

Anatomy of the Temporal Bone in the Oligocene Anthropoid *Apidium* and the Origin of Anthropoidea

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Abstract. An associated group of cranial fragments and upper teeth of *Apidium phiomense* from the Oligocene of Egypt includes two fragments of the right temporal bone. The petrosal fragment preserves part of a large unbranched carotid canal similar to that of all Anthropoidea. The squamosal fragment demonstrates that there was no ossified ectotympanic lateral to the bulla, and that the anterior crus of the tympanic annulus was not fused to the squamosal. This suggests the presence in *Apidium* of a free tympanic ring within the bulla similar to that of Eocene lemuroid primates. Osteological and paleontological evidence favors the view that Anthropoidea evolved directly from lemuroid ancestors, without passing through an intermediate tarsoid stage.

Key Words

Oligocene Anthropoidea

Apidium

Os temporale

Origin of Anthropoidea

Introduction

The first primate specimen from Oligocene sediments of the Fayum Province of Egypt, a partial mandible, was described by OSBORN [1908] and named *Apidium phiomense*. OSBORN cautiously did not assign the species to any order, but suggested a possible relationship to Primates or to certain Eocene artiodactyls. SCHLOSSER [1910, 1911] described three additional primate species from the Egyptian Oligocene and proposed that OSBORN's mandible of *Apidium* represented a primate related to early cercopithecoid monkeys. This suggestion was further discussed and supported by GREGORY [1920-21]. Later PIVETEAU [1957] and HÜRZELER [1958, 1968] disagreed, stating that the *Apidium* mandible belonged to a condylarth, not a primate. More recently Yale expeditions to Egypt have collected a large number of new specimens of *Apidium*, and SIMONS [1960, 1962, 1971, 1972] has discussed at length the dental and cranial evidence demonstrating that *Apidium* is an anthropoid primate.

