

MINUTES OF THE 861ST MEETING OF THE BRODIE CLUB,

DECEMBER 15, 1992

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This meeting was held in the ^{faunal osteology} laboratory, South Borden Building, University of Toronto. Called to order at 8:05 p.m. Chairman: Martin McNicholl. Secretary: Norm Martin.

ATTENDANCE:

There were 15 members present, and five guests: Mary Tasker, Jim Murray, and Nancy Archibald guests of Tasker; Don Pope guest of Aird; Jennifer Young guest of Young.

MINUTES

With some minor corrections, the minutes of the previous meeting were adopted on motion by Carr and McNicholl. Carried.

ANNOUNCEMENTS:

- The bill for the recent dinner at the Faculty Club will be along soon.
- A letter has been received from Louise Herzberg who has been working on a biography of Dr. Brodie. It seems Brodie was a student of galls, and donated his collection to the Smithsonian Institution.
- McNicholl announced natures ^{TWAS} to Australia.
- Speakman passed around a letter from Don Baldwin, who operates accommodation on Grand Manan for naturalists.
- Martin (Norm) gave the FON announcements.
- Lumsden announced that Jack Cranmer-Byng's book on Percy Taverner is nearly ready for publication.
- McNicholl stated that a book on Rowan is about to come out.
- Churcher mentioned that a book by Richard

Leakey and Roger Lewin on human origins, Origins Reconsidered, is out.

- Churcher also mentioned that a compendium on horses, entitled Horsepower, by Juliet and Clutton, has been published by Brock.
- The members were pleased to hear that Marg Bodsworth is improving in health.
- Tasker announced that two new bird atlases are out-- Breeding Birds of the Maritimes, and Breeding Birds of Alberta.

INTRODUCTION OF SPEAKER

Carrick introduced Robert Johnston, curator of reptiles and amphibians at the Metro Toronto Zoo. Johnston attended the University of Toronto for the B.Sc. degree, and received the M.Sc. from York University studying under John Livingstone.

SPEAKER

In his 20 years at Metro Zoo, Bob has experienced the evolution of a meaningful role for these large zoos. Basically this is one of management; so that people will act responsibly in relation to the understanding and conservation of nature.

For example, the management of water resources affects the conservation of amphibians. Threatened and endangered species such as the Wyoming Toad can be victims of unreasoned practices by landowners. Involvement by the Zoo can take the form of direct action, as with the Puerto Rican Crested Toad. Loss of wetlands in northern Puerto Rico has resulted in the restriction of breeding to watering troughs and some temporary ponds. This leaves the toad with a very short time to complete its life history. The Metro Toronto Zoo is breeding them in captivity in Puerto Rico. Of 5,000 tadpoles only about 100 survive to adulthood. Artificial ponds are constructed to help with this problem.

Public education is a large part of the Zoo's program to encourage the public to support its conservation efforts. The Massasauga Rattlesnake project in Ontario is an example. Since 1984 this species has been extirpated from the region surrounding the southern part of Georgian Bay. There are now four separated populations in Ontario, a precarious distribution.

This species is not aggressive, and is commonly found sunbathing. It uses its rattle to ward off enemies. In Ontario cases of its biting humans are rare, and such a bite is not fatal. The habitat of the Massasauga is Laurentian Shield rock with cavities and crevices. A record litter of 20 was found in Illinois. The young are born with only one rattle at the bottom of the tail. Later as buttons are added the sound can be produced.

The education of the public not to kill them is the key to their survival. Bright posters are put up in areas where the species occurs, teaching the public how to recognize them, and the value of protecting them.

Uninformed people may mistake the Hog-nosed Snake for a Massauga. Its bold, aggressive display intimidates people, although this species "never" bites. The Hog-nose too is declining. Other species misidentified include the Fox Snake, which is large and vibrates its tail; The Water Snake, which moves quickly and has a patterned colouration; the Milk Snake, which vibrates its tail but is harmless. Posters explain these facts to the public.

Workshops for tourists teach them not to fear snakes. A newsletter to cottagers helps to educate them so they will not kill snakes. Field hikes help the public to appreciate these animals.

The message in all of this is that we must share habitat with all wildlife, and it is found that people in general are receptive to this kind of education.

Another area of work is with Ontario amphibians. There is a world wide concern about decline of amphibians. Even in non-stressed areas, species are declining, "probably due to factors underground." Declines usually are noticed first on the edges of ranges.

