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# CROAKS AND TRILLS

Volume 8, Issue 2



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## From the Editor

### Do you need additional data sheets?

Data sheets can be printed directly from the Alberta Conservation Association website: [www.ab-conservation.com](http://www.ab-conservation.com).

To locate the data sheets on the ACA website, click on the following links: "Your dollars at work" followed by "Current projects" followed by "Alberta Amphibian Monitoring Program". For further details see page 6 of this newsletter.

**Coming soon: the ability to submit amphibian observation data via the Internet (online form)!**

--- Kris Kendell

## Toads in trouble

*By Constance Browne, Brian Eaton, Ross Chapman and Cindy Paszkowski*

Elk Island National Park (EINP) is a remnant of native Aspen Parkland located in a landscape dominated by agriculture and rural residences. Although EINP is a protected area, in the last 20 years the Canadian toad (*Bufo hemiophrys*) has nearly disappeared in the park. The Canadian Toad is listed as a "may be at risk" species in Alberta because its distribution in the parkland region has decreased dramatically. During this same period the boreal or western toad (*B. boreas*) colonized EINP. The boreal toad is considered "a species of special concern" in Canada and listed as "sensitive" in Alberta because it has suffered population declines and extirpations in the northwestern USA.



Boreal toads in amplexus

Despite its apparent sensitivity to environmental change, the boreal toad is found in many ecoregions in Alberta, including the Rocky Mountains, boreal forest and parkland. In fact, in parts of northern Alberta the boreal toad is actually expanding its range eastward possibly at the expense of its smaller congener, the Canadian toad.

We conducted surveys from May to August, 2003 to determine the current distribution of toads and other anurans in EINP.

*(Con't on page 2)*

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## Toads in trouble (con't from page 1)

In addition to standardized visual surveys at 232 ponds in EINP, we also surveyed seven ponds on sandy grazing land just outside EINP. Surveys were carried out by walking slowly around the perimeter of each pond, searching approximately 1 m to each side, and in front, for amphibians visible without moving debris. We attempted to capture all amphibians observed for identification and measurement.

Besides boreal toads, we encountered wood frogs (*Rana sylvatica*) and boreal chorus frogs (*Pseudacris maculata*). Wood frogs were found at 223 ponds and chorus frogs at 199 ponds in EINP; both species were found at all seven ponds on the sandy grazing site and were abundant at all sites. Boreal toads were common but much less abundant than wood and chorus frogs and patchily distributed in the park. Boreal toads were found at 40 ponds in EINP and at all seven ponds on the grazing site. We observed a total of 3026 wood frogs, 2633 chorus frogs, and 669 boreal toads throughout the summer. Canadian toads were not observed or heard calling anywhere.



Canadian toad; courtesy, K. Larsen

In the future we plan to radio track boreal toads in EINP. Boreal toads grow large enough that adults can carry a backpack type radio transmitter. Radio tracking will not only yield data on behavioural differences between ecoregions and between disturbed vs. undisturbed sites, but also important data on critical microhabitat features, movement corridors, home range size and hibernation locations.

We hope to use the boreal toad as a model for developing proactive conservation strategies for amphibian species that still have healthy populations in Alberta.

For more information on this study contact Connie Browne: [cbrowne@ualberta.ca](mailto:cbrowne@ualberta.ca) ❖

## Volunteer highlights – 2003

Dave M. submitted information on a plains garter snake den, located along the Vermilion River. An estimated 50 snakes were observed on April 4<sup>th</sup> in the various entrance holes to the den and the surrounding area.

On the evening of September 1<sup>st</sup>, several tiger salamanders were observed crossing a road by L. Barrett. All managed to wriggle off the road in time to avoid traffic.

Murray M. heard his first wood frogs of the season calling on the afternoon of April 19<sup>th</sup> just north of Red Deer. By April 21<sup>st</sup>, boreal chorus frogs had joined the chorus from the slough.

Just north of the boundary of Waterton Lakes National Park, Lea C. and John H. heard their first boreal chorus frogs of the season calling on April 8<sup>th</sup> – two weeks earlier than last year.

On August 24<sup>th</sup>, a northern leopard frog was observed on an island in the Waterton River, near Waterton Lakes National Park. This report represents a valuable and significant recent account of this species in the area, and one of the furthest west known populations in southern Alberta.

