Camel

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- Camels along with Llama, Vicuna and Alpacas are called **pseudo-ruminants** as they lack one stomach chamber (omasum) out of four chambers in ruminants. Reticulu m contains glandular cells.
- There is no gall bladder like horses there are four mammary glands in the udder of camel.

- Order – Artiodactyla
- Sub-order – Tylopoda
- Family – camelidae
- Genus

Camelus

1. Dromedry/Arabiancamel (Single hump)
2. Bactrian (Double hump)

Llama

1. Llama
2. Alpaca

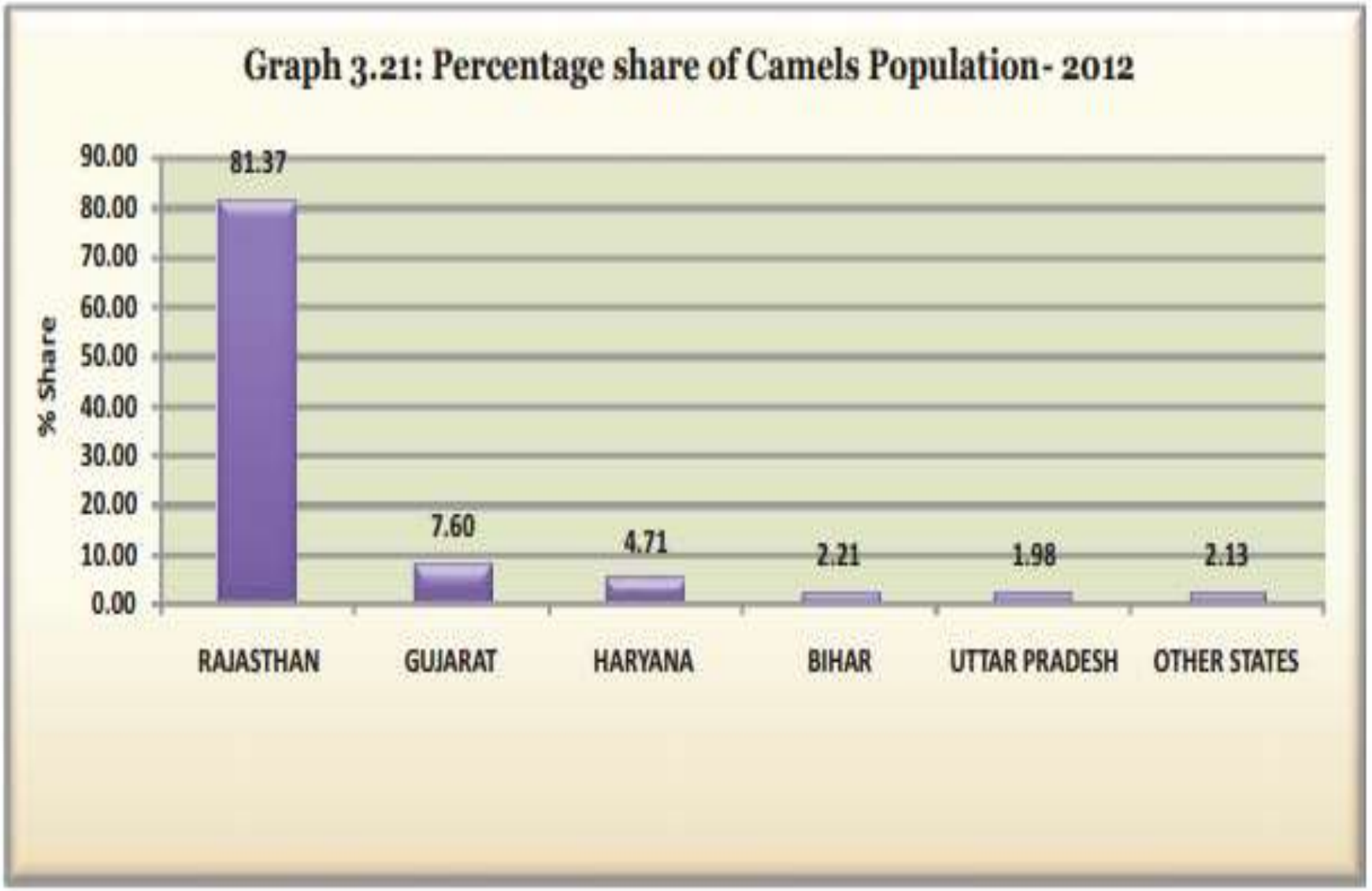
Vicugna

1. Vicuna

- ✓ Most of the camels in single humped.
- ✓ A very small number of double-humped camels are available in ladhak area.
- Camelus dromedrarius- one humped/Arabian/ Dromedary
- Camelus bactrianius – Thow humped/Bactrinion camel

- India stands third after somalia and sudan.
- The total Camels contributes around 0.08% of the livestock population.
- 0.4 million numbers(2012 Census)
- The chromosome number of **74.**

State-wise Camel Population



- Two humped camel inhabits in the desert of central Asia reaching up to Magnolia and Western part of China.

