

Cengage Advantage  
Books

Tenth Edition

# Understanding Humans

Introduction to Physical Anthropology and Archaeology

## Introduction to Primates

. . . or how to make sense  
out of

Ch. 6 and Ch. 7 of the text . . .

Barry Lewis | Robert Jurmain | Lynn Kilgore

Prehistoric Cultures  
Tim Roufs' section ©2009



# Primates

## CHAPTER

# 6

## An Overview of the Primates

### O U T L I N E

Introduction

Primate Characteristics

Primate Adaptations

Evolutionary Factors

Geographical Distribution and Habitats

Diet and Teeth

Locomotion

Primate Classification

A Survey of the Living Primates

Lemurs and Lorises

Tarsiers

Anthropoids (Monkeys, Apes, and Humans)

Hominoids (Apes and Humans)

Humans

Endangered Primates

The Bushmeat Crisis

Mountain Gorillas at Great Risk

# Primates--Contemporary

Prehistoric and Contemporary Primates (class handout .pdf)

*Understanding Humans, 10<sup>th</sup> Ed.* diagram p. 129

 to top of page / A-Z index

prosimians  
("Pre-Monkeys")

lemurs  
lorises  
tarsiers

monkeys

New World monkeys (*Platyrrhini*)  
Old World monkeys

all New World monkeys  
all Old World monkeys

apes

"lesser apes" (*Hylobatidae*)  
great apes (*Pongidae*)

gibbons and siamangs  
orangutans  
gorillas

Western Lowland  
Cross River  
Mountain  
Eastern Lowland

chimpanzees

common chimps  
bonobos  
("Pygmy Chimps")

humans

(*Hominidae*)

*Homo*

Google Custom Search

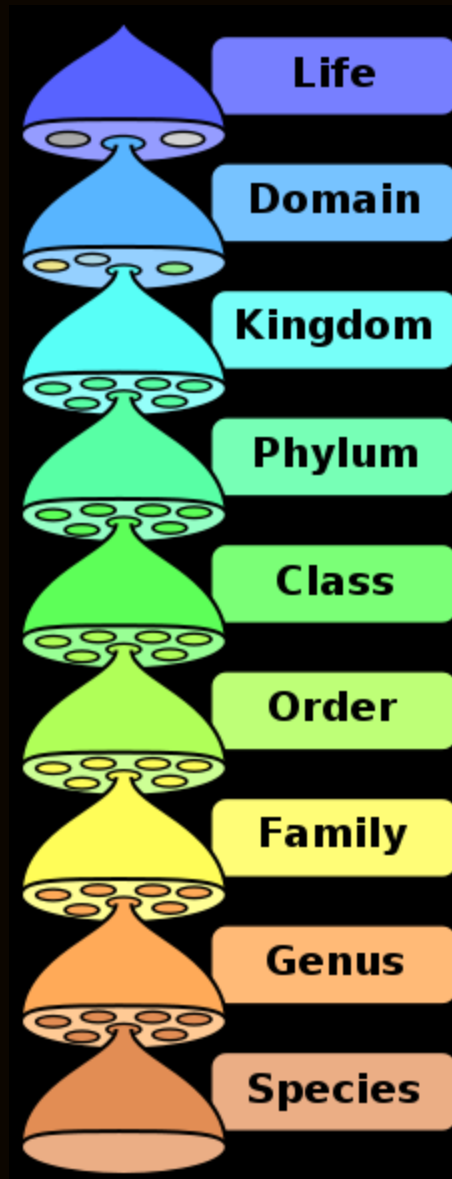
Search

Kingdom = *Animalia* >> Phylum = *Chordata* >> Subphylum = *Vertebrata* >> Class = *Mammalia* >> Order = *Primates*

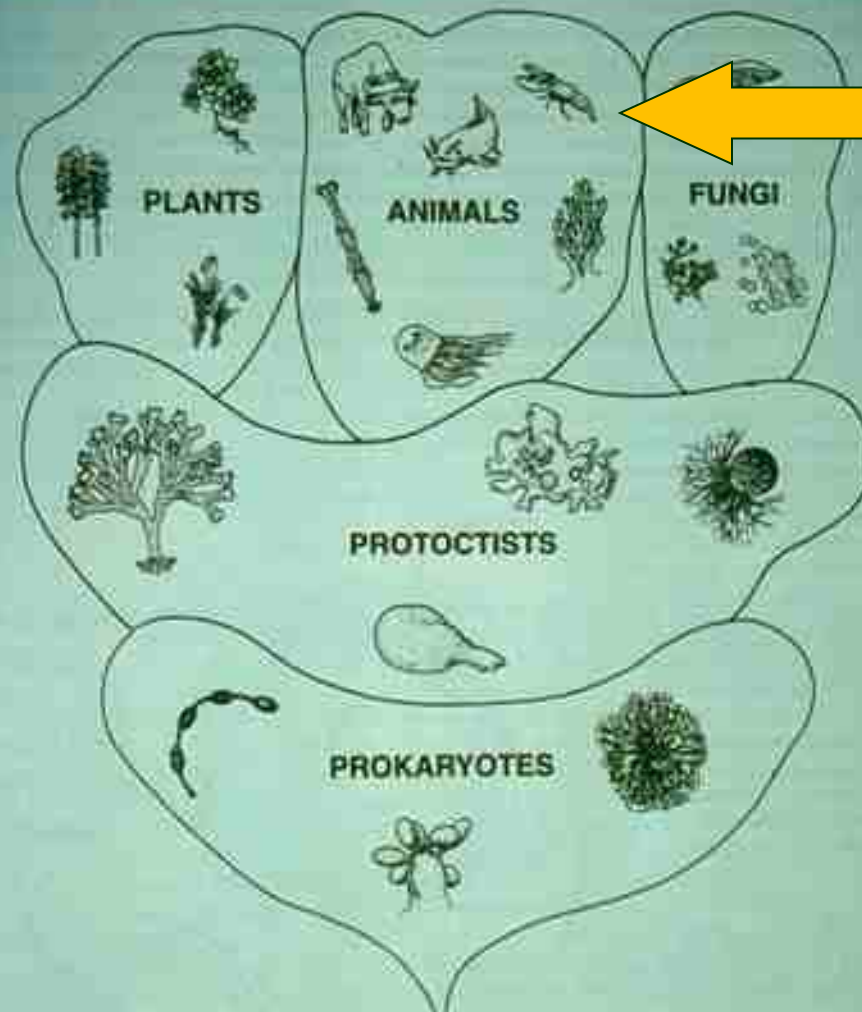
## I. PARTIAL TAXONOMIC CLASSIFICATION OF PREHISTORIC AND CONTEMPORARY PRIMATES

131-144  
102-112  
106-109

	Suborder	Inraorder	Superfamily	Family	["Colloquial terms"]	Genus	Species	Common Name
131-133 202-204	<i>Prosimii</i> ( <i>Strepsirhini</i> )							[tree shrew = insectivore]
		<i>Lemuriformes</i>						
		<i>Lorisiformes</i>						lemur
		<i>Tarsiiformes</i>						loris and bush baby
133-134 202-204	<i>Anthropoidea</i> ( <i>Haplorhini</i> )	<i>Platyrrhini</i> 133-134	<i>Ceboidea</i>	<i>Atelidae</i> <i>Cebidae</i> [ <i>Callitrichidae</i> ]		<i>*Parapithecus</i> (basal anthropoid) <i>*Apidium</i> (basal anthropoid)		<b>New World Monkey</b>
		<i>Catarrhini</i> 134-138	<i>Cercopithecoidea</i> 134-138	<i>Cercopithecidae</i>		<i>Macaca</i> <i>Papio</i> <i>*Propliopithecus</i> (basal catarrhine) <i>*Aegyptopithecus</i> (basal catarrhine)		<b>Old World Monkey</b>
								macaque baboon queens







The "five kingdoms" of life (discussed on the next page). Because of the extraordinary diversity of living things, and of the enormous amount of change that has accumulated in the various lineages over evolutionary time, it has proven very difficult to arrive at a satisfactory classification of the major groups of living organisms. The diagram above, based basically on the "five kingdom" arrangement first proposed by R.H. Whittaker in 1959 and more recently modified by Lynn Margulis and colleagues, attempts to show how these five major groups fit together in terms of relationships and function. The vertical axis is not strictly one of time, but rather one of increasing complexity—which does, however, indirectly reflect the passage of time. As noted in the main text, the protoctists are a "wastebasket" group, whose interrelationships are unresolved; however, the Kingdom Protoctista does fill a useful function in bridging the gap between the bacteria and the three other eukaryotic kingdoms (plants, animals and fungi), among which relationships are also currently unclear. Illustration by Diana Sellen.

Linnaeus <sup>[5]</sup> (1735) 2 kingdoms	Haeckel <sup>[6]</sup> (1866) 3 kingdoms	Chatton <sup>[7]</sup> (1925) 2 groups	Copeland <sup>[8]</sup> (1938) 4 kingdoms	Whittaker <sup>[2]</sup> (1969) 5 kingdoms	Woese [9][10] (1977,1990) 3 domains
Animalia	Animalia	Eukaryote	Animalia	Animalia	Eukarya
Vegetabilia	Plantae		Plantae	Plantae	
			Protoctista	Fungi	
				Protista	
(not treated)	Protista	Prokaryote	Monera	Monera	Archaea
					Bacteria