On July 15<sup>th</sup>, the Edmonton Reptile and Amphibian Society led a tour at the Wagner Bog natural area near Edmonton. As people wandered the trails, a large plump boreal toad was observed as well as a young wood frog. Many tadpoles were observed in the ponds and were likely those of boreal toads and wood frogs. ❖



## Please remember to send in your data from this year!

Every record is important to us and is put to good use in creating current distribution maps and to help improve our understanding of the timing of breeding activity of the amphibians found throughout Alberta.

## Great leap for amphibian research in Cypress Hills Interprovincial Park

By Jennell Rempel

The Researching Amphibian Numbers in Alberta (RANA) program has been active in the Cypress Hills since 1997, and this season it experienced a great “leap” forward in both field research and public education. With the installation of deeper pitfall traps at the study pond, an unprecedented capture rate of 70 northern leopard frogs (*Rana pipiens*), 10 tiger salamanders (*Ambystoma tigrinum*) and a boreal chorus frog (*Pseudacris maculata*), during 2629 trap nights, was achieved. Field research also included wetland surveys at 18 locations, resulting in over 400 leopard frog observations, including two sightings of the rare and beautiful golden-coloured mutation of the northern leopard frog. In Alberta, these “golden frogs” are known to only occur in the Cypress Hills.



The Cypress Hills, southeastern Alberta

At the Cypress Hills RANA pond, traps were initially made out of two 15 cm plastic flowerpots (one pot with its bottom cut out), taped together at their openings. Buried flush with ground level, the total depth of this trap design was 30 cm. This trap depth was found to be too shallow for capturing the athletic northern leopard frog. There are few things more heartbreaking to a frog biologist, than watching a leopard frog effortlessly leap out of a pitfall trap. The flowerpots were removed and the holes deepened to a minimum of 41 cm to facilitate the insertion of 15 cm diameter PVC piping, of 41 cm lengths. Within four days, 59 leopard frogs were weighed, measured and released from a single, deepened pitfall trap.

Public education was an important component of the Cypress Hills RANA project this season. Education

initiatives included informal presentations and television appearances on local access stations and permanent displays at the Visitor Center in the Elkwater townsite. One event, the “Wetland Safari” hike, had adults and children dip netting for frogs and other aquatic wildlife while on a breathtaking hike through three of the Cypress Hill’s biomes: forest, grassland and wetland. All field research and interpretive programs spearheaded by the RANA program in the Cypress Hills were greatly supported by the Park and Visitor Services staff, and by the friends group of the park, the Heritage Association of Cypress Hills. This support was invaluable and provided the framework for a very successful summer, and a highly anticipated 2004 field season.

For more information on the RANA program contact Lisa Wilkinson: [lisa.wilkinson@gov.ab.ca](mailto:lisa.wilkinson@gov.ab.ca) ❖

### Amphibian and reptile oddities

Possibly the deadliest skin secretion, of any amphibian, is produced by the golden poison dart frog (*Phyllobates terribilis*) of Columbia, South America. An individual frog may have enough poison to kill upwards of 20 000 mice.

One of the smallest snakes in the world is the Braminy blind snake (*Ramphotyphlops braminus*). It lives in the tropics and rarely exceeds 15 cm in length. Native to Southeast Asia, its small size and tendency to burrow among the roots of plants have resulted in its accidental introduction via the horticultural trade into many areas far outside of its natural range.

The Indo-Pacific gecko (*Hemidactylus garnotti*) is a species made up of entirely self-fertilizing females, producing female offspring by themselves. There are no males of this species. This adaptation allows this lizard to be very efficient at colonizing new habitats because only one individual needs to arrive to start a new population!

In the late 1940s or early 1950s, the brown tree snake (*Boiga irregularis*), native to Australia and Indonesia, was accidentally introduced to Guam, a previously snake-free island. Over the years, it has exterminated most of the native forest birds on the island and is spreading across the Pacific to neighboring islands, sometimes by hopping a ride in the wheel wells of aircraft. ❖

## Zoos: contributing to the conservation of amphibians

By Lynne Fraser

Amphibians have persisted for millions of years, but are now vanishing globally as a group. Scientists worldwide believe that the rate of amphibian decline far exceeds normal extinction patterns. Multiple factors including habitat destruction, climate change, infectious agents, contaminants and introduced species could all be implicated in these declines. Most startling is the disappearance of many amphibians from pristine environments where little human impact has occurred.

To ensure the future existence of amphibians, their habitat must be protected. Many amphibians have complex life cycles requiring the protection of the full range of habitats needed for all life stages. Pond-breeding amphibians require undisturbed spawning sites as well as hibernation sites, safe dispersal routes and foraging habitats that are often at considerable distances from ponds. As wild habitats are rapidly disappearing, zoos are joining the fight to protect the natural life cycle of amphibians.

