MORPHOLOGY OF FEATHERS IN A COLLECTION OF CRETACEOUS BURMITE AMBER SPECIMENS. William R. Bragg, braggwm@mail.uc.edu and Amanda M. Hunt, Ph.D., huntad@ucmail.uc.edu. Geology Undergraduate Research, University of Cincinnati Clermont College, U.S.A.

Diverse fossil assemblages found as inclusions in amber comes from northern Myanmar. Fauna and flora became entrapped in the sticky plant fluids that became amber and have been preserved. Insect inclusions, in particular, have been intensively studied. Feather inclusions mostly are without attribution to specific animals. The acceptance of feather bearing dinosaurs and early proto-avian ancestors of birds has only achieved consensus fairly recently and requires further study. This study was initiated in order to identify more precise morphological discriminatory characteristics between feathers from this area. Approximately 32 specimens were examined, diagrammed, and photographed using an AmScope T390B microscope and 3.5 mp camera. The specimens represent a wide variety of 98 MA feathers from dinosaurs to proto-avian to avian morphology and in various evolutionary stages. Feathered dinosaurs first became relevant with the discovery of Achaeopteryx which has been suggested to be a transitional fossil between dinosaurs and the modern day avians. Since paleontologists became aware of the existence of feathered dinosaurs, it has been discovered that there are several distinctive morphological differences between the feathers of dinosaurs and early avians. For example, feathers of avians of today are more rigid and have a central spine called a vane, whereas a dinosaur's protofeathers were less rigid.

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