

## A SINGLE-LINEAGE HYPOTHESIS OF HOMINID EVOLUTION

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Theories of hominid evolution oscillate between those claiming that a single stream of populations led from the Pliocene to the emergence of modern humans to those postulating that a number of hominid lineages evolved, all but one becoming extinct.

Fossil species can only be recognised on morphological grounds. A judgement whether a particular morphological difference between two fossils is of an interspecific magnitude is often based on assumptions that are not clearly specified. It seems logical that before a claim for evolutionary branching of a lineage is laid a null hypothesis of the lack of speciation should be falsified. An objective test can be provided by observation of how variation of quantitative traits known to differentiate extant members of a lineage from other extant lineages changes through time. In the case of hominids cranial capacity (CC) and body size can be reconstructed for a large number of fossil specimens covering over 3 ma. At no point within this period have variances of CC or BS of all hominids clearly exceeded those observed within a single extant human or pongid species. Moreover, BS-s of various Plio-Pleistocene "species" overlap almost completely. There is no overlap between CC-s of robust australopithecines and early *Homo*, but the coefficient of variation of CC of robust australopithecines is only 3.5% (N=5). This is much smaller than the coefficient of variation of circa 11% characteristic for modern humans and most other hominoid species. An implication is that other Plio-Pleistocene hominids should be conspecific with robust australopithecines. For instance, CC of all Olduvai hominids dated at approximately 1.8 ma, irrespective of their taxonomic attributions is 10.4% (N=5).

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This is an abstract, printed without review.