CHAPTER 5.3

Classification

THE BINOMIAL SYSTEM

Binomial nomenclature = two-term namingsystem

Bi (Latin = two)

nomial (Latin = name)

CARL LINNAEUS

- in 1735

- observed wildlife a lot

- classified over 12000 different organisms

- in botany and zoology L. used to indicate him as the authority of a species' name

BINOMIAL SYSTEM

Always follows *Genus species* format

Genus : a group of species that share common characteristics but may not be able to interbreed.

Species : a group of organisms in the same genus that are able to interbreed to produce fertile offspring.

RULES

- Genus name starts with a capital letter.

- Species name starts with a lowercase letter.

- Genus name always written before species name.

- The complete name, i.e. genus and species, should be word processed in italics , or underlined when handwritten.

- Often Latin or classical Greek → unchanging languages

BINOMIAL NOMENCLATURE: EXAMPLES

Pongo pygmaeus

(Bornean orangutan)

Bradypus variegatus

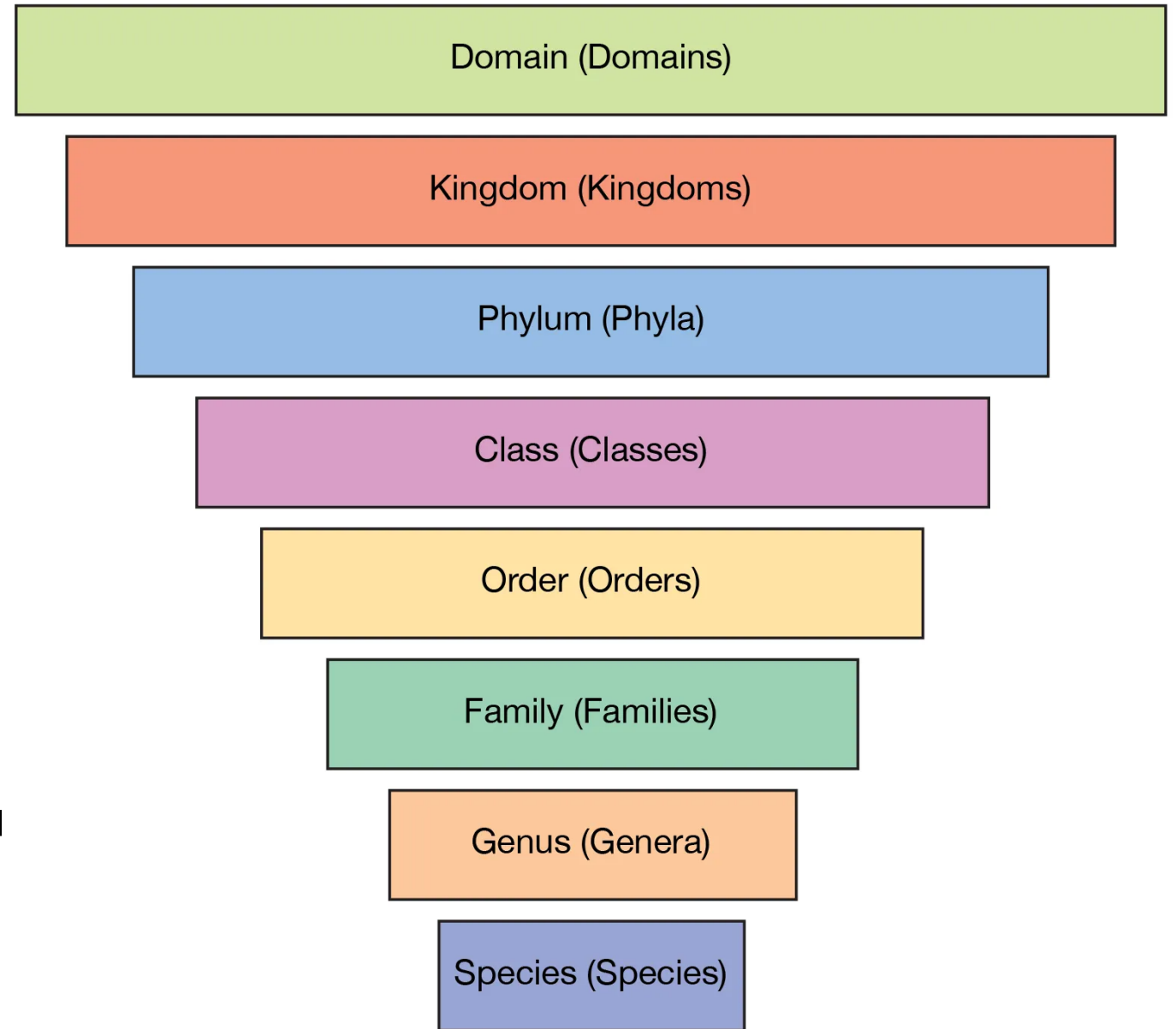*(Brown-throated sloth)*

Megaptera novaeangliae

(Humpback whale)