KINGDOM

ANIMALIA



f Thomson Learning

Subkingdoms

Phyla

Subphyla

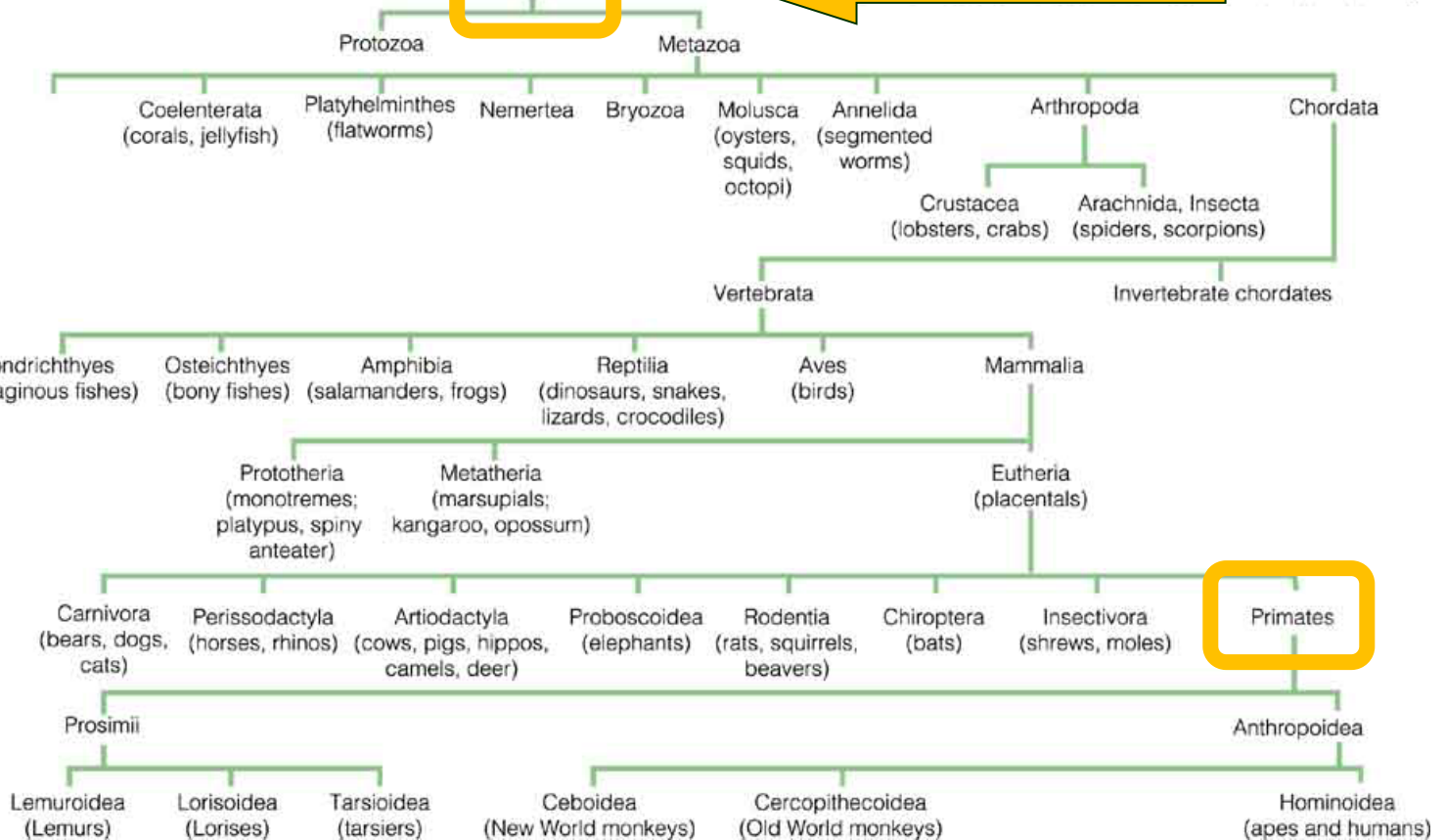
CLASSES

Subclasses

Orders

Suborders

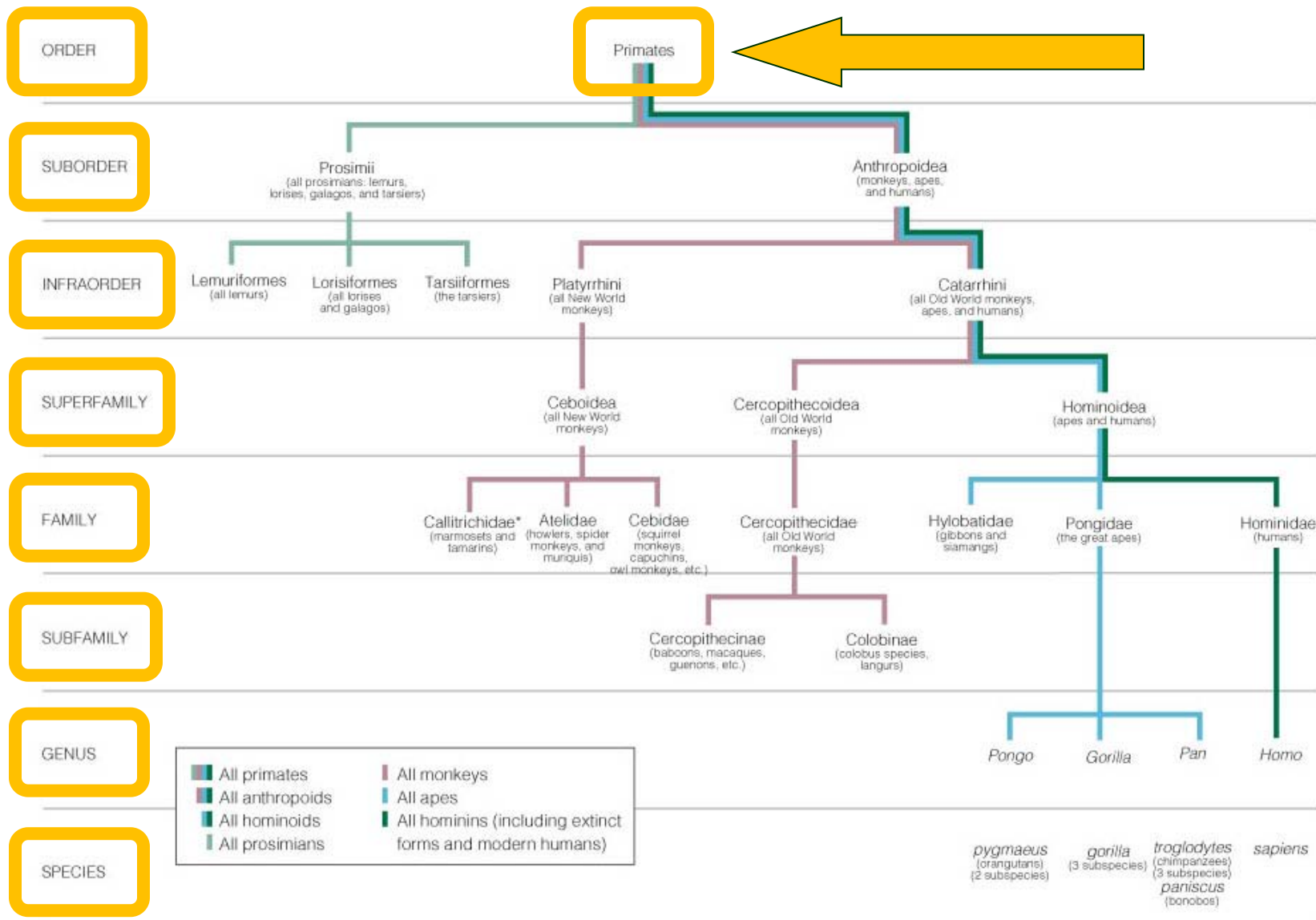
Superfamilies



## Classification chart (after Linnaeus)

*Understanding Humans, 10<sup>th</sup> ed., p. 101*





\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Cebidae.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129

Kingdom = *Animalia* >> Phylum = *Chordata* >> Subphylum = *Vertebrata* >> Class = *Mammalia* >> Order = *Primates*

# I. PARTIAL TAXONOMIC CLASSIFICATION OF PREHISTORIC AND CONTEMPORARY PRIMATES

131-144  
102-112  
106-107

Suborder

Inraorder

Superfamily

Family

["Colloquial  
terms"]

Genus

Species

Common  
Name

131-133  
202-204

*Prosimii*  
(*Strepsirrhini*)

*Lemuriformes*

*Lorisiformes*

*Tarsiiformes*

[tree shrew  
=  
insectivore]

lemur  
loris and  
bush baby  
tarsier

133-134  
202-204

*Anthropoidea*  
(*Haplorhini*)

*Platyrrhini*  
133-134

*Ceboidea*

*Atelidae*  
*Cebidae*  
[*Callitrichidae*]

\**Parapithecus*  
(basal anthropoid)  
\**Apidium*  
(basal anthropoid)

**New World  
Monkey**

*Catarrhini*  
134-138

*Cercopithecoidea*  
134-138  
*Cercopithecidae*

*Macaca*  
*Papio*  
\**Propliopithecus*  
(basal catarrhine)  
\**Aegyptopithecus*  
(basal catarrhine)

**Old World  
Monkey**

macaque  
baboon  
queens



Kingdom = Animalia >> Phylum = Chordata >> Subphylum = Vertebrata >> Class = Mammalia >> Order = Primates

Time (Mya)	Suborder <i>Prosimii</i> ( <i>Strepsitini</i> )	Suborder <i>Lemuriformes</i> <i>Lorisiformes</i> <i>Tarsiiformes</i>	Superfamily	Family	( <i>Colobinae</i> )	Genus	
200-204	<i>Archicelestes</i> ( <i>Haplorhini</i> )	<i>Platyrrhini</i> 130-134	<i>Cebidae</i> [ <i>Callitrichidae</i> ]	<i>Cercopithecoidea</i> 134-138	<i>Cercopithecidae</i>	<i>Macaca</i> <i>Papio</i> <i>*Protopithecus</i> (basal cercopithec) <i>*Aegyptopithecus</i> (basal cercopithec)	New World Monkey
		<i>Catarrhini</i> 134-138			<i>Colobidae</i>	<i>Colobus</i> <i>Presbytis</i> <i>Hylotates</i>	Old World Monkey
				<i>Hominoides</i> 138-143 204-207	<i>Hylotrichidae</i>	<i>*Proconsul</i> <i>*Oreopithecus</i> <i>*Pliopithecus</i>	macaque baboon guenon ... colobus monkey langur gibbon orangutan
					<i>Hominidae</i>	<i>Pongo</i> <i>*Dryopithecus</i> <i>*Sivapithecus</i> <i>*Gigantopithecus</i>	
						<i>*Glyptopithecus</i> <i>*Nanopithecus</i> <i>*Kenyanthropus</i> <i>*Ouranopithecus</i>	
						<i>pygmaeus</i> <i>abellii</i>	
					<i>Gorillinae</i>	<i>Gorilla</i> <i>gorilla</i> [gorilla] <i>gorilla</i> [diana] <i>beringei</i> [beringei] <i>beringei</i> [graueri]	Western Lowland Cross River Mountain Eastern Lowland
					<i>Parvinae</i>	<i>Pan</i> <i>troglodytes</i> ? <i>paniscus</i>	chimpanzee chimpanzee bonobo ( <i>pygmy chimpanzee</i> )
					<i>Hominins</i> (now extinct bipedal relatives of humans)	<i>*Ardipithecus</i> <i>*Australopithecus</i> <sup>1</sup>	Andi
						<i>*Ardipithecus</i> <i>*Australopithecus</i> <sup>1</sup>	Lucy / First Family southern ape Dni
						<i>*Ardipithecus</i> <i>*Australopithecus</i> <sup>1</sup>	
						<i>*Kenyanthropus</i>	
					<i>Hominins</i> (modern humans)	<i>Homo</i> <sup>1</sup> <i>*rudolfensis</i> <i>*habilis</i> <i>*erectus</i>	ER-1470 human Java / Peking "Man"
						<i>sapiens</i>	Mary / John





## I. PARTIAL TAXONOMIC CLASSIFICATION OF PREHISTORIC AND CONTEMPORARY PRIMATES

131-144 102-112 106-109	Suborder <i>Prosimii</i> ( <i>Strepsirrhini</i> )	Suborder <i>Lemniformes</i> <i>Lorisiformes</i> <i>Tarsiiformes</i>	Superfamily	Family	[Colloquial name]	Genus	
131-133 202-204	<i>Anthropoidea</i> ( <i>Haplorhini</i> )	<i>Platyrrhini</i> 133-134	<i>Ceboloidea</i>	<i>Atelidae</i> <i>Cebidae</i> [ <i>Callitrichidae</i> ]		* <i>Parapithecus</i> (based on anthropoid) * <i>Apidrum</i> (based on anthropoid)	prosimians
133-134 202-204		<i>Catarrhini</i> 134-136	<i>Cercopithecoidea</i> 136-138	<i>Cercopithecidae</i>		<i>Macaca</i> <i>Papio</i> * <i>Protopithecus</i> (based on cercarhine) * <i>Aegyptopithecus</i> (based on cercarhine)	
				<i>Colobidae</i>		<i>Colobus</i> <i>Presbytis</i>	monkeys
			<i>Hominoloidea</i> 138-142 204-207	<i>Hylotidae</i>		<i>Hylotates</i>	
				* <i>Proconsulidae</i>		* <i>Proconsul</i>	
				* <i>Oreopithecidae</i>		* <i>Oreopithecus</i>	
				* <i>Pliopithecidae</i>		* <i>Pliopithecus</i>	

	<i>Hominidae</i>	<i>Ponginae</i> ( <i>"The Great Apes"</i> )	<i>Pongo</i> * <i>Digapithecus</i> * <i>Sinapithecus</i> * <i>Gigantopithecus</i>	* <i>Orangopithecus</i> * <i>Manapithecus</i> * <i>Kenyanopithecus</i> * <i>Guanopithecus</i>	
		<i>Gorillinae</i>	<i>Gorilla</i>	<i>pygmaeus abelli</i> <i>gorilla [gorilla]</i> <i>gorilla [plat]</i> <i>beringei [beringei]</i> <i>beringei [grauer]</i>	Western Lowland Cross River Mountain Eastern Lowland
		<i>Paninae</i>	<i>Pan</i>	<i>troglodytes</i> ? <i>paniscus</i>	chimpanzee chimpanzee bonobo ( <i>"pygmy chimpanzee"</i> )
215 209-211 217-224		<i>Homininae</i> ( <i>suborder</i> <i>hominoides</i> <i>anthropoidea</i> )	* <i>Ardipithecus</i> * <i>Australopithecus</i> <sup>1</sup>	* <i>ramidus</i> * <i>aramensis</i> * <i>afarensis</i> * <i>antecessor</i> * <i>garhi</i> * <i>aethiopicus</i>	Ardi
215-222			*[aka <i>Paranthropus</i> ] <sup>1</sup>	* <i>boisei</i> * <i>robustus</i> * <i>platyops</i>	Lucy / First Family southern ape Din
			* <i>Kenyanthropus</i>		

Compare:

FIGURE 6.9 Partial taxonomic classification p. 129

121-144  
102-112  
106-109

121-129  
202-204

In raonde r

[Lordsiformes](#)  
[Tarsiformes](#)

120-124  
202-204

**Platyntonia**  
120–124

**Catavolfin**  
1.264–1.265

Family

## Genus

e]

Hyllobates

**Hemimolidae**  
136-143  
204-207

\*Pilonitricide

## Ponglins

("The Great Apes")

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

Gorilla

Pan

216  
209-211  
213-224

<sup>1</sup>*Australopithecus*

216-222

207-208

'[aka *Paranthropus*]

\**Kenyanthropus*

[Home](#)

electus

ER-1470  
human  
Java / Peking "Man"

Mary / John

# humans

FIGURE 6-9 Prime, economic classification, p. 129

Kingdom = *Animalia* >> Phylum = *Chordata* >> Subphylum = *Vertebrata* >> Class = *Mammalia* >> Order = *Primates*

# I. PARTIAL TAXONOMIC CLASSIFICATION OF PREHISTORIC AND CONTEMPORARY

	Suborder	Infraclass	Superfamily	Family	[“Colobusid sensu”]	Genus
131-144 102-112 166-169	<i>Prosimii</i> <i>(Strepsitini)</i>	<i>Lemniformes</i>				
		<i>Lorisiformes</i>				
		<i>Tarsiiformes</i>				
133-134 202-204	<i>Anthropoidea</i> <i>(Haplorhini)</i>	<i>Platyrrhini</i> 133-134	Ceboloidea	Ateleidae Cebidae [Callitricidae]		* <i>Parapithecus</i> (basal anthropoid) * <i>Apidium</i> (basal anthropoid)
		<i>Catantini</i> 134-138	Cercopithecoidea 134-138	Cercopithecidae		<i>Macaques</i> <i>Papio</i> * <i>Propliopithecus</i> (basal catanthine) * <i>Aegyptopithecus</i> (basal catanthine)
				Colobidae		<i>Colobus</i> <i>Presbytis</i>
			Hominioidea 138-143 204-207	Hylotrichidae		<i>Hylotates</i>
				* <i>Proconsulidae</i>		* <i>Proconsul</i>
				* <i>Oreopithecidae</i>		* <i>Oreopithecus</i>
				* <i>Ptilopithecidae</i>		* <i>Ptilopithecus</i>
				<i>Hominidae</i>	<i>Ponginae</i>  [“The Great Apes”]	<i>Pongo</i> * <i>Dryopithecus</i> * <i>Sivapithecus</i> * <i>Gigantopithecus</i>
					<i>Gorillinae</i>	<i>Gorilla</i>
					<i>Paninae</i>	<i>Pan</i>
			216 208-211 217-224		<i>Hominins</i>  (new taxonomic classification of humans)	* <i>Ardipithecus</i> * <i>Australopithecus</i>
			216-222			
					207-208	* <i>Jakartapithecus</i>
						* <i>Kenyapithecus</i>
			223-227 Ch. 10 Chs. 11-12		<i>Hominins</i>  (modern humans)	<i>Homo</i>
					207-208	

Compare:

FIGURE 6-9 Primate taxonomic classification, p. 129

## prosimians

# monkeys

**apes**

# humans

Kingdom = *Animalia* >> Phylum = *Chordata* >> Subphylum = *Vertebrata* >> Class = *Mammalia* >> Order = *Primate*

