

ANTH 42

Lect 15

Guenons, SIV,
conservation, and
macaques & baboons
(yes, we're behind)

Quiz clock

Minutes remaining: **ONE**

30 sec ...

5 4 3 2

A fast overview of HIV/SIV

Viral clades
correlated with
primate clades.
Note colobus
(top) and
talapoin (upper
right); rest
guenons.

But not
perfectly.
Mandrill

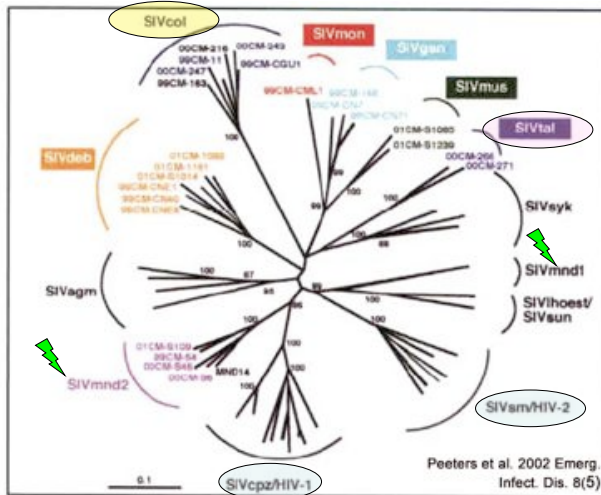


Figure 2. Identification of diverse *Simian immunodeficiency virus* (SIV) lineages in primate bushmeat. A 650-bp *pol* fragment was amplified from monkeys representing seven primate species, sequenced, and subjected to phylogenetic tree analysis by the neighbor-joining method.



SIV --> HIV:
“cut hunter”



If natural process, why
never in millennia, then
>10 times in <50 years?
So requires “why now”
term; multiple theories,
check my publications
page if interested.

Emerging viruses:
adaptive radiation
into new hosts (us).
SARS, Ebola?,
HIV...



The bushmeat trade/crisis

Wildlife (including apes) is traditionally eaten in Central Africa. Killing and butchery creates ample potential for blood-blood contact.



Photo courtesy of Paul Telfer



Traditional use

Globalization



The bushmeat trade/crisis

New & recombinant viruses... ?

The crisis: commercialization.

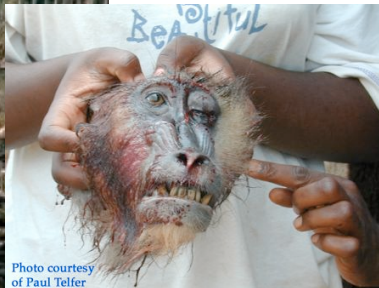


Photo courtesy of Paul Telfer

GI parasites at Kibale - less dramatic but ubiquitous

TABLE 2. HOST RANGE, MORBIDITY, AND MORTALITY ASSOCIATED WITH GASTROINTESTINAL PARASITES INFECTING WILD PRIMATES AND HUMANS IN KIBALE NATIONAL PARK, UGANDA.^{21,70}

Parasite Species (Taxon)	Primate Species ^a	Morbidity and Mortality
<i>Trichuris</i> sp. ^a	RC, BW, RT, Hu	Typically asymptomatic
<i>Strongyloides fuelleborni</i> ^b	RC, BW, RT, Hu	Mucosal inflammation, death
<i>Strongyloides stercoralis</i> ^b	RC, Hu	Mucosal inflammation, death
<i>Cesaphogostomum stephanostomum</i> ^c	RC, BW, RT, Hu	Severe diarrhea, weight loss, death
<i>Coloenterobolus</i> sp. ^{a,c}	RC, BW	Dysentery, enteritis, ulceration, death
<i>Enterobolus</i> sp. ^{a,c}	RT, Hu	Dysentery, enteritis, ulceration, death
<i>Streptapharagus</i> sp. ^a	RT	Typically asymptomatic
<i>Ascaris</i> sp. ^a	RC, BW, Hu	Intestinal obstruction, death
<i>Dicrocoelidae</i> sp. ^b	BW, RT	Typically asymptomatic
<i>Berthezia</i> sp. ^c	BW, RT, Hu	Typically asymptomatic
<i>Onchocerca melesi</i> ^d	RT, Hu	Diarrhea
<i>Iodamoeba buetschlii</i> ^d	RT, Hu	Typically asymptomatic
<i>Giardia lamblia</i> ^d	RT, Hu	Enteritis, diarrhea
<i>Entamoeba coli</i> ^d	RC, BW, RT, Hu	Typically asymptomatic
<i>Entamoeba histolytica</i> ^d	RC, BW, RT, Hu	Hepatic and gastric amoebiasis, death

Chapman et al. 2005. *Evolutionary Anthropology* 14: 134-144

- ^a Nematoda.
- ^b Nematoda.
- ^c Cestoda.
- ^d Protozoa.

