Text S2. Timetrees and RAxML phylograms in Newick format.

1. Newick timetree with autocorrelated rates and hard-bounded constraints. One unit = 100 million years.

(((Galeopterus\_variegatus: 0.094249, Cynocephalus\_volans: 0.094249): 0.567312, (((((Galago\_thomasi: 0.181653, (Galago\_demidoff: 0.174878, ((Galago\_matschiei: 0.050230, (Galago\_moholi: 0.009526, (Galago\_gallarum: 0.007746, Galago\_senegalensis: 0.007746): 0.001780): 0.040704): 0.104010, ((Galago\_orinus: 0.091635, (Galago\_granti: 0.023193, Galago\_zanzibaricus: 0.023193): 0.068443): 0.046511, ((Otolemur\_monteiri: 0.097561, (Otolemur\_crassicaudatus: 0.037117, Otolemur\_garnettii: 0.037117): 0.060444): 0.004800, (Galago\_gabonensis: 0.006769, Galago\_alleni: 0.006769): 0.095592): 0.035785): 0.016093): 0.020638): 0.006775): 0.045775, Euoticus\_elegantulus: 0.227428): 0.146053, (((Loris\_lydekkerianus: 0.004987, Loris\_tardigradus: 0.004987): 0.260319, (Nycticebus\_pygmaeus: 0.061218, (Nycticebus\_menagensis: 0.039322, (Nycticebus\_javanicus: 0.005626, (Nycticebus\_bengalensis: 0.003721, Nycticebus\_coucang: 0.003721): 0.001905): 0.033696): 0.021896): 0.204089): 0.080624, (Perodicticus\_potto: 0.288524, (Arctocebus\_calabarensis: 0.009421, Arctocebus\_aureus: 0.009421): 0.279103): 0.057407): 0.027550): 0.159386, (Daubentonia\_madagascariensis: 0.504863, (((Varecia\_rubra: 0.008738, Varecia\_variegata: 0.008738): 0.219145, ((Lemur\_catta: 0.090545, (Prolemur\_simus: 0.083355, (Hapalemur\_aureus: 0.053212, (Hapalemur\_occidentalis: 0.008426, (Hapalemur\_alaotrensis: 0.002663, (Hapalemur\_griseus: 0.001403, Hapalemur\_meridionalis: 0.001403): 0.001260): 0.005763): 0.044786): 0.030143): 0.007190): 0.106820, (((((Eulemur\_rufifrons: 0.020598, (Eulemur\_fulvus: 0.013512, (Eulemur\_albifrons: 0.011553, Eulemur\_sanfordi: 0.011553): 0.001958): 0.007087): 0.007581, ((Eulemur\_cinereiceps: 0.011954, Eulemur\_collaris: 0.011954): 0.014061, Eulemur\_rufus: 0.026016): 0.002164): 0.028171, Eulemur\_mongoz: 0.056350): 0.008869, ((Eulemur\_macaco: 0.011324, Eulemur\_flavifrons: 0.011324): 0.046492, Eulemur\_coronatus: 0.057816): 0.007403): 0.008732, Eulemur\_rubriventer: 0.073952): 0.123414): 0.030518): 0.106967, (((Phaner\_pallescens: 0.253929, ((((Lepilemur\_aeeclis: 0.032805, (Lepilemur\_randrianasoloi: 0.024193, (Lepilemur\_hubbardorum: 0.015294, Lepilemur\_ruficaudatus: 0.015294): 0.008899): 0.008612): 0.018637, (Lepilemur\_leucopus: 0.008988, Lepilemur\_petteri: 0.008988): 0.042454): 0.014594, ((Lepilemur\_microdon: 0.035203, (Lepilemur\_otto: 0.013161, (Lepilemur\_grewcockorum: 0.009997, Lepilemur\_edwardsi: 0.009997): 0.003164): 0.022043): 0.013692, (Lepilemur\_septentrionalis: 0.027823, ((Lepilemur\_ankaranensis: 0.008708, (Lepilemur\_tymerlachsoni: 0.007884, Lepilemur\_milanoii: 0.007884): 0.000824): 0.009887, ((Lepilemur\_mittermeieri: 0.014705, (Lepilemur\_sahamalazensis: 0.008934, Lepilemur\_ahmansoni: 0.008934): 0.005772): 0.002654, Lepilemur\_dorsalis: 0.017359): 0.001236): 0.009228): 0.021073): 0.017140): 0.035472, (Lepilemur\_seali: 0.064254, (Lepilemur\_wrighti: 0.040775, (Lepilemur\_fleuretae: 0.027665, (Lepilemur\_mustelinus: 0.015493, (Lepilemur\_betsileo: 0.010335, Lepilemur\_jamesorum: 0.010335): 0.005158): 0.012172): 0.013110): 0.023478): 0.037254): 0.152422): 0.040685, ((Allocebus\_trichotis: 0.180897, ((Mirza\_coquereli: 0.007865, Mirza\_zaza: 0.007865): 0.138634, ((Microcebus\_griseorufus: 0.051099, Microcebus\_murinus: 0.051099): 0.022461, (((Microcebus\_macarthurii: 0.026669, Microcebus\_sp\_nova3Radespiel08: 0.026669): 0.016444, (Microcebus\_danfossi: 0.032273, (Microcebus\_ravelobensis: 0.007859, Microcebus\_bongolavensis: 0.007859): 0.024414): 0.010840): 0.015914, ((((Microcebus\_rufus: 0.032609, ((Microcebus\_sambiranensis: 0.011157, Microcebus\_arnholdi: 0.011157): 0.015865, (Microcebus\_mamiratra: 0.012137, Microcebus\_margotmarshae: 0.012137): 0.014885): 0.005587): 0.005469, (((Microcebus\_myoxinus: 0.016797, Microcebus\_berthae: 0.016797): 0.011792, Microcebus\_lehilahytsara: 0.028590): 0.007021, Microcebus\_mittermeieri: 0.035611): 0.002467): 0.005289, (Microcebus\_simmonsi: 0.038540, (((Microcebus\_jollyae: 0.000511, (Microcebus\_sp\_nova1Louis06: 0.000289, Microcebus\_sp\_nova3Louis06: 0.000289): 0.000221): 0.029231, (Microcebus\_gerpi: 0.010315, Microcebus\_spDWW2010aMarolambo: 0.010315): 0.019427): 0.004308, Microcebus\_spDWW2010aManantantel: 0.034049): 0.004491): 0.004826): 0.005833, Microcebus\_tavaratra: 0.049199): 0.009828): 0.014533): 0.072939): 0.034398): 0.056430, (Cheirogaleus\_sibreei: 0.116011, (Cheirogaleus\_crossleyi: 0.093055, (Cheirogaleus\_major: 0.063992, Cheirogaleus\_medius: 0.063992): 0.029063): 0.022956): 0.121316): 0.057287): 0.029412, (Indri\_indri: 0.212060, (((((Avahi\_ramanantsoavani: 0.013607, Avahi\_meridionalis: 0.013607): 0.006969, (Avahi\_peyrierasi: 0.007417, Avahi\_betsilio: 0.007417): 0.013159): 0.013974, Avahi\_laniger: 0.034550): 0.044520, (Avahi\_occidentalis: 0.019273, (Avahi\_cleesei: 0.016883, Avahi\_unicolor: 0.016883): 0.002389): 0.059797): 0.095449, ((Propithecus\_perrieri: 0.033641, (Propithecus\_edwardsi: 