Order	Suborder	Infracore	Superfamily	Family	Genus	Species	Common Name
201-224 202-204	Prosimii (Strepsitiform)	Lemuriformes  Lorisiformes Tarsiiformes					[tree shrew = insectivore]  lemur loris and bush baby loris
225-228 229-230	Platyrrhini (Haplorhina)	Catarrhini 128-129	Cercopithecoidea 128-129	Cercopithecidae   Hominoidea Hydrochoidea 204-207	Cebus [Callitrichidae]  Cercopithecidae  Colobus Presbytis Hylobates  *Proconsulidae *Oreopithecidae *Ptilopithecidae	*Apidum (found in Europe) Macaca Papio *Propliopithecus (found in Australia) *Aegyptopithecus (found in Australia)  colobus presbytis hylobates  *Proconsul *Oreopithecus *Ptilopithecus	Old World Monkey  macaque baboon guenon ... colobus monkey langur gibbon orangutan
231-234 235-236	Anthropoidea (Haplorhina)			Hominoidea 204-207	Ponginae (The Great Apes)  Gorillinae  Ponginae  Homininae (Great Apes) 204-207 208-209 210-211 212-213 214-215 216-217 218-219 220-221 222-223 224-225 226-227 228-229 230-231 232-233 234-235 236-237 238-239 240-241 242-243 244-245 246-247 248-249 250-251 252-253 254-255 256-257 258-259 260-261 262-263 264-265 266-267 268-269 270-271 272-273 274-275 276-277 278-279 280-281 282-283 284-285 286-287 288-289 290-291 292-293 294-295 296-297 298-299 300-301 302-303 304-305 306-307 308-309 310-311 312-313 314-315 316-317 318-319 320-321 322-323 324-325 326-327 328-329 330-331 332-333 334-335 336-337 338-339 340-341 342-343 344-345 346-347 348-349 350-351 352-353 354-355 356-357 358-359 360-361 362-363 364-365 366-367 368-369 370-371 372-373 374-375 376-377 378-379 380-381 382-383 384-385 386-387 388-389 390-391 392-393 394-395 396-397 398-399 400-401 402-403 404-405 406-407 408-409 410-411 412-413 414-415 416-417 418-419 420-421 422-423 424-425 426-427 428-429 430-431 432-433 434-435 436-437 438-439 440-441 442-443 444-445 446-447 448-449 450-451 452-453 454-455 456-457 458-459 460-461 462-463 464-465 466-467 468-469 470-471 472-473 474-475 476-477 478-479 480-481 482-483 484-485 486-487 488-489 490-491 492-493 494-495 496-497 498-499 500-501 502-503 504-505 506-507 508-509 510-511 512-513 514-515 516-517 518-519 520-521 522-523 524-525 526-527 528-529 530-531 532-533 534-535 536-537 538-539 540-541 542-543 544-545 546-547 548-549 550-551 552-553 554-555 556-557 558-559 560-561 562-563 564-565 566-567 568-569 570-571 572-573 574-575 576-577 578-579 580-581 582-583 584-585 586-587 588-589 590-591 592-593 594-595 596-597 598-599 600-601 602-603 604-605 606-607 608-609 610-611 612-613 614-615 616-617 618-619 620-621 622-623 624-625 626-627 628-629 630-631 632-633 634-635 636-637 638-639 640-641 642-643 644-645 646-647 648-649 650-651 652-653 654-655 656-657 658-659 660-661 662-663 664-665 666-667 668-669 670-671 672-673 674-675 676-677 678-679 680-681 682-683 684-685 686-687 688-689 690-691 692-693 694-695 696-697 698-699 700-701 702-703 704-705 706-707 708-709 710-711 712-713 714-715 716-717 718-719 720-721 722-723 724-725 726-727 728-729 730-731 732-733 734-735 736-737 738-739 740-741 742-743 744-745 746-747 748-749 750-751 752-753 754-755 756-757 758-759 760-761 762-763 764-765 766-767 768-769 770-771 772-773 774-775 776-777 778-779 780-781 782-783 784-785 786-787 788-789 790-791 792-793 794-795 796-797 798-799 800-801 802-803 804-805 806-807 808-809 810-811 812-813 814-815 816-817 818-819 820-821 822-823 824-825 826-827 828-829 830-831 832-833 834-835 836-837 838-839 840-841 842-843 844-845 846-847 848-849 850-851 852-853 854-855 856-857 858-859 860-861 862-863 864-865 866-867 868-869 870-871 872-873 874-875 876-877 878-879 880-881 882-883 884-885 886-887 888-889 890-891 892-893 894-895 896-897 898-899 900-901 902-903 904-905 906-907 908-909 910-911 912-913 914-915 916-917 918-919 920-921 922-923 924-925 926-927 928-929 930-931 932-933 934-935 936-937 938-939 940-941 942-943 944-945 946-947 948-949 950-951 952-953 954-955 956-957 958-959 960-961 962-963 964-965 966-967 968-969 970-971 972-973 974-975 976-977		

Prehistoric Cultures -- University of Minnesota Duluth - Mozilla Firefox

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Times to Remember

Google™ Custom Search Search

# Primates -- Contemporary

↑ to top of page / A-Z index

back

## General Information

Contemporary Primates Chart

## Prehistoric Primates

Prehistoric and Contemporary Primates (class handout .pdf)

Class Slides Set #12A

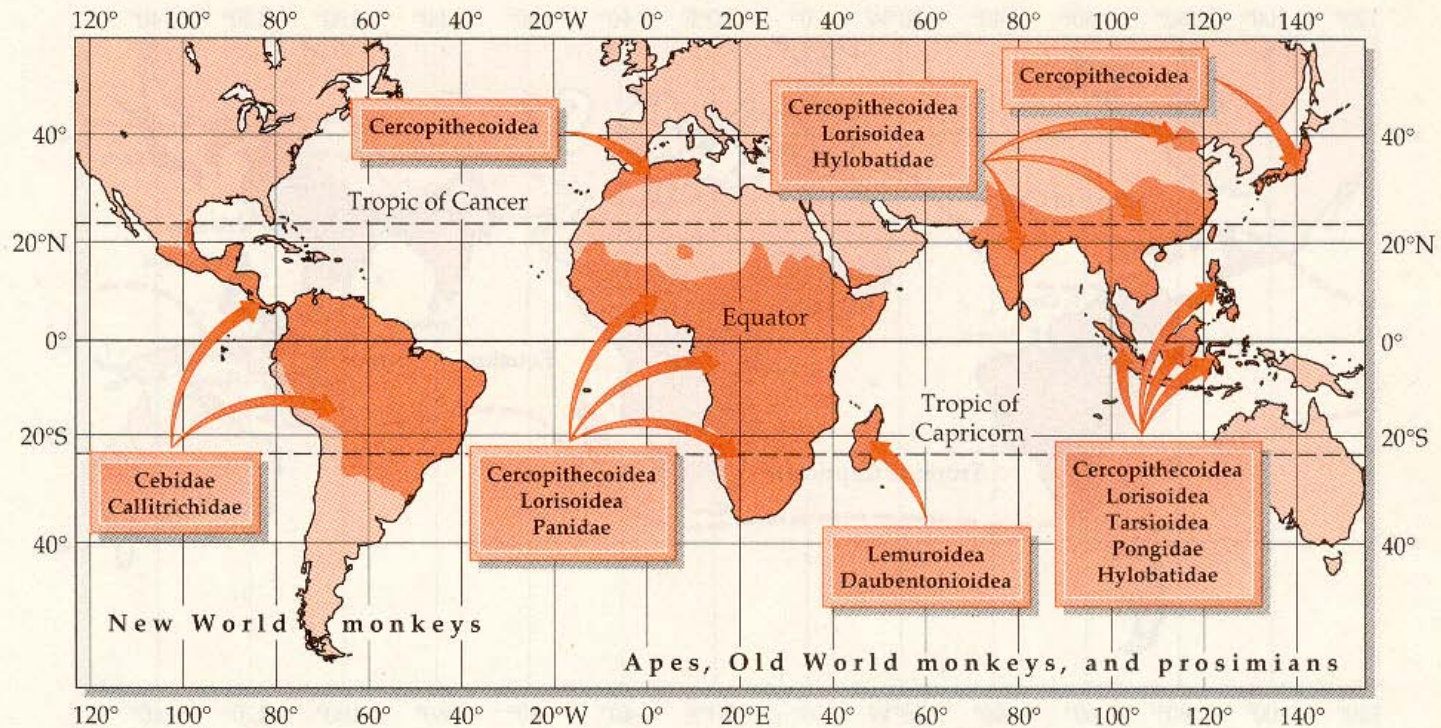
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start Inbox for troufs@... Prehistoric Culture... Welcome to Faceb... Mulberry (Connect... Adobe Dreamweav... Ps Adobe Photoshop ... pc-12A.2009.10.12 10:52 AM

<http://www.d.umn.edu/cla/faculty/troufs/anth1602/pcprim.html#title>

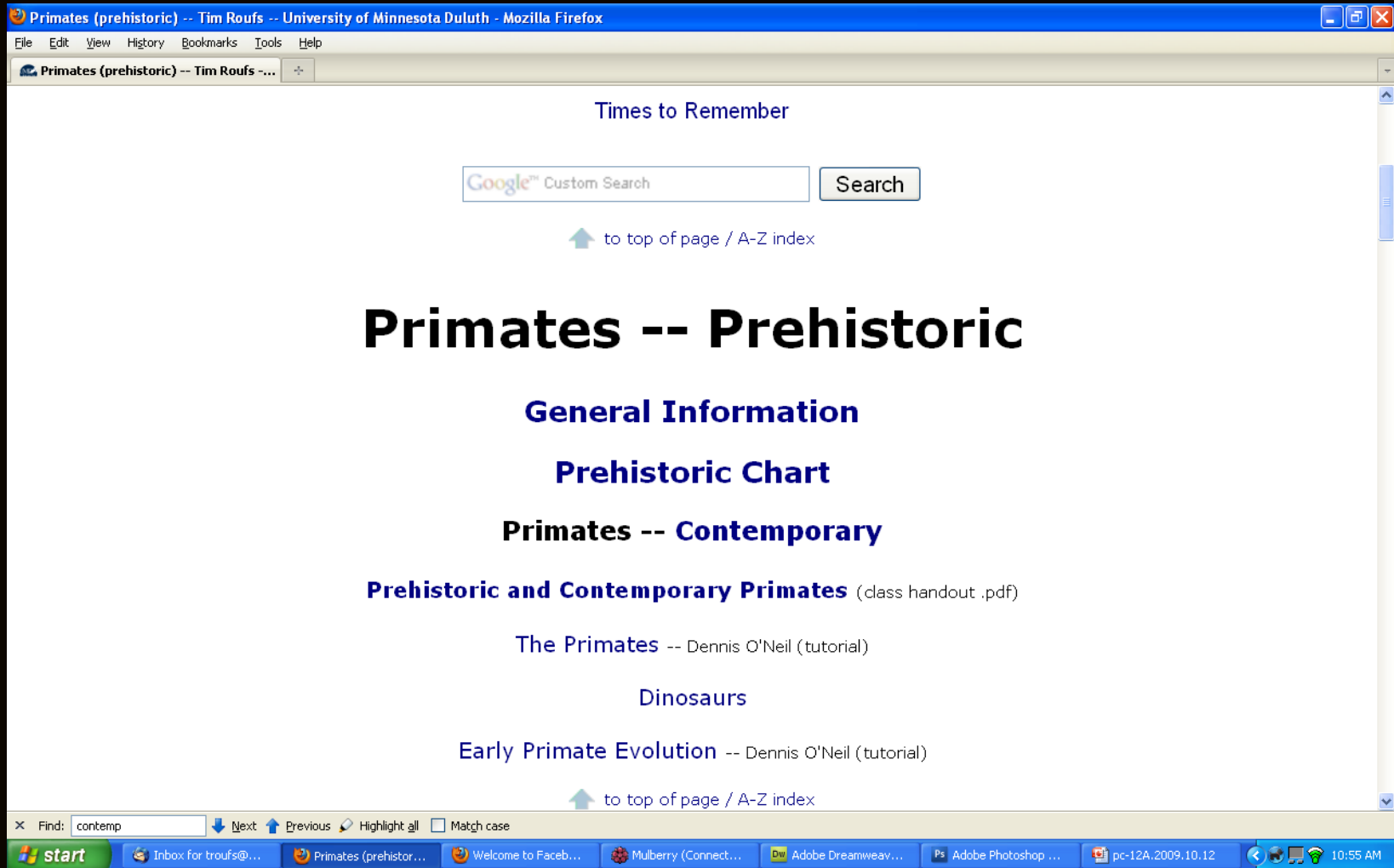


# Primates are tropical and temperate climate creatures



**FIGURE 4-2** Worldwide distribution of nonhuman primates by superfamilies and families. Dark areas show the approximate ranges of nonhuman primates. (Adapted from J. Napier and P. Napier, 1967, *A Handbook of Living Primates*, London, Academic Press.)

## Distribution of Nonhuman Primates



<http://www.d.umn.edu/cla/faculty/troufs/anth1602/pcprimpr.html>

# Times to Remember

bottom of chart

other timelines

Dates	Major Events / Groups	Alternate Name
A.D. 1859	End of the "Prescientific Period" in Prehistoric Cultures Studies	
X	/\ End of Prehistory (writing begins) dates vary regionally / 3,300 B.C. "Ötzi" The Iceman	

c. 17 mya...

***Sivapithecus***

(*Ramapithecus* / *Kenyapithecus* /  
*Ouranopithecus*)

***Dryopithecus***

***Proconsul***

c. 33 mya...

**"Dental Apes"**

(*Aegyptopithecus*, *Apidium*...)

c. 65 mya...

