

STAMP STORIES

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The other day after a meeting of the Seattle Philatelic Exhibition (SEAPEX) Board of Directors, I was talking with my friend Lisa Foster about a musical playing at one of Seattle's fine theaters. We were discussing its location and I said it was on Union Street. Lisa looked off in the distance and said, "Julius Caesar made Seattle under protest."

Confused, I looked at her and said, "Excuse me? What's that got to do with anything?"

I confess I have lived here in The Great Northwest for more than 20 years and I had never heard that phrase before. It is a mnemonic for recalling the order of the cross streets in downtown Seattle. The streets that run parallel to Elliot Bay are easy to remember. They start with First Avenue closest to the bay and proceed in numerical order up First Hill out of the downtown area.

However, the cross streets all have a variety of names and by a happy coincidence, they come in pairs each starting with the same first letter: Jefferson and James, Cherry and Columbia, Marion and Madison, Spring and Seneca, University and Union, and finally Pike and Pine. Thus Lisa's mnemonic, which she was using to visualize the downtown layout.



Seattle Skyline
U.S. Sc#3607

Mnemonics are useful for many purposes. Some are widely known such as, "My very excellent mother just served us nine pies." Which also served us very well until Pluto got kicked out of the planetary group of our solar system in 2006. Now one new version is, "My very educated mother just served us noodles" Personally I prefer pie, but that is a different issue.

Other mnemonics are so esoteric as to only apply in specific or narrow professions. "Bill Brown realized only yesterday good boys value good work," represents, in order, the color codes used in labeling electronic components (black, brown, red, orange, yellow, green, blue, violet, gray, and white).

Mnemonics can take the form of phrases, as we have just seen, or names such as "Roy G. Biv," a reminder of the order of colors in the visible spectrum. Acronyms can also function as mnemonics. HOMES is an acronym for recalling the names of the Great Lakes in North America (Huron, Ontario, Michigan, Erie, and Superior).

By now you may be asking what do mnemonics have to do with the Biology topic and how do they fit into a Stamp Story? Well, I will tell you. The majority of the pages in this journal are taken up with listings of the various biological life forms depicted on postage stamps from around the world. In order to provide the identifications of the various organisms in a standardized way, the associate editors have agreed to list them according to their scientific identification organized in a taxonomic manner. Even professional biologists sometimes get confused about the order of this taxonomy and as a result, they have developed a mnemonic to help them remember it.

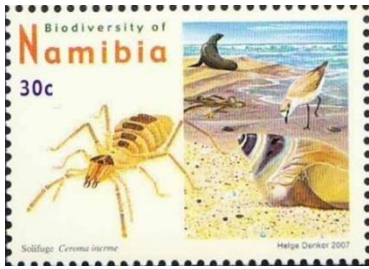
"Dear King Phillip came over for good spaghetti." This phrase is a way to recall the taxonomic sequence for categorizing all living things: Domain, Kingdom, Phylum, Class, Order, Family, Genus, and Species.

Domain: In the earliest systematic listings, kingdom was the highest hierarchy level. However, as biologists began to deal with DNA analysis and life at the molecular level, it became evident that a division above kingdom was necessary. Currently biologists place all living organisms in three domains: Archaea, Bacteria, and Eukarya. The first two contain single-celled life forms whose cells have no nucleus. All life made of cells that have a nucleus and membrane-bound organelles, including humans, is in the Eukarya.



Manure Bacteria
Domain Bacteria
Netherlands Sc#1390e

Kingdom: This category, which you might expect would be simple, is one of the most complicated. Linnaeus started with two kingdoms (if you discount minerals): Plantae and Animalia. As microbiology came into being, the designations have increased, and this complexity has led to a variety of classifications with very little consensus among modern biologists. Proposals exist for five, six, or even eight kingdoms. For this article, I am going to keep it simple and go with five: Animalia, Plantae, Fungi, Protista, and Monera. Protista includes protozoa, algae, and certain molds. Monera includes Archaea and Bacteria. Humans are part of the Kingdom Animalia.



Kingdom Animalia
Namibia Sc#1106



Ulva lactuca algae
Kingdom Protista
Barbados Sc#1136

Phylum: In botany, biologists traditionally used the term “Division” instead of Phylum, but both are accepted. According to the current view, Kingdom Animalia contains approximately 35 phyla and the Kingdom Plantae contains 12 phyla. A phylum is a grouping of organisms with either a certain degree of morphological similarity, or a certain degree of evolutionary relatedness. The largest animal phylum is the Arthropoda with well over one million species described. Two animal phyla, Micrognathozoa and Placozoa, currently include only a single species each.

