

Table S2. Species in our dataset of extinct Holocene mammals that are absent from the phylogeny taken from Faurby et al. (2018) PHYLACINE 1.2: The Phylogenetic Atlas of Mammal Macroecology. *Ecology*, 99(11):2626.

"Bison_priscus"
 "Bubalus_cebuensis"
 "Bubalus_mephistopheles"
 "Caprinae_gen._et_sp._nov"
 "Capromys_sp._nov."
 "Geocapromys_sp._nov._B"
 "Hyperplagiodontia_araeum"
 "Macrocapromys_acevedo"
 "Macrocapromys_latus"
 "Mesocapromys_kraglievichi"
 "Plagiodontia_velozi"
 "Muntiacus_gigas"
 "Ekbletomys_hyphenemus"
 "Megalomys_curazensis"
 "Microtus_melitensis"
 "Microtus_sp._nov."
 "Nesoryzomys_sp._nov._A"
 "Oryzomyini_(Anguilla_Bank_islands)"
 "Oryzomyini_(Bonaire)"
 "Oryzomyini_(Grenada_1)"
 "Oryzomyini_(Grenada_2)"
 "Oryzomyini_(Guadeloupe,_La_Desirade)"
 "Oryzomyini_(Marie_Galante)"
 "Oryzomyini_(Montserrat_1)"
 "Oryzomyini_(Montserrat_2)"
 "Oryzomyini_(Saba)"
 "Peromyscus_anyapahensis"
 "Thomasomys_sp._nov."
 "Brotomys_contractus"
 "Clyomys_riograndensis"
 "Dicolpomys_fossor"
 "Euryzygomatomys_mordax"
 "Puertoricomys_corozalus"
 "Equus_algericus"
 "Equus_mauritanicus"
 "Boryptera_alba"
 "Eliomys_(Maltamys)_wiedincitensis"
 "Clidomys_osborni"
 "Elasmodontomys_obliquus"
 "Hippopotamus_laloumena"
 "Phanourios_minor"
 "Hipposideros_besaoka"
 "Triaenops_goodmani"
 "Hipposideridae_gen._et_sp._indet."
 "Thylogale_sp._nov."
 "Acratocnus_antillensis"
 "Acratocnus_simorhynchus"
 "Neocnus_gliriformis"
 "Paulocnus_petrifactus"
 "Pteronotus_pristinus"
 "Pteronotus_sp._nov."
 "Apodemus_sp._nov."
 "Lenomys_sp._nov."
 "Melomys_spechti"
 "Melomys/Pogonomelomys_sp._nov._A"
 "Melomys/Pogonomelomys_sp._nov._B"
 "Meriones_malatestai"

"Muridae_gen._nov._1,_sp._nov._A"
"Muridae_gen._nov._1,_sp._nov._B"
"Muridae_gen._nov._1,_sp._nov._C"
"Muridae_gen._nov._2,_sp._nov._A"
"Muridae_gen._nov._2,_sp._nov._B"
"Muridae_gen._nov._2,_sp._nov._C"
"Muridae_gen._nov._3,_sp._nov._"
"Muridae_gen._nov._4,_sp._nov._A"
"Muridae_gen._nov._4,_sp._nov._B"
"Mus_minotaurus"
"Mus_sp._nov._"
"Rattus_sp._nov._A"
"Rattus_sp._nov._B"
"Brachytarsomys_mahajambaensis"
"Nesomys_narindaensis"
"Nesophontes_sp._nov._B"
"Mesopropithecus_dolichobrachion"
"Palaeopropithecus_kelyus"
"Peramelidae_gen._et_sp._nov._"
"Cubanycteris_silvai"
"Phylloderma_sp._nov._"
"Phyllops_vetus"
"Tonatia_sp._nov._"
"Paralouatta_varonai"
"Plesioxycteropus_germainepetterae"
"Rodentia?_gen._et_sp._nov._"
"Tainotherium_valei"
"Solenodon_arredondoii"
"Asoriculus_(=Nesiotites)_corsicanus"
"Crocidura_balsamifera"
"Thylacinus_sp._?nov._"
"Vespertilionidae_gen._et_sp._indet._"