**Primates**

c. 13.7 bya . . .

creation of the universe

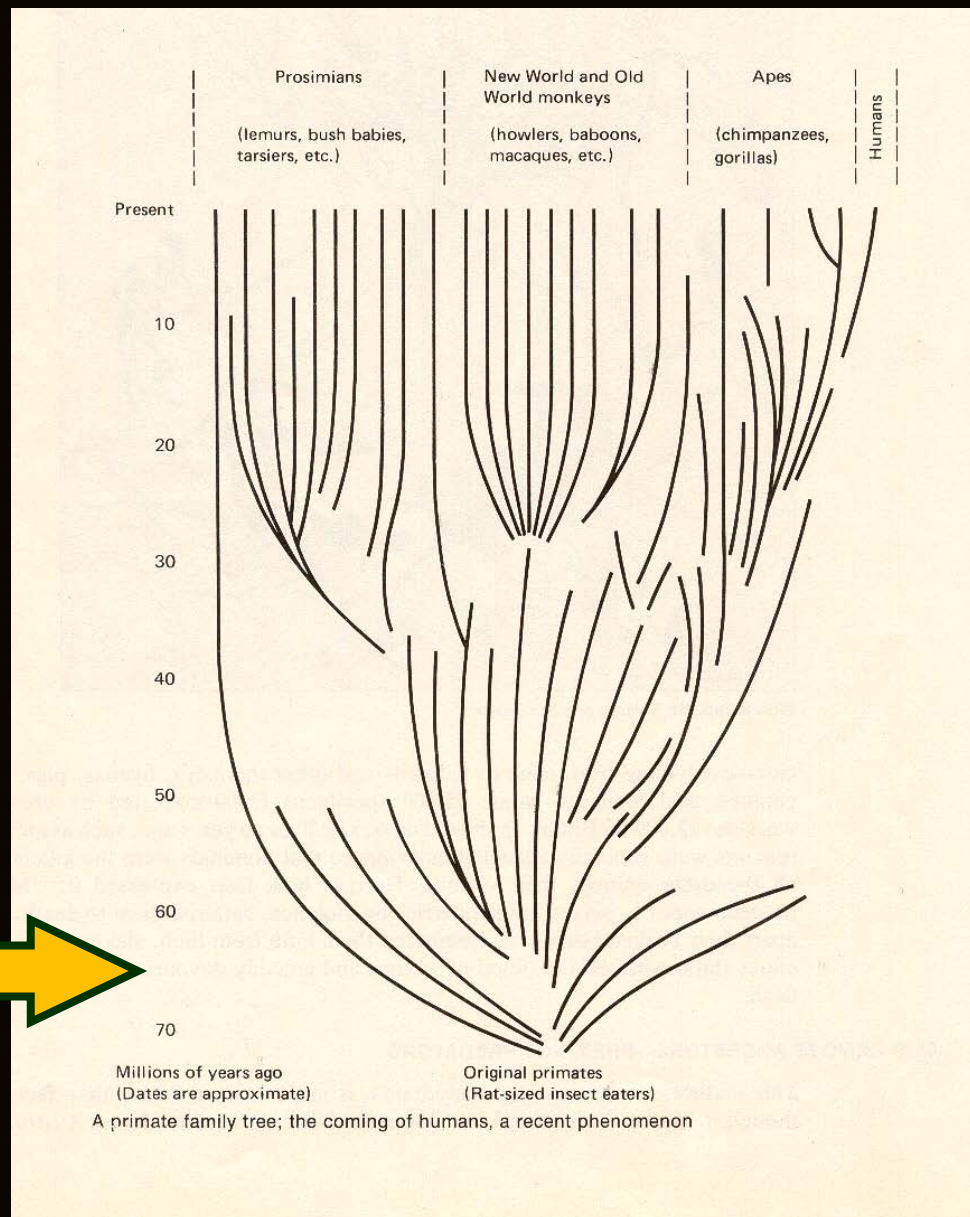
\* *C.* = *circa* = about

B.C. = "before Christ," or "before common era"

ybp = "years before present"

