THE BRODIE CLUB

ROYAL ONTARIO MUSEUM OF ZOOLOGY

THE 980TH MEETING OF THE BRODIE CLUB

The 980th meeting of The Brodie Club was held on Dec. 9, 2003 at 7:30 pm in the Ramsay Wright Zoological Laboratories of the University of Toronto.

Chair: Paul Aird
Secretary: Ed Addison

There were 25 members, four guests and one corresponding member:

Charles Lennox, corresponding member
Eleonora Bertin, guest of Oliver Bertin and wife of late member Leonard Bertin
Sharon Hick, guest of Jock McAndrews
Ron Pittaway, guest of Jean Iron
Rosemary Addison, guest of Ed Addison

The minutes of the 979th meeting were approved with the following corrections:
The Club account has on hand $362.45 instead of $642.45.
All of the plants referred to in the summary of the November talk were *Penstemon* spp.
It was John Speakman, not Ed Addison, who had reported observations about Canada geese around Lake Simcoe.

NEW BUSINESS:

Jim Bendell proposed that minutes of meetings be sent out to interested corresponding members. Oliver Bertin asked members who wished e-mail minutes to send their e-addresses to obertin@globeandmail.ca. Sandra Eadie offered to assist Oliver Bertin co-ordinate an approach to corresponding members to measure their interest.

Bertin will prepare print and e-mail versions of the minutes in future. Members may express a preference for one or the other – or both – for future meetings.

Jock McAndrews brought our attention to the following book: *Laub, R.S. (ed.). The Hiscock Site: Late Pleistocene and Holocene Paleoecology and Archeology of Western New York State. Bull. Buffalo Soc. Nat. Sci. Vol. 37. 327 pp.*

MOST IMPORTANTLY, Aarne Juhola, our new treasurer has observed the potential for high levels of stress in some members. He offered to assist in reducing that stress by accepting their annual dues of $10 an individual and $15 for families!

Jean Iron nominated Ron Pittaway as member following the meeting, seconded by Bill Crins. A short biography is attached.

COMMITTEE REPORTS:

Bruce Falls reported that speakers were organized for the rest of the year and that some speakers had been identified for next year's meetings. The speaker in January will be member John Riley.

SPEAKER

Bruce Falls introduced Dr. Ed Bousfield, the evening's speaker. Bruce and Ed had been classmates at UofT 55 years ago. Ed Bousfield continued on to a Ph.D. at Harvard and became an expert on amphipods. He worked with the National Museum of Canada becoming Chief Zoologist and in 1986 Senior Scientist. He also maintained affiliations with other museums including the ROM and the provincial museum in Victoria. Ed published many papers and books, was a member of many organizations and is a Fellow of The Royal Society of Canada. In retirement, Ed pursued an interest in cryptozoology, specifically the sea serpent of the west coast, *Cadborosaurus willsi*. Dr. Bousfield's talk was on:

"The scientific search for aquatic mega-serpents on the Pacific Coast of North America"

Dr. Bousfield referred to a variety of publications three of which he had on hand:

Hagelund, W. A. 1987. Whalers no more. Harbour Publishing, Madeira Park, B.C. 211 pp.

Bousfield, E. L., and P. H. LeBlond. 1995. An account of Cadborosaurus willsi, new genus, new species, a large aquatic reptile from the Pacific coast of North America. Amphipacifica 1, Supplement 1: 3-25.