0.018394, Propithecus\_diadema: 0.018394): 0.015247): 0.039388, ((Propithecus\_tattersalli: 0.019016, Propithecus\_coquereli: 0.019016): 0.016834, Propithecus\_verreauxi: 0.035850): 0.037180): 0.101490): 0.037541): 0.111967): 0.010823): 0.170013): 0.028005): 0.094794, (((Tarsius\_dentatus: 0.073761, ((Tarsius\_wallacei: 0.023381, Tarsius\_tarsier: 0.023381): 0.024433, (Tarsius\_sangirensis: 0.037029, Tarsius\_lariang: 0.037029): 0.010784): 0.025948): 0.175698, (Tarsius\_bancanus: 0.060703, Tarsius\_syrichta: 0.060703): 0.188756): 0.336564, ((((((Cacajao\_calvus: 0.034422, (Cacajao\_melanocephalus: 0.010613, (Cacajao\_hosomi: 0.002114, Cacajao\_ayresi: 0.002114): 0.008499): 0.023810): 0.036360, ((Chiropotes\_israelita: 0.011654, Chiropotes\_chiropotes: 0.011654): 0.021098, Chiropotes\_utahicki: 0.032752): 0.038030): 0.072241, (Pithecia\_pithecia: 0.038859, (Pithecia\_monachus: 0.005128, Pithecia\_irrorata: 0.005128): 0.033731): 0.104164): 0.064111, ((Callicebus\_lugens: 0.032802, Callicebus\_torquatus: 0.032802): 0.046558, (((Callicebus\_personatus: 0.020245, Callicebus\_coimbrai: 0.020245): 0.016016, Callicebus\_nigrifrons: 0.036260): 0.035504, ((Callicebus\_cupreus: 0.022518, (Callicebus\_brunneus: 0.020697, (Callicebus\_moloch: 0.009478, Callicebus\_hoffmannsi: 0.009478): 0.011220): 0.001821): 0.009736, (Callicebus\_caligatus: 0.005710, Callicebus\_donacophilus: 0.005710): 0.026545): 0.039510): 0.007596): 0.127773): 0.033178, ((((Alouatta\_pigra: 0.025391, (Alouatta\_palliata: 0.004361, Alouatta\_coibensis: 0.004361): 0.021030): 0.016791, ((Alouatta\_caraya: 0.034425, (Alouatta\_sara: 0.030768, (Alouatta\_nigerrima: 0.005735, (Alouatta\_seniculus: 0.000521, Alouatta\_macconnelli: 0.000521): 0.005215): 0.025033): 0.003657): 0.003136, (Alouatta\_guariba: 0.028204, Alouatta\_belzebul: 0.028204): 0.009358): 0.004621): 0.130482, (((Brachyteles\_hypoxanthus: 0.032681, Brachyteles\_arachnoides: 0.032681): 0.082851, ((Lagothrix\_cana: 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(Saguinus\_graellsi: 0.002565, Saguinus\_nigricollis: 0.002565): 0.017120): 0.001760, Saguinus\_tripartitus: 0.021445): 0.006793): 0.046145, (((Saguinus\_oedipus: 0.007123, Saguinus\_geoffroyi: 0.007123): 0.047080, ((Saguinus\_bicolor: 0.005948, Saguinus\_martinsi: 0.005948): 0.022691, (Saguinus\_niger: 0.010832, Saguinus\_midas: 0.010832): 0.017806): 0.025564): 0.008820, ((Saguinus\_imperator: 0.033836, (Saguinus\_labiatus: 0.019102, Saguinus\_mystax: 0.019102): 0.014735): 0.010631, Saguinus\_leucopus: 0.044467): 0.018555): 0.011361): 0.072253, (((Leontopithecus\_rosalia: 0.001229, Leontopithecus\_chrysopygus: 0.001229): 0.004698, Leontopithecus\_chrysomelas: 0.005926): 0.133361, (Callimico\_goeldii: 0.122087, (Callithrix\_saterei: 0.071806, ((Callithrix\_aurita: 0.024005, (Callithrix\_geoffroyi: 0.011909, (Callithrix\_kuhlii: 0.009823, (Callithrix\_jacchus: 0.007401, Callithrix\_penicillata: 0.007401): 0.002422): 0.002086): 0.012097): 0.026899, ((Callithrix\_argentata: 0.022147, (Callithrix\_emiliae: 0.011582, (Callithrix\_mauesi: 0.005561, Callithrix\_humeralifera: 0.005561): 0.006021): 0.010565): 0.017960, (Callithrix\_humilis: 0.024761, Callithrix\_pygmaea: 0.024761): 0.015346): 0.010797): 0.020902): 0.050281): 0.017200): 0.007349): 0.054989, ((Aotus\_vociferans: 0.032635, ((Aotus\_lemurinus: 0.019789, Aotus\_griseimembra: 0.019789): 0.009665, Aotus\_trivirgatus: 0.029454): 0.003181): 0.004722, (Aotus\_nancymaae: 0.035945, (Aotus\_nigriceps: 0.013060, (Aotus\_infulatus: 0.004314, Aotus\_azarae: 0.004314): 0.008746): 0.022885): 0.001411): 0.164269): 0.004012): 0.022515): 0.012159): 0.187684, ((((Pongo\_abelii: 0.016911, Pongo\_pygmaeus: 0.016911): 0.156277, (((Pan\_troglodytes: 0.021921, Pan\_paniscus: 0.021921): 0.054363, Homo\_sapiens: 0.076284): 0.018424, (Gorilla\_beringei: 0.021831, Gorilla\_gorilla: 0.021831): 0.072877): 0.078479): 0.029005, ((Hoolock\_hoolock: 0.026215, Hoolock\_leuconedys: 0.026215): 0.051212, ((Symphalangus\_syndactylus: 0.063339, (Hylobates\_pileatus: 0.037134, (((Hylobates\_klossii: 0.020284, Hylobates\_moloch: 0.020284): 0.005183, ((Hylobates\_agilis: 0.009644, Hylobates\_albibarbis: 0.009644): 0.012577, (Hylobates\_abbotti: 0.013504, (Hylobates\_funereus: 0.010415, Hylobates\_muelleri: 0.010415): 0.003089): 0.008716): 0.003247): 0.003002, Hylobates\_lar: 0.028469): 0.008665): 0.026205): 0.006160, ((((Nomascus\_leucogenys: 0.003218, Nomascus\_siki: 0.003218): 0.006804, Nomascus\_gabriellae: 0.010022): 0.004295, Nomascus\_concolor: 0.014317): 0.015321, (Nomascus\_nasutus: 0.020867, Nomascus\_hainanus: 0.020867): 0.008772): 0.039861): 0.007928): 0.124765): 0.075070, ((((Macaca\_sylvanus: 0.046727, ((((Macaca\_nemestrina: 0.021440, Macaca\_silenus: 0.021440): 0.000395, (Macaca\_pagensis: 0.017233, (Macaca\_siberu: 0.010531, Macaca\_leonina: 0.010531): 0.006702): 0.004602): 0.008354, ((Macaca\_hecki: 0.018772, (Macaca\_nigrescens: 0.017776, (Macaca\_tonkeana: 0.014559, Macaca\_nigra: 0.014559): 0.003217): 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2. Newick timetree with autocorrelated rates and soft-bounded constraints. One unit = 100 million years.

