUCN Red List of Threatened Species. Ver. 2010.4. www.iucnredlist.org), and is included in Appendix I of CITES (CITES 2005. Convention on International Trade in Endangered Species of Wild Fauna and Flora. www.cites.org/eng/append/appendices.doc).

Here we present the first record of a pelagic juvenile Hawksbill Sea Turtle in the Marine Extractive Reserve Mãe Grande de Curuçá, located in the city of Curuçá, northeast of Pará, Brazil. This individual turtle was found dead, collected, and identified by Marcela M. Ramos and verified by Marinus Hoogmoed. It was deposited in the herpetological collection of Museu Paraense Emílio Goeldi, Belém-PA, Brazil (MPEG 1068). The specimen was recovered at Romana's Beach (0.54286°S, 46.0991°W), at Guarás Island (one of 14 islands in the marine reserve), on 18 August 2010, in an "estacada" net. The "estacada" is a gillnet commonly used by fishermen in the north region of Brazil (SEPAq 2008. Diagnóstico da pesca e da aqüicultura do Estado do Pará. <http://

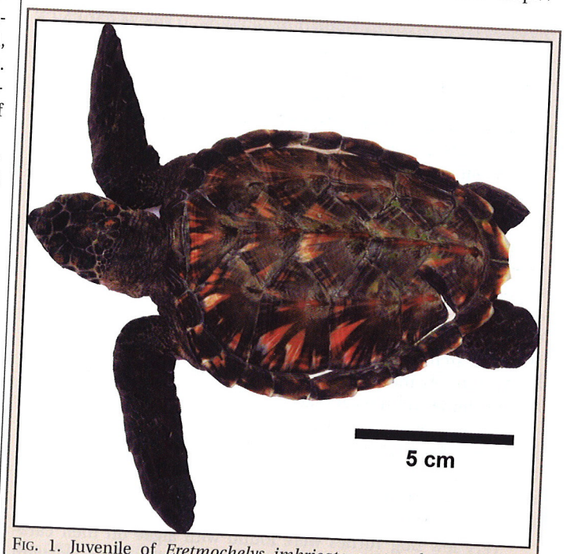

FIG. 1. Juvenile of *Eretmochelys imbricata* captured at Romana's Beach, Resex Marinha Mãe Grande de Curuçá, Pará, Brazil.