

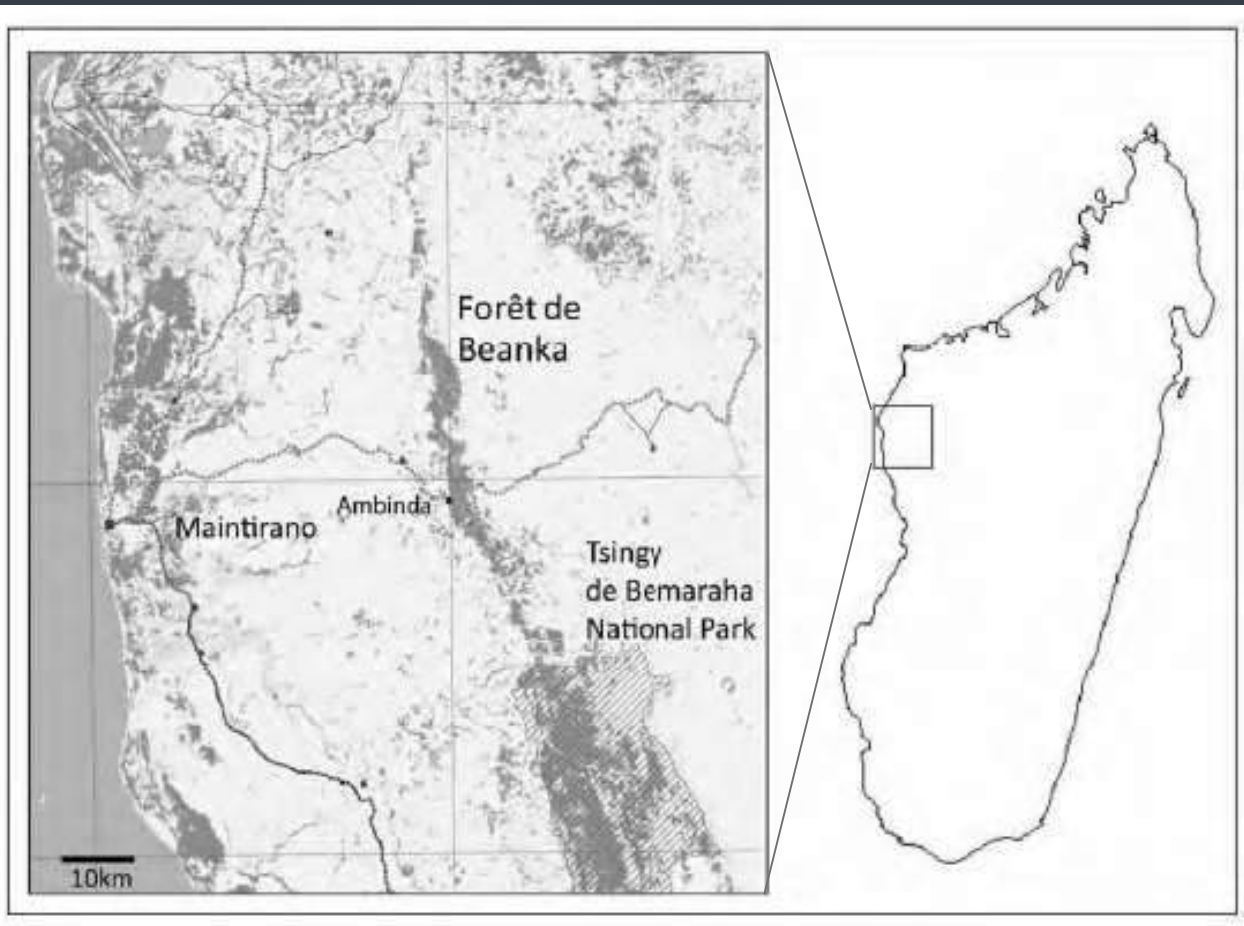
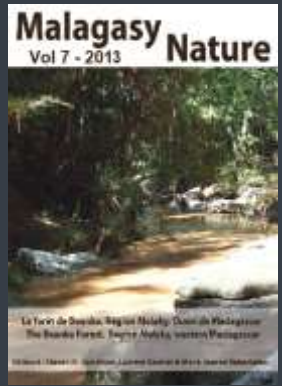
# *Living and Extinct Lemurs of Beanka, Western Madagascar: 2015 Expedition*