(((Galeopterus\_variegatus: 0.086546, Cynocephalus\_volans: 0.086546): 0.617496, (((((Galago\_thomasi: 0.154339, (Galago\_demidoff: 0.148420, ((Galago\_matschiei: 0.040856, (Galago\_moholi: 0.007868, (Galago\_gallarum: 0.006480, Galago\_senegalensis: 0.006480): 0.001388): 0.032988): 0.088232, ((Galago\_orinus: 0.076728, (Galago\_granti: 0.019514, Galago\_zanzibaricus: 0.019514): 0.057214): 0.039096, ((Otolemur\_monteiri: 0.079856, (Otolemur\_crassicaudatus: 0.032069, Otolemur\_garnettii: 0.032069): 0.047787): 0.003309, (Galago\_gabonensis: 0.006288, Galago\_alleni: 0.006288): 0.076877): 0.032659): 0.013264): 0.019332): 0.005918): 0.048937, Euoticus\_elegantulus: 0.203275): 0.111140, (((Loris\_lydekkerianus: 0.006073, Loris\_tardigradus: 0.006073): 0.193427, (Nycticebus\_pygmaeus: 0.049135, (Nycticebus\_menagensis: 0.031167, (Nycticebus\_javanicus: 0.004511, (Nycticebus\_bengalensis: 0.002964, Nycticebus\_coucang: 0.002964): 0.001548): 0.026656): 0.017968): 0.150365): 0.090379, (Perodicticus\_potto: 0.216022, (Arctocebus\_calabarensis: 0.011517, Arctocebus\_aureus: 0.011517): 0.204505): 0.073857): 0.024536): 0.219562, (Daubentonia\_madagascariensis: 0.503395, (((Varecia\_rubra: 0.007325, Varecia\_variegata: 0.007325): 0.208977, ((Lemur\_catta: 0.086925, (Prolemur\_simus: 0.079744, (Hapalemur\_aureus: 0.053658, (Hapalemur\_occidentalis: 0.007386, (Hapalemur\_alaotrensis: 0.003078, (Hapalemur\_griseus: 0.002061, Hapalemur\_meridionalis: 0.002061): 0.001018): 0.004308): 0.046272): 0.026086): 0.007180): 0.098998, (((((Eulemur\_rufifrons: 0.019289, (Eulemur\_fulvus: 0.012770, (Eulemur\_albifrons: 0.010898, Eulemur\_sanfordi: 0.010898): 0.001872): 0.006519): 0.007049, ((Eulemur\_cinereiceps: 0.011120, Eulemur\_collaris: 0.011120): 0.013142, Eulemur\_rufus: 0.024261): 0.002077): 0.025928, Eulemur\_mongoz: 0.052266): 0.008378, ((Eulemur\_macaco: 0.010257, Eulemur\_flavifrons: 0.010257): 0.043584, Eulemur\_coronatus: 0.053841): 0.006803): 0.008715, Eulemur\_rubriventer: 0.069359): 0.116564): 0.030379): 0.095159, (((Phaner\_pallescens: 0.202671, ((((Lepilemur\_aeeclis: 0.028565, (Lepilemur\_randrianasoloi: 0.020944, (Lepilemur\_hubbardorum: 0.013481, Lepilemur\_ruficaudatus: 0.013481): 0.007463): 0.007621): 0.014898, (Lepilemur\_leucopus: 0.007528, Lepilemur\_petteri: 0.007528): 0.035936): 0.013558, ((Lepilemur\_microdon: 0.031756, (Lepilemur\_otto: 0.011809, (Lepilemur\_grewcockorum: 0.009166, Lepilemur\_edwardsi: 0.009166): 0.002643): 0.019947): 0.011377, (Lepilemur\_septentrionalis: 0.024971, ((Lepilemur\_ankaranensis: 0.008157, (Lepilemur\_tymerlachsoni: 0.007397, Lepilemur\_milanoii: 0.007397): 0.000760): 0.008167, ((Lepilemur\_mittermeieri: 0.012909, (Lepilemur\_sahamalazensis: 0.007829, Lepilemur\_ahmansoni: 0.007829): 0.005080): 0.002272, Lepilemur\_dorsalis: 0.015181): 0.001143): 0.008648): 0.018161): 0.013888): 0.027004, (Lepilemur\_seali: 0.055016, (Lepilemur\_wrighti: 0.034397, (Lepilemur\_fleuretae: 0.023844, (Lepilemur\_mustelinus: 0.012914, (Lepilemur\_betsileo: 0.009008, Lepilemur\_jamesorum: 0.009008): 0.003906): 0.010930): 0.010553): 0.020619): 0.029009): 0.118646): 0.068397, ((Allocebus\_trichotis: 0.174581, ((Mirza\_coquereli: 0.006572, Mirza\_zaza: 0.006572): 0.131429, ((Microcebus\_griseorufus: 0.046392, Microcebus\_murinus: 0.046392): 0.024071, (((Microcebus\_macarthurii: 0.025551, Microcebus\_sp\_nova3Radespiel08: 0.025551): 0.014972, (Microcebus\_danfossi: 0.030811, (Microcebus\_ravelobensis: 0.007257, Microcebus\_bongolavensis: 0.007257): 0.023553): 0.009713): 0.016339, ((((Microcebus\_rufus: 0.031962, ((Microcebus\_sambiranensis: 0.011345, Microcebus\_arnholdi: 0.011345): 0.015126, (Microcebus\_mamiratra: 0.012605, Microcebus\_margotmarshae: 0.012605): 0.013867): 0.005491): 0.005266, (((Microcebus\_myoxinus: 0.015712, Microcebus\_berthae: 0.015712): 0.012488, Microcebus\_lehilahytsara: 0.028200): 0.006726, Microcebus\_mittermeieri: 0.034926): 0.002302): 0.004992, (Microcebus\_simmonsi: 0.037302, (((Microcebus\_jollyae: 0.000825, (Microcebus\_sp\_nova1Louis06: 0.000521, Microcebus\_sp\_nova3Louis06: 0.000521): 0.000304): 0.027806, (Microcebus\_gerpi: 0.010785, Microcebus\_spDWW2010aMarolambo: 0.010785): 0.017845): 0.004508, Microcebus\_spDWW2010aManantantel: 0.033139): 0.004163): 0.004918): 0.005394, Microcebus\_tavaratra: 0.047614): 0.009248): 0.013600): 0.067538): 0.036580): 0.047289, (Cheirogaleus\_sibreei: 0.097325, (Cheirogaleus\_crossleyi: 0.078906, (Cheirogaleus\_major: 0.052977, Cheirogaleus\_medius: 0.052977): 0.025929): 0.018419): 0.124544): 0.049200): 0.030872, (Indri\_indri: 0.198412, (((((Avahi\_ramanantsoavani: 0.012425, Avahi\_meridionalis: 0.012425): 0.007159, (Avahi\_peyrierasi: 0.007305, Avahi\_betsilio: 0.007305): 0.012279): 0.012823, Avahi\_laniger: 0.032407): 0.043628, (Avahi\_occidentalis: 0.018713, (Avahi\_cleesei: 0.016419, Avahi\_unicolor: 0.016419): 0.002295): 0.057321): 0.083868, ((Propithecus\_perrieri: 0.031372, (Propithecus\_edwardsi: 0.016611, Propithecus\_diadema: 0.016611): 0.014761): 0.034752, ((Propithecus\_tattersalli: 0.017534, Propithecus\_coquereli: 0.017534): 0.015246, Propithecus\_verreauxi: 0.032780): 0.033343): 0.093779): 0.038510): 0.103529): 0.009519): 0.191935): 0.030583): 0.133088, (((Tarsius\_dentatus: 0.078837, ((Tarsius\_wallacei: 0.024721, Tarsius\_tarsier: 0.024721): 0.024282, (Tarsius\_sangirensis: 0.036965, Tarsius\_lariang: 0.036965): 0.012038): 0.029834): 0.151317, (Tarsius\_bancanus: 0.064227, Tarsius\_syrichta: 0.064227): 0.165926): 0.402771, ((((((Cacajao\_calvus: 0.034244, (Cacajao\_melanocephalus: 0.011078, (Cacajao\_hosomi: 0.002283, Cacajao\_ayresi: 0.002283): 0.008795): 0.023166): 0.036340, ((Chiropotes\_israelita: 0.012026, Chiropotes\_chiropotes: 0.012026): 0.020812, Chiropotes\_utahicki: 0.032838): 0.037746): 0.072680, (Pithecia\_pithecia: 0.039559, (Pithecia\_monachus: 0.005142, Pithecia\_irrorata: 0.005142): 0.034417): 0.103705): 0.065520, ((Callicebus\_lugens: 0.033298, Callicebus\_torquatus: 0.033298): 0.045773, (((Callicebus\_personatus: 