

THE BRODIE CLUB

DATE OF NEXT MEETING: Tuesday May 16 1989, 8:00 p.m.  
 PLACE OF NEXT MEETING: Faunal Lab, South Borden Building  
 SPEAKER: Ian Fleming, Department of Zoology, University of Toronto  
 SUBJECT: Reproductive Ecology of Pacific Salmon

Minutes of the 849th Meeting of the Brodie Club

The 849th meeting of the Brodie Club was called to order by Fred Bodsworth, Chairman, at 8:05, April 18, 1989 at the Borden Building, University of Toronto. David Sherry was Secretary. Fifteen members were present, 2 sent regrets.

Guests:

Maudie Reynolds, guest of Keith Reynolds; Julee Greenough, guest of John Reynolds; Margaret Bodsworth, guest of Fred Bodsworth.

Minutes:

Paul Aird read the minutes of the last meeting. Carrick noted that he had said he would "try" to lead birds by aircraft on migratory flights. The minutes were adopted.

Announcements:

An appeal for funds by the Raptor Center at the University of Minnesota was received by Carrick, who noted that their veterinary costs seemed high.

Bendell reported that public hearings are taking place in Thunder Bay on environmental assessment of Crown forest management in Ontario, and that this is an opportunity for making the views of the Brodie Club and individual members known.

Norm Martin reported on F.O.N. involvement in these hearings, and distributed copies of an article from the newsletter of the Canadian Environmental Law Association describing the hearings. Major policy decisions will result from these hearings. The Ministry of Natural Resources and the forest industry are making well-funded year-long presentations while the environmental point of view is being presented by two individuals from the organization Forests for Tomorrow, of which F.O.N. is a principal member. An adversarial relation has developed between the Ministry, the forest industry and Forests for Tomorrow. A particular concern is the accuracy of scientific points being put forward by the Ministry and the forest industry.

Aird noted that native peoples, the Federation of Ontario Hunters and Anglers, and the Ontario Outfitters Association will also be making presentations at the hearings, some of which will be held in Toronto in addition to those in Thunder Bay.

A motion (K. Reynolds moved, Aird seconded) to invite Ken Armson, formerly of the Ministry of Natural Resources, to speak to the Brodie Club in September 1989 about these hearings was voted and carried. A further motion to invite a

speaker for the October 1989 meeting to present an alternative point of view on the hearings was voted and carried.

Norm Martin presented additional materials from F.O.N. on the Ontario Breeding Bird program, Temagami, the Manomet Bird Observatory, and forthcoming books, congresses and meetings. He also reported that a re-organization of the F.O.N. executive was taking place, and that the Brodie Club should notify F.O.N. that he (Norm Martin) was continuing as the club's representative.

Falls noted that Mike Bradstreet is the new executive director of the Long Point Bird Observatory.

Speaker:

The speaker was Club member John Reynolds, who generously stepped in on short notice to replace the scheduled speaker, Ian Fleming. John Reynolds is a Ph. D. student in the Department of Zoology at the University of Toronto who has spoken previously on his work on phalaropes. He described his current research on sexual selection in Trinidadian guppies.

He works in the north coastal mountain range of Trinidad at the Simla Research Center, established by William Beebe and now maintained by the Asa Wright Research Center. Guppies are a common fish in the small mountain streams.

Sexual selection is the process thought to be responsible for the conspicuous displays and coloration used in courtship and fighting. These traits are selected because they promote mating. The effects of sexual selection and natural selection, however, may sometimes be in opposition.

In the wild, male guppies do not have the ornate tail of domesticated strains, but they do have bright red, yellow and orange spots. The colour pattern is controlled by genes on the Y chromosome. The male anal fin is modified as an intromittent organ, the gonopodium. Females are live-bearers, can store sperm, and produce about one brood of young per month.

In small mountain streams there are few predators that attack the brightly-coloured males. There is a killifish that takes young but not adults, and few kingfishers or bats. In wider downstream areas there occur cichlid predators such as the Blue Acara and pike-like predators that use color to detect the guppies. Here, natural selection penalizes bright male colouration, and males are less brightly coloured.

Within both upstream and downstream populations there is variation in male colouration. What maintains this colouration? Laboratory studies show that males may court at different times of day, depending on their colouration. Brightly-coloured males decrease their courtship activity in light as bright as a sunny day at the stream. There also exist "sneaker" males that show little in the way of courtship preliminaries and have a larger gonopodium than other males.

The hazards to field work in Trinidad include four species of venomous snake, among them the fer-de-lance and the bushmaster, dogs, caymans, and thieves that specialize in automobile wheels. The drop in oil prices has led to an economic decline in Trinidad and a return to slash and burn agriculture, to establish banana plantations for example. Soil erosion is a major problem

in these areas. A 5 km road has recently been built by private entrepreneurs to take birders to a popular oil bird cave.

Herpetofauna include a "barking" gecko, Tungara frogs, Marine toads, Hyla crepitans, in which females change colour and visit choruses of males, and a poisonous Dendrobatid frog in which the male carries the tadpoles on his back. There is a complete sex-role reversal in this species. Brightly-coloured females defend territories and compete for males that care for the young.

#### Questions:

In his replies to questions the speaker noted that although the Marine toad Bufo marinus is said to be poisonous to dogs it is not particularly easy to cause the toad to express poison from its carotid glands.

There is a great deal of forest clearing in Trinidad, but some protected parks that serve to attract tourists. The Asa Wright Research Center is very active and financially healthy, but quarrying around the Simla Research Center makes its future look doubtful.

The bright colours of male guppies are derived from carotenoid pigments in the diet, and may be used as a fitness cue by females when choosing mates. Males may inherit colour and the appropriate behaviour for their colour as a genetic package. Removal of the forest canopy over streams disrupts this program of research, but could also lead to interesting observations.

The speaker was thanked by Don Young.

#### Members Notes:

Bendell asked, what bird flakes jack pine bark? Several members replied three-toed woodpecker.

Carrick noted that while the U.S. Fish and Wildlife Service will ban the use of lead shot by 1990, the Canadian Wildlife Service has resisted doing so. Ingesting six No.6 shot will kill a duck within ten days. One shell contains 240 shot. The migratory bird treaty may be a means of forcing a change in Canada. Bendell noted that Lake St. Clair and Pelee will be made steel shot zones on an experimental basis.

John Reynolds reported a Blandings turtle at the filtration plant on Toronto Island.

Don Young reported a brown thrasher, a sapsucker and a great blue heron on April 15.

Bruce Falls reported a myrtle (yellow-rumped) warbler and a fox sparrow on April 15-16.

Art Boissoneau noted that small black Russian hybrid sunflower seeds are preferred by many birds to the striped American hybrid seed.

Dave Sherry noted a great horned owl in Thornhill landing to watch a medium-sized dog.

It was voted and carried (moved by Keith Reynolds, seconded by Bill Carrick) that the annual Brodie Club outing will be held at Presqu'île Provincial Park on Saturday June 3.

The meeting was adjourned at 10:00 p.m.