Zoos play a critical role in protecting biodiversity. For example, the Toronto Zoo breeds Puerto Rican crested toads (*Peltophryne lemur*), a threatened species, for yearly reintroduction to Puerto Rico.



Puerto Rican crested toad;

© Sedgwick County Zoo, credit: Brent Ward

The intent of the Toronto Zoo's project is to rebuild sustainable wild populations of crested toads. This project includes a captive management program, which has led to the development of a husbandry manual for the care and breeding of Puerto Rican crested toads. At release sites, habitat conservation

signs are posted, communicating the importance of the last natural breeding pond for the toads' survival.

Right here in our own province, the Centre for Conservation Research at the Calgary Zoo recently became involved in the reintroduction of northern leopard frogs (*Rana pipiens*). The Alberta Conservation Association (ACA) and Alberta Fish and Wildlife Division initiated the reintroduction program in 1999 with the goal of re-establishing self-sustaining populations of leopard frogs in historical habitats.

In collaboration with the ACA, the Calgary Zoo is currently monitoring the released northern leopard frogs in order to better understand their dispersal dynamics and habitat selection. In addition, disease prevalence in both the released frogs, and wild populations, is being monitored through skin samples taken on a subset of the released frogs and any recaptured frogs. This pilot study is hoping to uncover new information on the survivorship of reintroduced frogs that will contribute to future amphibian conservation programs.

For more information on this initiative, please contact Lynne Fraser: [lynnef@calgaryzoo.ab.ca](mailto:lynnef@calgaryzoo.ab.ca) ❖

## Rip's tale

By Kris Kendell

There have been several documented accounts of living frogs, toads and lizards being found encased within solid rock or other objects. Naturally this is something that cannot happen, but stories saying that it does have repeatedly turned up in history.

Perhaps the most famous of these tales is that of a Texas short-horned lizard (*Phrynosoma cornutum*) named Rip Van Winkle. Rip was sealed in a cornerstone of a courthouse in Eastland County, Texas, back in 1897. The cornerstone was a time capsule of sorts, and citizens at the time placed various articles into it, including poor Rip. By 1928, the courthouse needed replacing. When the cornerstone was opened during demolition, to the shock of onlookers, Rip was still alive some 31 years later! As the story goes, Rip reportedly died of pneumonia in 1929. Today, Rip's dried remains are kept in a velvet-lined casket, in a window near the entrance to the new Eastland County Courthouse, where he can be viewed to this very day. ❖

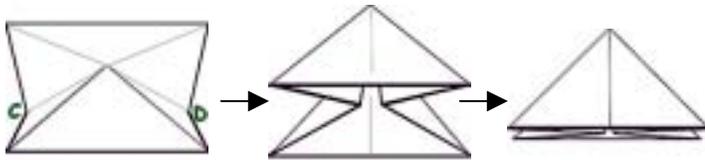
# Make your own Origami jumping frog!

Instructions and diagrams are from the following website: <http://www.froggyville.com/origami.htm>

1. Start with a square piece of paper no smaller than 8.5 inches x 8.5 inches. Fold it so that the creases match the diagram below.



2. Start to push on points C and D, at the same time folding the top edge of the paper down until it meets the bottom edge of the paper. You want your completed fold to end up as a triangle.



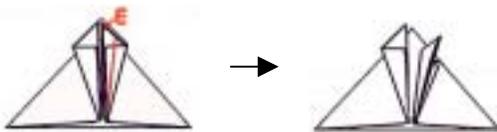
3. Take the paper at point A (which is only the top layer of the paper) and fold along the dotted line so that point A meets point B. Do the same thing on the other corner (remember to fold the top layer only). You should have something that resembles the third diagram below.



4. Next, fold along the dotted line in diagram A, so that your paper looks like the diagram B. Do exactly the same for the other side, so that your paper now matches diagram C.



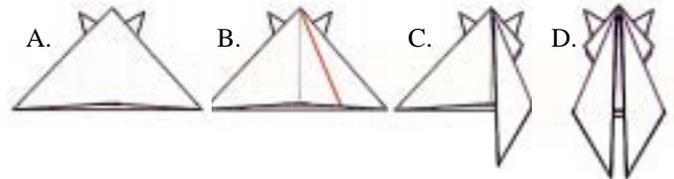
6. Now fold the top corner, marked E, outwards so it looks like this:



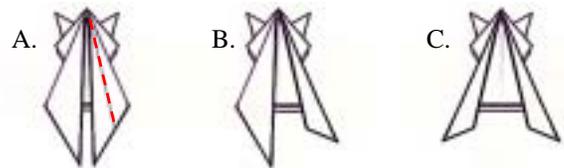
7. Do the same on the left side so your paper looks like the diagram below.



