**Notes:**

- In Borths et Stevens 2017aa = <Parent>Borths\_et\_Seiffert\_2017aa</Parent>, but we don’t have that parent matrix, so I’m changing the parent to Borths etal 2016aa

\*\* = denotes that the XML is not in the ‘completely resolved OTU’ folder on dropbox

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*…..** = seperates ‘families’ of matrices

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Averianov etal 2018aa**

parent: Mihlbachler & Samuels 2016aa

**Mihlbachler & Samuels 2016aa**

parent: Mihlbachler 2011aa

**Mihlbachler 2011aa**

parent: Mihlbachler 2008aa and others

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Williamson et Brusatte 2013aa**

parent: Rook et Hunter 2011aa

**Williamson et Brusatte 2013ab**

parent: Rook et Hunter 2011aa

**Rook et Hunter 2014aa**

parent: Rook et Hunter 2011

**Rook et Hunter 2011aa**

parent: none

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Borths etal 2019ab**

parent: Borths etal 2016aa

**Borths etal 2019aa**

parent: Borths etal 2016aa

**Dubied etal 2019aa**

parent: Borths etal 2019aa

**Borths et Stevens 2017aa**

parent: Borths\_etal\_2016aa

\*parent is actually Borths \_et\_ Seiffert\_2017aa, but we don’t have that matrix

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Bloch etal 2016aa**

parent: Silcox etal 2010aa

**Silcox etal 2010aa**

parent: Silcox 2008aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Han et Meng 2016aa**

parent: Sweetman 2008aa

parent: Li & Luo 2006

**Bi etal 2016aa**

parent: Sweetman 2008

**Sweetman 2008**

parent: Li & Luo 2006

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Spaulding et Flynn 2012aa**

PM 3868

parent: WesleyHunt et Flynn 2005aa

**Zack 2019aa**

OG Dummy

CM 2386

parent: Spaulding et Flynn 2012aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Averianov etal 2015aa**

parent: Averianov etal 2014aa

**Averianov etal 2014aa**

parent: Averianov etal 2013aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Averianov et Archibald 2016aa.xml**

Microgale spp

….not in PBDB, but also there are a lot of species (21)

parent: Manz et al 2015aa

**\*\*Manz etal 2015aa.xml**

Microgale

….not in PBDB, but also there are a lot of species (21)

parent: Wible et al. 2009

**Archibald et Averianov 2012ab**

parent: Wible etal 2007 & **2009**

**deMuizon etal 2015aa**

parent: Wible etal 2009aa

**Halliday etal 2017aa**

parent: Williamson et al 2011

**\*\*Williamson etal 2011aa**

Cimolestidae\_gen\_et\_sp\_undet

parent: **Wible et al 2009** and Zack 2009

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Close etal 2016aa**

Tritylodontids

Plagiaulacids

Cimolodontans

parent: Zhou et al. 2013

parent: Lou

**\*\*Martin etal 2015ab**

Tritylodontids

Plagiaulacids

Cimolodontans

parent: Zhou etal 2013aa

**\*\*Huttenlocker etal 2018a**

Tritylodontids

Plagiaulacids

Cimolodontans

parent: Luo etal 2015aa

**\*\*Mao etal 2020a**

Tritylodontids

Plagiaulacids

Cimolodontans

parent: Han etal impressb

**\*\*Zhou etal 2013aa**

Tritylodontids

Plagiaulacids

Cimolodontans

parent: Luo etal 2015aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Close etal 2016ab**

Tritylodontids

Tritheledontids

parent: Rougier etal 2011aa

**\*\*Rougier etal 2012aa**

Tritylodontids

Tritheledontids

parent: Rougier et al 2011aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Wilson etal 2016a**

Amphitherium et Dryolestidae

Gurlin Tsav Skull

Borhyaenids

Dasyurids

Leptictids

Mimo Peradectes

parent:

Rougier etal 2015

**\*\*Rougier etal 2015**

Amphitherium et Dryolestidae

GurlinTsavSkull

Borhyaenids

Dasyurids

Leptictids

parent: Rougier etal 2004

**Rougier etal 2004**

Borhyaenids

Dasyurids

Leptictids

UA\_4085b

parent: **Rougier et al. (1998**) & Wible et al. (2001, 2004)

**\*\*Bi etal 2015aa.xml**

Amphitherium et Dryolestidae

GurlinTsavSkull

Borhyaenids

Borhyaenids

Leptictids

parent: Rougier etal 2015

**\*\*Kramarz etal 2017ab**

Puelia

UFRJ DGpetrosals

**parent:** Billet et al. 2015

**\*\*Ni etal 2016aa**

Amphitherium

Gurlin

Borhyaenids

Dasyurids

Leptictids

parent: Rougier et al. 2015

parent: Rougier 2004

**Kramarz etal 2017ac**

parent: de Muizon et al. 2015 and Billet et al. 2015

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Kramarz etal 2017aa**

parent: Kramarz & Bond 2009

**Kramarz et Bond 2011aa**

parent: Kramarz & Bond 2009

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Asher etal 2019aa**

Lemurida

**parent:** Asher etal 2005aa

**Asher etal 2005aa**

parent: Meng etal 2003aa

**Wible etal 2005aa**

parent: Meng etal 2003aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Beck 2017aa**

Phalanger

Peradectidae

parent: Beck et al 2014aa

**\*\*Beck 2017ab**

Phalanger

Peradectidae

parent: Beck et al 2014aa

**\*\*Maga et Beck 2017aa**

Phalanger

Peradectidae

parent: Beck etal 2016aa

parent: Beck etal 2014aa

**\*\*Beck etal 2016aa**

Phalanger

Peradectidae

parent: Beck etal 2014aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Tissier etal 2018aa**

