

Insects and People -- Entomology 101

What's in a Name - Etymology in Entomology

"What sort of insects do you rejoice in, where you come from?" the Gnat inquired.

"I don't rejoice in insects at all," Alice explained, "because I'm rather afraid of them - at least the large kinds. But I can tell you the names of some of them."

"Of course they answer to their names?" the Gnat remarked carelessly.

"I never knew them to do it."

"What's the use of having names. " the Gnat said, "if they won't answer to them?"

"No use to them." said Alice, "but its useful to the people that name them, I suppose. If not, why do things have names at all?"

Lewis Carroll, *Through the Looking Glass*

What does a classification system allow?

What does a classification system reflect?

A classification based on "common names"

1. In the local vernacular
2. Provide a useful system of communication
3. Often based on necessity
4. Not useful over large geographic areas

A Classification based on "scientific names"

1. Greek or Latinized in derivation
2. Provide a useful system of communication
3. Useful throughout the world

Our primary, hierarchical system of classification

	Human	house fly	crab louse
Kingdom	Animalia	Animalia	Animalia
Phylum	Vertebrata	Arthropoda	Arthropoda
Class	Mammalia	Hexapoda	Hexapoda
Order	Primata	Diptera	Phthiraptera
Family	Homidae	Muscidae	Pthiridae
Genus	Homo	Musca	Pthirus
species	sapiens	domestica	pubis

The scientific name or species name consists of the genus and species (usually followed by the name of the author (the person that named and described the species in question))

humans	<i>Homo sapiens</i>
house fly	<i>Musca domestica</i> Linnaeus
crab louse	<i>Pthirus pubis</i> (Linnaeus)

NB: No two species can have the same name!

What is a species?

The Biological Species Concept

1. Organisms with a similar morphology. However, variation, or differences among individuals within the species is always present.
2. Capable of breeding and producing fertile offspring.
3. Reproductively isolated from all other such groups of organisms (species).

An Ecological Concept

Niche -

Nomenclature

Nomenclator -

The act or a system of naming. The system or set of names used in a specific branch of learning.

Common Names

- a system of nomenclature developed as soon as humans realized that there were differences in plants and animals, the knowledge of which could prove useful.
- scientific societies have tried to "standardize" their use.
- List of Approved Common Names published by the Entomological Society of America (and other national entomological societies)

The development of a system of "scientific" nomenclature

- Theophrastus (Greek - ca 287 BC)
- Carl Linne (Swedish - born 1707)
- developed the system of binomial nomenclature
- 1736 the first edition of *Systema Naturae*

-Binomial Nomenclature

- the generic and specific name are combined to form the scientific name.
- the names are derived from Latin or Greek or are Latinized
- the generic name is always capitalized the specific name is not
- the name is normally italicized or underlined

-The International Code of Zoological Nomenclature

Who names insects?

taxonomy - the science of naming and describing organisms.

systematics - the science of classification

-Carolus Linnaeus (he Latinized his name) named just over 2,000 insects

-Francis Walker, a British entomologist, named over 20,000 insect species

What do the names mean?

-anything you like (but you must bear the consequences)

-*Musca domestica* Linnaeus -

-*Donaceus azhari* Zack & Sites -

-*Pison eu* Menke

-*Lalapa lusa* Pate

-*Dicrotendipes thanatogratus* -

-*Anax junius* (Drury) - the common green darner dragonfly (state insect of Washington) -

"Monarch of June"