mya = million years ago

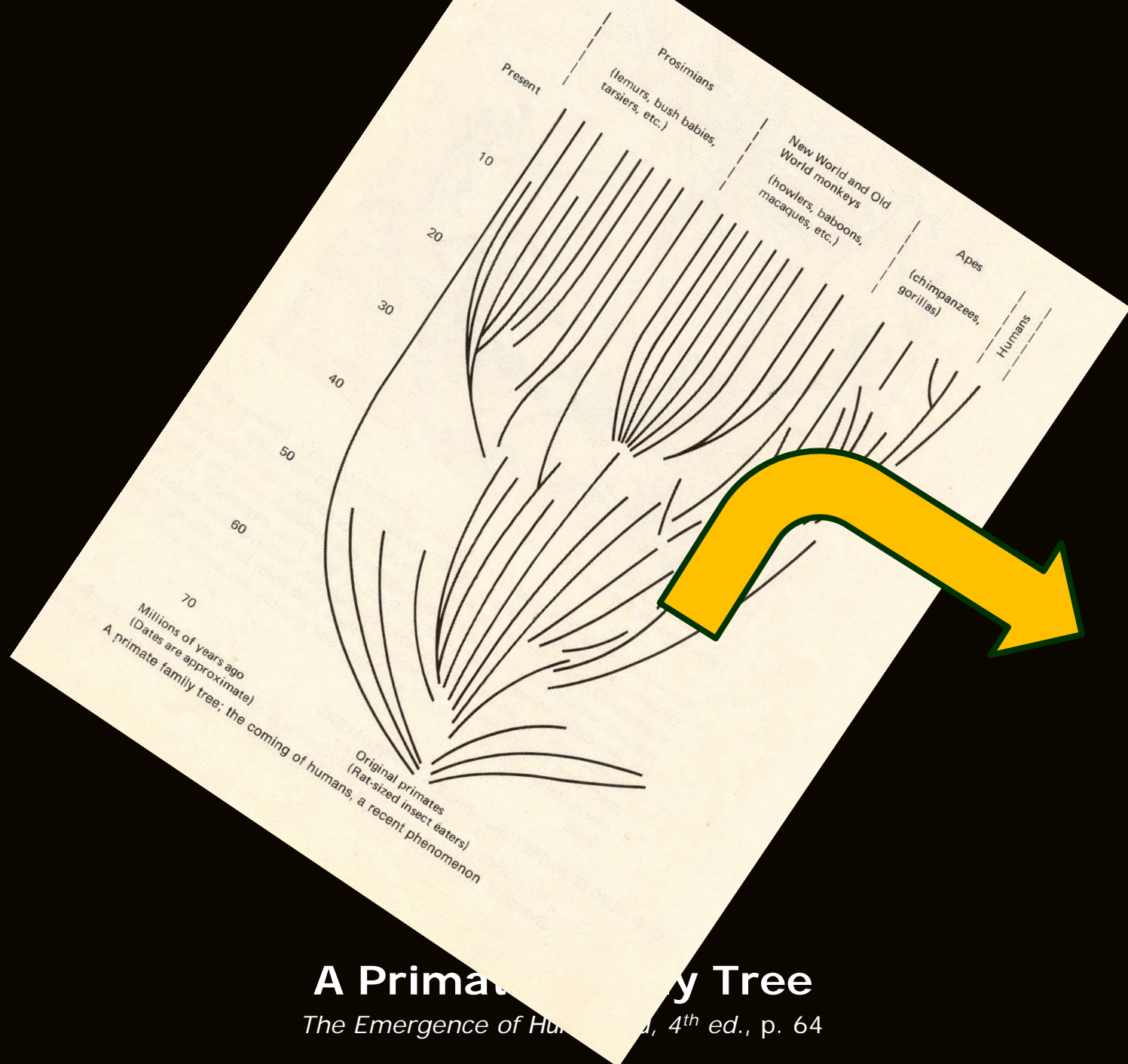
bya = billion years ago



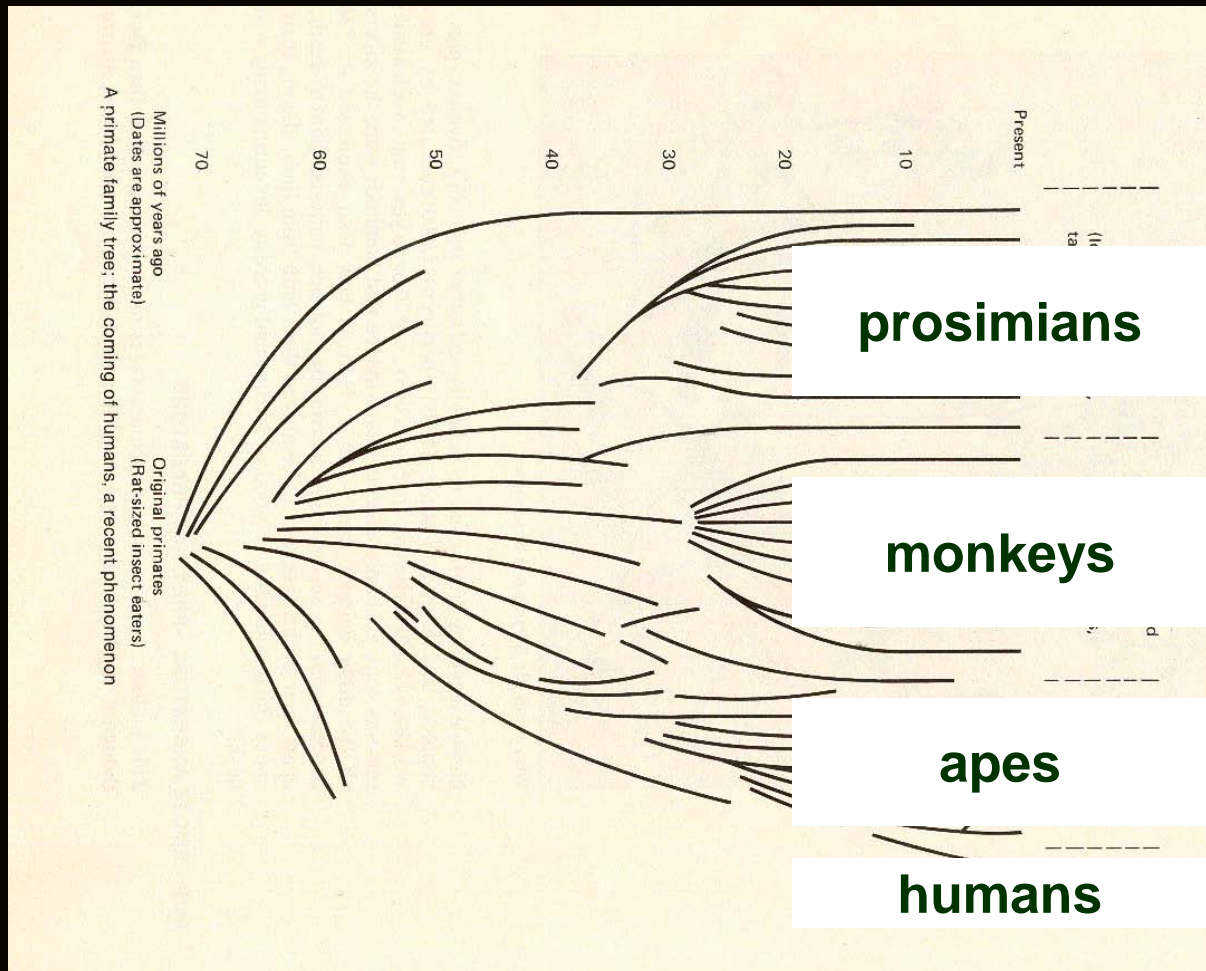
## A Primate Family Tree

*The Emergence of Humankind, 4<sup>th</sup> ed., p. 64*



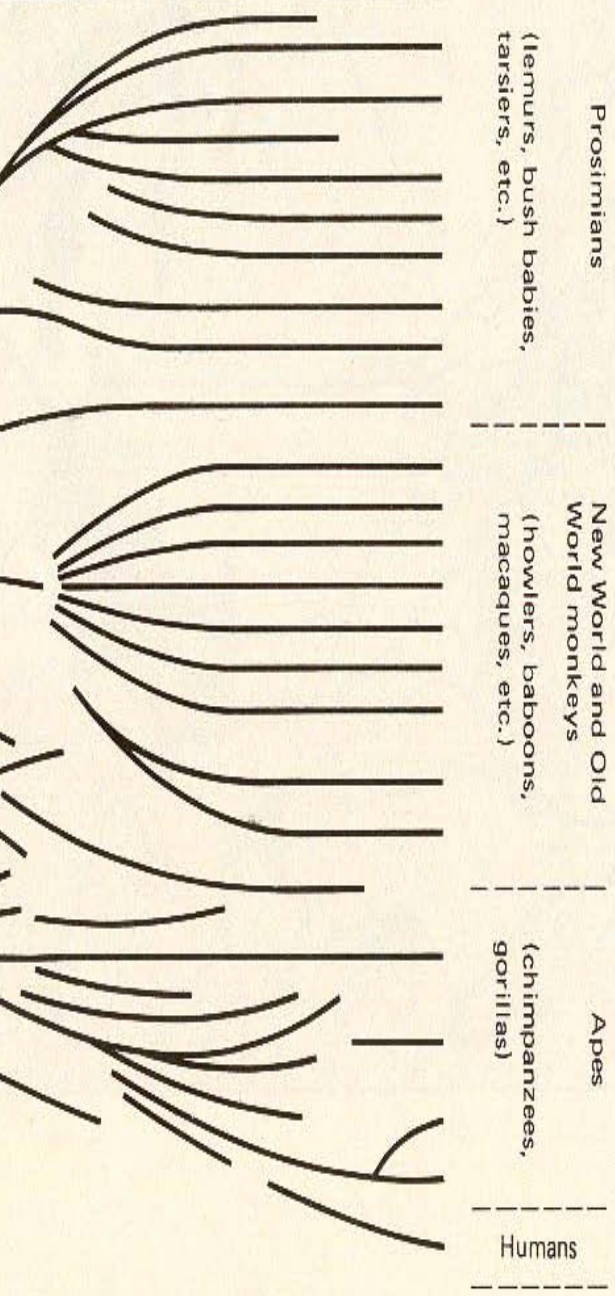


**A Primate Family Tree**  
*The Emergence of Humans*, 4<sup>th</sup> ed., p. 64



## A Primate Family Tree

*The Emergence of Humankind, 4<sup>th</sup> ed., p. 64*

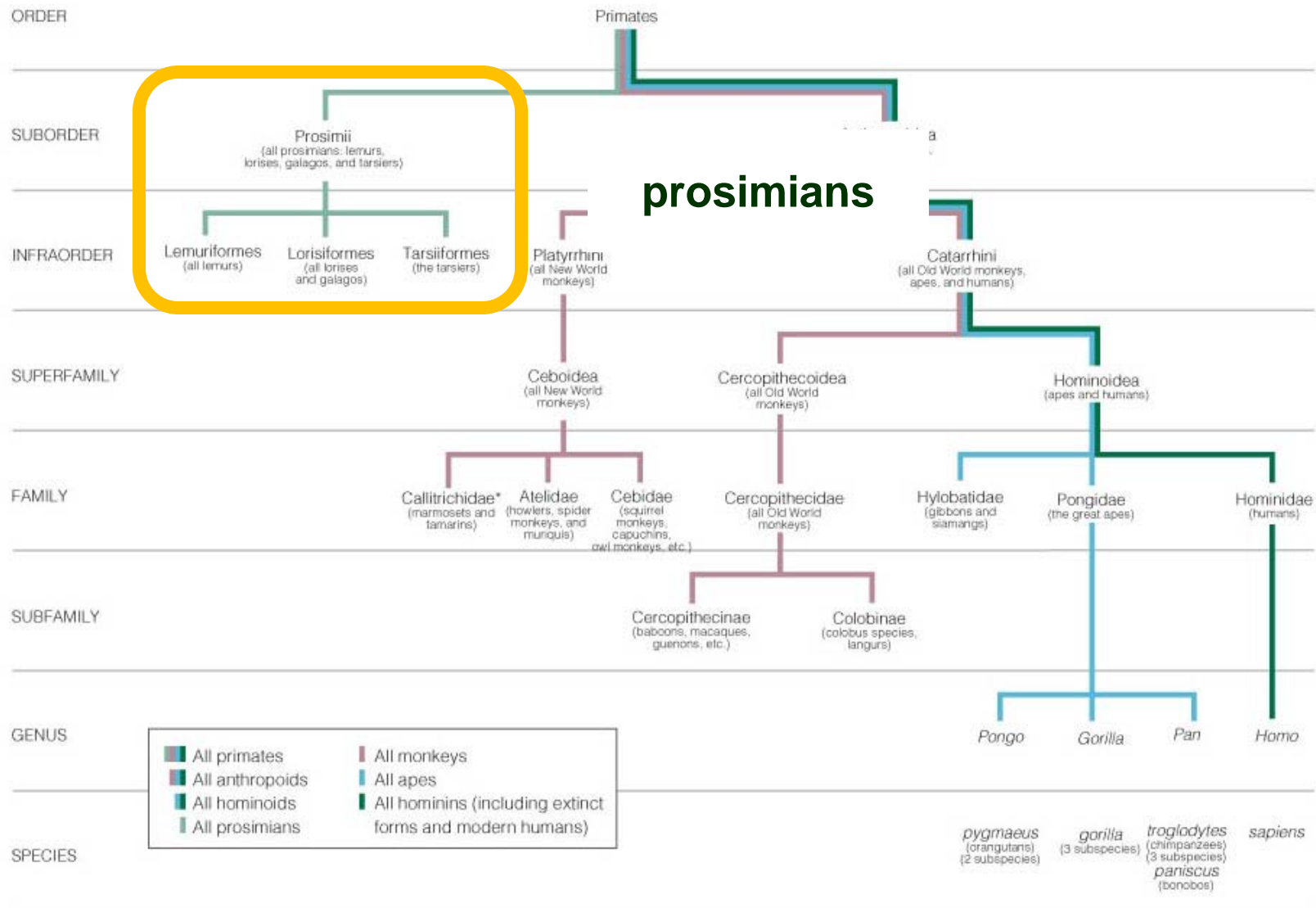


Kingdom = Animalia >> Phylum = Chordata >> Subphylum = Vertebrata >> Class = Mammalia >> Order = Primates

1. PARTIAL TAXONOMIC CLASSIFICATION OF PREHISTORIC AND CONTEMPORARY PRIMATES

Suborder	Inaorder	Superfamily	Family	Common Name [tree shrew = Insectivore]
Prosimii [Insectivore]				lemur tots and bush baby tarsier
	Lorisiformes Tarsiiformes			New World Monkey
Anthropoidea (Haplorhini)	Platyrrhini 130-134	Ceboloidea	Atellidae Cebidae [Callitrichidae]	Old World Monkey
	Catarrhini 134-136	Cercopithecoidea 134-136	Cercopithecidae	macaque baboon guenon ... colobus monkey langur gibbon slangangs
		Hominoloidea 136-143 204-207	Hylotidae  *Proconsulidae *Oreopithecidae *Pliopithecidae  Hominidae	orangutan
				Western Lowland Gorilla Mountain Eastern Lowland chimpanzee chimpanzee bonobo ("pygmy chimpanzee")
				Orang
				Lucy / First Family southern ape Orin
				ER-1470 human Java / Peking "Man" Mary / John

Figure 6.5: Primate taxonomic classification, p. 129

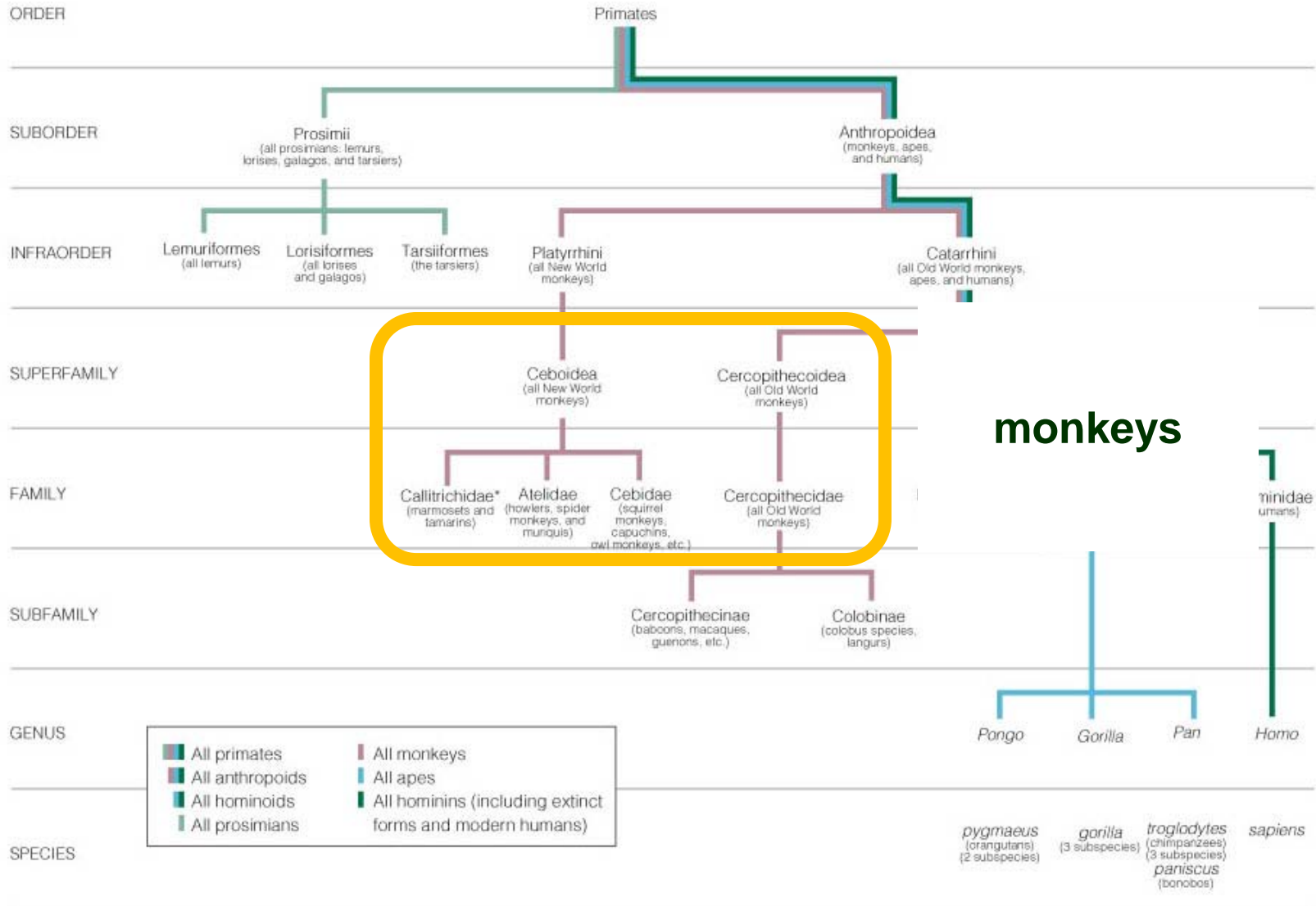


\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Cebidae.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129



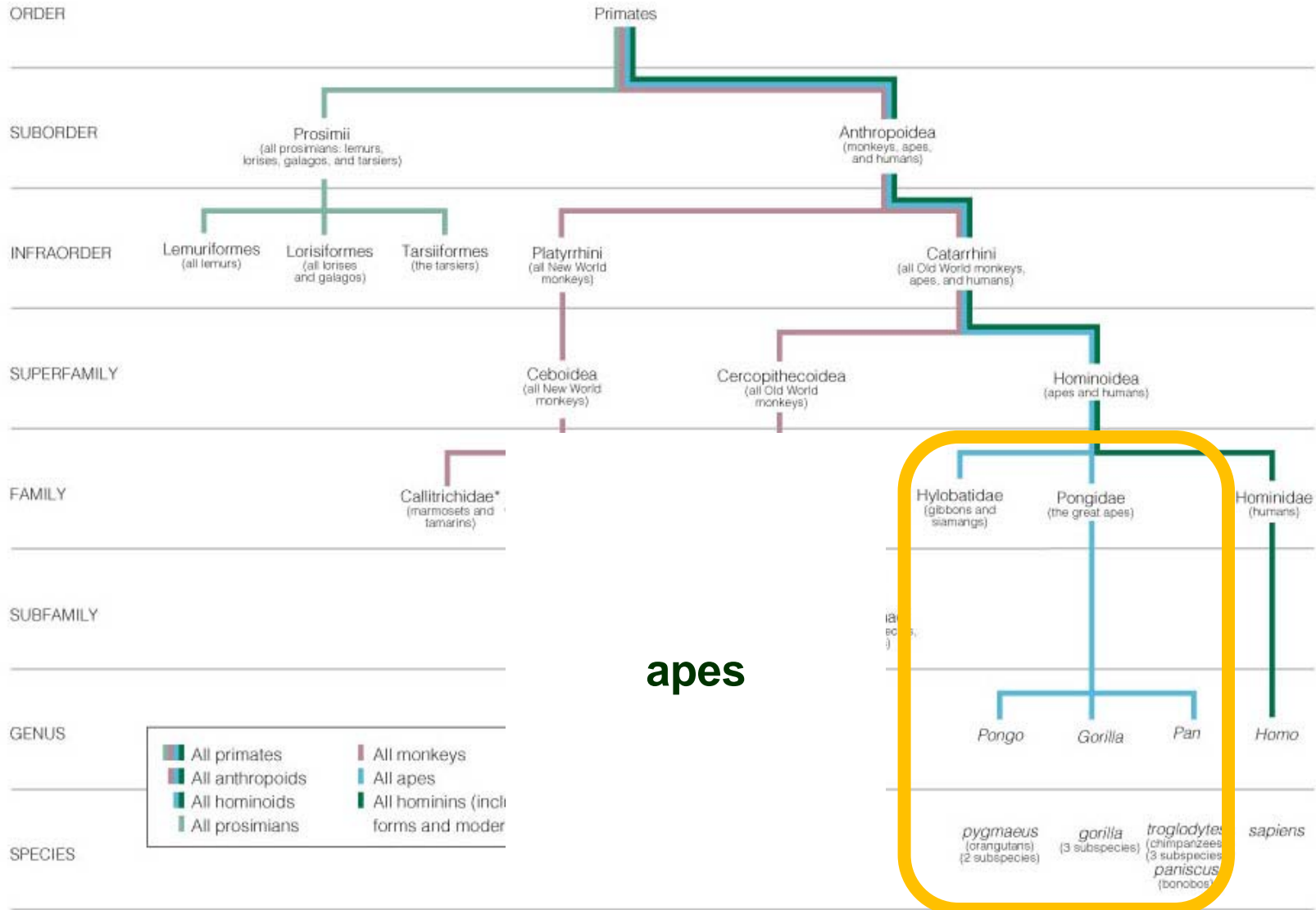


\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Cebidae.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129

