

Supplemental material 4.

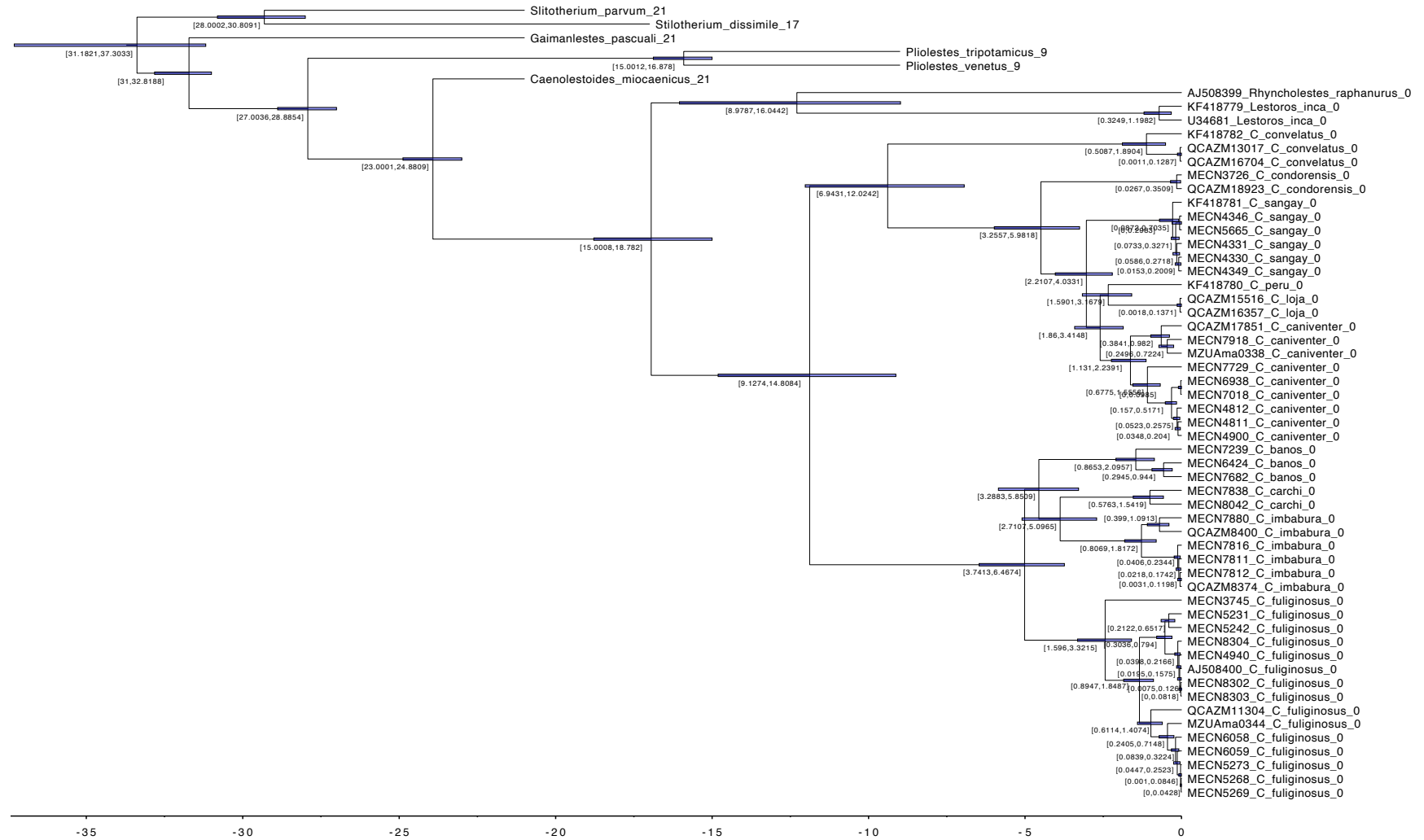
A. Table with tip dates and geographic occurrence data for all samples included in the analysis.

Species	Ocurrence	South American Land Mammal Ages (SALMA)	Age
<i>Stilotherium dissimile</i>	Santa Cruz, Argentina	Late Early Miocene (Santacrucian)	17.5 – 16.3 My
<i>Stilotherium parvum</i>	Gran Barranca, Chubut, Argentina	Early Miocene (Colhuehuapian)	21 – 17.5 My
<i>Gaimanlestes pascuali</i>	Gaiman, Chubut, Argentina.	Early Miocene (Colhuehuapian)	21 – 17.5 My
<i>Pliolestes tripotamicus</i>	Tres Arroyos, Buenos Aires, Argentina	Late Miocene (Huayquerian)	9 – 6.8 My
<i>Pliolestes venetus</i>	Bajo Giuliani, La Pampa, Argentina	Late Miocene (Huayquerian)	9 – 6.8 My
<i>Caenolestoides miocenicus</i>	Gran Barranca, Chubut, Argentina.	Early Miocene (Colhuehuapian)	21 – 17.5 My
<i>Rhyncholestes raphanurus</i>	Valdivian region of Argentina and Chile	Recent	Recent
<i>Lestoros inca</i>	Southern Andes of Peru and Bolivia	Recent	Recent
<i>Caenolestes convelatus</i>	Andes of Colombia and northern Ecuador	Recent	Recent
<i>Caenolestes condorensis</i>	Cordillera del Condor, Ecuador	Recent	Recent
<i>Caenolestes sangay</i>	Western Andes of Ecuador.	Recent	Recent
<i>Caenolestes caniventer</i>	Andes of southern Ecuador and northern Peru	Recent	Recent
<i>Caenolestes fuliginosus</i>	Andes of Colombia and Ecuador	Recent	Recent
<i>Caenolestes</i> sp. 1 Loja	Southeastern of Ecuador	Recent	Recent
<i>Caenolestes</i> sp. 2 Perú	Northern Peru	Recent	Recent
<i>Caenolestes</i> sp. 3 Baños	Central Western Andes of Ecuador	Recent	Recent
<i>Caenolestes</i> sp. 4 Carchi	Northwestern Andes of Ecuador	Recent	Recent
<i>Caenolestes</i> sp. 5 Imbabura	Northeastern Andes of Ecuador	Recent	Recent
<i>Caenolestes</i> sp. 5 Bella Estancia	Northwestern Andes of Ecuador	Recent	Recent

B. List of fossil calibration priors used in MCMCTree, including minimum and maximum node age constraints with corresponding references.

Node	Node maximum age (Ma)	Node minimum age (Ma)	Evidence	Prior
Origin of Caenolestidae	40	30	<i>Abello et al. 2021</i>	Uniform
<i>Stilotherium</i> genus	32	28	<i>Abello et al. 2021</i>	Uniform
<i>Pliolestes</i> genus	18	16	<i>Abello et al. 2021</i>	Uniform
<i>Caenolestoides</i> + extant species split	26	22	<i>Abello et al. 2021</i>	Uniform

C. Chronogram showing 95% highest posterior density (HPD) intervals for each node.



D. Chronogram with estimated mean node ages indicated.

