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PROGRAM ABSTRACTS



Free University Brussels

TEPCA & TEPCA, dental methods of proof for Oreopithecus as ancestor of Australopithecines within double-niche transition theory (DNT): XXXV

Bujatti-Narbeshuber M. (Museum of Natural History, Department of Anthropology, Vienna, Austria)

As suggested by most cladists, ancestors can not be identified because they lack the diagnostic characters of a lineage or they would be in that lineage and not ancestor of it. Therefore the "enigmatic" affiliation of Oreopithecus b. is not necessarily a weakness but a necessity for a convincing Pan and Australopithecus-Homo stem species. Furthermore without any regard to a particular environmental model of an evolution-selection process, by pure cladistic analysis, only sister classes but no ancestor-descendant relationship can be established. So in a savanna scenario of hominine selection Oreopithecus affiliations were "enigmatic" while "certainty" directly lead into the Ramapithecus-Sivapithecus error and nowadays to an Ouranopithecus ancestor. The littoral DNT of hominines with savanna inclusion in a later stage III, directly leads Oreopithecus, a littoral primate of afro-european (Maremma, Mediterranean) and afro-asiatic (Danakil, Red Sea) island bridges, into the ancestral position for Pan. Taxonomic Enamel Prism Contour Analysis (TEPCA) puts Oreopithecus through the Prism Contour Optimisation (PCO-) morphocline leading to the bowler hat contour, into the sister clade now of Ouranopithecus and Gorilla, into the Bonobo-Chimp and Australopithecus-Homo clade. The latter has the top hat contour of PCO specific for hominine teeth as extreme organ for micro-macro dual-durophagy of herbivory (including seminivory of Theropithecus niche) and carnivory (from shellfish to hunt) both. It replaces the various "key hole patterns" and the "enamel thickness" Ramapithecus-error criteria as unespecific for hominines, as is the molar crown morphology unespecific. Taxonomic Enamel Crown Contour Analysis (TECCA) takes care of the latter, the Oreopithecus error of a cercopithecine, oreopithecine affinity. It is based on discriminate analysis of mesiodistal and buccolingual measures of mandibular enamel crowns, of living and fossil primates and indicates again the closest affinity of all with A.afarensis and robust A. of Oreopithecus warranting its hominid status.

These two lines of dental methods corroborate a host of postcranial data supporting Oreopithecus inclusion in the Australopithecus clade. Without DNT they are taxonomically interpreted against existing evidence for this (T. Harrison, 1987; B. Benefit and M.L. McCrossin, 1995).