WL Jungers, LR Godfrey, SM Goodman,  
DA Burney, BE Crowley, OL Griffiths,  
JP Hume, R Andrianaivoarivelo



# Beanka Protected Area

District of Maintirano (170 km<sup>2</sup>)



Scientific Director: Dr. Radosoa Andrianaivoarivelo  
Managed by Biodiversity Conservation Madagascar

# Extant Lemurs of the Beanka Forest

*Microcebus cf. myoxinus*  
*Cheirogaleus cf. medius*  
*Phaner pallescens*  
*Mirza* sp.  
*Propithecus deckenii*  
*Avahi cf. cleesei*  
*Eulemur rufus*  
*Haplemur griseus*  
*Lepilemur cf. randrianasoloi*  
*Daubentonia madagascariensis*

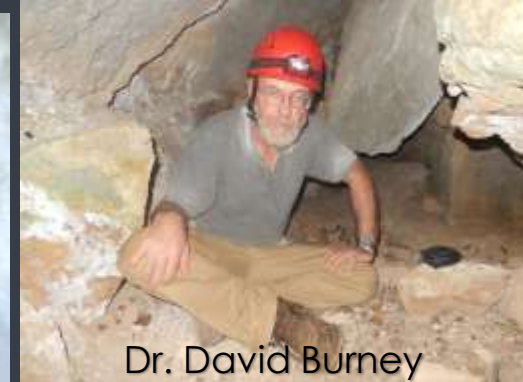
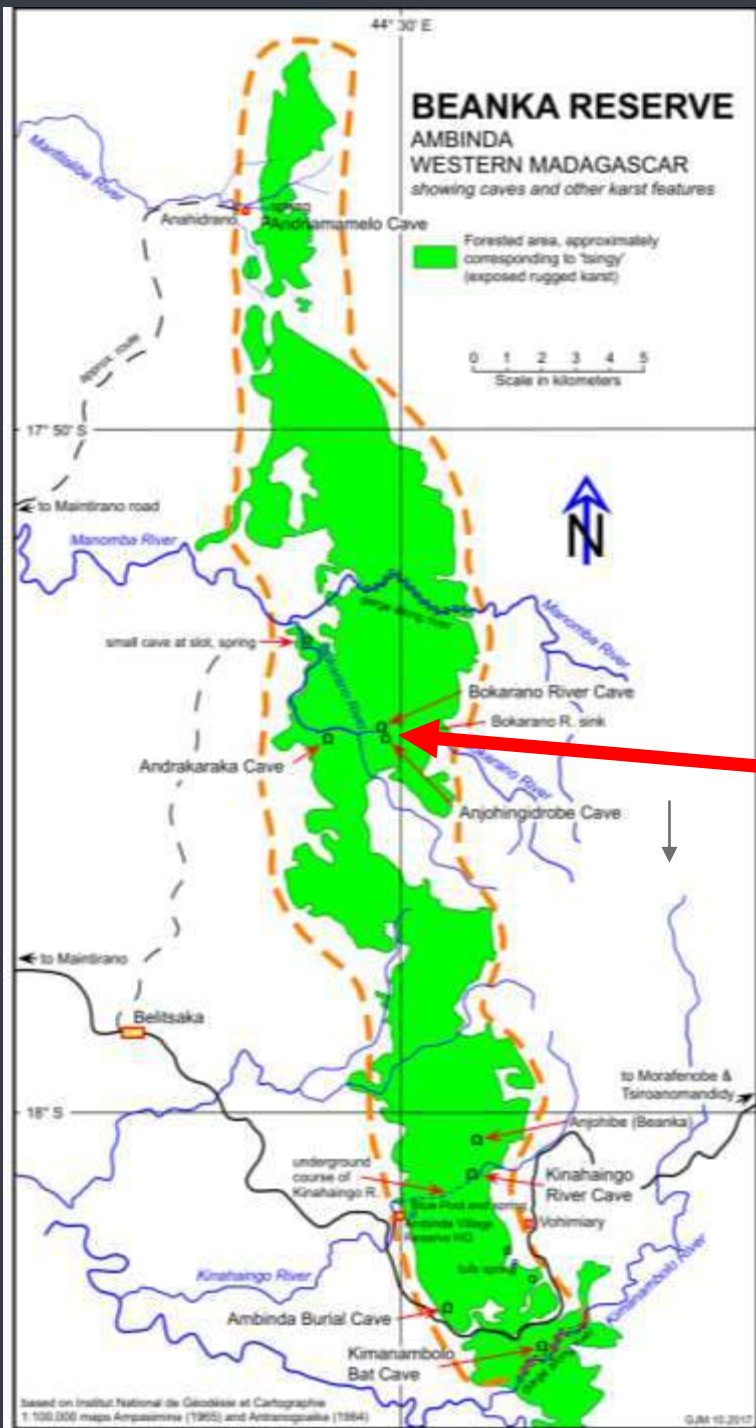
Modified from Dammhahn *et al.* (2013). Lemurs of the Beanka Forest, Melaky Region, western Madagascar. *Malagasy Nature*, 7: 259-270.



