

*The Patuxent Wildlife Research Center's Washington field station has had a formal partnership with the National Museum of Natural History of the Smithsonian Institution since 1889. The scientists and staff of this station conduct original research on systematics, nomenclature, and biodiversity of vertebrates. An important aspect of their work involves the classification of organisms and the application of scientific names to vertebrate species.*

## WHAT IS SYSTEMATICS?

Systematics is the science of classifying organisms--the determination of identities and inter-relationships at the species level, and of evolutionary relationships above the species level.

Systematics is important because it is the primary language for communicating information about the biodiversity of the planet Earth--for which the ability to identify and describe individual organisms and their populations is the basic requisite.



## WHAT ARE TAXONOMY AND NOMENCLATURE?

Taxonomy is the aspect of systematics that deals with the correct application of scientific names. Nomenclature is the system of scientific names applied to organisms. Rules and recommendations govern the formation and application of scientific names to promote stability and universality.

## USES FOR SYSTEMATICS AND NOMENCLATURE

Systematics and nomenclature are fundamental for:

- biotic inventories
- taxonomic reviews
- wildlife forensic analyses
- checklists, such as "Checklist of Vertebrates of the United States, the U.S. Territories, and Canada"
- management of research collections
- determination of the status of threatened or endangered species

## OUR ROLE IN SYSTEMATICS AND NOMENCLATURE

Examples of Historical and Current Research

- Geographic variation in white-fronted geese
- Systematics of sandhill cranes
- The A.O.U. check-list of North American birds
- Snake species of the world - a taxonomic and geographic reference
- Mammals of South America
- The Integrated Taxonomic Information System (ITIS)
- Systematics of Mexican cotton rats
- Checklist of Vertebrates of the United States, the U.S. Territories, and Canada