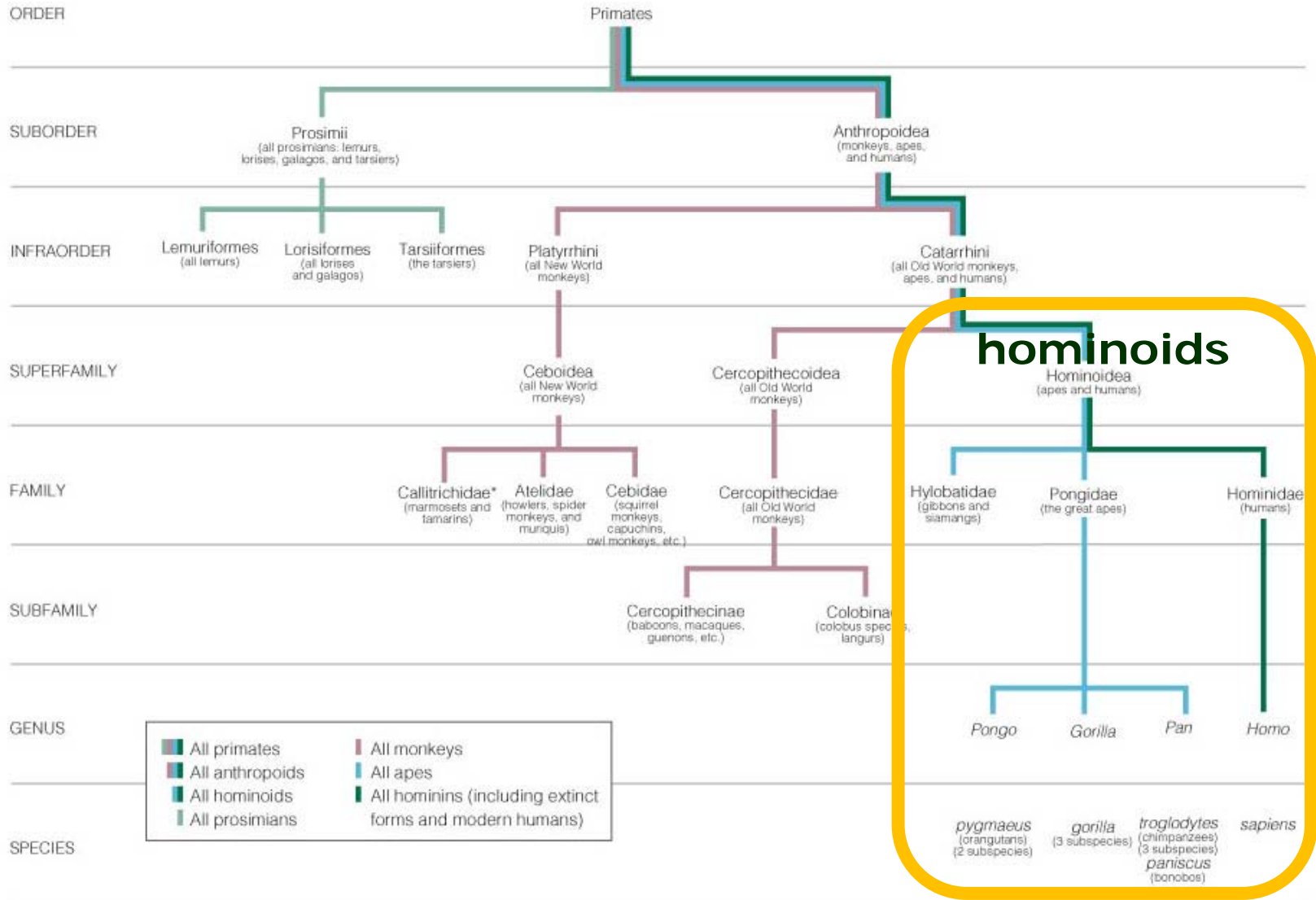




\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Ceboidea.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129



\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Cebidae.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129

(a)

Superfamily

Hominoids = humans and all apes

Family

Hylobatids

(small-bodied hominoids:  
gibbons and siamangs)

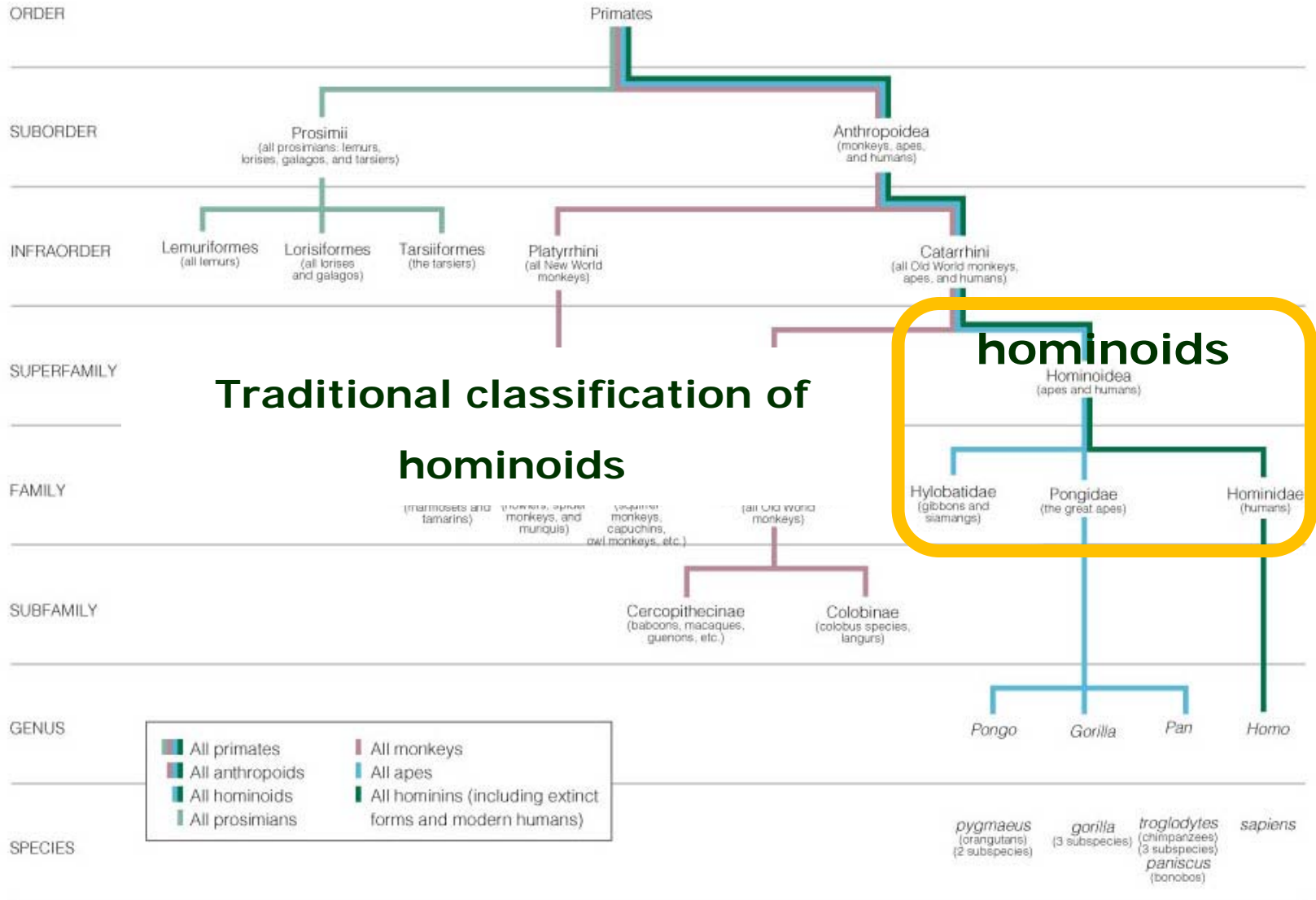
Pongids

(great apes:  
orangutans, gorillas,  
bonobos, and  
chimpanzees)

Hominids

("us" =  
bipedal  
hominoids)

## Traditional classification of hominoids

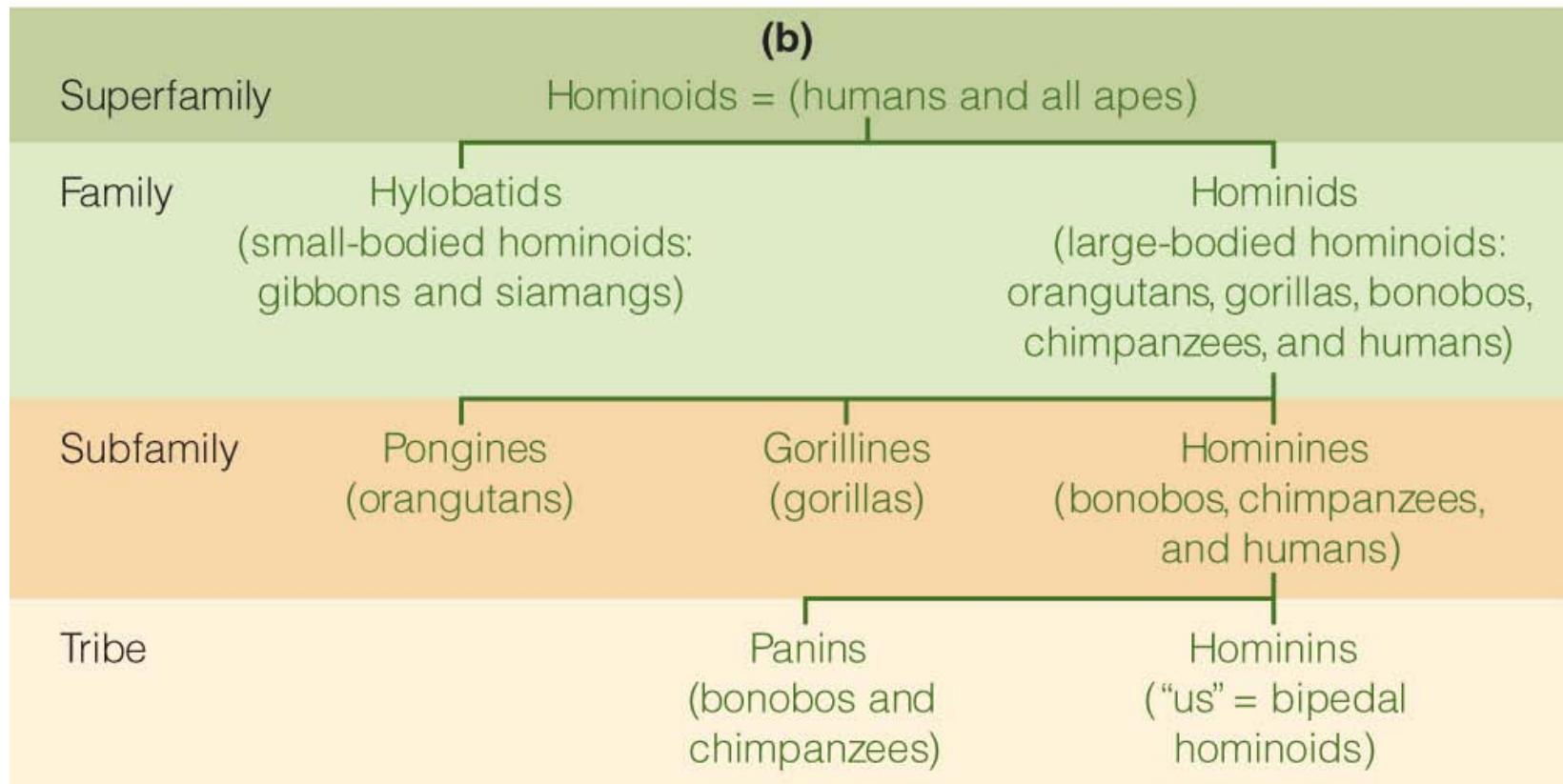


\*Fleagle (1999) and others have recently eliminated the family Cebitrichidae and included marmosets and tamarins in the family Cebidae.

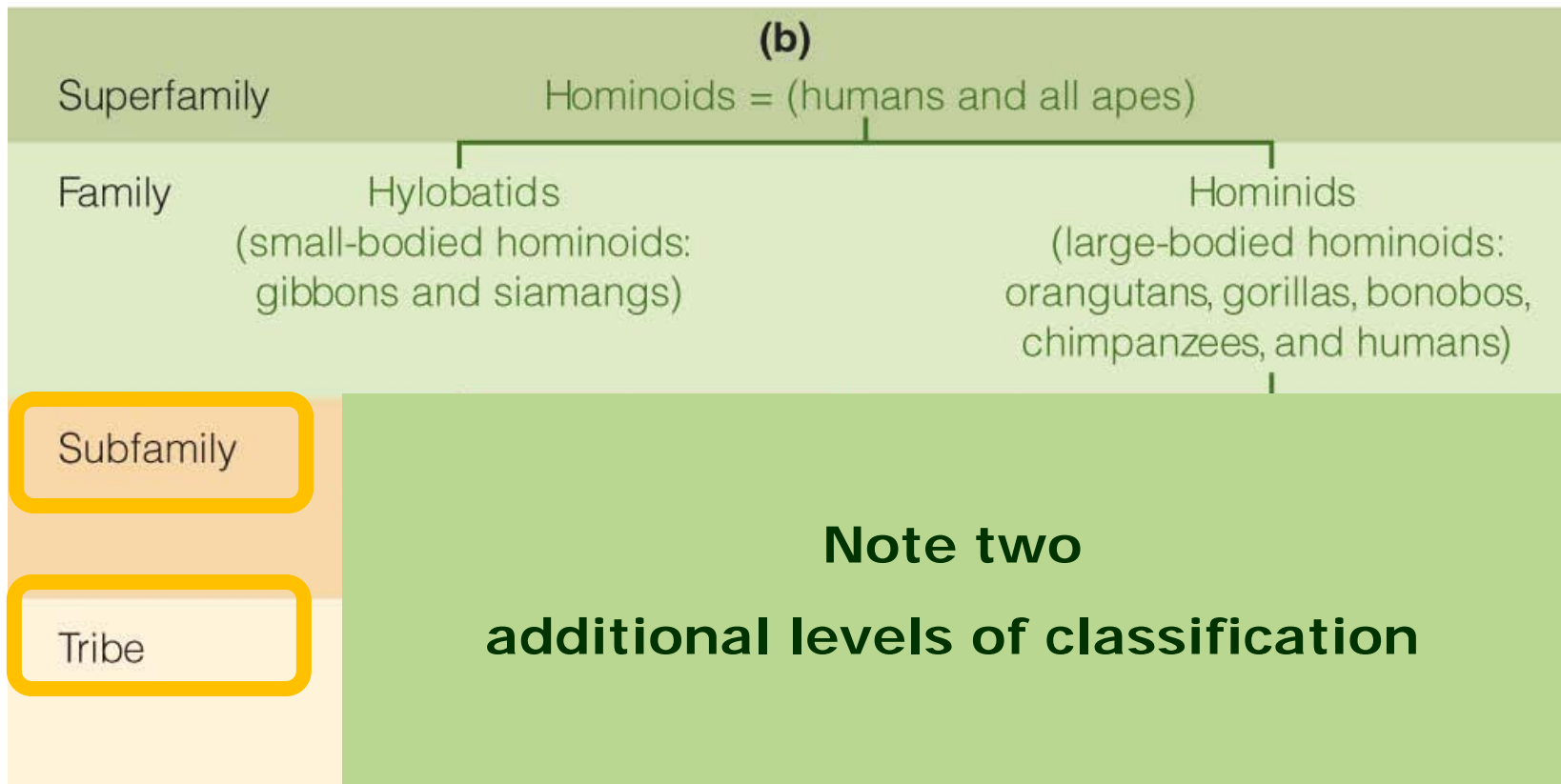
# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129

