

## Appendix 1

Character matrix using for the phylogenetic analysis. The data set was analyzed using the TNT 1.1 software. Character/taxon matrix modified after Rincón et al. (2015a, b).

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<i>Megalonyx jeffersoni</i>	101001011-010101111101010
<i>Glossotherium wegneri</i>	11201010-101210--00100001
<i>Paramylodon harlani</i>	1120100101010100111101011
<i>Pseudopreotherium socorrensis</i>	112110110010210010111110-
<i>Pseudopreotherium urumaquensis</i>	112110110010212010-----
<i>Magdalenabradys kollosiaia</i>	121100100100201110-----
<i>Urumacotherium garciai</i>	012--1010-11001-10-1-----
<i>Eionaletherium tanycnemius</i>	1100210001000110100000000
<i>Pseudopreotherium venezuelanum</i>	112000110010210010-----
<i>Magdalenabradys confusum</i>	1221001000001101100101000
<i>Chubutherium ferelloi</i>	10201001--10010010-----1-
<i>Simomylodon uccasamamensis</i>	102011011110010-110100011
<i>Hapalops ruetimeyeri</i>	01102101-000200--01001110
<i>Hapalops longiceps</i>	01102101-000200--0-00-110
<i>Analcimorphus giganteus</i>	02100201-000000--01001110
<i>Eremotherium laurillardi</i>	002012001000001-010011111
<i>Nothrotheriops shastense</i>	0020121110010000011001011
<i>Rumaquia robusta</i>	012112011000000-010000-01
<i>Pyramiodontherium scillatoyanei</i>	022012011-0100110100110-1
<i>Pyramiodontherium brevirostrum</i>	022012011-01001-010011-11
<i>Lestodon armatus</i>	1121011000002100110111001
<i>Thinobadistes segnis</i>	0110101100002100110101100

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