

Definition of Terms:

- **Natural History:** deals with the study of natural objects and organisms and their origin, evolution, interrelationships, and description (American Heritage Dictionary 1992). It practically involves species description and physiology (Taxonomic Characteristics), distribution, annual cycle, food habits, reproduction, growth and development, behaviour, ecology (including habitat, home range), social hierarchy, mortality rate and factors, among others.
 - **Systematic or taxonomy** is the classification of organisms and includes such procedures as identifying and naming.
- i. Procedure for identifying and naming organisms: organisms are identified and named by the use of taxonomic characters.

Taxonomic characters:

A taxonomic character is an inherent peculiarity of any one group of organism and is not shared with any other group or any individual of that group.

Mostly, morphologic taxonomic characters are used: such as size, shape, colouration etc.

- ii. Obligatory taxonomic categories employed in the classification of mammals:

Kingdom	Animalia
Phylum	Chordate
Class	Mammal
Order	Proboscidea
Family	Elephantidae
Species	<i>Loxodonta Africana</i>

It should be emphasized that there are many more taxonomic or classification categories in between.

Example of the other omitted taxonomic categories to be read or briefly discussed in class.

It should be obvious that when discussing the various mammals found in Africa, the new taxonomic names will be encountered in orders, families, genera and species. All orders the mammals belong to the same class of mammals.

- iii. Discussion of orders, families, genera and species

Classification categories

➤ Ordinal characters:

Orders of mammals are based on taxonomic characters affecting major differences in:

- Limb (modification for flying, running, aquatic life, etc)
- Digits (reductions and modifications)
- Nature of the ends of the digits (nails, claws, hooves)
- Dentition (presence or absence of canines and major modification in molars and pre-molars)

- Characters of the soft anatomy (complexity of brain): criers of mammals (and other organisms- plants, birds, insects, reptiles etc have a world-wide geographical distribution.
- Orders contain one or more families
- There are 19 orders of mammals in the world.

➤ **Family characters:**

Family characters in mammals are concerned with the following major taxonomic differences:-

- Internal modifications of the body (presence or absence of skill characters)
- Modifications of the teeth especially molars and pre-molars)
- Modification of the external body form (quills, horns and anthers)
- Lesser differences in limbs, digits and oranal modification families are not as world wide distributed as are orders. Families tend to have limited geographical distribution.
- There are 125 families of mammals in the world

➤ **Generic characters:**

Generic characters are less marked and often have to do with differences in:

- Skill and teeth
- External features

➤ **Specific characters**

Specific characters have to do with differences in:

- Size, colour, markings, shape and other external features
 - Size and proportions of skulls
 - A species is normally defined in terms of reproductive isolation or lack of inter breeding
- iv. Nomenclature is concerned with the application of a taxonomic name a given kind of animal or organism (also applicable to plants).
- Normenclature is necessary in order to avoid confusion normally associated with vernacular or common names in a particular area.

Example of confusion that can occur by use of vanacular names:-

Buffalo	Vs	Bushcow
Tiger	Vs	Leopard
Cheetah	Vs	Leopard
Antelope	Vs	Deer
Bushcow	Vs	Buffalo
Bushfowl	Vs	Guinea fowl or francolin
Elk	Vs	Moose etc.

➤ **Under Taxonomic characters:** The following shall be discussed:

- SH - Shoulder height
- HB - Head and Body length
- T - Tail length
- TL - Total length (HB + T)
- HL - Horn Length (if applicable)
- WT - Weight
- DF - Dental ferumlar

Body structure:

General appearance, colour/markings, posture and other valuable external features.

Geographical distribution

(with emphasis on distribution in Nigeria)

Habitat preference

Food habits

Reproduction

Behaviour

Status and economic considerations

(with emphasis on conditions in Nigeria).

➤ **ASSIGNMENT:** Name the eighteen order of mammals available in Africa.

- **ANSWER**

- Insectivora - Shrew & hedgehog
- Chiroptera - Bat
- Pholidota - Pangolin
- Lagomorpha - Hare
- Primata - Monkey & Chimps
- Rodentia - Rodents
- Cetacea - Whales
- Carnivora - Carnivores
- Pinnipedia - Seals
- Tubulidentata - Aardvark
- Proboscidea - Elephants
- Hyracoidea - Hyraxes
- Sirenia - Manatees
- Perisodactyla - Odd toed Ungulates
- Artiodactyla - Even toed Ungulates