



BIOLOGY OF INDIAN MAMMALS

ORDER : PROBOSCIDAE

ELEPHANTS

ELEPHANTS



- **2 GENERA**

- *Laxodonta Africana* (now 3 species-based on genetic studies)
- *Elephas maximus*

Difference between Asian & African elephants.

Asian elephant: Double domed fore head, only males have tusks, one finger at the tip of the trunk, 19 pairs of ribs, 33 caudal vertebrae, 4 hooves on the hind foot, 5 hooves in the fore foot

Elephants

- **African elephant** – Both males and females have tusks, single domed fore head, 21 pairs of ribs, 26 caudal vertebrae, 3 digits on the hind foot, 5 digits on the fore foot, 2 fingers at the tip of the trunk



Elephants

Prehistoric time – Pig like creatures

(Moeritherium, 25 million years ago, fossils found in Lake Moeris, Egypt)

Modern elephants (evolved 5 million years ago along with Mammoths)

Mammoths existed 20,000 years ago



Asiatic elephants



- **Distribution:** 11 countries.
- **Status :** Endangered
- **Population :** Ca. 23,000
- **Past distribution :** Pakistan, Rajasthan, Madhya Pradesh
- **Present Distribution:**
 1. South India (Eastern & Weseren Ghats) : > 8000 individuals

Asiatic elephants

- 2. North-West (Rajaji-Corbett) :
>750 individuals
 - 3. Orissa-Bihar-West Bengal :
>1600 individuals
 - 4. North-East : > 13,000
individuals
- DISTRIBUTED IN ISOLATED
POCKETS
- HABITAT LOSS &
DISCONTINUTY



Asiatic elephants

- **Teeth** – Lophodont dentition, tusk is modified upper incisors
- **Dental formula:** I 1/0, C 0/0, PM 3/3, M 3/3 = 33 teeth
- Weigh about 4 tones
- > 3.5 mt. height
- **Longevity** – 60 to 70 years
- **Gestation** – 20 to 22 months



Elephants



- **Social system**
- Basic unit of the elephant society – FAMILY
- Temporary association of the families – CLAN
- Role of temporal gland or musth gland
- Sexual maturity - > 20 years
- Males are either found solitary or form bachelor herds after sexual maturity
- Cows and sub-adult females and calves stay together
- Sex ratio (Male:Female ratio): By birth it is 1:1
- In wild – in Periyar Tiger Reserve, Kerala it is 1:76 (selective elimination of males)

Elephants



- **Activity budget** : 70 to 80% of time spent in feeding
- Home range : Males 170 to 320 sq.km, females 100 to 150 sq.km
- **Feeding** : Grazers & browsers, debark trees (minerals, essential fatty acids & moisture content), feed on soil rich in sodium , salt, wasteful feeders (facilitation)
- **Water intake** : periodic drinkers, 100 lits of water at one time, up to 225 lits of water required in a day, dig water holes in streams during dry season
- **Studies in India**

Elephants

- **Major conservation issues**
- 1. Exploitation of habitat
- 2. Shifting cultivation
- 3. Hydro electric and irrigation dams
- Hunting of elephants
- Crop raiding and human slaughter by elephants
- Political unrest & insurgency
- Straying of disoriented elephants
- Project elephant