Photographs by Burney



Photographs by Dammhahn



Anjohingidrobe, Anjohimaletsy, & Bokarano River Cave





**BONES!**



# EXTINCT (SUBFOSSIL) NONPRIMATE MAMMALS FROM BEANKA

- ORDER CARNIVORA

*CRYPTOPROCTA SPELEA* ("GIANT FOSA")

- ORDER AFROSORICIDA

*PLESIORYCTEROPUS* SP. ("MALAGASY ANTEATER")

# Primate “Subfossil” List

Archaeolemur cf. edwardsi

Babakotia radofilai

Palaeopropithecus kelyus

*Cheirogaleus medius*

cf. *Cheirogaleus* ?

*Eulemur cf. rufus*

*Eulemur cf. mongoz* ?

*Hapalemur cf. griseus*

*Hapalemur (Prolemur) simus*

*Microcebus cf. myoxinus*

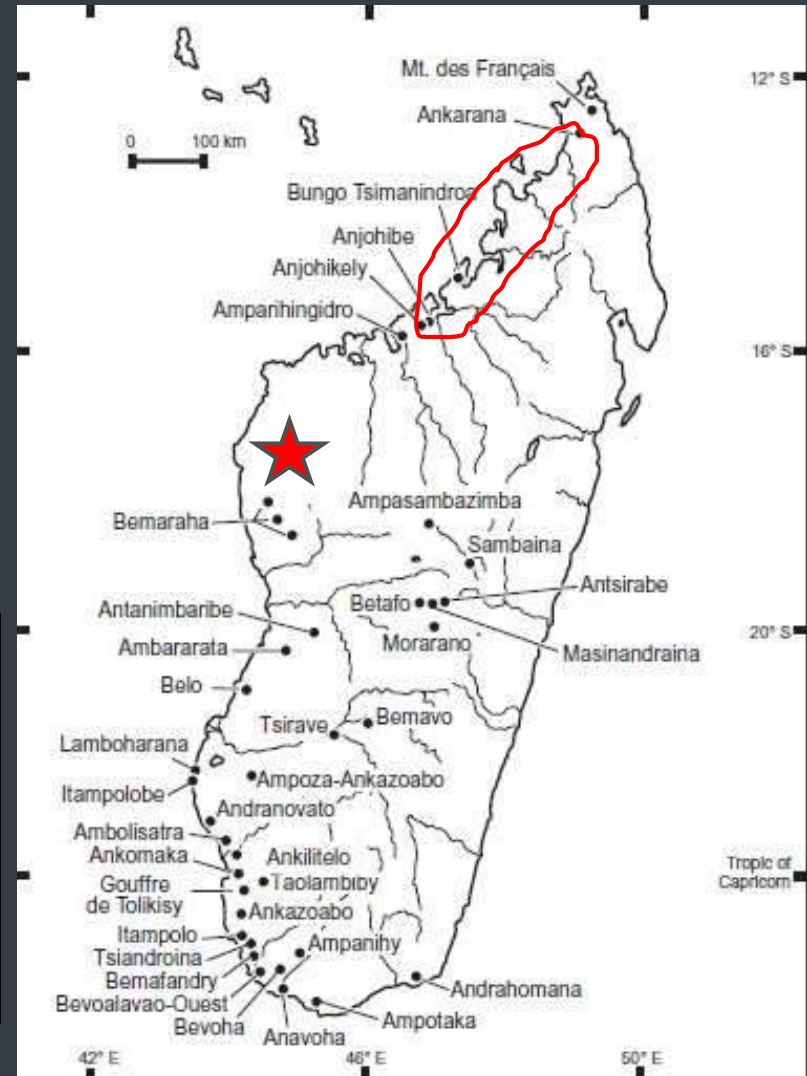
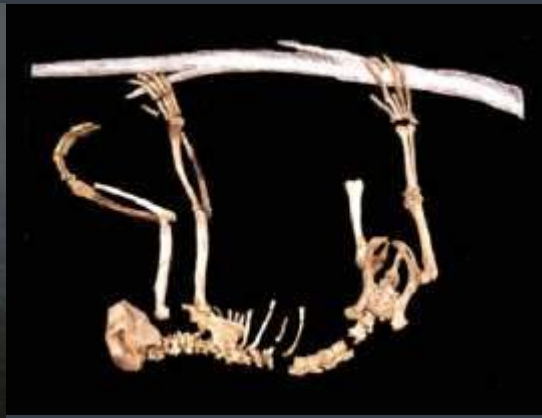
*Propithecus cf. deckenii*

