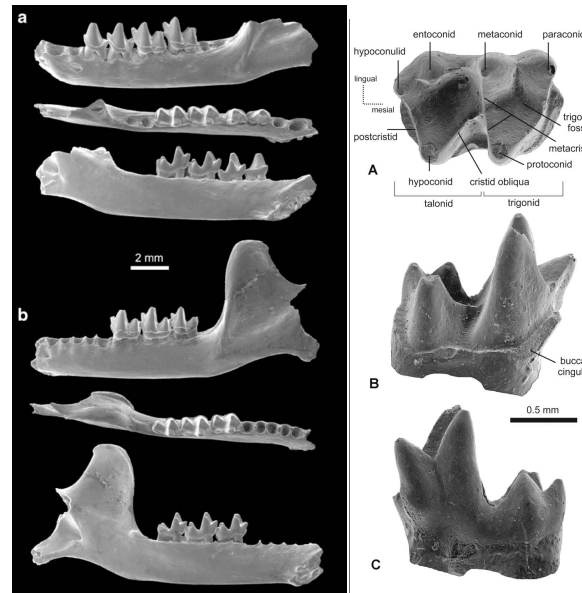




Today 1259 species of bats arrayed in two suborders and 19 families.

By Middle Eocene, ~52.5 million years ago, 10 families of bats.

Fossil Bats



Smith et al. 2007

Tabuce et al. 2009

Jepsen 1966

Simmons et al. 2008

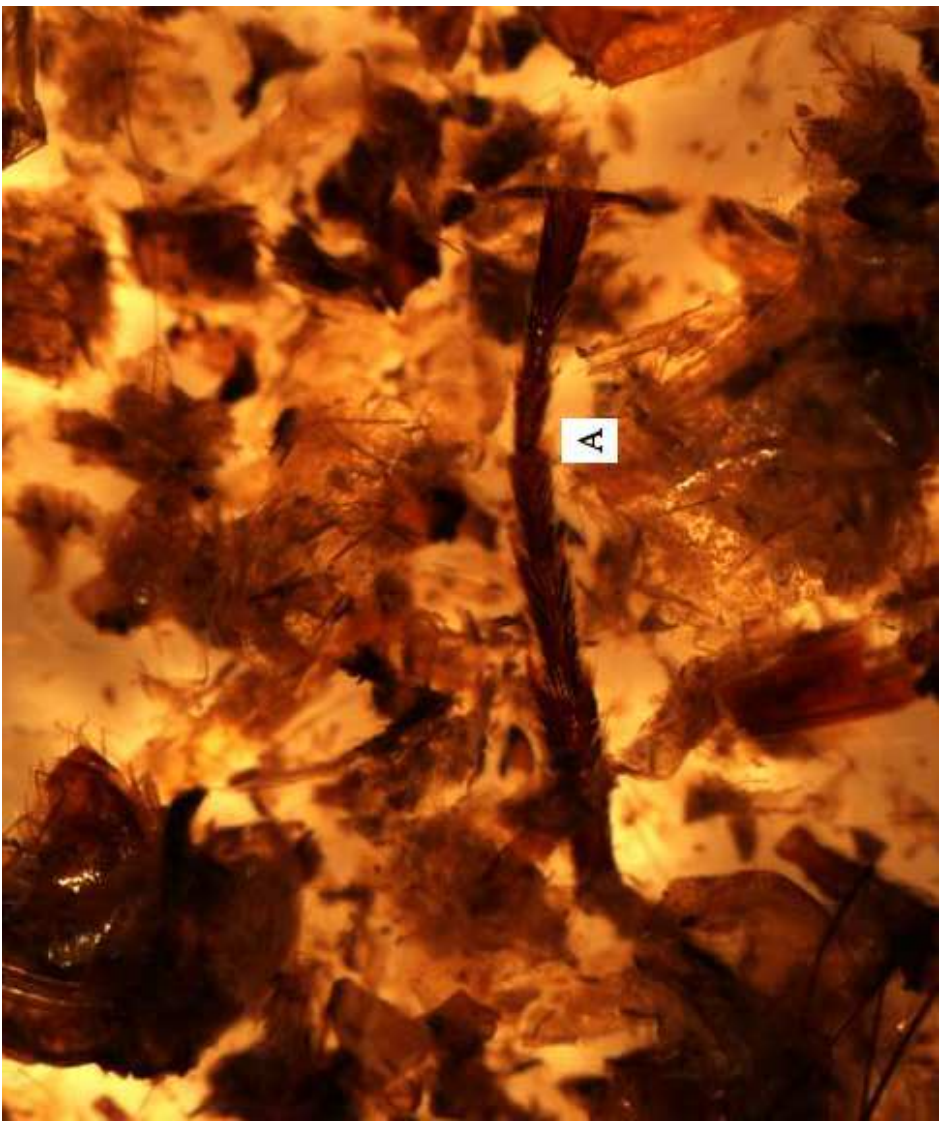


Clear diversification of bats.

Clear impact of bat predation on insect prey.

Niche concept and competitive exclusion?







Myotis lucifugus and
Eptesicus fuscus differ in size
(factor of about two) and are
widely sympatric.
DNA barcode analysis
allowed production of a list of
prey ... many many species



Sympatric insectivorous bats in Jamaica



Lactating female
Little Brown Bat
produces 75% of her
body weight in milk a
day.

This would be the
same as a 45 kg
lactating woman
producing 33 kg of
milk daily.



Flight and Echolocation

Two key factors in the diversification of bats.

Together, echolocation and flight gave bats access to nocturnal flying insects as prey. Advantage over birds and perhaps pterosaurs that would have been contemporaries.





Glossophaga soricina

Lessons:

- a) Categorization by diet
- b) Connectivity in systems