^e Known to be host specific.
^f RC = Red colobus; BW = Black-and-white colobus; RT = Rectal querson; Hu = Human.

Significant # Tai chimpanzees died of respiratory illness acquired from researchers.

Primate conservation and primatology as global health issue

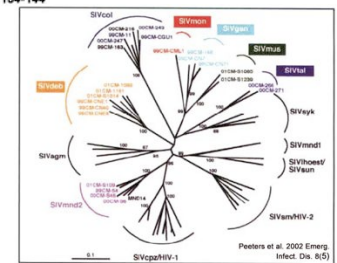


Figure 2. Identification of diverse Simian immunodeficiency virus (SIV) lineages in primate bushmeat. A 650 bp pol fragment was amplified from monkeys representing seven primate species, sequenced, and subjected to phylogenetic tree analysis by the neighbor-joining method.

Macaques & baboons

Macaques (esp. rhesus) are “the monkey” in biomedical work.



Macaques & baboons

Baboons (esp. olive) are “the monkey” to early behavioral studies (recall DeVore & aggressive baboons, Jay and peaceful langurs)



Joseph L. Popp and Iren DeVore

Aggressive Competition and Social Dominance Theory: Synopsis

Discussions of the origin and modification of aggressive behavior abound in the biological and social sciences, where aggression is most often attributed to proximate causes such as frustration. Here we consider aggression in the context of natural selection; specifically we ask under what circumstances will aggressive behavior increase the representation of the aggression actor's genes in future generations? In answering this question we provide a brief outline of a model of optimal competitive strategies, in terms of animal behavior and morphology, for the maximization of an individual's reproductive success.

Macaques



Macaques



Commensal monkeys



Toque macaques (*M. sinica*), olive baboons (*P. anubis*), gelada (*T. gelada*). Good presentation of coping with ecological and social complexity.

Life of Mammals: Social Climbers

18m

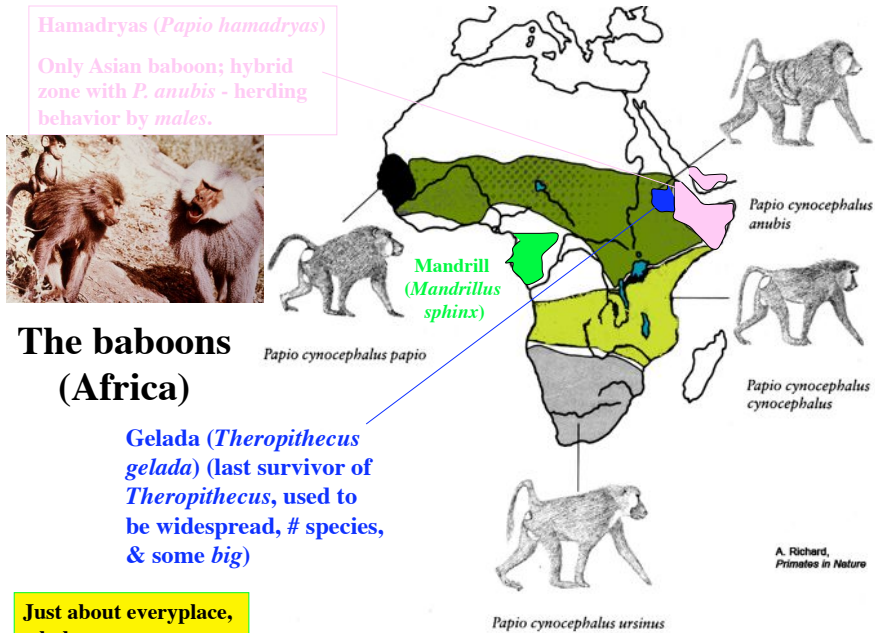
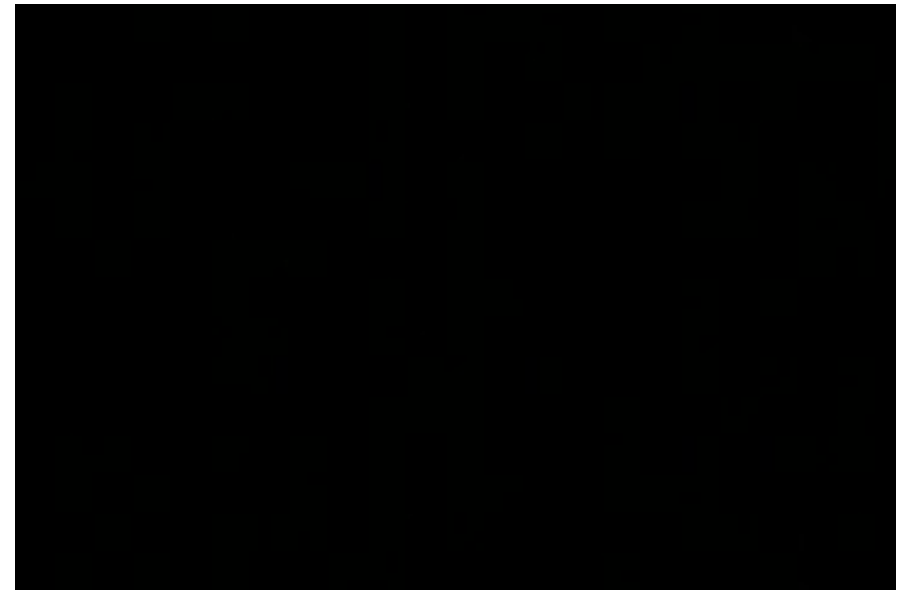