- Single hump Arabian camel wide spread throughout middle east India and north Africa.

- National research center on camel Jorbeer, Bikaner on 5 July 1984.
- Dental formula : 2/6 1/1 6/4 6/6 1/1
- Weaning age 6 months of age at stud farms.
- Gestation period 390 days
- There are four mammary glands in the udder of camel.
- Front quarter of udder is comparatively larger then hind quarter.

Baggage camel

- Hilly
- Plain (a) Desert (b) Reverine

Riding Camel

S.No	Baggage Type	Riding Type
1	Large study animals good for carrying load both in plain and hilly region	Good for riding at 3 years of age
2	Camel have well developed hump, thick neck, big head, broad chest, strong legs sound foot pads.	Lighter animal more active and high on legs, well developed muscle head is small, chest is broad, short ears, small feet.
3	For heavy work camel of about only 6 years of age should be engaged.	While riding tail is tied to one side by thin rope fastest to saddle.

- BIKANERI : it is principaly breed.
- This breed have a luxuriant growth of hair on their eyebrows, eyelids and ears, such hair growth is known as ‘Jheepra’

- Jaisalmeri : Comfortable to ride, light brown in colour.
- Active temperament and are quite tall with long and thin legs.
- They have small head and mouth with narrow muzzle.

- **Kuchchi** : They hard and thick foot pads and are well adapted to the humid climate and marshy land of Kachchh.
- In some animals the lower lip is droopy due to which the teeth are visible from a distance.

- Mewari : Strong hindquarters, heavy legs, hard and thick foot pads.
- The body hairs are coarse, which protects them from the bites of wild honeybees and insects.
- Light brown to dark brown but some animals are almost white in colour.

- **Jalori** : Cross Marwari and Jaisalmeri breed.

- **Mewati** : Alwar and Bharatpur.

✓ Useful for riding, loading and ploughing.

- **Kharai :** Gujarat

- **Malvi :** M.P

Feeding of camel

- Free grazing
- Crop residues
- Browser (above 28 Tree and Shrub)
- Selective feeding of a wide variety of vegetation
- Dry matter intake (DMI) to be 1.8 – 2.8 kg DM/100 kg.
- Salt 50 - 120 g/day

