THE LIVING WORLD

Unique Features of Living organism:-

- **Growth**
- **Reproduction**
- **Meta boI juin**
- **CCIFISCillMineS5**
- **Life span**

All processes of life occur in protoplasm and hence Huxley Wrightly called protoplasm as the physical basis of life, It Is known as living matter because it shows all properties of life.

BIODIVERSITY

Currently there are some 1.7 -1.8 million living organisms known to science_
Out of 'which L25 are animals anti about 0.5 mi Blom are plants..
Use of Systematics

1) Identification
2) Nomenclature
3) Classification

Biological nomenclature For providing scientific name to known organisms.
Each name has two components - generic name ilgenus) and specific epithet (specie0_
Th is system of nomenclature was provided by Carole s Linnaeus.
Taxonomic categories A taxonomic category is a rank or level in the hierarchical classification of organisms. There are seven obligate categories and some intermediate categories.

Taxonomic hierarch'. is given hallow :

kingclorn ——o-Dholsion ——b.ClaSS —40 Order —IP CgirniN —1. Genus —I-Species

Taxonomic Aids : Techniques, procedures and stored information that are useful in identification and classification of organisms are called taxonomic aids. Like:

1_ Herbarium
2. Ntuseurns
3_ Zoological park
4. Botanical Garden
5_ Key

- Key stone species determine the biotic structure of an entire commonly,
- Taxonomy Is divided into three types by Turil (1 358).

[alpha'. taxonomy – It deals with collection and identification of organisms on the basis of gross morphology, field a nd herbarium studies that helps to comi le nionogeaphs and flora and to identify plants. It is classical taxonomy_

(al (heimi taxonomy – It deals with collection and identification an the basis of morphology and evidences from genetics, cytology, anatomy, physiology.. etc.

(3J fl (omega} tanionomy — It consider all microscopic otiseryations and biochemical evidences and is eoulyalent to neosystematics (modern taxonomy) and based on phonetic classification.

- Father W Santapaii — Father of Indian Taxonority.
- Roxburgh — Father of Indian Botany arid Indian Herbaria.
- The term taxonomy was coined arid used by French botanist A.P. d Ca ndol le (1813 in his book Theorie Elemental re de La Botanique.
- Term s'ysternatic was used by Swedish botanist .and doctor Linnaeus (father of Taxonomy for his book System Nature 11173S).
- .Famous Books

The 041 n of Life	Oparin
Principles of Systematic Zoology	Ernst Mayr
Phi liosophic Zoologique	Lamarck
Sys-terna Maturae (1735 1758)	Linnaeus
Species Planta num (1753)	Linnaeus
Genera Plantarum X17371	Linnaeus
Phl losooh la Bota nica	Linnaeus

- Correlated characters are groups of common features present in different rrkernbers of a group which are used delimitation of various taxa e.g. common features in different species from a genus. This shows common ancestry.
- Revision of Group. It is the grouping of species into distinct taxa of higher category on the basis of their horrnology and evolutionary relationship.
- Vegetation of an area is clescritbeclbkrt flora/fauna is listed.
- FAA [Forma li n aceto-alcoholl is a liquid preservatEve, most commonly used far preserving anatomy materials.
- Botanical survey! of India (BSI) was established in 1890. Its head office is at Calcutta.

Species with two or more varietieshvbspe.cies is known as poloypic species while the one which has no race/wain'if/subspecies is called rnonotypic species.

Cohort A group of individuals of the same ale within a population.

Sympatrk species (Sym = Similarf. These are genetically unrelated (different} indiltiduals of species having sa mon o'oerlapping area of Beographica l distribution.

Allopatric species (Allo z different). Th ese are genetically related species haying different area of geographical distribution.

Lamarck gave tiyariarnic concept stating that species is mutable and dynamic.

Biological concept of species was ziyen by Dobiansky (19'37) and Mayr (1942).