

THERIAN FEMORA FROM THE LATE CRETACEOUS OF UZBEKISTAN

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Femora referable to metatherians and eutherians have been recovered from the Bissekty Formation, Dzharakuduk, Kyzylkum Desert, Uzbekistan (90 MYA). Fourteen of thirty-two isolated elements preserve enough relevant morphology to be assessed in a comparative and functional context. These specimens were sorted based primarily on size and overall morphology into groups that likely correspond to the species level or higher. Groups were then tentatively assigned to taxa known from teeth, petrosals, and/or other postcrania at these localities. The distal femur of a small arboreal metatherian lacks a patellar groove and has a marked asymmetry between the size of the condyles; the lateral condyle is much wider. It is similar in size to an unassociated metatherian humerus with features indicative of arboreality. The distal femora of the terrestrial eutherian taxa possess a patellar groove and subequal condyles. Most of these specimens probably represent zhelestids and/or zalambdalestids. With the exception of one possible eutherian that may be a zalambdalestid, all of the proximal femora that have been collected exhibit a metatherian-like morphology. These specimens possess a cylindrical femoral head and lateral and posterior extension of the articular surface onto the neck. They have a short greater trochanter that is lower than or even with the femoral head and a lesser trochanter that projects medially or posteromedially. The third trochanter is either absent or very small. The dental record currently suggests the presence of thirteen eutherian species and only one metatherian at Dzharakuduk, whereas the crurotarsal and humeral evidence supports the presence of at least three or four metatherian species. Given the sample size of the proximal femora (which were classified into six different groups), and the overwhelming presence of eutherians at these localities, including three distal femoral groups, it is highly unlikely that only metatherian proximal femora were preserved due to a sampling bias. Therefore, this sample seems to suggest that the metatherian proximal femoral condition is primitive for Theria and that some eutherian taxa retain this condition.

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