Humans are in the Phylum Chordata. The term means “with a cord” and refers to the dorsal nerve cord common to all members. More than half of all living chordates are bony fishes. Animals with bony structures belong to the subphylum Vertebrata.



Tyrannosaurus
Phylum Chordata
Great Britain Sc#1389



Class Mammalia
Mexico Sc#2367

Class: This is a rank for grouping organisms that share a common attribute. The Phylum Chordata includes 14 classes with living members. Humans are in the Class Mammalia. Distinguishing characteristics of the Mammalia include the possession of hair, three middle ear bones, mammary glands in females, and a neocortex region in the brain. The Mammalia include the largest animals on the planet, as well as some of the most intelligent. Except for the five species of monotremes (egg-laying mammals), all modern mammals give birth to live young.

Order: This is a grouping of families that share a similar nature. Often there is no exact agreement among taxonomists on grouping organisms in an order. Although for animals, the natural groupings are more consistent and widely accepted than with plants. Depending on the authority, the Class Mammalia includes up to 29 orders. Humans are in the Order Primates. Most primates live in tropical or subtropical regions. They have large brains relative to other mammals and increased reliance on stereoscopic vision at the expense of the sense of smell. Most have opposable thumbs that enable some species to use tools. Primates are among the most social of animals and have slower rates of development than other mammals.



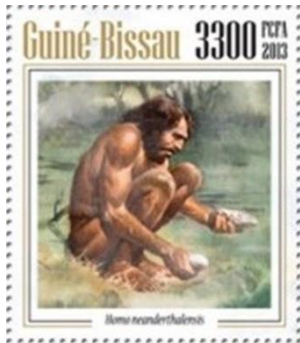
Presbytis rubicunda
Order Primates
Malaysia Sc#954

Family: Organisms belonging to the same family have evolved from the same ancestors and share relatively common characteristics. In botanical nomenclature, the family names of plants, fungi, and algae end with the suffix “-aceae,” with the exception of a small number of historic, but widely used names including Compositae and Gramineae. In zoological nomenclature, the family names of animals end with the suffix “-idae.” The Order Primates includes 13 recognized families. Humans are in the family Hominidae.

In addition to humans, living members of the Family Hominidae include the Great Apes: gorillas, chimpanzees, and orangutans.



Gorilla beringei
Family Hominidae
Rwanda Sc#365



Homo neanderthalensis
Genus *Homo*
Guinea-Bissau not cat

Genus: A genus is a compact grouping of organisms containing all descendants of an ancestral taxon. Within the same kingdom, one generic name can apply to only one genus. A generic name is always capitalized. The Family Hominidae contains four genera. Humans are in the Genus *Homo*. The other genera are: *Pongo*, *Gorilla*, and *Pan*. These are the closest relatives of humans.

The Genus *Pongo* contains two extant species of orangutans, the Bornean orangutan (*P. pygmaeus*) and the rarer Sumatran orangutan (*P. abelii*). The Genus *Gorilla* also contains two extant species, the western gorilla (*G. gorilla*) and the eastern gorilla (*G. beringei*), which is the largest living primate. The Genus *Pan* contains two living species of chimpanzee, the common chimpanzee (*P. troglodytes*) and the bonobo (*P. paniscus*).

Species: A species is the largest group of organisms capable of interbreeding and producing fertile offspring. All species have a two-part, or binomial, name. The first part of a binomial is the generic name, the genus to which the species belongs. The second part is the specific name. Specific names are always lower case. Note also that the generic and specific names are always italicized. This is convention, and it is actually because the terms are considered to be in a foreign language, even though many of them are artificially constructed “Latinized” expressions with no actual root in the target language. The Genus *Homo* contains 12 recognized species, all but one of which are extinct. You and I are members of the species *Homo sapiens*. *Homo sapiens* is a Latin phrase that translates as “wise man.”

I hope this Stamp Story will help you the next time you have to recall the sequence of biological classification. Mnemonics are useful aids, especially for those of us approaching senior citizenship. They exist for almost every area of study and I will leave you with a final example: “Memory needs every method of nurturing its capacity” is a mnemonic for how to spell mnemonic.



Albert Einstein
Species: *Homo sapiens*
U.S. Sc#1774