0.020001, Callicebus\_coimbrai: 0.020001): 0.016027, Callicebus\_nigrifrons: 0.036028): 0.035404, ((Callicebus\_cupreus: 0.022429, (Callicebus\_brunneus: 0.020667, (Callicebus\_moloch: 0.008781, Callicebus\_hoffmannsi: 0.008781): 0.011887): 0.001762): 0.009886, (Callicebus\_caligatus: 0.005456, Callicebus\_donacophilus: 0.005456): 0.026859): 0.039118): 0.007638): 0.129714): 0.034670, ((((Alouatta\_pigra: 0.024923, (Alouatta\_palliata: 0.003571, Alouatta\_coibensis: 0.003571): 0.021352): 0.016294, ((Alouatta\_caraya: 0.033751, (Alouatta\_sara: 0.030483, (Alouatta\_nigerrima: 0.005490, (Alouatta\_seniculus: 0.000360, Alouatta\_macconnelli: 0.000360): 0.005131): 0.024993): 0.003268): 0.003192, (Alouatta\_guariba: 0.027307, Alouatta\_belzebul: 0.027307): 0.009636): 0.004274): 0.131710, (((Brachyteles\_hypoxanthus: 0.032138, Brachyteles\_arachnoides: 0.032138): 0.083526, ((Lagothrix\_cana: 0.005488, (Lagothrix\_lagotricha: 0.003977, Lagothrix\_poeppigii: 0.003977): 0.001511): 0.003834, Lagothrix\_lugens: 0.009322): 0.106342): 0.017298, ((Ateles\_fusciceps: 0.024635, (Ateles\_hybridus: 0.023930, (Ateles\_belzebuth: 0.017253, Ateles\_geoffroyi: 0.017253): 0.006678): 0.000705): 0.009943, (Ateles\_paniscus: 0.013557, (Ateles\_marginatus: 0.005442, Ateles\_chamek: 0.005442): 0.008115): 0.021022): 0.098383): 0.039965): 0.057834, ((((Saimiri\_ustus: 0.012710, (Saimiri\_sciureus: 0.007871, Saimiri\_oerstedii: 0.007871): 0.004838): 0.006690, Saimiri\_boliviensis: 0.019400): 0.161302, (((Cebus\_libidinosus: 0.003426, Cebus\_apella: 0.003426): 0.016351, (Cebus\_xanthosternos: 0.017097, Cebus\_robustus: 0.017097): 0.002680): 0.046311, (Cebus\_capucinus: 0.018087, ((Cebus\_kaapori: 0.005318, Cebus\_olivaceus: 0.005318): 0.011251, Cebus\_albifrons: 0.016569): 0.001518): 0.048001): 0.114614): 0.026313, ((((Saguinus\_fuscicollis: 0.028807, ((Saguinus\_melanoleucus: 0.020120, (Saguinus\_graellsi: 0.002356, Saguinus\_nigricollis: 0.002356): 0.017764): 0.001719, Saguinus\_tripartitus: 0.021839): 0.006969): 0.044242, (((Saguinus\_oedipus: 0.006919, Saguinus\_geoffroyi: 0.006919): 0.045918, ((Saguinus\_bicolor: 0.005418, Saguinus\_martinsi: 0.005418): 0.021474, (Saguinus\_niger: 0.008928, Saguinus\_midas: 0.008928): 0.017964): 0.025944): 0.008981, ((Saguinus\_imperator: 0.032868, (Saguinus\_labiatus: 0.018209, Saguinus\_mystax: 0.018209): 0.014659): 0.009894, Saguinus\_leucopus: 0.042762): 0.019056): 0.011231): 0.072915, (((Leontopithecus\_rosalia: 0.001508, Leontopithecus\_chrysopygus: 0.001508): 0.004501, Leontopithecus\_chrysomelas: 0.006009): 0.132533, (Callimico\_goeldii: 0.120895, (Callithrix\_saterei: 0.073056, ((Callithrix\_aurita: 0.023418, (Callithrix\_geoffroyi: 0.011703, (Callithrix\_kuhlii: 0.009681, (Callithrix\_jacchus: 0.007358, Callithrix\_penicillata: 0.007358): 0.002323): 0.002022): 0.011714): 0.026723, ((Callithrix\_argentata: 0.022066, (Callithrix\_emiliae: 0.011926, (Callithrix\_mauesi: 0.005698, Callithrix\_humeralifera: 0.005698): 0.006228): 0.010140): 0.017481, (Callithrix\_humilis: 0.023808, Callithrix\_pygmaea: 0.023808): 0.015740): 0.010593): 0.022916): 0.047839): 0.017646): 0.007422): 0.056972, ((Aotus\_vociferans: 0.031846, ((Aotus\_lemurinus: 0.019194, Aotus\_griseimembra: 0.019194): 0.009397, Aotus\_trivirgatus: 0.028591): 0.003255): 0.004763, (Aotus\_nancymaae: 0.035135, (Aotus\_nigriceps: 0.012916, (Aotus\_infulatus: 0.004106, Aotus\_azarae: 0.004106): 0.008810): 0.022219): 0.001475): 0.166326): 0.004079): 0.023747): 0.012693): 0.201167, ((((Pongo\_abelii: 0.016631, Pongo\_pygmaeus: 0.016631): 0.163137, (((Pan\_troglodytes: 0.021095, Pan\_paniscus: 0.021095): 0.058193, Homo\_sapiens: 0.079289): 0.018233, (Gorilla\_beringei: 0.021659, Gorilla\_gorilla: 0.021659): 0.075863): 0.082246): 0.029478, ((Hoolock\_hoolock: 0.025589, Hoolock\_leuconedys: 0.025589): 0.052236, ((Symphalangus\_syndactylus: 0.063068, 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0.000988): 0.000734, (Macaca\_maura: 0.016377, (Macaca\_ochreata: 0.007841, Macaca\_brunnescens: 0.007841): 0.008536): 0.002399): 0.010301): 0.008204, ((Macaca\_arctoides: 0.028632, (((Macaca\_thibetana: 0.005317, Macaca\_assamensis: 0.005317): 0.013205, Macaca\_sinica: 0.018522): 0.004666, (Macaca\_radiata: 0.009921, Macaca\_munzala: 0.009921): 0.013267): 0.005445): 0.001957, ((Macaca\_cyclopis: 0.018575, (Macaca\_mulatta: 0.017168, Macaca\_fuscata: 0.017168): 0.001407): 0.008126, Macaca\_fascicularis: 0.026702): 0.003887): 0.006692): 0.007917): 0.032226, ((Theropithecus\_gelada: 0.039389, (((Papio\_papio: 0.012580, (Papio\_hamadryas: 0.011817, ((Papio\_cynocephalus: 0.007104, Papio\_ursinus: 0.007104): 0.003738, Papio\_anubis: 0.010842): 0.000975): 0.000763): 0.005031, Rungwecebus\_kipunji: 0.017611): 0.014686, (Lophocebus\_albigena: 0.003052, Lophocebus\_aterrimus: 0.003052): 0.029244): 0.007092): 0.027134, ((Mandrillus\_leucophaeus: 0.011057, Mandrillus\_sphinx: 0.011057): 0.035117, ((Cercocebus\_chrysogaster: 0.004149, (Cercocebus\_galeritus: 0.002304, Cercocebus\_agilis: 0.002304): 0.001845): 0.030894, (Cercocebus\_atys: 0.010414, Cercocebus\_torquatus: 0.010414): 0.024628): 0.011131): 0.020349): 0.010901): 0.020626, ((((Cercopithecus\_campbelli: 0.047292, (Chlorocebus\_cynosuros: 0.020576, (Chlorocebus\_sabaeus: 0.019519, (Chlorocebus\_pygerythrus: 0.011610, (Chlorocebus\_aethiops: 0.009094, Chlorocebus\_tantalus: 0.009094): 0.002517): 0.007909): 0.001056): 0.026717): 0.008248, ((Cercopithecus\_solatus: 0.035917, (Cercopithecus\_preussi: 0.012368, Cercopithecus\_lhoesti: 0.012368): 0.023549): 0.014980, Erythrocebus\_patas: 0.050897): 0.004644): 0.014505, (Cercopithecus\_hamlyni: 0.061547, ((Cercopithecus\_neglectus: 0.055533, (Cercopithecus\_mona: 0.023385, (Cercopithecus\_pogonias: 0.016183, Cercopithecus\_wolfi: 0.016183): 0.007202): 0.032148): 0.002471, (Cercopithecus\_diana: 0.053233, ((Cercopithecus\_nictitans: 0.028277, 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3. Newick timetree with independent rates and hard-bounded constraints. One unit = 100 million years.

