

## Basic Tenets of the ICZN

### Species vs. Names

Every described animal species has a scientific name and is placed in a higher taxon. Concepts of the limits of species boundaries and taxon relationships at the species-level and above are ever-changing; these organism-based ideas are subjective and cannot be controlled by any rules. The scientific names we use to refer to them, however, are bound by the International Code of Zoological Nomenclature (ICZN). There is a similar Codes for bacteria, and the “International Code of Nomenclature for Algae, Fungi, and Plants.”

Listed below are the main zoological rules to provide a framework for delving into the details of the ICZN to solve the intricate, often inconceivable nomenclature problems that you will inevitably encounter during your career as a taxonomist.

### Availability

Available names are those which are regulated by the ICZN, and may be either valid (accepted by researchers) or invalid (not accepted), determined by their organism-based concepts. Older publications sometimes confused the two terms, erroneously referring to unavailable names as invalid. To be an available name, among other conditions, a name can be in Latin or derived from Greek or any other language (even one with no alphabet), or be formed from such a word. It may even be an arbitrary combination of letters and, to reiterate, remains available even if invalid.

### Availability requirements for genus- and species-group names

Generic, subgeneric, specific, and subspecific names published after 1930 must be accompanied by a description or definition and the fixation of a type species (for genus-groups) or type specimen (for species-groups) unless expressly proposed as a new name for a junior homonym. In addition, a name published after 1999 must use an expression that explicitly denotes it as new.

### Most common kinds of type specimens

Name-bearing Types: Holotype (a specimen designated to represent the species), Lectotype (a specimen chosen from among multiple syntypes that had been chosen by the author to represent the species), Neotype (a specimen chosen to represent the species after the primary type has been lost, and need not be chosen from the secondary types), and Syntypes (sometimes labeled “Co-types,” an unregulated term that should not be used); a series of specimens chosen by the author to represent the species). If the syntypes consist of multiple species, a Lectotype should be chosen as an unambiguous reference for the species’ identity.

Non-name-bearing Types: Remainder of the type series: Paratypes (one or more specimens designated to represent the species but superceded by the holotype regarding identity of the species) and Paralectotypes (as above, but superceded by the Lectotype). The term “allotype” is a term not regulated by the Code but refers to a specimen of the opposite gender of the holotype.

### Varieties

A new name published after 1960 expressly as the name of a "variety" or "form" is deemed to be infrasubspecific and as such unavailable. Before then, however, those terms confer subspecific rank and are available.

### Principle of Priority

When two or more genus-group or species-group names are deemed to be synonyms or homonyms, the older name, irrespective of rank, almost always has priority

and is hence the valid name. The younger homonym is not to be replaced by a new name, however, if it has an available synonym. The younger homonym can also be used as the valid name if the older homonym has not been used as a valid name after 1899 and the younger homonym meets a certain threshold of recent usage.

### **Citation of names**

To avoid ambiguity with possible homonyms and similar names, authors are advised, when citing a name of a genus or species, to cite its authorship and date of publication and also a bibliographic reference to the work in which it was established. Authors of species names that have moved from the original genus are to be put in parentheses.