extinct

locally extinct

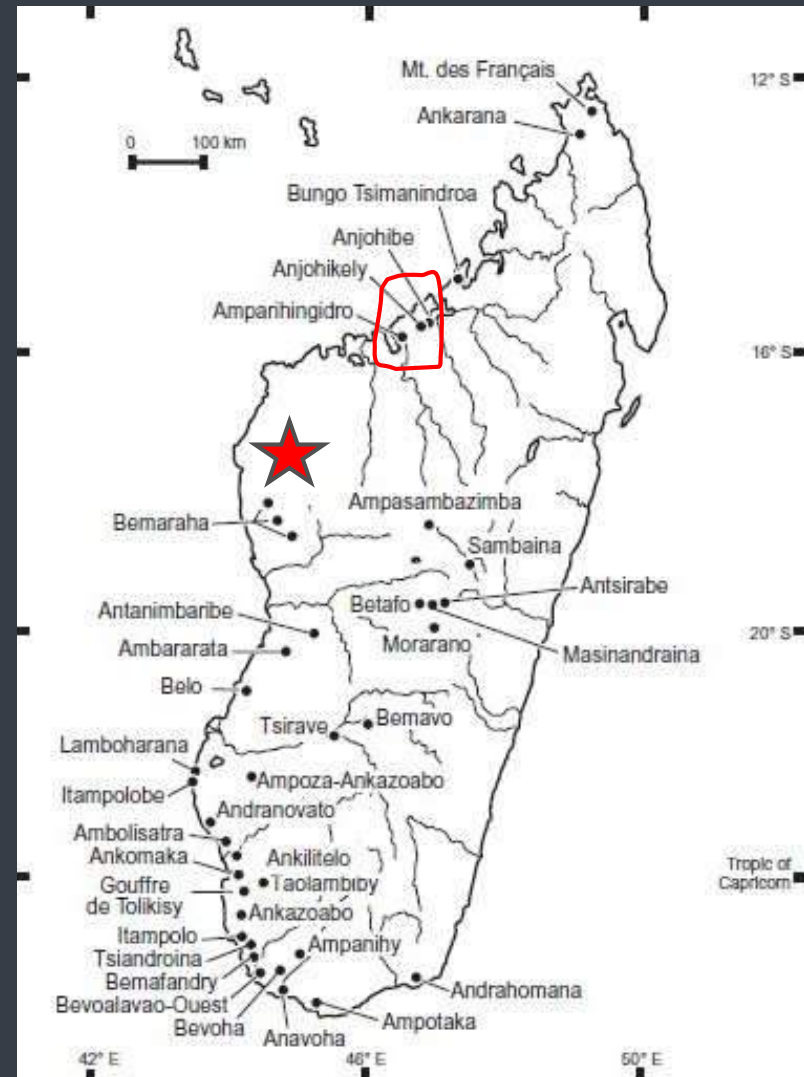
# Beanka is a Southwesterly Range Extension for *Babakotia radofilai*