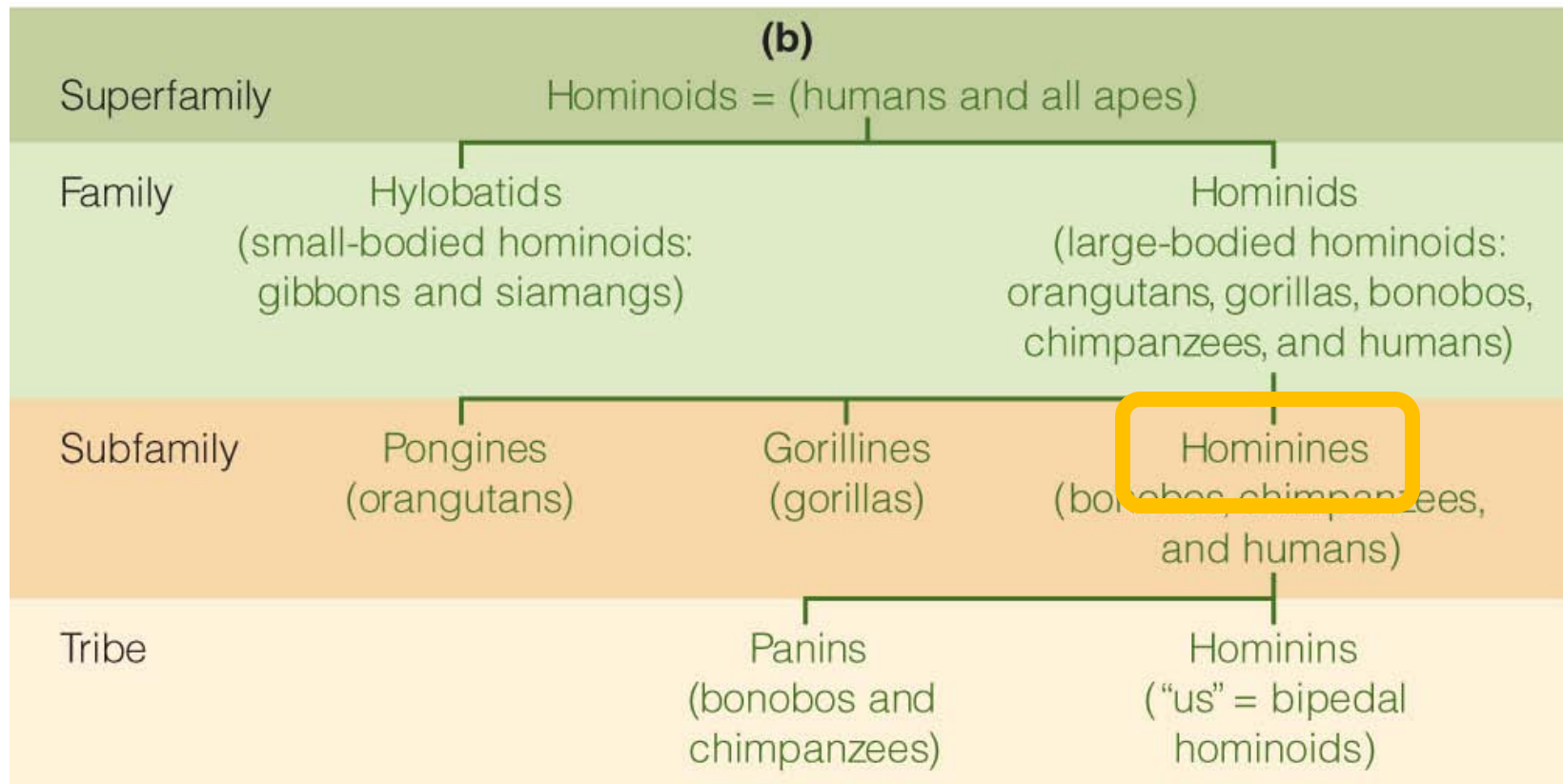
## Revised classification of hominoids



## Revised classification of hominoids

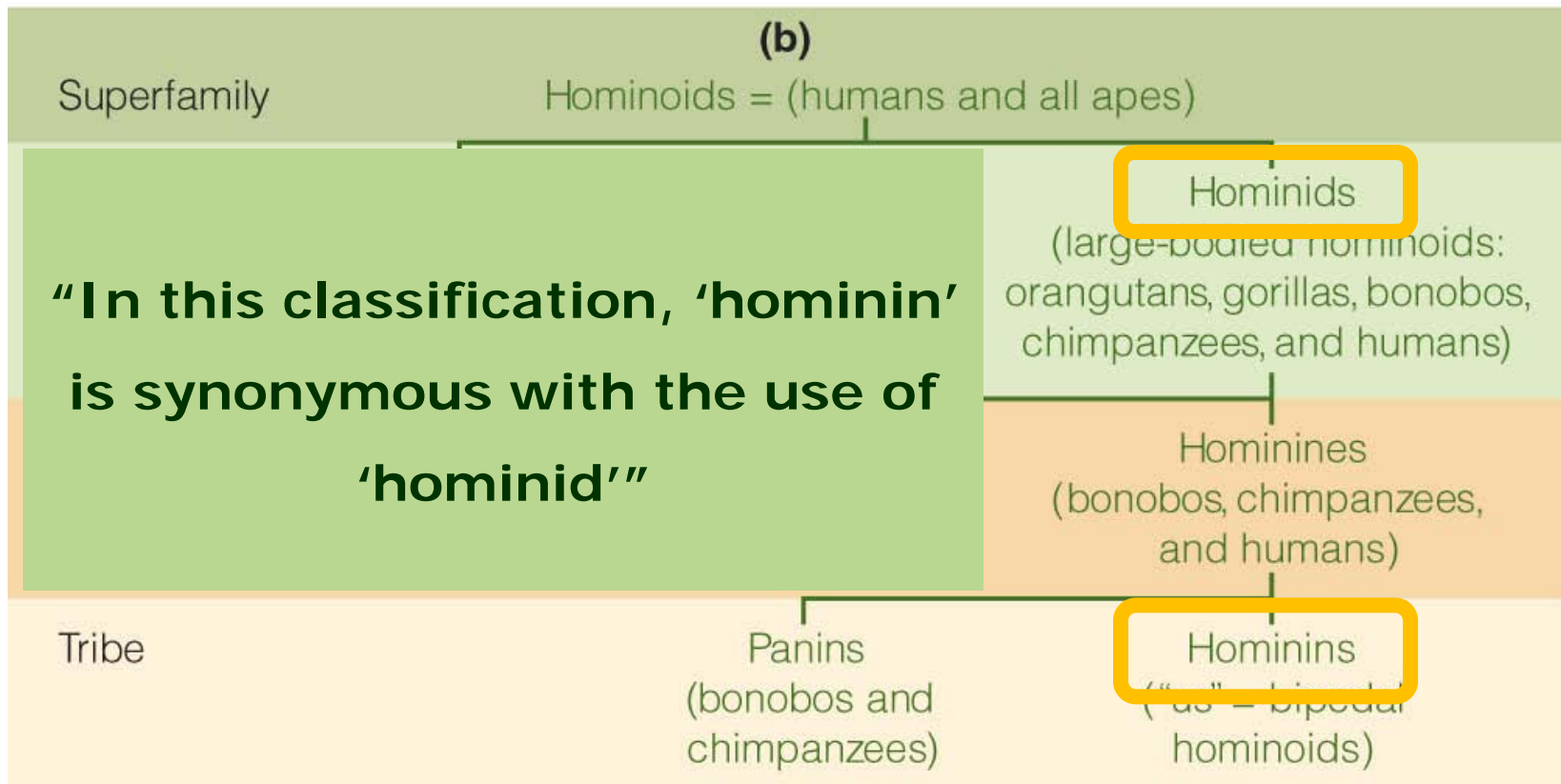


## Revised classification of hominoids





## Revised classification of hominoids



**one more thing  
to pay attention to, concerning  
early primates . . .**



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Pangaea

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(January 2009)

**Pangaea**, **Pangæa**, or **Pangea** (pronounced /pænˈdʒiːə/<sup>[1]</sup>, from **Ancient Greek** πᾶν *pan* "entire", and Γαῖα *Gaia* "Earth", Latinized as *Gæa*) was the **supercontinent** that existed during the **Paleozoic** and **Mesozoic** eras about 250 million years ago, before the component **continents** were separated into their current configuration.<sup>[2]</sup>

The name was first used by the **German** originator of the **continental drift** theory, **Alfred Wegener**, in the 1920 edition of his book *The Origin of Continents and Oceans* (*Die Entstehung der Kontinente und Ozeane*), in which a postulated **supercontinent** Pangaea played a key role.

The single **enormous ocean** which surrounded Pangaea is known as **Panthalassa**.



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# Pangaea

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## Pangea

### the original “supercontinent” . . .

*Origin of Continents and Oceans (Die Entstehung der Kontinente und Ozeane)*, in which a postulated [supercontinent](#) Pangaea played a key role.

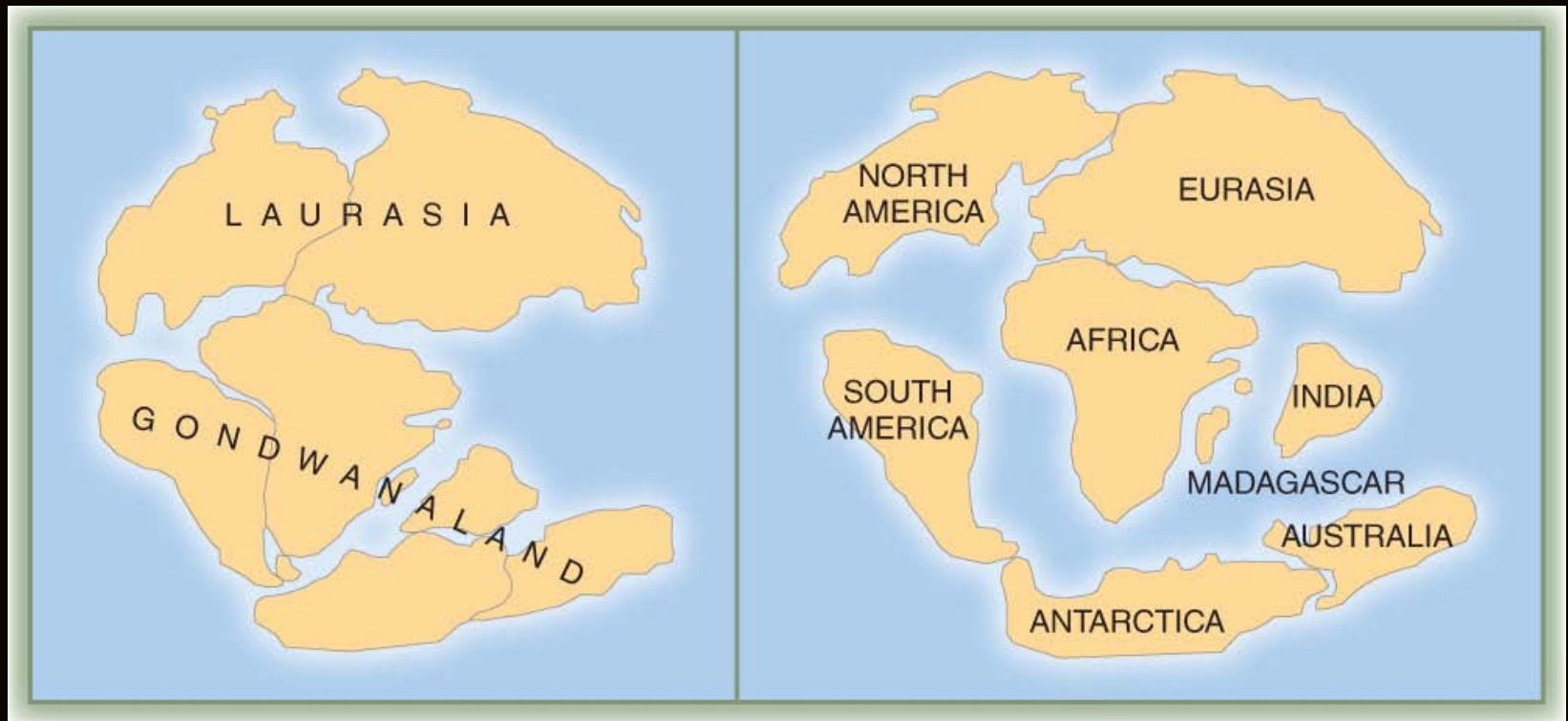
The single [enormous ocean](#) which surrounded Pangaea is known as [Panthalassa](#).

