

MINUTES OF THE 867TH MEETING OF THE BRODIE CLUB

held on Tuesday, April 16, 1991, at 8.00 p.m. in the Paul Lab Laboratory, South Borden Building, University of Toronto.

Chairman: Harry Lumsden

Secretary: Norm Martin

Attendance: 14 members and 6 guests:
Jewel Mac Donald guest of Bertin
Yvonne Bendell guest of Bendell
Jennifer Young guest of Young
J. M. Corkill guest of Anger
Mary Tasker guest of Tasker
Margaret Bedsworth guest of Bedsworth

Minutes: of the previous meeting were read by Young, and minor corrections noted:
- Tasker's reference to coddling meth should be to gypsy meth;
- Churcher's rabbit was in Don Valley Brickyard;
- McNicholl's first guest was Dawn Basely second guest was Peter Ewins
Moved by Riley, seconded by Garrick, that the minutes be adopted as corrected. Carried.

- Announcements:**
1. Carrick reported the GWS has returned his permit, but will monitor his operation closely.
 2. Savage asked for an update of members' addresses and telephone numbers. A sheet was circulated. Members not present should forward this information to Savage.
 3. Savage mentioned the Baillie Birdathon, and reminded members of the opportunity to sponsor participants. Bruce Falls mentioned that he was open for sponsoring.
 4. The Mammal Atlas project was drawn to the attention of the meeting. Mike Cadman is the person to contact if anyone wishes to participate.
 5. Norm Martin gave the FON announcements, and mentioned that he had written to Ian Kirkham and later to Marion Strebig Taylor asking for clarification of the FON position on the work of (a) Bill Carrick, and (b) Harry Lumsden with regard to reintroduction of trumpeter Swans in Ontario. No replies have been received. It was pointed out that Kirkham's article on this subject in the Spring, 1991 issue of Seasons (p.46) may be his reply.

6. Carriek (Chairman of Membership) reported a favourable response for Den Huff as new member of the Club.

Speaker - Dr. C. S. R. Churcher, addressed the meeting on Characteristics of the Desert around Dakhla Oasis, Egypt, the site of continuing archaeological research by himself and others.

Geology of the area in general is late Cretaceous, with Tertiary close by in the northern part of Egypt. The Dakhla Oasis is in the centre of the country, accessible by a hard-topped road. A fault has produced an east-west escarpment close to the oasis and north of it. The face of this escarpment provides an opportunity to study layering of early Tertiary sediments. The rolling desert above the escarpment with the valleyland below it exhibit various landforms which, when interpreted, yield historical information.

Adjacent to the escarpment-- the Libyan Escarpment-- is the Libyan Plateau. The surface of the desert can be a stony, hard crust, or soft material allowing a three-inch deep tire mark.

The escarpment rises from sea-level to 500 ft. above sea-level. Palaeocene chalk is a primary constituent, and shows white, especially beneath the surface of the ground. At and near the surface this material has been oxidised and blackened by the heat, so that great blocks of black chalk tend to form the rim of the escarpment. Houses at the oasis are built of this material.

Primary erosion by wind cuts the surface into ridges. Erosion on the face of the escarpment has made the slopes less steep and more passable for walking. Significant rains occur at intervals of about 80 years and cause severe water erosion on the slopes. Rain does occur more frequently, but few drops reach the surface of the ground before they evaporate.

Daily temperature fluctuations in February and March are from 32 deg. F. to 110 deg. Windspeed is generally about 20-25 knots per hour.

Erosion can leave elevated old, hardened river beds dating back to Neolithic, and these may contain human implements.

In these places in the desert where there is water to evaporate, salt pans may occur. Gypsum salts are scattered about. The last major rain here was in 1902. The pans can stay wet for three years, allowing some vegetation to grow, including acacias, gum trees, a thorn, and occasional date palms. Stems of vegetation in the desert are up to one inch in diameter, thrusting up out of the ground.

Blowing sand driven by constant wind sandblasts everything on the surface, and shreds human clothing. Sand blows up and down the slopes and along the valleys similar to the blowing of snow in the polar regions. Where sand occurs in any depth, walking is difficult.