(((Galeopterus\_variegatus: 0.129417, Cynocephalus\_volans: 0.129417): 0.673013, (((((Galago\_thomasi: 0.139250, (Galago\_demidoff: 0.136829, ((Galago\_matschiei: 0.027217, (Galago\_moholi: 0.008623, (Galago\_gallarum: 0.007282, Galago\_senegalensis: 0.007282): 0.001341): 0.018594): 0.083736, ((Galago\_orinus: 0.043439, (Galago\_granti: 0.014145, Galago\_zanzibaricus: 0.014145): 0.029294): 0.042599, ((Otolemur\_monteiri: 0.051118, (Otolemur\_crassicaudatus: 0.028984, Otolemur\_garnettii: 0.028984): 0.022134): 0.009673, (Galago\_gabonensis: 0.003586, Galago\_alleni: 0.003586): 0.057205): 0.025246): 0.024915): 0.025876): 0.002421): 0.109147, Euoticus\_elegantulus: 0.248397): 0.125834, (((Loris\_lydekkerianus: 0.003083, Loris\_tardigradus: 0.003083): 0.184034, (Nycticebus\_pygmaeus: 0.053344, (Nycticebus\_menagensis: 0.024517, (Nycticebus\_javanicus: 0.009782, (Nycticebus\_bengalensis: 0.002935, Nycticebus\_coucang: 0.002935): 0.006847): 0.014735): 0.028826): 0.133773): 0.162382, (Perodicticus\_potto: 0.200711, (Arctocebus\_calabarensis: 0.006296, Arctocebus\_aureus: 0.006296): 0.194415): 0.148788): 0.024733): 0.178989, (Daubentonia\_madagascariensis: 0.497975, (((Varecia\_rubra: 0.006432, Varecia\_variegata: 0.006432): 0.194406, ((Lemur\_catta: 0.062856, (Prolemur\_simus: 0.053527, (Hapalemur\_aureus: 0.030072, (Hapalemur\_occidentalis: 0.007694, (Hapalemur\_alaotrensis: 0.003638, (Hapalemur\_griseus: 0.001589, Hapalemur\_meridionalis: 0.001589): 0.002049): 0.004056): 0.022378): 0.023455): 0.009329): 0.110836, (((((Eulemur\_rufifrons: 0.013081, (Eulemur\_fulvus: 0.008901, (Eulemur\_albifrons: 0.006316, Eulemur\_sanfordi: 0.006316): 0.002585): 0.004180): 0.004527, ((Eulemur\_cinereiceps: 0.006180, Eulemur\_collaris: 0.006180): 0.008925, Eulemur\_rufus: 0.015104): 0.002503): 0.014557, Eulemur\_mongoz: 0.032165): 0.005184, ((Eulemur\_macaco: 0.006416, Eulemur\_flavifrons: 0.006416): 0.026909, Eulemur\_coronatus: 0.033325): 0.004023): 0.017098, Eulemur\_rubriventer: 0.054447): 0.119245): 0.027146): 0.125634, (((Phaner\_pallescens: 0.226892, ((((Lepilemur\_aeeclis: 0.028625, (Lepilemur\_randrianasoloi: 0.021684, (Lepilemur\_hubbardorum: 0.012007, Lepilemur\_ruficaudatus: 0.012007): 0.009677): 0.006940): 0.015620, (Lepilemur\_leucopus: 0.008400, Lepilemur\_petteri: 0.008400): 0.035845): 0.011578, ((Lepilemur\_microdon: 0.024536, (Lepilemur\_otto: 0.011815, (Lepilemur\_grewcockorum: 0.008249, Lepilemur\_edwardsi: 0.008249): 0.003566): 0.012721): 0.012147, (Lepilemur\_septentrionalis: 0.020784, ((Lepilemur\_ankaranensis: 0.009773, (Lepilemur\_tymerlachsoni: 0.008116, Lepilemur\_milanoii: 0.008116): 0.001657): 0.007188, ((Lepilemur\_mittermeieri: 0.012395, (Lepilemur\_sahamalazensis: 0.007830, Lepilemur\_ahmansoni: 0.007830): 0.004566): 0.003363, Lepilemur\_dorsalis: 0.015758): 0.001203): 0.003823): 0.015899): 0.019140): 0.026149, (Lepilemur\_seali: 0.047237, (Lepilemur\_wrighti: 0.030786, (Lepilemur\_fleuretae: 0.018578, (Lepilemur\_mustelinus: 0.011191, (Lepilemur\_betsileo: 0.006960, Lepilemur\_jamesorum: 0.006960): 0.004231): 0.007386): 0.012208): 0.016452): 0.034735): 0.144919): 0.054624, ((Allocebus\_trichotis: 0.148708, ((Mirza\_coquereli: 0.002930, Mirza\_zaza: 0.002930): 0.123629, ((Microcebus\_griseorufus: 0.035030, Microcebus\_murinus: 0.035030): 0.033398, (((Microcebus\_macarthurii: 0.020206, Microcebus\_sp\_nova3Radespiel08: 0.020206): 0.017779, (Microcebus\_danfossi: 0.025641, (Microcebus\_ravelobensis: 0.008251, Microcebus\_bongolavensis: 0.008251): 0.017390): 0.012344): 0.018047, ((((Microcebus\_rufus: 0.029605, ((Microcebus\_sambiranensis: 0.011428, Microcebus\_arnholdi: 0.011428): 0.012716, (Microcebus\_mamiratra: 0.010231, Microcebus\_margotmarshae: 0.010231): 0.013912): 0.005462): 0.003517, (((Microcebus\_myoxinus: 0.011538, Microcebus\_berthae: 0.011538): 0.012079, Microcebus\_lehilahytsara: 0.023617): 0.006991, Microcebus\_mittermeieri: 0.030608): 0.002514): 0.003654, (Microcebus\_simmonsi: 0.032564, (((Microcebus\_jollyae: 0.001880, (Microcebus\_sp\_nova1Louis06: 0.001541, Microcebus\_sp\_nova3Louis06: 0.001541): 0.000339): 0.020120, (Microcebus\_gerpi: 0.009160, Microcebus\_spDWW2010aMarolambo: 0.009160): 0.012840): 0.005199, Microcebus\_spDWW2010aManantantel: 0.027199): 0.005366): 0.004211): 0.010215, Microcebus\_tavaratra: 0.046991): 0.009041): 0.012396): 0.058131): 0.022148): 0.066782, (Cheirogaleus\_sibreei: 0.084222, (Cheirogaleus\_crossleyi: 0.062902, (Cheirogaleus\_major: 0.050293, Cheirogaleus\_medius: 0.050293): 0.012610): 0.021319): 0.131268): 0.066025): 0.032105, (Indri\_indri: 0.171394, (((((Avahi\_ramanantsoavani: 0.007104, Avahi\_meridionalis: 0.007104): 0.006763, (Avahi\_peyrierasi: 0.004105, Avahi\_betsilio: 0.004105): 0.009762): 0.008395, Avahi\_laniger: 0.022262): 0.031525, (Avahi\_occidentalis: 0.014390, (Avahi\_cleesei: 0.011838, Avahi\_unicolor: 0.011838): 0.002553): 0.039397): 0.083581, ((Propithecus\_perrieri: 0.022894, (Propithecus\_edwardsi: 0.016006, Propithecus\_diadema: 0.016006): 0.006887): 0.031506, ((Propithecus\_tattersalli: 0.016115, Propithecus\_coquereli: 0.016115): 0.006179, Propithecus\_verreauxi: 0.022294): 0.032106): 0.082968): 0.034026): 0.142226): 0.012852): 0.171503): 0.055245): 0.151792, (((Tarsius\_dentatus: 0.029282, ((Tarsius\_wallacei: 0.014124, Tarsius\_tarsier: 0.014124): 0.009254, (Tarsius\_sangirensis: 0.017181, Tarsius\_lariang: 0.017181): 0.006198): 0.005903): 0.105294, (Tarsius\_bancanus: 