TAXONOMY

Taxis (Greek =arrangement)

Nomos (Greek = law)

→ taxonomy =

practice and science of categorizat
or classification

Domain (Domains)	
Kingdom (Kingdoms)	
Phylum (Phyla)	
Class (Classes)	
Order (Orders)	
Family (Families)	
Genus (Genera)	
Species (Species)	

TAXONOMY — MNEMONIC?

Domain

Kingdom

Phylum

Class

Order

Family

Genus

Species

THE THREE DOMAINS

THE PHYLOGENETIC TREE OF LIFE
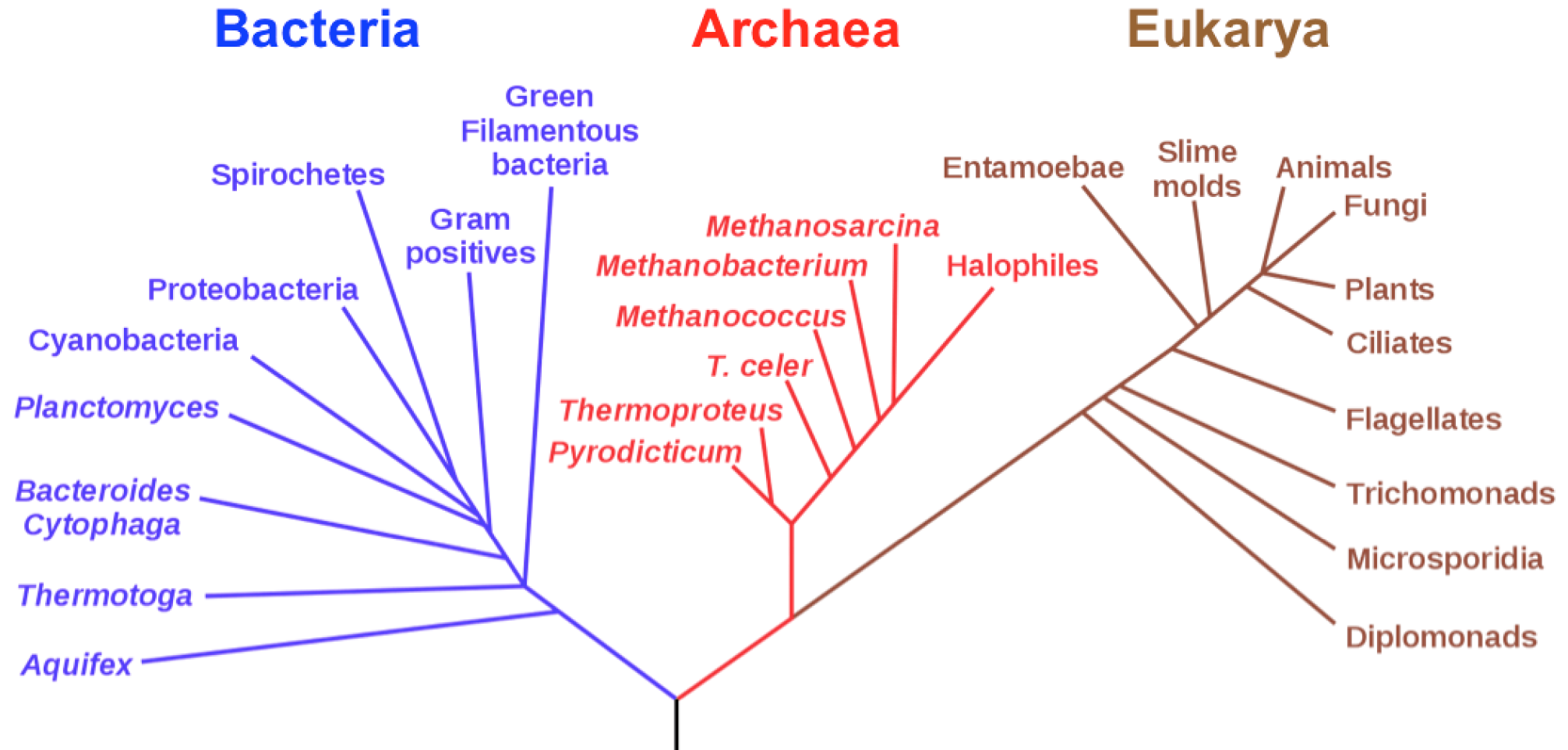
TAXONOMY

Example Humans:

Domain (Domains)

Kingdom (Kingdoms)

Phylum (Phyla)

Class (Classes)

Order (Orders)

Family (Families)

Genus (Genera)
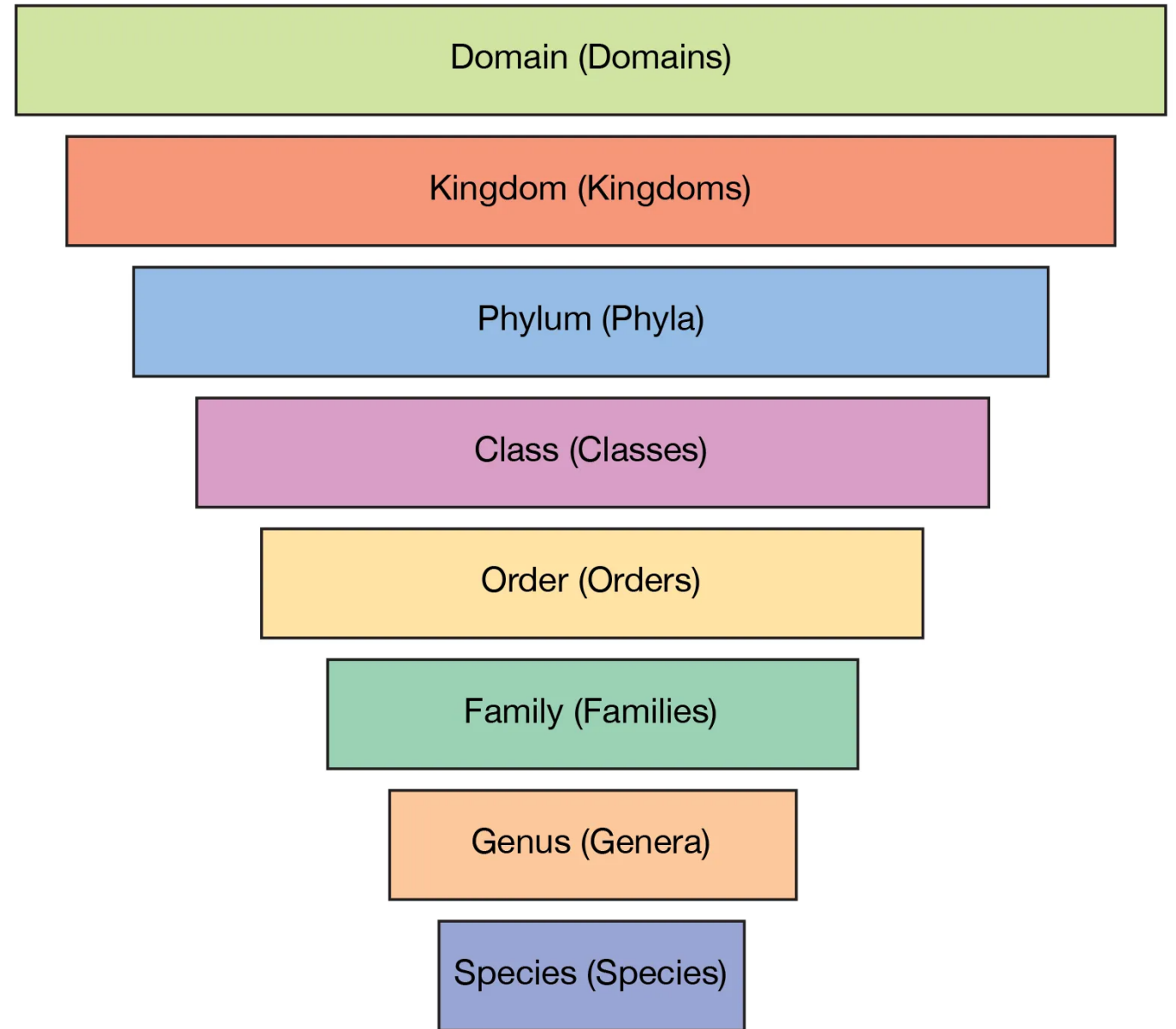
Species (Species)

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Primates
Family	Hominidae
Genus	Homo
Species	Homo sapiens