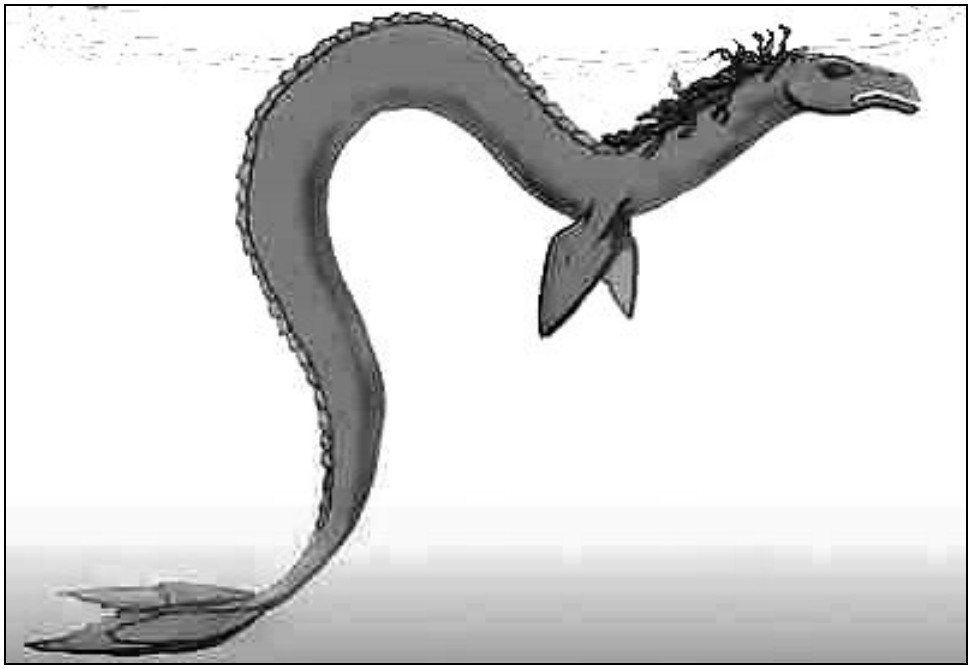
LeBlond, P. H., and E. L. Bousfield. 1995. Cadborosaurus, survivor of the deep. Horsdal and Schubart. Victoria, B.C. 134 pp. (ISBN: 0-920663-33-8)

Dr. Bousfield and colleagues differentiate between 'hard' evidence and 'soft' evidence. Hard evidence includes data such as specimens, photos, sonar traces and published descriptions when the specimen has been in hand. Soft evidence includes such things as native artifacts and documented sightings supported by a variety of data including name, date, time, place, and by sighting recorded such as in published news.

Hard evidence is rare. Nobody has ever found an adult or a beached carcass. This remains a plausible situation since large new marine animals continue to be discovered including a new species of baleen whale in the Indian Ocean and a new species of deep dwelling giant squid! During the past 67 years, only four sea serpents, all juveniles, have been in hand.

The best specimen was taken from the fore stomach of a sperm whale off the NW coast of the Queen Charlotte Islands in 1937. It was 10 feet long and well photographed at Naden Harbour with the photos reproduced in Hagelund (1987). The carcass was forwarded to Bellevue, Wash. where it was preserved in acetone and on public display for a number of weeks. It was then sent to the provincial museum in Victoria, where the director, Dr. Francis Kermode, examined it and, according to Dr. Bousfield, misidentified it as a fetal whale. It was clear from a photo (of the same vintage) of a fetal whale that this specimen was definitely not a fetal whale. Jim Wakelin who is still alive and was at the whaling station and saw the specimen when it was being photographed insists that it was not a fetal whale and could not imagine it having been misidentified as such. The resident mammalogist for the museum, Ian McTaggart Cowan, was away on a field trip and unavailable to examine the specimen. Kermode had little interest in the specimen and subject and the specimen was discarded. There were other more precise records of the specimen that did not support Kermode's conjecture.

Clifford Carl, the next head of the museum after Kermode, maintained a set of records of sightings of sea serpents up and down the coast. This file became a valuable set of soft data.



Cadborosaurus willsi

Hagelund saw a specimen in 1968 at Pirate's Cove, B.C. and published a sketch in his book. On Feb. 27, 1987 a photo of a sea serpent was taken in the San Francisco Bay area by Bob Clark. Also in the photo was a navigational buoy of known size. From this photo, it was estimated that the adult form was about 60-70 feet in length. A Mrs. Mancie (?) living on Vancouver Island, near Sidney, B.C. saw a large adult on shore one night. Upon searching the site the next day, the adult was gone. However, there was a

juvenile serpent there and a terribly repulsive odour. She helped the juvenile serpent into the water. A number of people who have seen the serpents on the shore have independently described the repelling odour associated with the site of the beaching. Mrs. Mancie also described having seen the skeleton of a serpent beneath a Bald Eagle nest. Examination of the site by Dr. Bousfield and colleagues revealed no skeleton. However, Bousfield suggests that beneath eagle nests might be a good site to check for skeletal evidence of juvenile serpents.

From the hard data, a lot became known about the morphology of the sea serpents. They had a long snake-like body with a long neck supporting a camel-shaped head. The head had a long muzzle and forward directed eyes. Mid body was a set of foreflippers and there were numerous spines at the ends of the terminal digits with webbing between them to form a fleshy terminal bifurcate flipper.