Generally shales occur beneath the chalk. In the valleys shales are flat and may be exposed. Yardangs of rock project up above the shales or sand. These are weathered remnants of chalk. They show layering, and sit on bedrock. Mid-Palaeolithic to Neolithic tools have been found at the bases of yardangs. Some yardangs are comprised of vertical projections of bedrock; but all are weathered into streamlined projections along the axis of the prevailing winds.

Vegetation, where present, slows the wind so that sand dunes appear. Sand dunes occur in long lines and are semi-circular. Small dunes move faster than large, and climb up the large ones. Dunes can be over 300 ft. high. Their annual rate of advance is 2-15 metres.

Spring-mounds occur in places, looking like circular towers of material projecting high above the desert floor. The speaker worked out that these are formed by sand which is caught in wet places, and then builds up. Water may be found seeping out of the lower parts; or water may rise to the surface in the centre of the spring-mound, bringing with it brightly coloured clays from deep levels. No fossils have been found in them.

In these areas of the oasis that were cultivated in Roman times, silt carried by irrigation water was entrapped by vegetation, gradually building up the level of the fields. Groups of trees overcome by sand became

the nuclei of further accumulation of sand. Artefacts are now found at the bases of these mounds, including bone and fossil wood.

Up on the escarpment there are vallies also, carved out by wind and sand. Shale, gypsum and iron make a hard surface.

Hard beds hold fossils: algae, marine turtles, marine lizards, bony fish, teeth of sharks, crocodiles, probable dinosaur bones. Gypsum must be removed from specimens to prevent disintegration.

Questions - B.FALLS: Is there anything alive?

A.: Some insects, lizards, but they are nocturnal. Also pigeons nesting on cliffs, ravens.

SAVAGE: Moisture for animals from condensation?

A.: Yes, also from plants.

BENDELL: What is the overall cause of desertification?

A. Wind comes all the way from Lake Chad. When wind is from the north and Mediterranean, the real rains come, and it is very cold.

BODSWORTH: Season?

A. Winter, only time feasible to work there.

SPEAKMAN: Time scale similar to Arctic?

A.: Yes. Permian, Cretaceous, Eocene correspond.

McNICHOLL: How long at it?

A.: Over 12 years on this Dewey Formation.

BODSWORTH: Egyptian permits?

A.: No problem, as long as things taken are not man-made, or with hand-writing on them.

B. FALLS: Cold temperatures in the day are puzzling eg. 22-25 deg. C. mid-day in Feb.-Mar.

BENDELL: Perhaps flies blew into the desert from the oasis?

A.: Yes.

BENDELL: Any signs of predation?

A.: Teeth marks on some specimens.

J. YOUNG: What do the people do?

A. On the oasis, agriculture-- rice, winter wheat, chic peas, cabbages. Animals are all tethered.

M. BODSWORTH: Poisonous animals?

A. Scorpions, three snakes, some insects have severe bites.

TASKER: How large are the largest shark fossils?

A. 20 ft.

SAVAGE: 50 million years ago.

Thanks - by Bruce Falls. Hearty applause.

Members' Notes -

Marg. Bedsworth - Reported a starling in her downpipe.

Savage - Saw the original painting by Wm. Pope of passenger pigeon in Toronto
- Marten bones reported previously from El a Cave were 510 years old by C14. Expects to get earlier dates for pi a bones.

McNicholl - Saw a ruby-crowned kinglet in the Rouge Valley on Mar. 31.

Speakman - House finches nested in a converted bird feeder at his home.

Bedsworth - Colony of house finches at his home do not seem to exhibit strong territoriality.

B. Falls - Long Point Bird Observatory AGM this Saturday. The Bendalls and Falls are working on slides of New Zealand and Australia for a possible talk.

Young - Saw a brown creeper in his garden recently.

Day

Field TRIP - Harry Lunsden invited the Club to his place for June 9. Further info to be supplied.

Adjournment - at 10.20 p.m.

Norm Martin.