

Birth place and migration history of primates: Proposal of new model

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The origin and evolution of ancestor of human being, so-called Primates, has not been well known yet, although several conflicting models were proposed so far. Here, a new model is proposed to satisfy (1) genomic phylogeny, (2) fossil evidence, and (3) paleogeographic constraints based on not only ocean-floor age constraints but also surface geology.

Birth place of Primates must have been a rift in the Gondwana ca. 100Ma, which was 25 m.y. earlier than 75Ma that was estimated by most genome biologists. The existence of new world monkey (Platyrrhini) in South America can be explained assuming the birth place of ancestor of new world monkey was between Antarctica and South America at 100Ma, migrated to South America and land bridge was disconnected at 34Ma between Antarctica and S. America. On the other hands, lemur and aye-aye in Madagascar could be migrated from northward-moving Indian continent around 65Ma to intercross with ancestral primates originated in Madagascar that was migrated southward from Northeastern margin of African continent. Land bridge between those two islands was generated as the result of rising plume at 65Ma between these two islands. Also, primates in the Indonesian region could have been transported by fragmented continents disconnected from Antarctica-Australia (origin of Borneo). Primates on the Indian continent arrived at Central South Asia at 50Ma, and highly diversified ecosystem was generated by crown evolution which is the most bio-diverse region since then.