Known localities for *Babakotia radofilai* prior to Beanka discoveries: Ankarana, Anjohibe



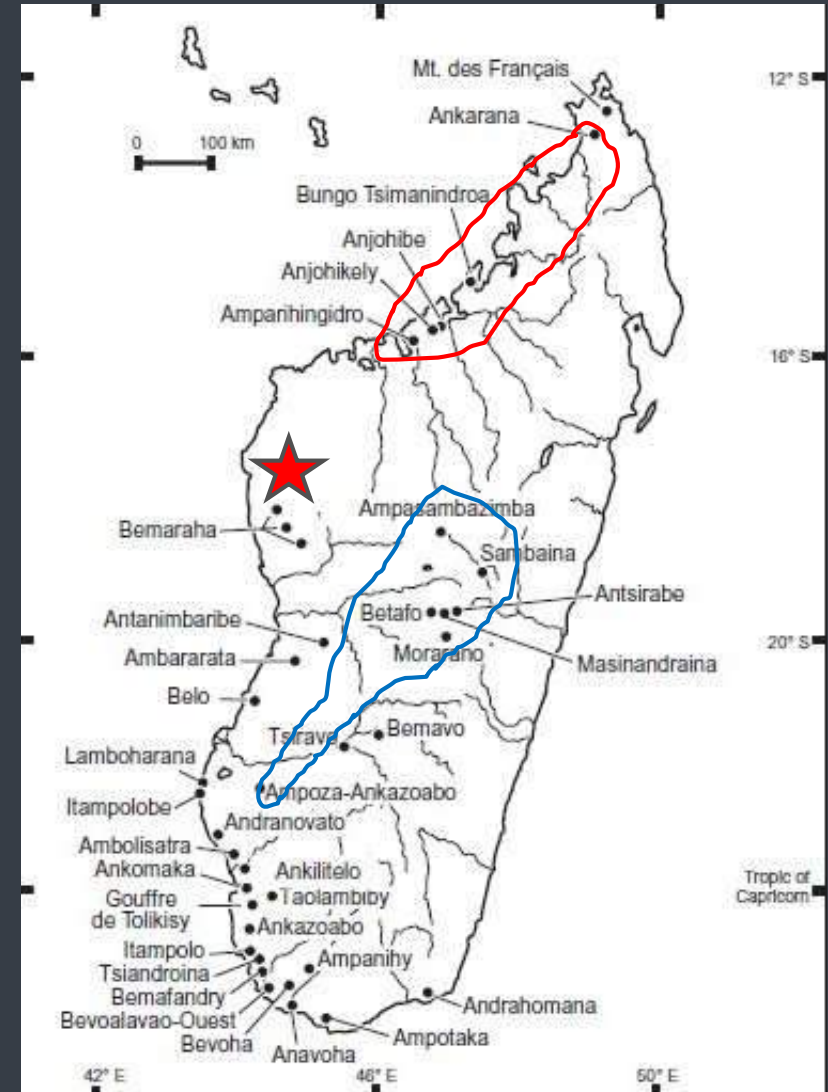
# Beanka is a Southwesterly Range Extension for *Palaeopropithecus kelyus*

Known localities for  
*Palaeopropithecus kelyus*  
prior to Beanka discoveries:  
Belobaka, Anjohibe,  
Ambongonambakoa,  
Amparihingidro



# Beanka is a (South)Westerly Range Extension for *Archaeolemur cf. edwardsi*

- *Archaeolemur edwardsi* sensu stricto  
→ mostly High Plateau localities  
(e.g., Ampasambazimba, Morarano-Betafo, Masinandrana, Ampoza).
- *Archaeolemur cf. edwardsi* localities  
in the N and NW (e.g., Ankarana,  
Anjohibe, Amparihingidro)