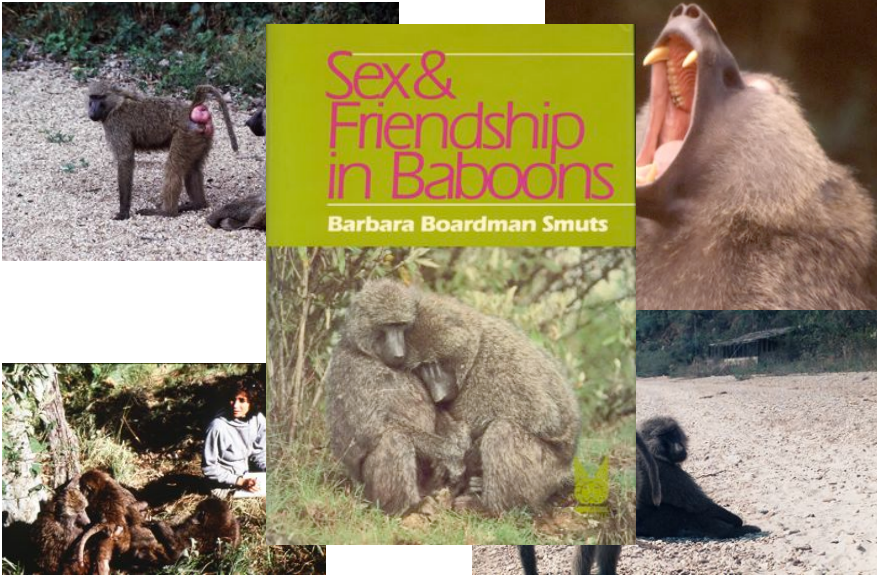
Figure 6.9 The geographic races or subspecies of the savanna baboon, *Papio cynocephalus*.



Pay attention to *how* baboon life is presented from **“Murder in the Troop”** (cf. DeVore/Jay, Hobbes/Rousseau)

1m

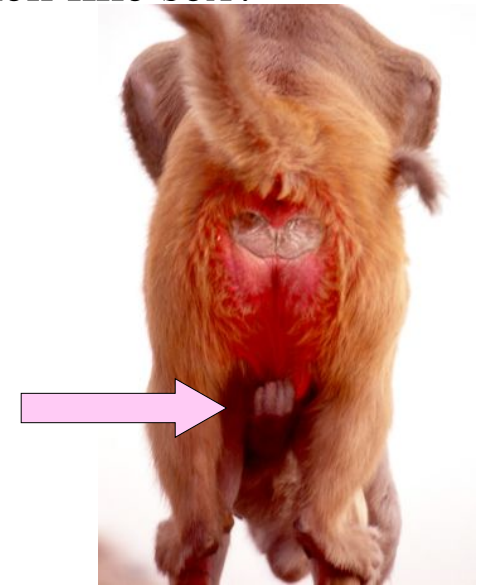
Baboons



Do women like sex?

**“Evolutionary”
(Victorian?)
logic behind
the question...**

From *Times Online*
May 17, 2010
**University disciplines
scientist for showing
paper on bat sex**



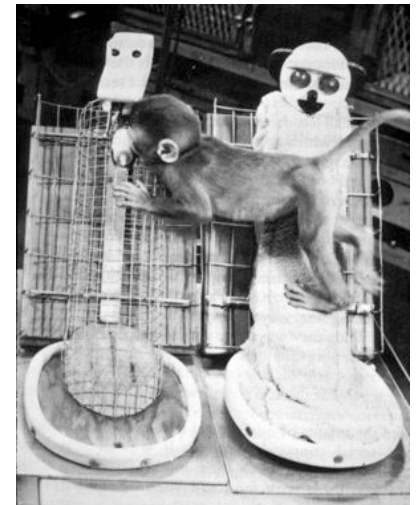
Is smoking bad for you?

**Formal logic behind
the question...**



Do babies like mothers?

**Formal logic behind
the question...**



seek contact as a means to some further end, but cling to the cloth model for the warmth and comfort it provided