

MINUTES OF THE 885th MEETING OF THE BRODIE CLUB

APRIL 20, 1993

Chairman: Fred Bodsworth

Secretary: Paul Aird

The meeting was held at the Howard Savage Faunal Archaeo-Osteology Lab South Borden Building, University of Toronto. It was attended by 17 members and 5 guests.

Guests: Vicky Draper, guest of Fowle; Hans Blokpoel, guest of McNicholl; Maudie Reynolds, guest of Reynolds; Jennifer Young, guest of Young; Chris Plowright, guest of The Brodie Club.

Minutes: Approved with one correction.

Announcements: A "Bird Monitoring in Canada" symposium will take place in Guelph, organized by the Canadian and Wilson ornithological societies. The Baillie Birdathon is seeking sponsors to support research on the conservation of Canada's birds. The Federation of Ontario Naturalists is seeking volunteers to answer questions posed by the public.

Speaker: Professor Chris Plowright, Department of Zoology, University of Toronto.

Topic: Taking Bumblebees Seriously.

Bruce Falls introduced the speaker, who began his formal studies at Cambridge, and then the University of Manitoba. He joined the Department of Zoology at the University of Toronto in 1968, teaching ecology. His research interest deals with bees, honey and bumblebees.

Chris was influenced by Ted Ellis, an East Anglian naturalist's writings about bumblebees. Some of Chris's research is conducted on his farm near Barry's Bay, Ontario.

His research involves Bombus terricola and B. ternarius - two short-tongued bees. Two plants are very important - milkweed, and dogbane (Apocynum androfaemi-folium). He studied such features as probing time, flying time, and walking time (26-31 flowers per minute). Bees preferred flowers close together. The researchers took a patch and removed some flowers - to create natural and half natural areas. The half-natural resulted in very much reduced foraging.

May-apple flowers are hidden below the leaves and produce no nectar. Bees visit some flowers by mistake. They visit orchids, for example, which have no nectar. The lousewort plant (Pedicularis canadensis) produces lots of nectar. The bees are attracted to it, and the may-apples close to lousewort produced much more seed.

Fresh pollen is essential to raise bees. Chris raised 700 bumblebee colonies. The queen bee will excrete wax, build honey pots and put honey in them. Two different colour morphs can occur in the same nest -- red and black. Chris developed a heated observation hive. Bees excrete in the air and are very clean; bumblebees do it by the door, and it smells. Bumblebees are used to pollinate crops. Greenhouse crops like tomatoes need bees. Chris worked to find a Canadian bumblebee that would pollinate tomato plants. Bees grasp the anthers, and shake out the pollen, and the grasp-marks show on the anthers. Bombus impatiens is very common in Ontario, but gets thin on the Canadian shield. Chris started to rear bees commercially for two years. In Europe, many millions of dollars per year are spent on bees for greenhouses. Chris started working with highbush blueberries in Florida and Michigan. One variety can grow twelve feet high.

Bees remember which flowers they have visited, and don't skip - they remember, and are therefore efficient. Some flowers may be confusing, example, golden rod and thistle.

Questions and Answers:

Larvae are fed on a mixture of honey and pollen. The bees are local - none migrate, except for meteorological accidents. There are about 18 species in southern Ontario. The queens are caught in a net - perhaps 150 in an afternoon. In some areas of Europe the bees are wiped out by over-collecting. Bumblebees are preferred for blueberries. Honey bees are not good. Bees can fly long distances. On 250 acres of blueberries there may be 500 hives, which can be dangerous for some people. With tomatoes, the growers cluster prune for four tomatoes. If the bees visit once, most of the pollen is gone but the flowers may continue secreting nectar, but there is no nectar in tomatoes. The bee colonies last about 3 months - the males leave and never return. Young queens live in holes underground over winter, and all the rest die. She may take over a rodent nest. The two main arctic species are very large in size and they can live in temperatures much below freezing. Males that can't sting mimic females. Some birds are predators. Some people are susceptible to anaphylactic shock, so bees can not be kept in cities.

Churcher thanked the speaker, accompanied by loud applause.

Notes, Observations and Comments:

Bendell: tens of thousands of white-winged scoters have just left Lake Ontario, heading north.

Tasker: hundreds of sharp-tailed grouse seen at the edge of the airport at Gore Bay, Manitoulin Island.

de Matteis: observed tree swallows fluttering and feeding on the ground. Others observed them feeding on insects on the sides of houses, as a result of the cold temperatures.

Lumsden: reported a killdeer nesting. Trumpeter swans went from Pickering to North Bay, then to the mouth of the Mattawa, and are now at Temiskaming.

Blokpoel: Caspian terns follow and are comfortable with gulls. They are building rafts with a new design - with plastic hanging down, which will be an above-water facility for nesting birds and a below-water facility for fish.

Young: a towhee was feeding at the base of his feeder last year and this year on April 18th.

Plowright: saw egrets by train near Brockville.

The meeting adjourned at 9:45 p.m., followed by refreshments.