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A map of the supercontinent Pangaea, showing the continents of South America, Africa, India, Antarctica, and Australia joined together in a single landmass. The surrounding ocean is colored blue.

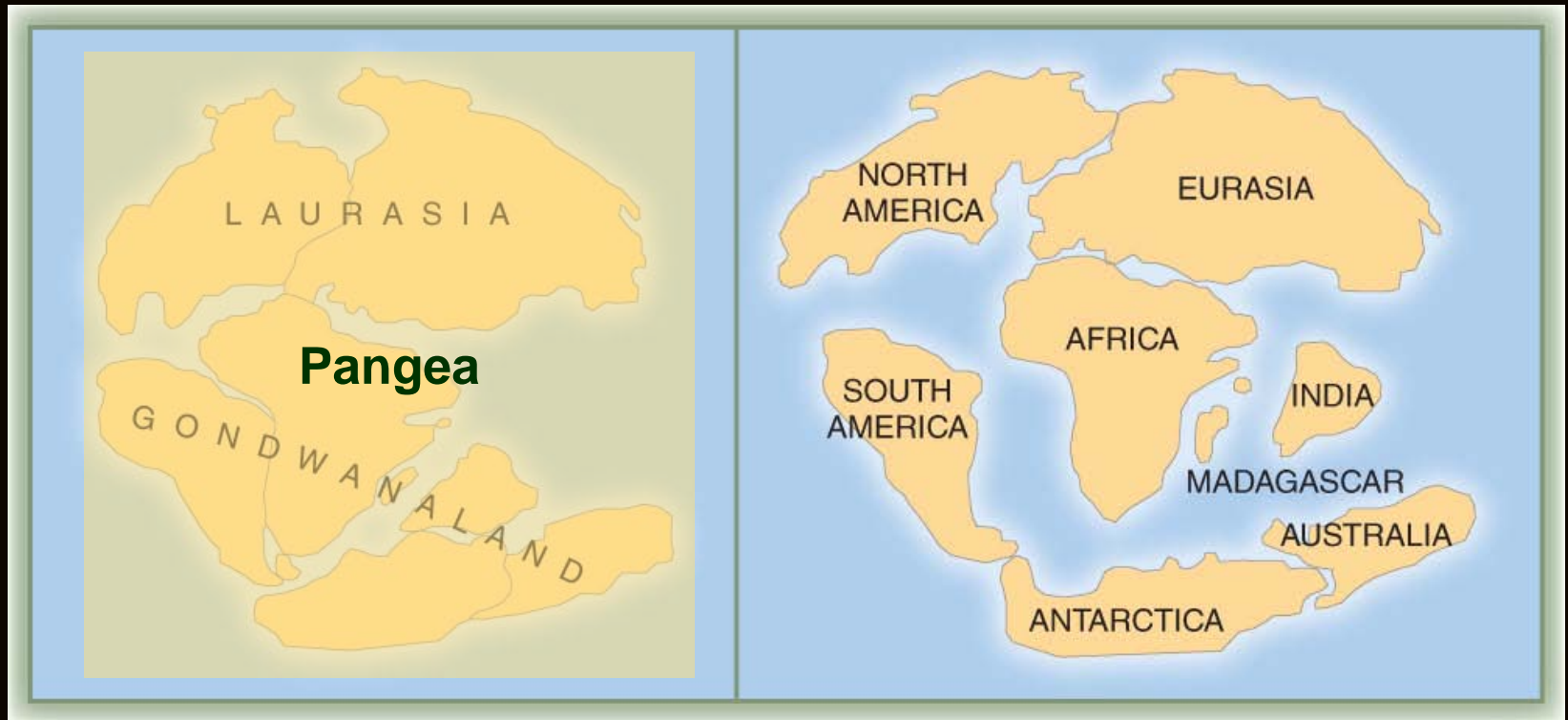




## Continental drift

**Mesozoic (ca. 125 m.y.a.)      Cenozoic (ca. 65 m.y.a.)**

*Understanding Humans, 10<sup>th</sup> ed., p. 111*



## Continental drift

**Mesozoic (ca. 125 m.y.a.)      Cenozoic (ca. 65 m.y.a.)**

*Understanding Humans, 10<sup>th</sup> ed., p. 111*





## Continental drift

Mesozoic (ca. 125 m.y.a.)      Cenozoic (ca. 65 m.y.a.)

# Pangea Split

|

# **Pangea Split**

|

## **“Island Effect”**

**Pangea Split**

|

**“Island Effect”**

|

**Pangea Split**

|

**“Island Effect”**

|

**New Adaptations**

**Pangea Split**

|

**“Island Effect”**

|

**New Adaptations**

|

**New Orders of Creation**

**tree life**

|

**physical modifications**

|

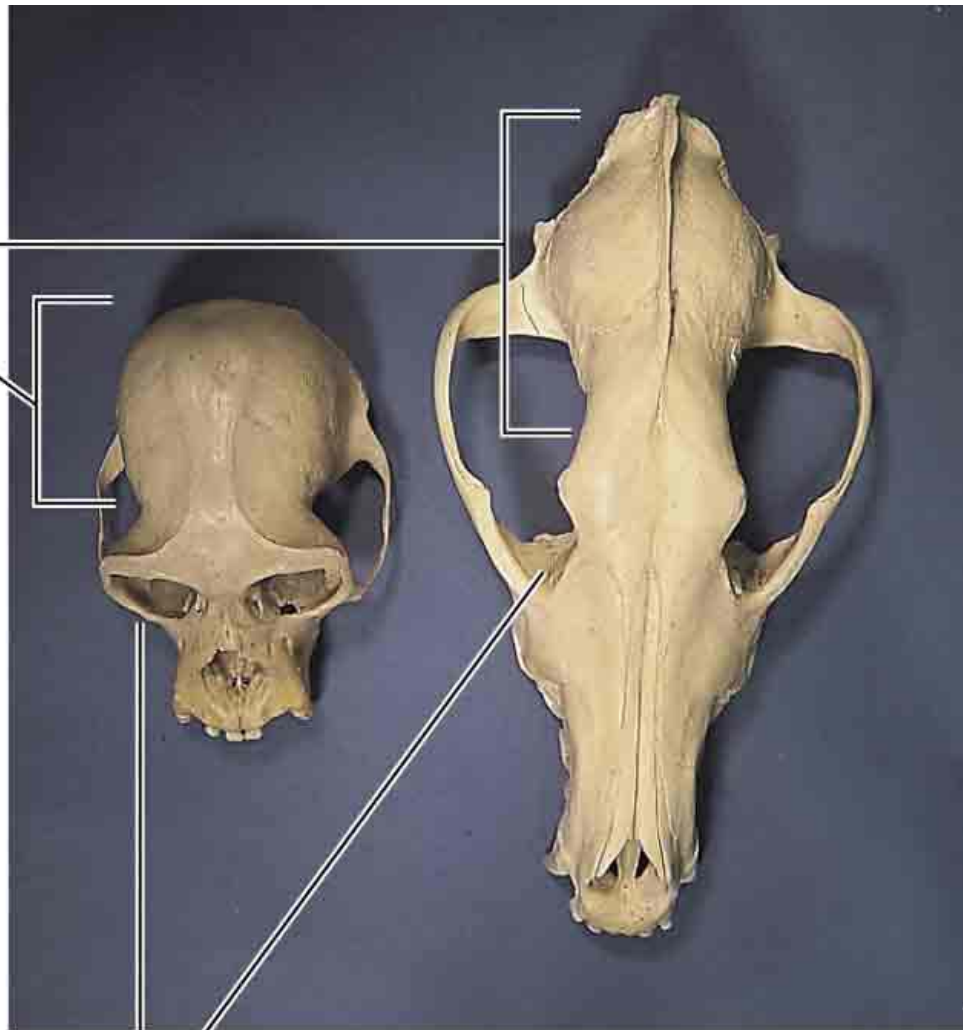


**earliest primates =  
prosimians**  
(pre-monkeys)

**improved grasping hand**  
**improved opposability**  
**more elaborate brains**  
**smelling becomes secondary**  
**color vision**  
**larger eyes**  
**eyes moved forward**

|

Braincase



Eye socket

© 2002 The Wadsworth Group - a division of Thomson Learning

**Gibbon**

**Red Wolf**

*Understanding Humans, 10<sup>th</sup> ed., p. 122*

**All of this required increased  
coordination of senses**

**monkeys use food more  
efficiently than apes**

**monkeys use food more  
efficiently than apes**

**|**

**need for apes to encounter  
wider and more varied  
environments**



**monkeys use food more  
efficiently than apes**

|

**need for apes to encounter  
wider and more varied  
environments**

|

**greater variety of  
environments**

**microenvironments**



**microenvironments**

# microenvironments



## **The African Savannah**

Illustration by Jay H. Matternes

<http://www.amnh.org/exhibitions/atapuerca/africa/branches.php>

**multiplicity of alternatives**

**multiplicity of alternatives**

**|**

**need for deliberation**

**multiplicity of alternatives**

|

**need for deliberation**

|

**requires more time**

**multiplicity of alternatives**

|

**need for deliberation**

|

**requires more time**

|

**causes delay**



**multiplicity of alternatives**

|

**need for deliberation**

|

**requires more time**

|

**causes delay**

|

**therefore life becomes less  
automatic  
and one depends to a greater  
extent on *learning* . . .**

# **CULTURE**

**(learned behavior)**

**Detailed information on primates  
is available on the class website at  
[www.d.umn.edu/cla/faculty/troufs/anth1602/](http://www.d.umn.edu/cla/faculty/troufs/anth1602/)**



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Prosimians -- "Pre-Monkeys" (slides 12B)

Monkeys (slides 12C)

Apes (slides 12D)

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**A Closer Look at the Great Apes** (slides 14)

**Bipedalism: Legs / Feet and Pelvis** (slides 15A)

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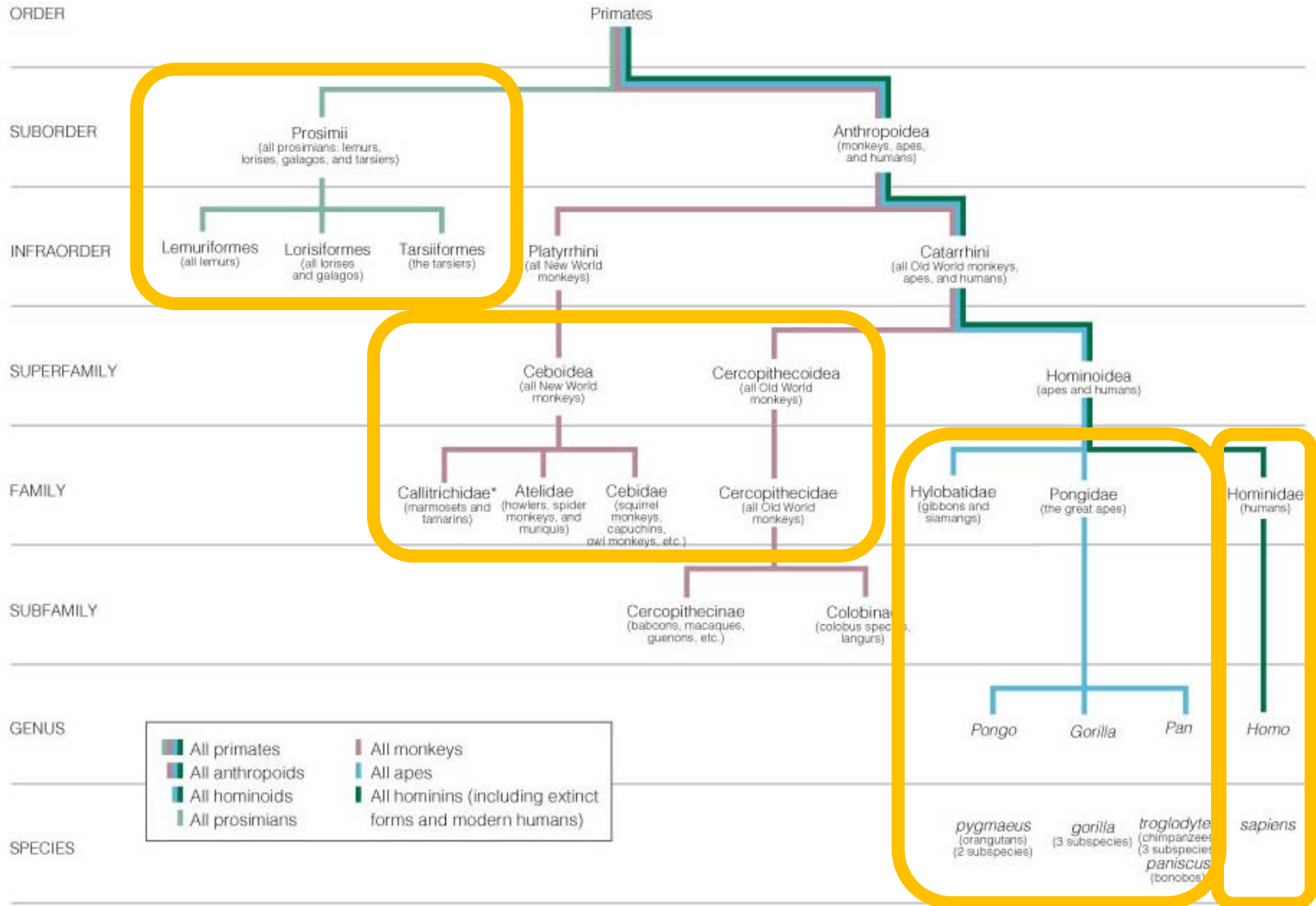
**The Skull** (slides 16A)

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\*Fleagle (1999) and others have recently eliminated the family Callitrichidae and included marmosets and tamarins in the family Cebidae.

# Primate taxonomic classification

Understanding Humans, 10<sup>th</sup> ed., p. 129