

Minutes of the 848th Meeting of the Brodie Club

The 848th meeting of the Brodie Club was called to order by Keith Reynolds, Chairman, at 8:00 p.m., March 21, 1989, at the Borden Building, University of Toronto. Paul Aird was Secretary.

Guests:

Katherine Lindsay, guest of Riley; Bronwyn Mound, guest of Carrick; Maudie Reynolds, guest of K. Reynolds.

Minutes:

John Reynolds read the minutes of the last meeting. There were no corrections.

Announcements:

A complete set of the Proceedings of the Brodie Club was offered, and John Riley accepted. Originally, each new member of the Brodie Club received a complete set.

Speaker:

The speaker was Dr. Mark Engstrom. He received his B.Sc. degree from the University of Minnesota, and his Ph.D. from Texas A&M in 1984. He works in the Mammology Department at the Royal Ontario Museum.

Dr. Engstrom spoke on "The Biogeography of the Yucatan Peninsula". His graduate student work on a species of mouse in the peninsula generated his interest in the biogeography of the area.

He discussed the history of the distribution of species, and how current environmental influences are affecting the present distribution. The peninsula is a flat limestone plain. There are no surface rivers. The highest point is 500 metres. The south is a lowland wet tropical forest with evergreen species. The north has shrubs by the ocean, thorn scrub further inland, and no evergreens.

The distribution of mammals is poorly known, particularly in the southern part of the peninsula, northern Belize and Guatemala. His studies concentrated on bats, rodents and marsupials, which comprise three-quarters of the species. Large mammals and primates could not be collected. Ghost-faced (wrinkle faced) bats, several species of mouse, opossum and a tropical porcupine were discussed.

There were no endemic bats on the peninsula -- all are found elsewhere, mainly in Central America. The diversity of species falls as we proceed north through the peninsula. Southern bat fauna move north in summer; those in the north don't move seasonally. Insect-eating, frog-eating and fruit-eating bats were illustrated and discussed. There are three species of vampire bats: one feeds mainly on birds, another on cattle. There are more than 100 species of bats on the peninsula.

Dr.Engstrom studied the black-eared rice rat intensively. Originally, it was thought that there were three species, then two and now one, though each has a different number of chromosomes.

The Yucatan Peninsula race appeared more like the western Mexico race than the eastern Mexico race, according to external features. But chromosomally, the eastern and Yucatan Peninsula races were most similar, and the western race very different. Protein electrophoresis analyses provided similar results.

A new species of mouse was discovered in a forest that was cut down and removed a year later.

Three new specimens of an arboreal rodent were collected, so there are now thirteen specimens in the world. Arboreal rodents often have long tails and short front feet.

Pocket gophers were illustrated. The word 'pocket' refers to large cheek pouches for storing food.

The Yucatan Peninsula was the centre of Mayan culture. Mayan pyramids were illustrated. There has been much human disturbance. Agriculture has been practiced for more than 4000 years. Jaguars were once common, but have disappeared from all areas except the south. The abundant mouse population has been helped by agricultural development.

Questions:

Dr.Engstrom informed the group that the jaguar and tapir will likely disappear completely.

The native people were very cooperative, and it was a safe area to work in.

There was no evidence of a land-based connection with Cuba.

The land was so flat that a five-meter rise in water level would inundate one-quarter of the area.

Even rat species with different numbers of chromosomes can hybridize, depending on how the chromosomes are rearranged.

Thanks:

Bill Carrick thanked the speaker for his enlightening talk. He was particularly impressed with the slides that illustrated excellent drawings, the effects of agriculture on the landscape, and the Mayan culture. Hearty applause followed.

Members Notes:

Savage reported that the maple syrup flow was in process, but interrupted by the recent cold weather.

Carrick reported that he could train Trumpeter Swans to fly behind an airplane, and will offer to train birds and lead them on their migration route to and from the U.S.

Riley reported that NASA scientists were examining the gases produced by decomposing organic materials in the Hudson Bay lowlands.

The meeting was adjourned at 9:45 p.m.