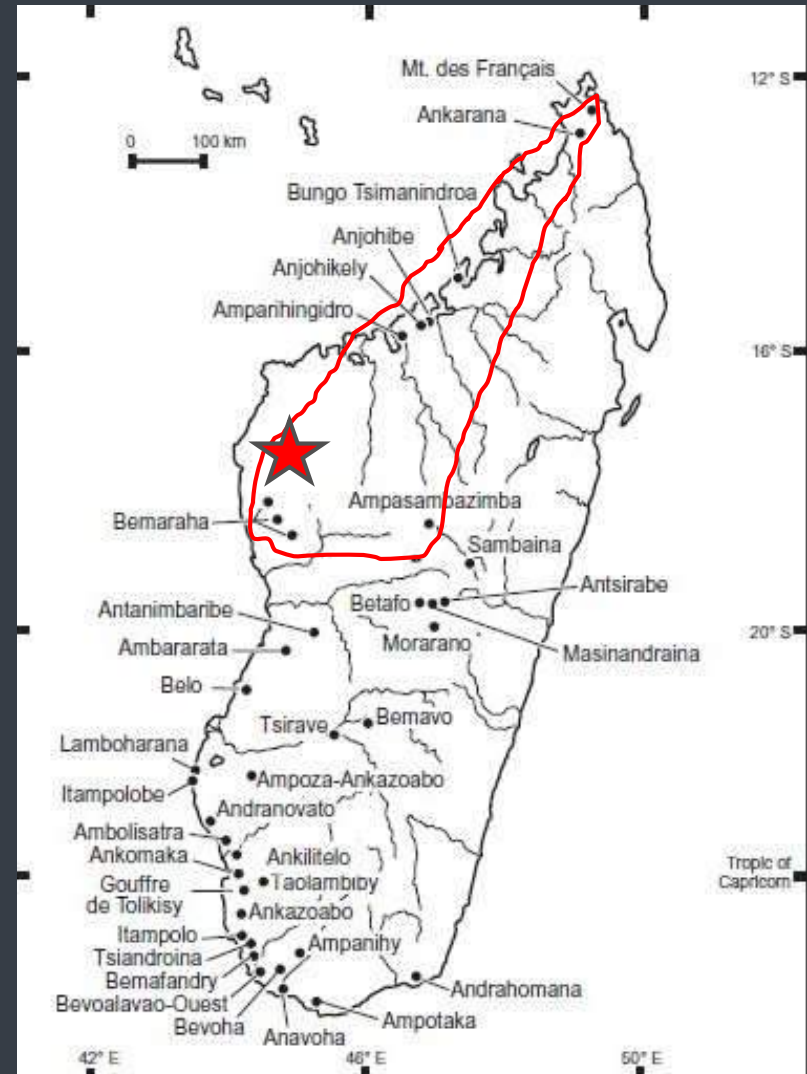


# Beanka *Haplemur (Prolemur) simus* within Geographic Envelope of Other Subfossil Sites








Known subfossil localities for *Haplemur (P.) simus* prior to Beanka discoveries:  
Ampasambazimba, Ankarana, Mt. des Francais, Anjohibe, Tsingy of Bemaraha Godfrey *et al.* (2004)




Rakotonirina *et al.* (2011)



# Unpublished Radiocarbon Dates for Beanka Subfossils

Taxon	Tooth or bone	Element	Mean Calibrated Years BP $\pm 1s$	
<i>Archaeolemur</i>	Bone	R distal ulna	2260 $\pm 85$	
<i>Archaeolemur</i>	Tooth	R lower lateral incisor	1332.5 $\pm 27.5$	
<i>Babakotia</i>	Bone	proximal phalanx	1022.5 $\pm 42.5$	
<i>Babakotia</i>	Bone	proximal phalanx	1080 $\pm 95$	
<i>Babakotia</i>	Bone	proximal phalanx	1022.5 $\pm 42.5$	
<i>Babakotia</i>	Bone	proximal phalanx	1972.5 $\pm 42.5$	
<i>Babakotia</i>	Bone	proximal phalanx	1007.5 $\pm 47.5$	

 Megafaunal decline underway.