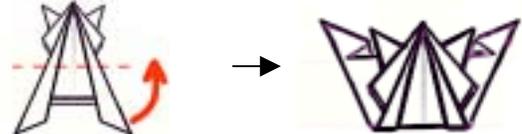
8. Turn your piece of paper over so the other side now faces you like diagram A. Next fold along the diagonal crease in diagram B (do the same thing on the left side – diagram C) so it looks like diagram D.



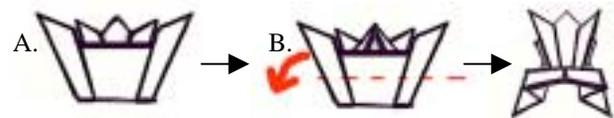
9. Now fold it outwards along the gray line in diagram A, so that your right side looks like diagram B. Do the same thing on the left side so it resembles diagram C.



10. Fold your frog in half along the dotted line like the diagram below.



11. Turn your frog over so that the other side is facing you (diagram A). Now fold what are going to be the frog's back legs, down along dotted line (diagram B).



12. Congratulations, your frog is complete! To make your frog jump, lay it on a flat surface like a table, and push down near the end of it, where the X is marked on the diagram below. ❖



## Amphibian and reptile educational resources



**Alberta's Reptiles: Lend a helping hand (or two or three) – Teacher's Guide for Grade Seven Science Curriculum.** This guide is full of information and activities that will get students thinking about their attitudes towards reptiles (especially snakes) and will foster a deeper understanding of Alberta's eight reptile species. This expansive guide will be available as a PDF, from the Alberta Conservation Association website at [www.ab-conservation.com](http://www.ab-conservation.com). For more information about this guide please contact Kris Kendell (ACA) at (780) 422-4764 or [kris.kendell@gov.ab.ca](mailto:kris.kendell@gov.ab.ca) ❖

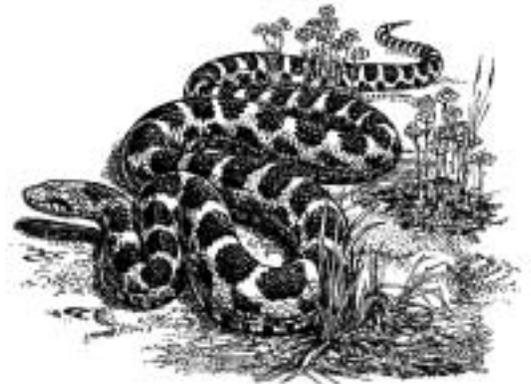
**Canadian Skin and Scales.** This book is an excellent starting place to discover Canadian amphibian and reptile species, what they can teach you and what you can do for them. This resource is geared to students aged nine to 13 years. Available from: Simply Wild Publications Inc., 100 Lake Lucerne Close SE, Calgary, AB T2J 3H8 or phone: 1-877-278-5999; website: [www.simplywildpub.com](http://www.simplywildpub.com) ❖

### How to obtain data sheets, the Croaks and Trills newsletter and the teacher's guide from the Internet

To obtain data sheets, the newsletter or the teacher's guide from ACA's website, you will need to download Acrobat Reader from the Internet. Acrobat Reader is free and simple to download. Follow the steps on the following website: [www.adobe.com](http://www.adobe.com) ❖

### Data on Alberta reptile species are needed

As with the amphibian species, many of Alberta's reptiles are poorly understood with respect to their distribution, leading to challenges in managing these species. This lack of data has made it difficult to recognize potential changes in distribution or population levels of many reptiles in Alberta. Similarly, hibernacula or den sites, crucial to the life history of Alberta's snake species, are poorly documented. Reptile observations can be submitted along with your amphibian data or submitted separately by e-mail or snail mail (address below). ❖



CROAKS AND TRILLS is the official information newsletter of the Alberta Volunteer Amphibian Monitoring Program, a program delivered jointly by the Alberta Conservation Association and Alberta Sustainable Resource Development.

For more information on:

- the Alberta Volunteer Amphibian Monitoring Program
- amphibians and reptiles of Alberta
- how to submit monitoring data or other amphibian and reptile observations

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