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PRAKRITI

Quest for nature



Officers' Club
CASFOS Dehradun



Central Academy for State Forest Service
Dehradun

FLORA OF THE WEEK

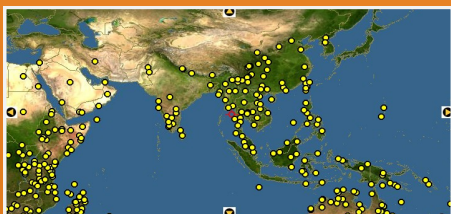
Grewia asiatica (Phalsa)

Grewia is a deciduous bush in North India but evergreen in South. It can be trained both as a bush and single stemmed small tree in mixed forest. The stem is hard and brittle. Leaves are broad rough and light green with hairs on both side. Flowers small, yellow in clusters appear in April and fruit is small berry like drupe that appear in June with one or sometime two hard seeds. Plant can tolerate drought condition, fruiting occur mainly in summer season.



Economic importance & Distribution-

Grewia is an exotic plant and has been mentioned in vedic literature as having many medicinal & economic properties as edible fruits, timber, fiber, fuel etc. by tribes and nomads. At the early part of the 20th century, the fruit was introduced to Indonesia and Philippines, where it has since naturalized. Availability of phalsa shrub grows in the Himalayan region of India, at elevation up to 3000 feet and common in deciduous and evergreen forests.



Cultivation-

Grewia asiatica is small fruit and is being cultivated on very small scale in each state; however in Punjab, Haryana and Uttar Pradesh it is cultivated near cities commercially.

Generally phalsa is cross pollinated fruit crop and pollination is completed by the insects such as honey bee, wasp, beetle etc. however some flowers are self-pollinated.

Phalsa is commonly propagated through seed and also asexually propagated by cutting layers and budding. Cutting are difficult to root due to the presence of mucilage.

Planting is done during the monsoon month. It prefers hot and dry environment during fruiting. In winter it goes dormant and shed its leaves. Loam soil is best for cultivation but can very easily grow in poor soil. The phalsa can also be grown as an intercrop in the mango or other fruit crop particularly during the initial years.

Ethnobotanical uses:

Root- *G. asiatica*, root bark is used by santhal tribes for fever and rheumatism, root paste is applied on the back before going to bed in case of back pain.

Leaf extraction of *G. asiatica* showed significant anticancer activity against liver cancer and breast cancer. Leaves possess antimicrobial property and therefore used to treat skin diseases and pustular eruption.

Fruit- *G. asiatica* drupes are astringent, refreshing, cool, sweet, antipyretic have highly antibiotic properties like; vitamin -c, flavonoids etc. use for curing burning sensation, inflammation, heart and blood disorders, throat trouble, diarrhea, colic and alcoholism.



Health benefits of Phalsa juice::

- * Helps you build strong bones.
- * Relieves stomachache.
- * Prevents diabetes.
- * Improves your heart health.

Ingredients of Phalsa Juice:

Phalsa - 50 gm

Water - 200 ml

Sugar syrup - 1 tbsp

Ice cubes - as needed

Steps for Phalsa Juice:

Take a mixture. Add phalsa, sugar syrup & water.

Grind it for about 1 minute.

Tangy phalsa juice is ready.

Filter the juice and serve it with ice cubes.



| | |
|----------|----------------------|
| Kingdom: | Plantae |
| Clade: | Rosids |
| Order: | <u>Malvales</u> |
| Family: | <u>Malvaceae</u> |
| Genus: | <u><i>Grewia</i></u> |
| Species: | <i>G. asiatica</i> |

5 reasons why phalsas are a great guilt-free snack-

- 1) It's great for your tummy
- 2) It strengthens your heart
- 3) It can scare away cancer
- 4) It'll satisfy diabetics' sweet (and sour) tooth
- 5) It'll keep you young

Storage: If stored at room temperature must be consumed within 2 days, or else the fruit can be stored in shallow clamshell containers (identical to the storage containers of strawberries and raspberries) and placed inside the refrigerator which will help the life span to boost up.

FAUNA OF THE WEEK

Gavialis gangeticus (GHARIAL)



Gharial evolved probably evolved in northern Indian subcontinent, including in Shivalik hills and Narmada river, early distribution was from Indus to Irrawaddy river. Now a days it confined in Ganga river and Mahanadi river and its tributaries. They are critically endangered species according to IUCN report.

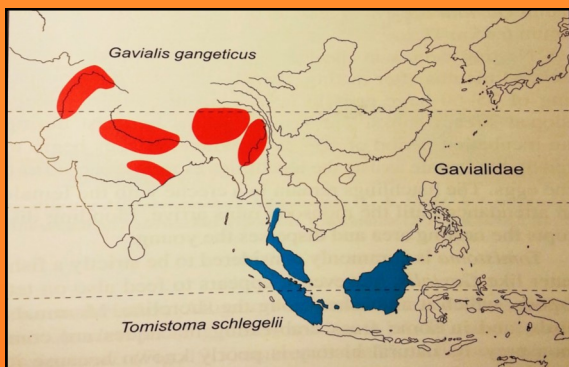
Gharials (*Gavialis gangeticus*) have been identified as the most Critically Endangered crocodilian species in the world. A 2018 report based on other surveys also says that 650 to 700 mature animals exist.