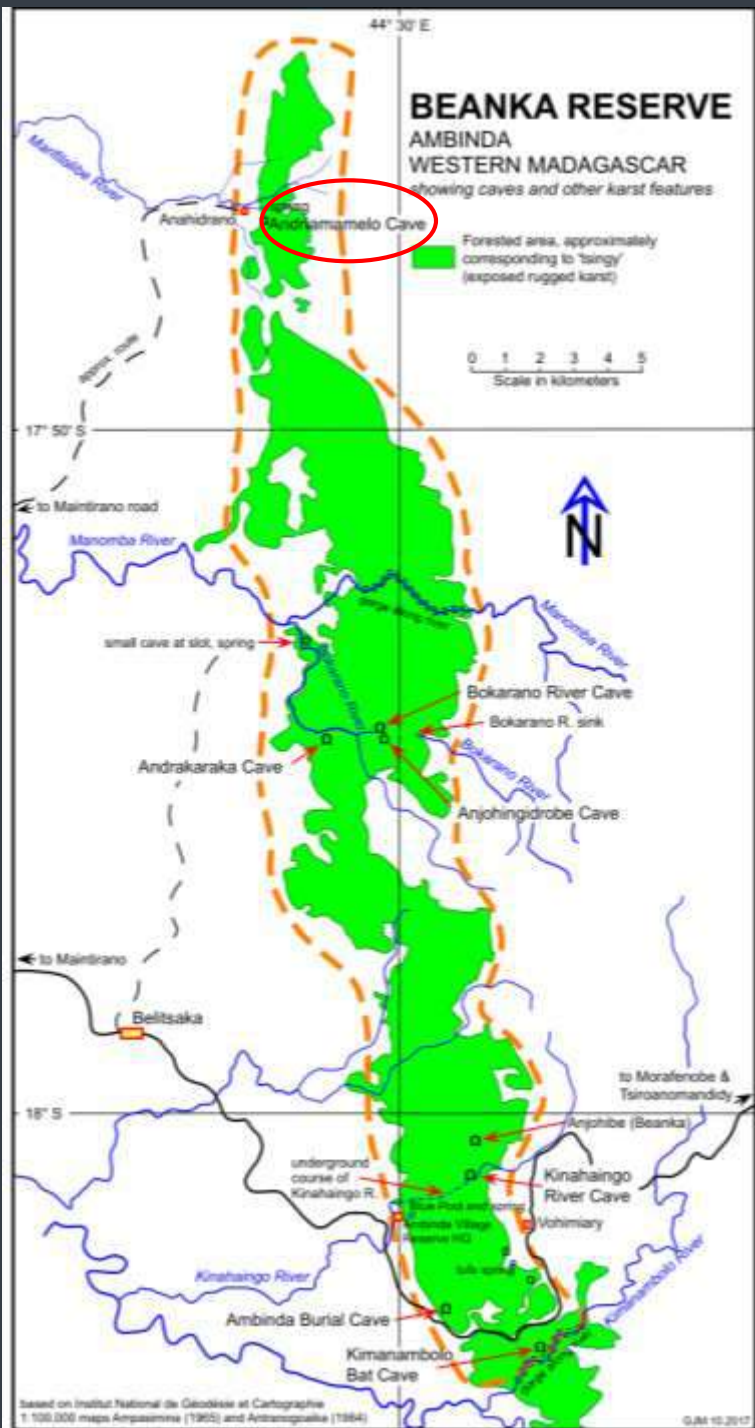
 Well within temporal range for human occupation.

# *Plesiorycteropus* was butchered at Beanka!



chopped sacrum

Mass estimated at 6 – 18 kg by MacPhee (1994).