0.076875, Tarsius\_syrichta: 0.076875): 0.057700): 0.450813, ((((((Cacajao\_calvus: 0.025305, (Cacajao\_melanocephalus: 0.011561, (Cacajao\_hosomi: 0.001858, Cacajao\_ayresi: 0.001858): 0.009703): 0.013744): 0.035148, ((Chiropotes\_israelita: 0.011754, Chiropotes\_chiropotes: 0.011754): 0.010344, Chiropotes\_utahicki: 0.022098): 0.038354): 0.066667, (Pithecia\_pithecia: 0.031114, (Pithecia\_monachus: 0.004102, Pithecia\_irrorata: 0.004102): 0.027012): 0.096006): 0.069636, ((Callicebus\_lugens: 0.017884, Callicebus\_torquatus: 0.017884): 0.058065, (((Callicebus\_personatus: 0.020154, Callicebus\_coimbrai: 0.020154): 0.012553, Callicebus\_nigrifrons: 0.032707): 0.032452, ((Callicebus\_cupreus: 0.021124, (Callicebus\_brunneus: 0.019015, (Callicebus\_moloch: 0.014233, Callicebus\_hoffmannsi: 0.014233): 0.004782): 0.002109): 0.009705, (Callicebus\_caligatus: 0.006119, Callicebus\_donacophilus: 0.006119): 0.024710): 0.034330): 0.010789): 0.120807): 0.036764, ((((Alouatta\_pigra: 0.018155, (Alouatta\_palliata: 0.004977, Alouatta\_coibensis: 0.004977): 0.013179): 0.015574, ((Alouatta\_caraya: 0.026342, (Alouatta\_sara: 0.021007, (Alouatta\_nigerrima: 0.004534, (Alouatta\_seniculus: 0.000320, Alouatta\_macconnelli: 0.000320): 0.004213): 0.016474): 0.005335): 0.002798, (Alouatta\_guariba: 0.021993, Alouatta\_belzebul: 0.021993): 0.007147): 0.004589): 0.102718, (((Brachyteles\_hypoxanthus: 0.022156, Brachyteles\_arachnoides: 0.022156): 0.062761, ((Lagothrix\_cana: 0.004168, (Lagothrix\_lagotricha: 0.003036, Lagothrix\_poeppigii: 0.003036): 0.001132): 0.007657, Lagothrix\_lugens: 0.011825): 0.073093): 0.011730, ((Ateles\_fusciceps: 0.013973, (Ateles\_hybridus: 0.013570, (Ateles\_belzebuth: 0.007856, Ateles\_geoffroyi: 0.007856): 0.005714): 0.000404): 0.008635, (Ateles\_paniscus: 0.007694, (Ateles\_marginatus: 0.003649, Ateles\_chamek: 0.003649): 0.004045): 0.014914): 0.074040): 0.039799): 0.083822, ((((Saimiri\_ustus: 0.008999, (Saimiri\_sciureus: 0.005415, Saimiri\_oerstedii: 0.005415): 0.003584): 0.007277, Saimiri\_boliviensis: 0.016276): 0.154857, (((Cebus\_libidinosus: 0.002980, Cebus\_apella: 0.002980): 0.011361, (Cebus\_xanthosternos: 0.011830, Cebus\_robustus: 0.011830): 0.002510): 0.035889, (Cebus\_capucinus: 0.014664, ((Cebus\_kaapori: 0.005112, Cebus\_olivaceus: 0.005112): 0.008374, Cebus\_albifrons: 0.013486): 0.001179): 0.035565): 0.120904): 0.024675, ((((Saguinus\_fuscicollis: 0.028266, ((Saguinus\_melanoleucus: 0.017126, (Saguinus\_graellsi: 0.002722, Saguinus\_nigricollis: 0.002722): 0.014404): 0.003687, Saguinus\_tripartitus: 0.020813): 0.007453): 0.034078, (((Saguinus\_oedipus: 0.005505, Saguinus\_geoffroyi: 0.005505): 0.036490, ((Saguinus\_bicolor: 0.008580, Saguinus\_martinsi: 0.008580): 0.015032, (Saguinus\_niger: 0.012637, Saguinus\_midas: 0.012637): 0.010975): 0.018382): 0.011482, ((Saguinus\_imperator: 0.027658, (Saguinus\_labiatus: 0.014956, Saguinus\_mystax: 0.014956): 0.012702): 0.007629, Saguinus\_leucopus: 0.035287): 0.018190): 0.008867): 0.074933, (((Leontopithecus\_rosalia: 0.001620, Leontopithecus\_chrysopygus: 0.001620): 0.002988, Leontopithecus\_chrysomelas: 0.004607): 0.125990, (Callimico\_goeldii: 0.109241, (Callithrix\_saterei: 0.061549, ((Callithrix\_aurita: 0.027751, (Callithrix\_geoffroyi: 0.008673, (Callithrix\_kuhlii: 0.007927, (Callithrix\_jacchus: 0.004638, Callithrix\_penicillata: 0.004638): 0.003288): 0.000746): 0.019079): 0.016431, ((Callithrix\_argentata: 0.016208, (Callithrix\_emiliae: 0.009062, (Callithrix\_mauesi: 0.005544, Callithrix\_humeralifera: 0.005544): 0.003519): 0.007146): 0.019812, (Callithrix\_humilis: 0.019170, Callithrix\_pygmaea: 0.019170): 0.016850): 0.008162): 0.017367): 0.047692): 0.021356): 0.006681): 0.054528, ((Aotus\_vociferans: 0.025033, ((Aotus\_lemurinus: 0.012425, Aotus\_griseimembra: 0.012425): 0.008858, Aotus\_trivirgatus: 0.021282): 0.003751): 0.006569, (Aotus\_nancymaae: 0.026698, (Aotus\_nigriceps: 0.012813, (Aotus\_infulatus: 0.004128, Aotus\_azarae: 0.004128): 0.008684): 0.013885): 0.004904): 0.160203): 0.004003): 0.024461): 0.013251): 0.143549, ((((Pongo\_abelii: 0.009394, Pongo\_pygmaeus: 0.009394): 0.120329, (((Pan\_troglodytes: 0.011351, Pan\_paniscus: 0.011351): 0.045192, Homo\_sapiens: 0.056544): 0.009503, (Gorilla\_beringei: 0.014924, Gorilla\_gorilla: 0.014924): 0.051123): 0.063676): 0.017073, ((Hoolock\_hoolock: 0.014961, Hoolock\_leuconedys: 0.014961): 0.045301, ((Symphalangus\_syndactylus: 0.043846, (Hylobates\_pileatus: 0.024996, (((Hylobates\_klossii: 0.013594, Hylobates\_moloch: 0.013594): 0.003339, ((Hylobates\_agilis: 0.006982, Hylobates\_albibarbis: 0.006982): 0.007229, (Hylobates\_abbotti: 0.009081, (Hylobates\_funereus: 0.006435, Hylobates\_muelleri: 0.006435): 0.002646): 0.005130): 0.002721): 0.002337, Hylobates\_lar: 0.019270): 0.005726): 0.018850): 0.004017, ((((Nomascus\_leucogenys: 0.002557, Nomascus\_siki: 0.002557): 0.003729, Nomascus\_gabriellae: 0.006287): 0.002007, Nomascus\_concolor: 0.008294): 0.017669, (Nomascus\_nasutus: 0.017686, Nomascus\_hainanus: 0.017686): 0.008277): 0.021901): 0.012399): 0.086534): 0.077968, ((((Macaca\_sylvanus: 0.032701, ((((Macaca\_nemestrina: 0.012476, Macaca\_silenus: 0.012476): 0.003553, (Macaca\_pagensis: 0.012010, (Macaca\_siberu: 0.006068, Macaca\_leonina: 0.006068): 0.005942): 0.004019): 0.004739, ((Macaca\_hecki: 0.012012, (Macaca\_nigrescens: 0.011054, (Macaca\_tonkeana: 0.009535, Macaca\_nigra: 0.009535): 0.001519): 0.000958): 