The Leopard Frog has almost disappeared in Alberta; yet in Ontario and Quebec it is increasing. The American Toad appears to be declining, although it is difficult to assess this because we have no standard population figure for comparison. Destruction of habitat must be harmful, including clearcutting of forests and contamination and drainage of wetlands. Salamanders too are affected, and new studies are revealing that this group comprises a much larger proportion of the amphibian population than has been realized.

Yet even very small patches of wetland can be sanctuaries for herps, especially in winter.

The Metro Toronto Zoo is educating the public, especially schoolchildren, about wetlands. Schools are encouraged to adopt wetlands. In urban areas, toads wander around and find artificial pools in gardens, even swimming pools. The Zoo is trying to get all the schools in the province to adopt and promote toad breeding ponds, and put pressure on Ontario Hydro and other corporate landowners to protect amphibian ponds on their lands. Get the children involved! The power of children to get action at the legal level is very great. A boy in the community adopts a pond, the newspapers play it up, and "development" is arrested. Children are actually doing studies on some of these ponds, and the public pays attention.

In the Toronto area, ravines are avenues of natural environment. Toronto as a bioregion is held together by wetlands. The Zoo and others are seeking to develop this concept.

In summary, the key for the Metro Zoo program is education. The long-term solution is to get our neighbours involved, then link neighbours. Certificates are issued, bumper stickers sold. "Extinction of species is bad enough, but extinction of experience is very sad." Spreading this experience is the aim of the Metro Toronto Zoo.

DISCUSSION

Savage - At Rattlesnake Point in Ontario skeletons have been found of large rattlesnakes, possibly Timber Rattlesnakes.

Answer - Timber Rattlesnakes are not known in Ontario now. The species has a fatal bite for humans, unlike the Massasauga. People recover from the bite of the latter with no treatment.

Fowle - Food?

Answer - Mostly Microtus.

Bertin - Red-spotted Newt ponds are gradually being eliminated.

Answer - Yes.

Tasker - How is the program funded?

Answer - Wishing wells at the Zoo bring in \$25,000. per year. Some industries, e.g. Consumers' Gas, will give generously. Taxes pay for regular work at the Zoo.

Tasker - Why is the distribution of the Massasauga on Georgian Bay islands disjunctive?

Answer - Not known for sure, but most likely a climatic event has resulted in a population crash and the species has not recouped. Differences in microclimate are another possibility.

Savage - What about Fowler's Toad?

Answer - This species is at the northern edge of its range and susceptible to weather abnormalities, and also to hybridization.

Lumsden- How do you mark amphibians?

Answer - Toeclipping is the principal way. Also, familiarity enables recognition by sight.

Speakman - Are Spring Peepers becoming scarce?

Answer - In the Toronto area they have been largely displaced by the Chorus Frog. Elsewhere very cold winter temperatures without snow cover can kill the hibernating frogs. But this is conjectural, since we do not have quantitative data.

Bendell - Why are salamanders so abundant in southern forests?

Answer - Populations tend to become isolated, and so speciation occurs.

Bendell- Do salamanders compete with frogs?

Answer - No.

Bendell- Are amphibians territorial?

Answer - No, although bulls and greens can be.

Speakman - What about crossing roads?

Answer - In England tunnels under roads are provided in some places.

THANKS

Churcher.

FIELD NOTES

Ann Falls saw a Hawk Owl near the Otonabee River, Peterborough, recently.

Young saw a couple of young foxes near his garden during a snowstorm recently. Mary Tasker reported others are seeing more foxes in the Toronto area lately.

Aird watched a squirrel struggling with deep snow on branches.

Carrick noted that his captive geese and swans concentrated on a small portion of pond during a snowstorm.

Bendell saw a deer in Meadowood Park, Clarkson.

Speakman, raking leaves, found many earthworm holes stuffed with dead leaves. Churcher said Darwin also noted this. Lumsden also has noted this at low temperatures in spring. The significance is not known with certainty.

Churcher noted extra white on the ears of some squirrels. Carrick said this is simply a limited measure of albinism.

Tasker reported that there has been an incursion of western species of birds in the Toronto region this fall.

ADJOURNMENT

at 10 p.m.

Special refreshments marking the season followed. Thanks to those who provided them.

Worm Martin