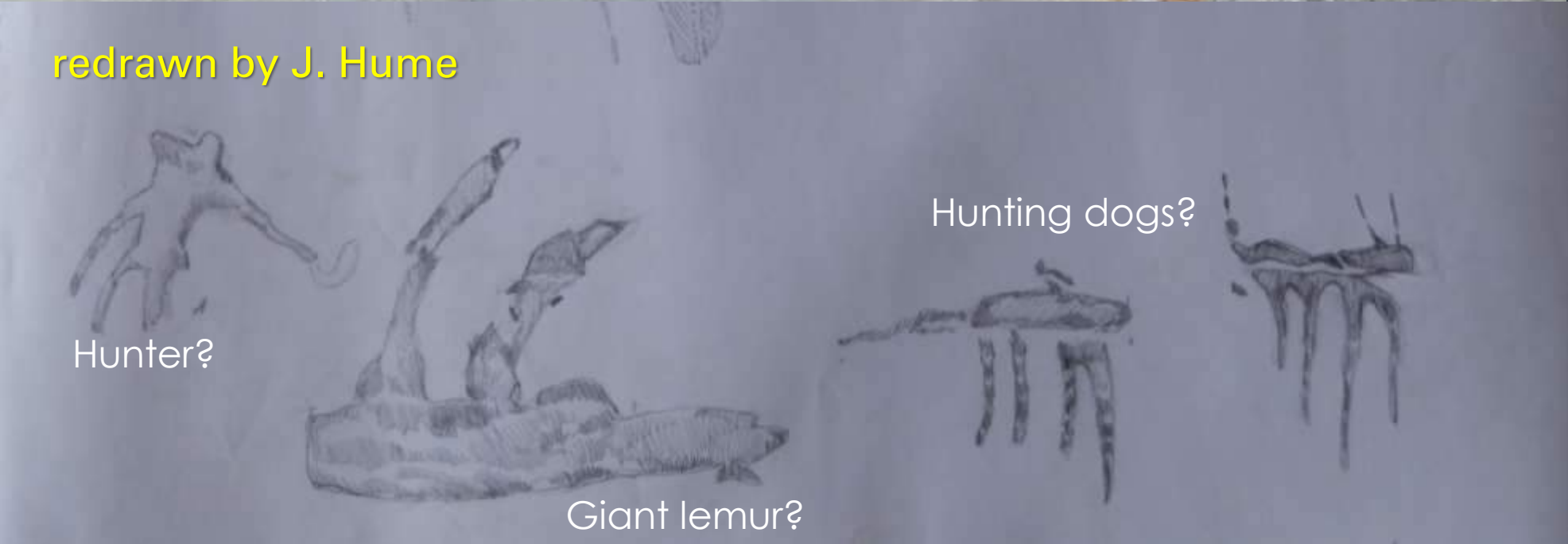
# Cave Art: The "Kill Scene" from Andriamamelolo Cave



original cave art  
(charcoal)



redrawn by J. Hume



Hunter?

Giant lemur?

Hunting dogs?

# The Vertebrate Community of Beanka in the Recent Past



JP Hume

+ 1 (humans!)



# TEAM BEANKA





Thank You for  
Your Attention



MISAOTRA BETSAKA

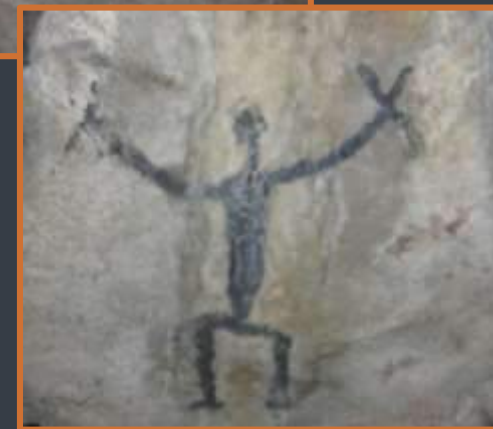




Andriamamelo Cave,  
Madagascar



Bornean Rock Art  
ca. 2000 yr BP  
(Hoerman, pers.comm.)



# Les Peintures Rupestres du Makay



© Naturevolution





eagle  
coprolite?

*Stephanoaetus mahery* grabs *Palaeopropithecus*

From Extinct Madagascar by Goodman & Jungers (2014).

Artwork by Velizar Simeonovski