0.000453, (Macaca\_maura: 0.010925, (Macaca\_ochreata: 0.005379, Macaca\_brunnescens: 0.005379): 0.005546): 0.001540): 0.008303): 0.006904, ((Macaca\_arctoides: 0.019764, (((Macaca\_thibetana: 0.006054, Macaca\_assamensis: 0.006054): 0.007145, Macaca\_sinica: 0.013199): 0.003216, (Macaca\_radiata: 0.009655, Macaca\_munzala: 0.009655): 0.006760): 0.003350): 0.003450, ((Macaca\_cyclopis: 0.013437, (Macaca\_mulatta: 0.012331, Macaca\_fuscata: 0.012331): 0.001106): 0.006696, Macaca\_fascicularis: 0.020132): 0.003083): 0.004457): 0.005028): 0.024762, ((Theropithecus\_gelada: 0.035421, (((Papio\_papio: 0.009355, (Papio\_hamadryas: 0.008486, ((Papio\_cynocephalus: 0.004940, Papio\_ursinus: 0.004940): 0.002698, Papio\_anubis: 0.007638): 0.000849): 0.000869): 0.007114, Rungwecebus\_kipunji: 0.016469): 0.010758, (Lophocebus\_albigena: 0.002131, Lophocebus\_aterrimus: 0.002131): 0.025096): 0.008194): 0.013686, ((Mandrillus\_leucophaeus: 0.008838, Mandrillus\_sphinx: 0.008838): 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0.001367): 0.001655, ((Presbytis\_fredericae: 0.005261, Presbytis\_comata: 0.005261): 0.002859, Presbytis\_mitrata: 0.008120): 0.001858): 0.008465): 0.016949, ((Presbytis\_hosei: 0.027627, (Presbytis\_frontata: 0.021413, Presbytis\_chrysomelas: 0.021413): 0.006214): 0.005303, (Presbytis\_thomasi: 0.026733, Presbytis\_femoralis: 0.026733): 0.006198): 0.002462): 0.022505): 0.021035, ((((((Piliocolobus\_foai: 0.011909, (Piliocolobus\_tephrosceles: 0.008546, Piliocolobus\_rufomitratus: 0.008546): 0.003363): 0.007700, (Piliocolobus\_kirkii: 0.009897, Piliocolobus\_gordonorum: 0.009897): 0.009712): 0.009926, ((Piliocolobus\_pennantii: 0.004614, Piliocolobus\_preussi: 0.004614): 0.018207, Piliocolobus\_tholloni: 0.022821): 0.006714): 0.003795, Piliocolobus\_badius: 0.033330): 0.019147, Procolobus\_verus: 0.052477): 0.007319, (Colobus\_satanas: 0.032351, (((Colobus\_polykomos: 0.003329, Colobus\_vellerosus: 0.003329): 0.012127, Colobus\_guereza: 0.015456): 0.005115, Colobus\_angolensis: 0.020571): 0.011779): 0.027446): 0.019137): 0.034913): 0.110917): 0.152306): 0.208320): 0.119624): 0.097418): 0.064265, (Lagomorpha: 0.851031, (Tupaia\_glis: 0.125509, Tupaia\_minor: 0.125509): 0.725522): 0.015664);

4. Newick timetree with independent rates and soft-bounded constraints. One unit = 100 million years.

(((Galeopterus\_variegatus: 0.117777, Cynocephalus\_volans: 0.117777): 0.677118, (((((Galago\_thomasi: 0.128137, (Galago\_demidoff: 0.125971, ((Galago\_matschiei: 0.022025, (Galago\_moholi: 0.007230, (Galago\_gallarum: 0.005977, Galago\_senegalensis: 0.005977): 0.001253): 0.014795): 0.079954, ((Galago\_orinus: 0.036275, (Galago\_granti: 0.011450, Galago\_zanzibaricus: 0.011450): 0.024825): 0.042659, ((Otolemur\_monteiri: 0.047559, (Otolemur\_crassicaudatus: 0.027925, Otolemur\_garnettii: 0.027925): 0.019634): 0.009439, (Galago\_gabonensis: 0.003143, Galago\_alleni: 0.003143): 0.053854): 0.021937): 0.023045): 0.023992): 0.002166): 0.099850, Euoticus\_elegantulus: 0.227987): 0.099641, (((Loris\_lydekkerianus: 0.003022, Loris\_tardigradus: 0.003022): 0.160722, (Nycticebus\_pygmaeus: 0.046885, (Nycticebus\_menagensis: 0.020397, (Nycticebus\_javanicus: 0.008682, (Nycticebus\_bengalensis: 0.002726, Nycticebus\_coucang: 0.002726): 0.005956): 0.011715): 0.026488): 0.116860): 0.141996, (Perodicticus\_potto: 0.178426, (Arctocebus\_calabarensis: 0.005874, Arctocebus\_aureus: 0.005874): 0.172552): 0.127314): 0.021888): 0.221472, (Daubentonia\_madagascariensis: 0.491954, (((Varecia\_rubra: 0.005666, Varecia\_variegata: 0.005666): 0.178755, ((Lemur\_catta: 0.056517, (Prolemur\_simus: 0.047452, (Hapalemur\_aureus: 0.026504, (Hapalemur\_occidentalis: 0.006834, (Hapalemur\_alaotrensis: 0.003560, (Hapalemur\_griseus: 0.002041, Hapalemur\_meridionalis: 0.002041): 0.001520): 0.003273): 0.019671): 0.020948): 0.009065): 0.103406, (((((Eulemur\_rufifrons: 0.012339, (Eulemur\_fulvus: 0.008420, (Eulemur\_albifrons: 0.005645, Eulemur\_sanfordi: 0.005645): 0.002774): 0.003919): 0.004223, ((Eulemur\_cinereiceps: 0.005648, Eulemur\_collaris: 0.005648): 0.008409, Eulemur\_rufus: 0.014057): 0.002505): 0.014921, Eulemur\_mongoz: 0.031482): 0.005049, ((Eulemur\_macaco: 0.005846, Eulemur\_flavifrons: 0.005846): 0.027108, Eulemur\_coronatus: 0.032954): 0.003577): 0.014022, Eulemur\_rubriventer: 0.050553): 0.109371): 0.024497): 0.113546, (((Phaner\_pallescens: 0.209337, ((((Lepilemur\_aeeclis: 0.023901, (Lepilemur\_randrianasoloi: 0.017868, (Lepilemur\_hubbardorum: 0.010052, Lepilemur\_ruficaudatus: 0.010052): 0.007817): 0.006033): 0.015606, (Lepilemur\_leucopus: 0.007583, Lepilemur\_petteri: 0.007583): 0.031924): 0.010532, ((Lepilemur\_microdon: 0.021514, (Lepilemur\_otto: 0.010652, (Lepilemur\_grewcockorum: 0.007388, Lepilemur\_edwardsi: 0.007388): 0.003263): 0.010863): 0.012926, (Lepilemur\_septentrionalis: 0.018626, ((Lepilemur\_ankaranensis: 0.009148, (Lepilemur\_tymerlachsoni: 0.007716, Lepilemur\_milanoii: 0.007716): 0.001432): 0.006158, ((Lepilemur\_mittermeieri: 0.011145, (Lepilemur\_sahamalazensis: 0.007184, Lepilemur\_ahmansoni: 0.007184): 0.003961): 0.003066, Lepilemur\_dorsalis: 0.014211): 0.001095): 0.003320): 0.015815): 0.015599): 0.022869, (Lepilemur\_seali: 0.042334, (Lepilemur\_wrighti: 0.027561, (Lepilemur\_fleuretae: 0.016283, 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5. RAxML phylogram based on the 61199 bp concatenation of 69 nuclear and ten mitochondrial genes.

