

## **Talar morphology of azibiids, strepsirhine-related primates from the Eocene of Algeria: phylogenetic affinities and locomotor adaptation**

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### **Abstract :**

The HGL-50 locality, situated on the Glib Zegdou outlier in the Gour Lazib of Algeria (Hammada du Dra), is famous for having yielded several dental remains of primates dating from the late Early to the early Middle Eocene. These primates include *Algeripithecus minutus*, *Azibius trecki* and a new species of cf. *Azibius* (not described yet). *Algeripithecus* was widely acknowledged to be one of the oldest known anthropoids from Africa. However, very recent discoveries strongly suggest that *Algeripithecus* is closely related to *Azibius* and that both taxa are phylogenetically remote from the clade Anthrozoidea. *Algeripithecus* and *Azibius* make up the family Azibiidae and appear as stem strepsirhines. Here we describe and analyse two ankle bones (tali) found in HGL-50. UM/HGL50-466 is a small left talus, which is appropriate in size to belong to *A. trecki*, while UM/HGL50-467 is a right talus, which is significantly larger and appropriate in size to belong to the new large species of cf. *Azibius*. Both tali exhibit a suite of features that resemble conditions primarily found in extinct and extant strepsirhine and adapiform primates; conditions that are consistent with the strepsirhine-like dentition characterizing azibiids. Functionally, these two tali indicate that *Azibius* species were engaged in a form of active arboreal quadrupedalism with some ability to climb and leap. Azibiids were rather small-bodied primates, approximating the size of some modern dwarf lemurs (*Cheirogaleidae*) and sportive lemurs (*Lepilemuridae*) from Madagascar. Given their small body-size and their talar morphology, living cheirogaleid lemurs, which are agile arboreal quadrupeds (with climbing, springing and branch running activities), might appear as good analogues for azibiids in terms of locomotor behaviour.

**Journal title / Revue :** JOURNAL OF HUMAN EVOLUTION, ISSN : 0047-2484, DOI: 10.1016/j.jhevol.2011.05.013, Issue : 4, Volume : 61, pp. 447-457, OCT 2011.