Young serpents appeared different from adults by having a scale-like covering to the body, a shorter tail, tiny teeth and a long snout.

The sea serpent was unlike fish because all fish have fins immediately posterior to the head, the serpents had a long neck and forward looking eyes, fish have vertical tails and the serpents a lateral tail and unlike the serpents, fish don't swim with their head out of water! The serpents were more like reptiles but there were once again numerous differentiating morphological characteristics including a shorter tail in the serpents than in reptiles such as Plesiosaurs.

Unlike mammals that rise to the surface head first in order to breathe, the sea serpents may rise to the surface and maintain their head under water for periods of time. Bousfield and colleagues have noted other differences from mammals. Homeothermic mammals with such a thin body form would likely freeze to death in the ocean ecosystem. Young serpents have scales unlike most mammals and there is no evidence of nursing. The presence of many sharp teeth in young serpents is not conducive to nursing. In addition, the serpents display a reptilian characteristic of having comparatively short young as compared to the adults.

Dr. Bousfield and his colleague LeBlond published a formal description of the sea serpent identifying it as a reptile and assigning it to a new genus and species as *Cadborosaurus willsi*.

From some of the records of soft evidence, it was reported that "Caddy" fed heavily on salmonids and on surface sea birds by surprising them from beneath. When on the surface, the serpents spread out along the surface of the water. They have lots of body hairs that are speculated to be a site for exchange of oxygen, hence the absence of a need to breathe air immediately upon surfacing. Two sightings provide insight into locomotory behaviour. In one case, an observer in an auto on the coastal highway pursued a surface swimming serpent swimming parallel to the Oregon coast at 25 mph. In another instance in B.C., a taxiing float plane pursued a serpent for some distance at about 30 mph before the serpent submerged. In these and other observations of high

speed locomotion, it was noted that the body was coiled with 'humps' out of the water. The coils do not undulate but remain rigid. Bousfield and colleagues speculate that it is this rigidity in combination with the action of the strong tail that allows the serpent to propel itself forward at such speed. Can you imagine a fish being able to move forward if it didn't have a somewhat rigid body trunk?

Other soft data include occurrence of sea serpents in petroglyphs near Nanaimo and a known sketch of a serpent from 105 years ago on the Queen Charlotte Islands.

Hundreds of records of direct sightings have been collected. The presence of sightings in fresh water lakes of both the Fraser (Shuswap Lake, Harrison Lake, etc.) and Columbia (Lake Okanagan – 'Ogopogo') are thought to arise from these sea originating serpents following salmon upstream for feeding. The fact that insurpassable barriers (dams) have been on the Columbia system for up to 70 years suggests that, if indeed the serpents are marine in origin, then they must have a fairly extended life span. Sightings are also known from Cowichan Lake on Vancouver Island. At a lower resolution spatial scale, sightings have been reported from Prince William Sound in Alaska south to Monterey Bay in California with definite concentrations in the area of Vancouver Island.

There are many records of sightings of sea serpents on both the North American and European coasts of the Atlantic basin. However, just as within the Pacific basin, there are no sightings from the Arctic. There may be a trend toward reduced numbers of sightings. If this trend was representative of the population, then the future existence of sea serpents on the Pacific coast may be threatened. Threats could include the occurrence of toxic chemical pollutants or the noise pollution (sonar and 'air drilling' for oil exploration) thought to have a deleterious effect on marine mammals.

QUESTIONS:

Bruce Falls noted that the serpent was a very large bodied animal to sustain itself by oxygen exchange through the skin. Yes, this is true. However, there are vertebrates known with this capacity including a large turtle in Australasia that does not need to surface and obtains oxygen by gas exchange through buccal papillae. The yellowish green under-belly observed and sketched in one sighting may represent a surface adapted for gas exchange.

Jim Rising noted the absence of fossil records. Bousfield replied that he has been told by eminent palaeontologist Dale Russell that there are no known fossil records for an estimated 93% of all reptiles.

The vertical looping up is uncharacteristic of reptiles and characteristic of mammals. Yes, this is true that this is a variation in behaviour not regularly seen in reptiles. Serpents have been seen to 'loop up' very rapidly before fleeing.

The speaker was thanked by Jim Bendell.