(((Galeopterus\_variegatus:0.024460111494431558,Cynocephalus\_volans:0.028412268735723223):0.12855725393225897,(((((Galago\_thomasi:0.036201671626704734,(Galago\_demidoff:0.026373213854154254,((Galago\_matschiei:0.006489708261560256,(Galago\_moholi:0.0024117777747945657,(Galago\_gallarum:0.006699937316268334,Galago\_senegalensis:8.999445691542096E-4):0.00142009464768178):0.0112098033490306):0.013024142283295292,((Galago\_orinus:0.02123035351202862,(Galago\_granti:0.0015876667505905773,Galago\_zanzibaricus:0.004740002258704912):0.009330349877413269):0.004081089804949478,((Otolemur\_monteiri:0.006370278893536363,(Otolemur\_crassicaudatus:0.005226662541199856,Otolemur\_garnettii:0.003643459699747831):0.010280737628535375):0.003130098024309358,(Galago\_gabonensis:3.869519049293224E-6,Galago\_alleni:0.001488226250031477):0.015638862039821677):0.004884232320691295):0.001983765537270532):0.004872175440242654):7.25504053598891E-4):0.010419291890286064,Euoticus\_elegantulus:0.02781128270301636):0.022901086237258228,(((Loris\_lydekkerianus:3.869519049293224E-6,Loris\_tardigradus:3.869519049293224E-6):0.040226317557717994,(Nycticebus\_pygmaeus:0.013596357981513207,(Nycticebus\_menagensis:0.007265912929541207,(Nycticebus\_javanicus:0.003365266316823101,(Nycticebus\_bengalensis:6.019772570287074E-4,Nycticebus\_coucang:8.020248447127565E-4):0.0014388099702713486):0.002442779298310438):0.008213559297947426):0.026425721927252066):0.02708288516494739,(Perodicticus\_potto:0.033709122727562546,(Arctocebus\_calabarensis:3.869519049293224E-6,Arctocebus\_aureus:8.903661082684811E-4):0.044521284847671094):0.028234269516780652):0.00439772630113916):0.10865772755783282,(Daubentonia\_madagascariensis:0.07498935424376574,(((Varecia\_rubra:0.0026255285012658502,Varecia\_variegata:0.0017710598812168965):0.031460949456281195,((Lemur\_catta:0.013227228720332218,(Prolemur\_simus:0.01607963294950787,(Hapalemur\_aureus:0.010830532493154077,(Hapalemur\_occidentalis:0.0025754895708267056,(Hapalemur\_alaotrensis:2.284210796829611E-4,(Hapalemur\_griseus:3.869519049293224E-6,Hapalemur\_meridionalis:0.013562508922382976):0.0015225444618189865):0.0012509859101434428):0.008817150433806265):0.004630429239763922):0.0014524324379868725):0.016134395673688073,(((((Eulemur\_rufifrons:0.0023617477813132615,(Eulemur\_fulvus:0.0014371252009461877,(Eulemur\_albifrons:0.0011909751139957403,Eulemur\_sanfordi:0.0019982037679092124):6.513740465649009E-4):9.271674812598718E-4):8.04056694069355E-4,((Eulemur\_cinereiceps:0.002316397920177793,Eulemur\_collaris:0.0014144620668898322):0.0027034340150114966,Eulemur\_rufus:0.0027107900961115816):6.874427962038632E-4):0.003941594832844231,Eulemur\_mongoz:0.008703312834016097):0.0014081073763704821,((Eulemur\_macaco:0.002564187470257273,Eulemur\_flavifrons:0.0032062684101942796):0.006232548275228511,Eulemur\_coronatus:0.009291419833456549):0.0014306495710285638):0.0021440287675187353,Eulemur\_rubriventer:0.009334161858743861):0.01657453315756824):0.006274290188726328):0.01746604814590963,(((Phaner\_pallescens:0.06102841467618281,((((Lepilemur\_aeeclis:0.011442698338215374,(Lepilemur\_randrianasoloi:0.0045503245596650865,(Lepilemur\_hubbardorum:0.0071108625853908425,Lepilemur\_ruficaudatus:0.002451075113619583):0.001974751247387274):0.0020705631557333404):0.004648381711761684,(Lepilemur\_leucopus:0.0011841874524946006,Lepilemur\_petteri:0.002440875901826789):0.01279036859654853):0.0028460687447241506,((Lepilemur\_microdon:0.0071346589783709,(Lepilemur\_otto:0.003288441124635666,(Lepilemur\_grewcockorum:0.00305808906283489,Lepilemur\_edwardsi:0.0014527235296662444):4.634290427867338E-4):0.006032948816871719):0.0028889929366331946,(Lepilemur\_septentrionalis:0.007982004488058803,((Lepilemur\_ankaranensis:0.0012657006094698442,(Lepilemur\_tymerlachsoni:0.003455421305870232,Lepilemur\_milanoii:0.002033664242216071):5.799020931804844E-4):0.0021473550916266126,((Lepilemur\_mittermeieri:0.0044797735755287005,(Lepilemur\_sahamalazensis:0.003141430143690227,Lepilemur\_ahmansoni:0.003488337708585032):0.0013125145660095039):0.0012808352859899896,Lepilemur\_dorsalis:0.004285183125797121):4.118651054064726E-4):0.0037104283471069976):0.004128912332315937):0.0037013651917697787):0.008478864568596312,(Lepilemur\_seali:0.01624468497498477,(Lepilemur\_wrighti:0.008350195716025688,(Lepilemur\_fleuretae:0.005322677673635923,(Lepilemur\_mustelinus:0.005406781318979426,(Lepilemur\_betsileo:9.154180857975369E-4,Lepilemur\_jamesorum:0.0026826192945244576):8.380883228578662E-4):0.0015202990871979183):0.004064695653432149):0.0032643031233591246):0.008099740635124808):0.033554336236647164):0.004478277693704791,((Allocebus\_trichotis:0.026274161120755812,((Mirza\_coquereli:0.0011880219879467635,Mirza\_zaza:4.688145787035136E-4):0.0340162260120776,((Microcebus\_griseorufus:0.00986330337964142,Microcebus\_murinus:0.011004217050325116):0.005387323074369954,(((Microcebus\_macarthurii:0.00530179849397544,Microcebus\_sp\_nova3Radespiel08:0.0060244826644440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6. RAxML phylogram based on ten mitochondrial genes.

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7. RAxML phylogram based on 69 nuclear genes.

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