Paramynodon\_birmanicus

parents: Antoine 2002 and Antoine et al. 2010

**Wang etal 2016aa**

parent: Antoine etal 2010aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*Averianov etal 2018aa**

Eotitanops

parent: Mihlbachler & Samuels 2016aa

**Mihlbachler & Samuels 2016aa**

parent: Mihlbachler 2011aa

**Mihlbachler 2011aa**

TMM\_41723\_dash\_3

Protitanotherium\_emarginatum\_sensu\_lato

parent: Mihlbachler\_2008aa

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**matrices not part of a family:**

**\*\*Gunnell et Simmons 2005aa**

New Green River Bat

Craseonycteridae

Nycteridae

Megaderrnatidae

Myzopodidae

Furipteridae

Antrozoidae

Tornopeatinae

Vespertilioninae

Minopterinae

Myotinae

Murininae

Kerivoulinae

parent: Simmons et Geisler 2002aa

**\*\*Hooker 2014aa**

Outgroup

Zhelestidae

Zalambdalestidae

Prodiacodon and Palaeictops

Soricidae

Micromomyidae

Cantius\_et\_Notharctus

parent: none

**Martinez-Caceres etal 2017aa**

MUSM 1917

ChM PV 5720

parent: none

**\*\*Pattinson etal 2015aa**

Taqah = Taqah\_propliopithecid?

parent: Seiffert et al. 2009; Springer et al. 2012

**\*\*Rana etal 2015aa**

African Sinopa

parents: Sole 2013 and Sole et al. 2014, supplemented with characters from Polly 1996

**Seiffert etal 2018aa**

parent: Boyer etal 2016aa

parent: Seiffert et al. 2005

**Spaulding etal 2009aa**

parent: O'Leary & Gatesy 2008

**Tomiya 2011aa**

parent: Spaulding etal 2010aa

**\*\*Carneiro 2018a**

Caenolestes spp:

….no subtaxa in pbdb**…..**Caenolestes fuliginosus is mentioned in paper

parent: none

**Jaeger etal 2019aa**

parents:Chaimanee et al. 2012 and 2013

**Lambert etal 2019aa**

ChM PV6950

MUSM 1443

parent:Gibson etal 2018

**deMuizon etal 2019aa.xml**

ChM PV4745

ChM PV5720

parent:Fordyce et Marx 2018aa

**Barrett 2016aa**

parent: Peigne 2003

**deMuizon etal 2018aa**

parent: Forasiepi etal inpressaa

**Archibald et Averianov 2012aa**

parent: none

**Martin etal 2015aa**

parent: Gaetano et Rougier 2011aa

**McComas et Eberle 2016aa**

parent: 9 different studies

**Mennecart et Metais 2015aa**

parent: none

**Metais 2006aa**

parent: none

**Morlo et Gunnell 2003aa**

parent: none

**Ni etal 2009aa**

parent: probably Ni et al. 2004

**Ni etal 2016ba**

parent: Ni et al. 2013aa

**OLeary etal 2013aa**

parent: none

**Peigne 2003aa**

parent: Bryant 1996aa

**Li et Meng 2015aa**

parent: Characters were taken from multiple previous sources or are new

**Zack et al 2019ab**

OG dummy

parent: Tabuce etal 2011aa

**Bai etal 2018aa.xml**

parent: none

**\*\*Remy etal 2019aa.xml**

Hyracotherium levei

Hyracotherium remyi

Pachynolophus

Lophiotherium

Orolophus\_maldani: has PBDB taxon no. 425206, but ‘Orolophus’ is an orphan and you can’t look up Orolophus\_maldani on the PBDB website (only using the R code)

- currrently in XML = “Delete” & “-1”

parent: Remy 2017aa

**DeBast etal 2018aa**

parent:Boyer et al. **2012a** and 2012b

**DeBast et Smith 2013aa**

parent: Williamson and Carr (2007)

**Bertrand etal 2020aa**

UFRJ DG

MNHN F BRD

Reconstructed\_Placental\_Ancestor

parent: Macrini etal 2013aa

**\*\*Krause etal 2020aa**

Guimarota paulchoffatiidae:

….not a real taxa (paulchoffatiidae = family), only 1 subtaxa of Guimarota in PBDB which is in order Eupantotheria (no family listed), the genus Guimarotodon (one species = Guimarotodon leiriensis) is within paulchoffatiidae in PBDB so maybe they meant that genus?

parent: Hoffman (2016, dissertation)

**\*\*Zack et al 2019aa**

Protolipternidae

parent: none

**Eberle etal 2019aa.xml**

Eurotherium\* didn’t know exactly so included all 3 species

Allopterodon\* didn’t know exactly so included all 3 species

parent: Williamson et al. 2014

**Ahrens 2017aa**

parent: none

**Bi etal 2018aa**

parent: none

**Egi etal 2005a**

parent: Barry 1998 and Holroyd 1994

**Giannini et GarciaLopez 2014aa**

parent: Billet 2010

**Averianov 2020aa**

parent: none

**\*\*Ravel etal 2015aa.xml**

Myotis\_capaccinii

Pipistrellus\_kuhli

Tadarida\_aegyptiaca

Molossus\_molossus

Natalus\_tumidirostris

parent: none

**Scott 2010aa**

parent: none

**Sole etal 2014aa**

parent: Sole 2013 and others

**Sole etal 2018aa**

parent: none

**Weppe etal 2019aa**

parent: none