Camel breeding

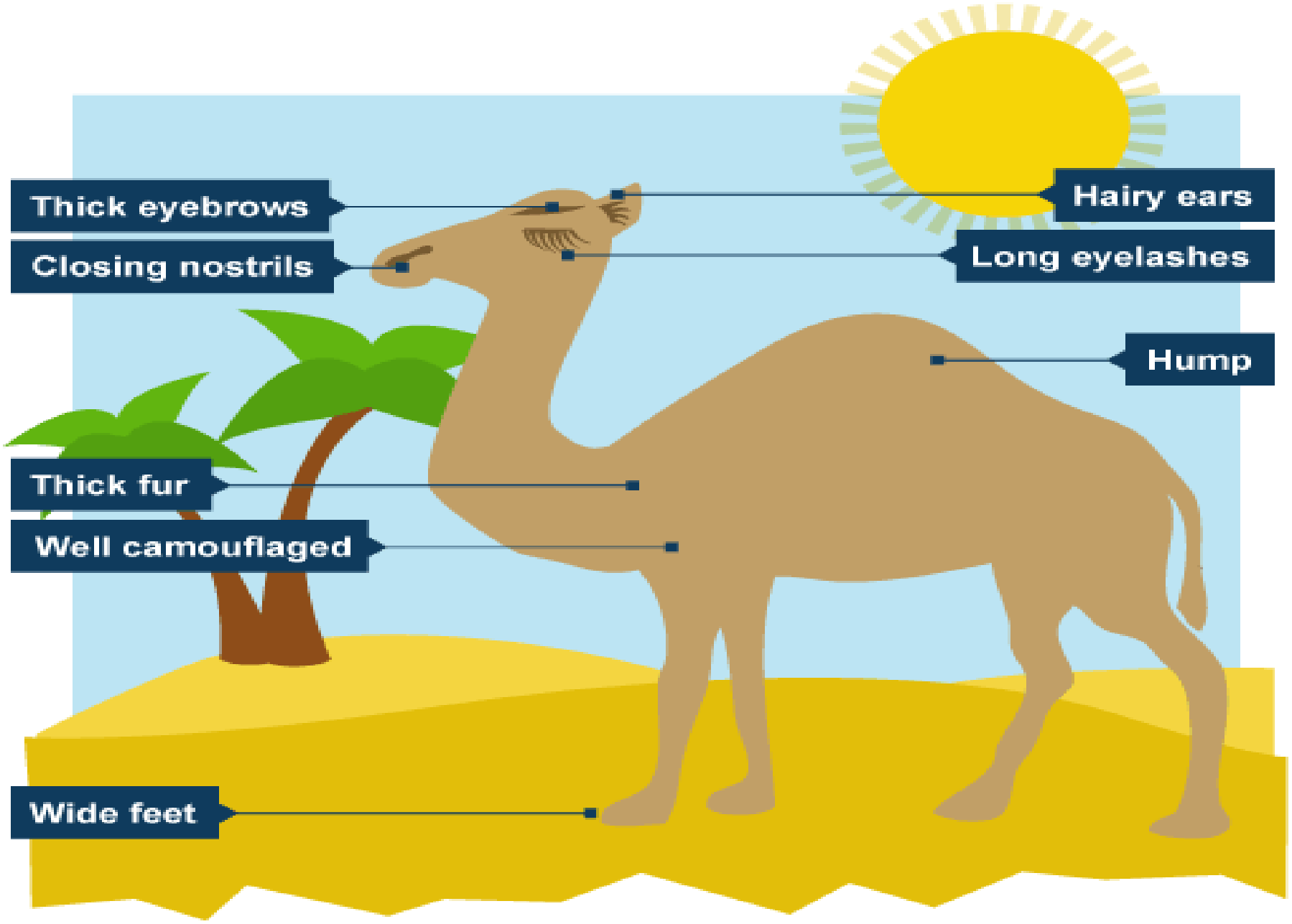
- Seasonal breeder (November-March) and calvings between December-March.
- First sirvice 4-5 years.
- Estrous cycle 28 days.
- Duration of estrous period 3-5 days.
- Calf 40 kg

Rutting of camel

- Males come in rutt during winter period.
- A male in rut extrudes soft palate from its mouth and producees typical sound.
- Secretion from the poll gland in the male camels is a special feature during rutting season.

Adaptations of Camel

- Camel has large body mass so it heats up slowly when exposed to sun.
- Long limbs helps to keep body away from ground and prevent heat load in summer due to reflelected radiation from ground.


Thick eyebrows
Closing nostrils
Hairy ears
Long eyelashes
Hump
Thick fur
Well camouflaged
Wide feet

- Toes are joined to gather by large horny sole that confer great advantage on sandy soil.

- The upper lip is cleft in middle, even small amount of moisture from nostril passes to mouth.

- Thickened lips enable to browse on thorny plants.
- Nostril contain abundant hairs which prevent soil/sand from entering during stormy atmosphere.
- Eye lashes are long and heavy which protect eye from wind blown sand.
- Camel have usually low metabolic rates.

- A camel may lose about 30% of its weight in body water without ill effects.

- The camel make use of fat in hump on its back as it is filled mostly with fatty substance.

- The substance when metabolized yields energy as well as water.

- Metabolism of water of fat produces over 1g of metabolic water which helps to survive them in the desert area where there is scarcity of water.

- Camel trees as much as water as is lost at a time may be up to 100 liters.

- The coarse hair on back is well ventilated allowing the evaporation of sweat to occur on skin and provide maximum cooling.

- Camel are able to re-absorb urea in kidney tubuli to large extent and thus excess urea instead of excretion through urine is forced to back in rumen through rumen blood capillaries also through saliva and there utilized by rumen microbes for protein synthesis.

- The red cells in a blood stream swell as much as 240% of their normal size while in others RBC will burst when total volume is ↑ to more than 130%.

- Colon has greater ability to absorb water resulting less loss of water through faces especially during scarcity of water.

- Camels are able to withstand changes in body temperature. Their temperature ranges from 34 C (93 F) at night and up to 41 C(106 F) during the day, and only above this threshold will they begin to sweat.

Vices of Camel

- Caprophagia.
- Geophagia (Pica) : due to worm infestation Haemonchus strongytes
- Palatitis : Expulsion of soft palate occur due to secondary infection

- Pendulous lips : occur due to over tiredness and weak camels due to loss of tone.
- Satyriasis
- Wind sucking biting
- Masturbation

Composition of milk

- Fat 0.1 – 0.4
- Protein 15.79–19.5
- Lactose 3.98–5.13
- Ash 1.44–2.80
- Acidity (percent) (lactic acid) 0.38

Thank You