FIELD OBSERVATIONS:

Bruce Falls reported that his son phoned to say that woodpeckers had bored five sizeable holes through 1 1/8" boards and sheeting beneath on the walls of Bruce and Ann's cabin near Aspley. Paul Aird suggested that they were likely pursuing ants within the wall.

Fred Bodsworth's son in Sioux Lookout reported going outside following a bird hitting his window only to find a dead Pine Grosbeak already being eaten by a Pine Marten.

John Speakman reports Evening Grosbeaks at his feeder in Beaverton for the first time in many years. The Bendells have about 15 of them at their feeder in eastern Ontario.

Charles Lennox noticed Snow Bunting flying in groups of 10-20 up river along the St. Lawrence between Montreal and Rivière de Loup. Cumulatively, he saw thousands of buntings doing this.

Paul Aird saw Snow Buntings recently in Prince Edward County.

Ron Scovell has very well attended bird feeders that can have up to 600 birds at one time. However, he now calls them also mammal feeders. He spreads feed on the ground for Mourning Doves. One night he had nine Raccoons, another night an Opossum. During the day on December 9, Ron counted 23 squirrels at the feeder.

Jim Bendell reported a Black-headed Grosbeak in the Ottawa Valley and that the excessive number of deer in the area led one group to purposefully hunting and shooting many deer out of season and preparing a barbecue to which a number of officers of the law were invited!

Jim Bendell lauded a new exhibit of dioramas at the Royal Tyrrell Museum in Drumheller, Alta. depicting life found at the Burgess Shales. It is exciting to see depiction of such diversity of life from 530 million years ago!

Sandra Eadie reports that the lady bug invasion has been of sufficient import as to have 'lady bug' inspectors come and look to see if lady bugs have 'disrupted' a repainting of balconies of the parents' apartment building.

George Bryant noted lots of Raccoons last spring but few now and indicated that he had heard of a distemper outbreak reducing their numbers in southern Ontario. Fred Bodsworth noted that he is still visited at his window by three juvenile raccoons using the roof of his shed as a latrine.

The meeting was adjourned and Christmas refreshments enjoyed while visiting.

NEXT MEETING:

The next meeting will be held at 7:30 pm on Jan. 20, 2004 in Rm. 432 of the Ramsay Wright Zoological Laboratories. The speaker will be member John Riley, botanist and chief scientist for Nature Conservancy of Canada. He will talk on *Blueprints, big pictures and recent conservation planning in Ontario.*

-30-

RON PITTAWAY

Ron Pittaway was born in Ottawa in 1947. He grew up in Aylmer, Quebec, which is wedged between the Ottawa River and Gatineau Hills. As a youngster, he collected bird eggs and roamed the countryside. His parents and teachers encouraged an interest in natural history and writing. Ron was leading birdwatching outings for the Ottawa Field Naturalist Club at age 14 and he first went to Point Pelee at 15. In 1967, he hitch hiked to British Columbia searching for birds. He has travelled widely in North America from Ellesmere Island to Mexico.

Ron graduated from Algonquin College with a Diploma in Forestry and from the University of Waterloo with a Bachelor of Environmental Studies. During the 1970s, Ron worked as a summer and contract park naturalist in Algonquin Park. Algonquin was a learning ground being surrounded by fellow naturalists, zoologists, botanists, foresters, historians, old time rangers and white pine loggers. In Algonquin he worked with the late Russ Rutter, who was introduced to him as a member of the prestigious Brodie Club.

In 1981, Ron began working at the Frost Centre/Ranger School near Dorset, where he taught resource management and natural history to all ages. While at the Frost Centre, he studied Loggerhead Shrikes on the Carden Alvar for the Ministry of Natural Resources and served for five years as MNR's representative on the Loggerhead Shrike National Recovery Team. His early promotion of the Carden Alvar later helped the Nature Conservancy acquire the 2,869-acre Cameron Ranch for future generations. Ron retired as education coordinator at the Frost Centre-MNR on 31 July 2003.

Ron has published many articles on birds and three on mammals in such journals as the Canadian-Field Naturalist, Le Naturaliste canadien, Ontario Field Biologist, Blue Jay, Birding, Ontario Birds and OFO News. Ron is a founding life member of the Ontario Field Ornithologists and he has been co-editor of Ontario Birds since 1991.

We are pleased to nominate Ron Pittaway for membership in the Brodie Club.

Proposed by Jean Iron and seconded by Bill Crins

24 December 2003