

Classification

Partha Lodh

Assistant Professor

GGDC at Kaliganj

Bentham & Hooker's (1862-1883) Classification

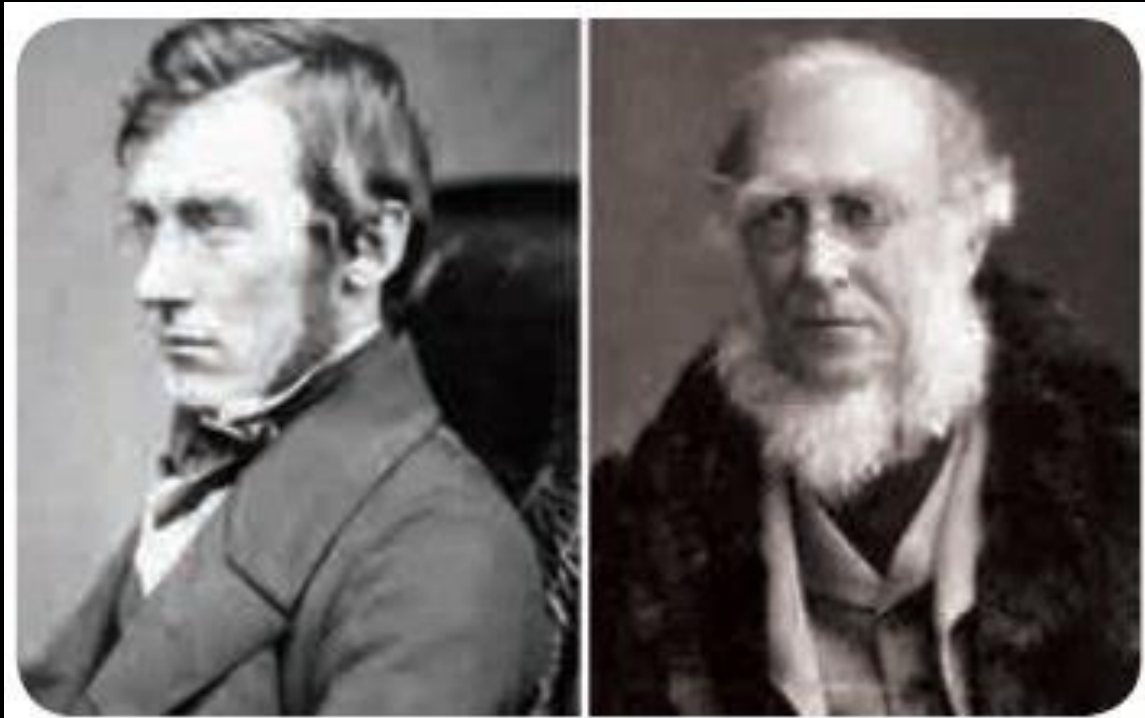


Figure 5.5: George Bentham and J.D. Hooker.

1st Vol. Published in 1862-

Genera Plantarum

Final volume of **Genera Plantarum** (vol.3) appeared in 1883

This is a **natural classification** mainly based on morphological characters

Bentham & Hooker's (1862-1883) Classification

Dicotyledons



SUBCLASS-

- *Subclass 1. POLYPETALAE*
(Flowers with Petals free)



- *Subclass 2. GAMOPETALAE*
(Flowers with Petals fused forming corolla)



- *Subclass 3. MONOCLAMYDEAE*
(Flowers with perianth)

Bentham & Hooker's (1862-1883) Classification

Dicotyledons



SUBCLASS-

- *Subclass 1. POLYPETALAE*
(Flowers with Petals free)



- *Subclass 2. GAMOPETALAE*
(Flowers with Petals fused forming corolla)



- *Subclass 3. MONOCLAMYDEAE*
(Flowers with perianth)

Bentham & Hooker's (1862-1883) Classification

Dicotyledons



SUBCLASS-

- *Subclass 1. POLYPETALAE*
(Flowers with Petals free)



- *Subclass 2. GAMOPETALAE*
(Flowers with Petals fused forming corolla)



- *Subclass 3. MONOCLAMYDEAE*
(Flowers with perianth)

Bentham & Hooker's (1862-1883) Classification

Dicotyledons



SUBCLASS-

– *Subclass 1. POLYPETALAE*

SERIES-

- *Series 1. THALAMIFLORAE*

(Petals and Stamens hypogynous)

Cohort(6)- Ranales to Malvales

Families- Ranunculaceae, Magnoliaceae, Malvaceae



- *Series 2. DISCIFLORAE*

(Stamens inserted upon a floral disc at the base of ovary, Flr. hypogynous)

Cohort(4)- Geraniales to Sapindales

Families- Rutaceae, Meliaceae, Sapindaceae



- *Series 3. CALYCIFLORAE*

(Petals and stamens perigynous, Ovary more or less enclosed, sometimes inferior)

Orders(5)- Rosales to Umbellales

Families- Leguminosae, Rosaceae, Umbelliferae

Bentham & Hooker's (1862-1883) Classification

Dicotyledons



SUBCLASS-

– *Subclass 2. GAMOPETALAE*

SERIES-

- *Series 1. INFERRAE*

(Ovary inferior, Stamens as many as corolla lobes or few)

