



Search

for

[Limits](#) [Preview](#) [Index](#) [History](#) [Clipboard](#) [Details](#)

About Entrez

Text Version

Entrez PubMed[Overview](#)[Help | FAQ](#)[Tutorial](#)[New/Noteworthy](#)[E-Utilities](#)**PubMed Services**[Journal Browser](#)[MeSH Browser](#)[Single Citation Matcher](#)[Batch Citation Matcher](#)[Clinical Queries](#)[LinkOut](#)[Cubby](#)**Related Resources**[Order Documents](#)[NLM Gateway](#)[TOXNET](#)[Consumer Health](#)[Clinical Alerts](#)[ClinicalTrials.gov](#)[PubMed Central](#)[Privacy Policy](#)**1: J Hered 2001 Mar-Apr;92(2):212-9**
[Related Articles](#), [Links](#)
[Full text article at
jhered.oupjournals.org](#)

Molecular dating and biogeography of the early placental mammal radiation.

Eizirik E, Murphy WJ, O'Brien SJ.

Laboratory of Genomic Diversity, National Cancer Institute, Frederick, MD 21702, USA. eizirike@mail.ncifcrf.gov

The timing and phylogenetic hierarchy of early placental mammal divergences was determined based on combined DNA sequence analysis of 18 gene segments (9779 bp) from 64 species. Using rooted and unrooted phylogenies derived from distinct theoretical approaches, strong support for the divergence of four principal clades of eutherian mammals was achieved. Minimum divergence dates of the earliest nodes in the placental mammal phylogeny were estimated with a quartet-based maximum-likelihood method that accommodates rate variation among lineages using conservative fossil calibrations from nine different nodes in the eutherian tree. These minimum estimates resolve the earliest placental mammal divergence nodes at periods between 64 and 104 million years ago, in essentially every case predating the Cretaceous-Tertiary (K-T) boundary. The pattern and timing of these divergences allow a geographic interpretation of the primary branching events in eutherian history, likely originating in the southern supercontinent Gondwanaland coincident with its breakup into Africa and South America 95-105 million years ago. We propose an integrated genomic, paleontological, and biogeographic hypothesis to account for these earliest splits on the placental mammal family tree and address current discrepancies between fossil and molecular evidence.

PMID: 11396581 [PubMed - indexed for MEDLINE]

[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Freedom of Information Act](#) | [Disclaimer](#)

i686-pc-linux-gnu Aug 30 2002 15:17:13