Characteristics

The gharial is olive color, adult are darker than young, its belly are yellowish white, its snout is long narrow, male have a hollow bulbous nasal protuberance, for respiration of sound. 27 to 29 upper teeth and 25-26 lower teeth. female is shorter in size than male. Their mating period start in winter, fertilization is internal female laid about 30-50 (150 gm.). The incubation 2.5-3 month. The parental care reported in individual. The adult size 11-15 feet, average weight 160 kg, maximum 977 kg.



| | |
|---------|-------------------|
| KINGDOM | ANIMALIA |
| PHYLUM | CHORDATA |
| CLASS | REPTILA |
| ORDER | CROCODILIA |
| FAMILY | GAVIALIDAE |
| GENUS | <i>Gavialis</i> |
| SPECIES | <i>gangeticus</i> |



The geographical range of gharial distribution has dwindled throughout **Pakistan, Bhutan, India, Nepal and Bangladesh.**

Protection and conservation:

Awareness programs among the fisherman and local people living around the conservation and protection sites. Chambal sanctuary, Gharial rehabilitation center for Gomati river (yr.1978), katarniya ghat area, gharial conservation and research unit Mahanadi Odisha.

Threats:

5000-10000 individuals were in 1946, in 2006 its reduced to less than 250. They were killed by fisherman, nets, hooks, wires, hunted for skin, trophies and indigenous medicines, others are high water pollution with heavy metal like lead cadmium, arsenic.

Male and Female:

The difference in appearance between the male and the female of a species is known as sexual dimorphism. Gharials are the only member of the crocodile order in which the sexes differ in a feature other than size.

Mature females are about eleven to fifteen feet in length. Mature males are around sixteen to twenty feet long.

Like its color, the animal's weight varies considerably. Many individuals weigh between 350 and 400 pounds, but large males may reach as much as 1500 pounds. Reportedly, they are sometimes even heavier.

The gharial (*Gavialis gangeticus*), also known as the gavial or the fish-eating crocodile, is a crocodilian in the family Gavialidae and among the longest of all living crocodilians. Mature females are 2.6–4.5 m (8 ft 6 in–14 ft 9 in) long, and males 3–6 m (9 ft 10 in–19 ft 8 in).





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BIRD OF THE WEEK

Dendrocitta vagabunda

(Rufous Treepie)

The Rufous Treepie is an Asian treepie. It is slightly smaller than the European Magpie and has somewhat shorter, more rounded wings and a proportionately longer tail. The bill is shorter and thicker too, and slightly downcurved, and the legs are shorter.

The head, neck and breast are a deep slate-grey colour, sometimes slightly brownish. The underparts and lower back are a warm tawny-brown to orange-brown in colour with white wing coverts and black primaries. The tail is a light bluish-grey with a thick black band on the tip. The bill, legs and feet are black.

This is a typically arboreal species feeding almost completely in trees on fruits, invertebrates, small reptiles and the eggs and young of birds; it has also been known to take flesh from recently killed carcasses. It is extremely agile while searching for food, clinging and clambering through the branches and will sometimes travel in small mixed hunting parties with unrelated species such as drongos and babblers.



Taxonomic Position

| | |
|---------|--------------------|
| Kingdom | Animalia |
| Phylum | Chordata |
| Class | Aves |
| Order | Passeriformes |
| Family | Corvidae |
| Genus | <i>Dendrocitta</i> |
| Species | <i>vagabunda</i> |

Threats: No threats currently.



Distribution

It is a bird of crow family and has wide distribution.

Native to the Indian Subcontinent and adjoining parts of Southeast Asia.

Found commonly in open scrub, agricultural area, forests, as well as urban gardens.

IUCN Status : Least concern

Common Names

Tiger's Tooth pick bird (due to cleaning a tiger's teeth after a kill)

Mahalat, Coloured crow, Kotri (name derived from the typical call)

Taka chor (coin thief),.

Morphology

- ◆ The bird is the size of the Myna but has Long and stiff-tail.
- ◆ Male and female are alike.
- ◆ Rusty brown upperparts and dull orangish underparts.
- ◆ Black head, long graduated grey coloured tail with black tip.
- ◆ Length: 46-50 cm, including tail of upto 30 cm.
- ◆ Weight: 90-130 g

Characteristic Features

- ◇ Distinctive dipping flight during which each dip ends in upward jerk.
- ◇ Very adaptable, omnivorous and opportunistic in feeding.
- ◇ Diet: fruits, seeds, invertebrates, small reptiles, eggs and young of birds, flesh from recently killed carcasses.
- ◇ Loud musical call.
- ◇ Breeding season: April to June.
- ◇ Nest: In trees and bushes, usually in shallow platform. Both parents participate in nest building
- ◇ Egg: 3-5, pale greenish with darker markings.
- ◇ Incubation and parental care by both parents.

Interesting Ecological Roles

- ◆ Beneficial for palm cultivation in South India due to their foraging on the grubs of destructive weevil *Rhynchophorus ferrugineus*.
- ◆ Cleaning symbiont of tiger, feeding on ectoparasite of sambhar and deer.
- ◆ Consume large quantity of insects.