Cohort(3)- Rubiales, Asterales, Campanales

Families- Rubiaceae, Compositae, Campanulaceae



- *Series 2. HETEROMERAE*

(Ovary Superior, Stamens as many as corolla lobes or more, epipetalous/free, Carpels > 2)

Cohort(3)- Ericales, Primulales, Ebenales

Families- Ericaceae, Primulaceae, Ebenaceae



- *Series 3. BICARPELATAE*

(Ovary gen. superior, stamens alternipetalous, same or fewer, Carpels usually two)

Orders(4)- Geraniales, Polemoniales, Personales and Lamiales

Families- Solanaceae, Scrophulariaceae, Acanthaceae, Labiatae.

Bentham & Hooker's (1862-1883) Classification

Subclass 3. Monochlamydae



Series-

– *Curvembryeae*

(Embryo curved round, generally mealy albumen, Ovules generally solitary, Flowers usually hermaphrodite, Stamens equal in number or fewer than tepals)

Families- Amaranthaceae, Polygonaceae

– *Multiovulatae Aquaticae*

(Submerged herbs, Ovary syncarpous, Ovules numerous)

Families- Podostemaceae

– *Multiovulatae terrestres*

(Terrestrial herbs or shrubs, Ovary syncarpous, Ovules numerous)

Families- Nepenthaceae, Aristolochiaceae

– *Microembryeae*

(Embryo very small in copious albumen, Ovary usually syncarpous or apocarpous, Ovules usually solitary)

Families- Piperaceae, Myristicaceae



Bentham & Hooker's (1862-1883) Classification

Subclass 3. Monochlamydae

Series-

– *Daphnales*

(Ovary usually monocarpellary, Ovules solitary or in pairs, trees or shrubs with bisexual flower, perianth sepaloid in one or two series)

Families- Thymeleaceae, Laurineae

– *Achlamydosporae*

(Ovary unilocular, 1-3 ovuled, seeds devoid of testa, Albumen naked, Perianth sepaloid or petaloid)

Families- Loranthaceae, Santalaceae

– *Unisexuales*

(Flrs unisexual, Ovary superior or Monocarpelary, Perianth Ab. sometimes)

Families- Euphorbiaceae

– *Ordines Anomali*

(Near the last series, not allied to any other order, Flowers often unisexual)

Families- Ceratophylleae

Bentham & Hooker's (1862-1883) Classification

Monocotyledones

Series-

— *Microspermae*

(at least the inner perianth petaloid, Ovary inferior, 1- Celled, with 3 parietal Placentae; **Seeds very small, without endosperm**)

Families- Orchidaceae, Burmanniaceae

— *Epigynae*

(at least the inner perianth petaloid, Ovary usually **inferior Seeds with endosperm**)

Families- Amaryllidaceae, Bromeliaceae

— *Coronariae*

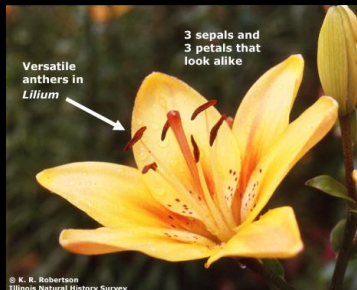
(at least the inner perianth petaloid, Ovary usually **Superior endosperm present**)

Families- Liliaceae, Commelinaceae

— *Calicinae*

perianth small sepaloid, Stiff or herbaceous
Ovary usually superior, endosperm present)

Families- Arecaceae, Juncaceae



Bentham & Hooker's (1862-1883) Classification

Monocotyledones

Series-



- *Nudiflorae*
(Perianth lacking or reduced to scales or bristles;
Ovary superior; endosperm present)

Families- Araceae, Typhaceae



- *Apocarpeae*
Perianth in 1 or 2 series or lacking **Carpels 1 or
else free**, Ovary superior, **endosperm lacking**

Families- Alismaceae, Najadaeaceae



- *Glumaceae*
(Flowers in heads or spikelets, subtended by
usually imbricated bracts,; Perianth small scaly or
lacking, Ovary with 1 Ovule in each cell, 1-
seeded, endosperm present)

Families- Graminae or Poaceae, Cyperaceae

**Bentham & Hookers
Classification**

Plant Kingdom

Cryptogamia

SUBKINGDOMS

Phanerogamia

DIVISIONS

Dicotyledons

CLASSES

Gymnospermae (DIVISION)

Monocoteledons

SERIES

- Microspermae
- Epigynae
- Coronarieae
- Calycinae
- Nudiflorae
- Apocarpae
- Glumaceae

SUBCLASSES

Polypetalae

Gamopetalae

Monochlamydae

SERIES

- Thalamiflorae
- Disciflorae
- Calyciflorae

- Inferae
- Heteromerae
- Bicarpellatae

- Curvembryae
- Multiovulatae Aquaticae
- Multiovulatae Terrestres
- Micrembryae
- Daphnales
- Achalmydosporae
- Unisexuales
- Ordines Anomali