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PRAKRITI

Quest for nature



Officers' Club, CASFOS, Dehradun

FLORA OF THE WEEK

Anthocephalus cadamba

(Cadam)



Central Academy for State Forest Service
Dehradun

Cadam is evergreen, ornamental, tropical tree native to south and south east Asia. It grows rapidly 6-8 year and flowering usually begins when the tree is 4-5 year old. It is a light demander coppices vigorously, sensitive to frost.

Kingdom	Plantae
Order	Gentianales
Family	Rubiaceae
Genus	<i>Anthocephalus</i>
Species	<i>cadamba</i>



Morphology

A fully mature tree can reach up to 45 m in height. Its crown is broad and bole is cylindrical and leaves are 13-32cm long. Its flowers are sweetly fragrant red-orange colour, occurring in dense, globose head of approximately 5.5cm and fruit is small fleshy capsule.

Uses

- Fruit and inflorescence are edible and its leaves fed cattle's
- Timber is used for plywood, pulp and paper
- Yellow dye is extracted
- It is suitable for reforestation programme
- Its leaves improve soil physical and chemical properties
- Its use as ornamental plant
- Its leaves extract has recently been used to produce silver nanoparticle for surface enhanced Raman spectroscopy.

Ecology

It is a typical pioneer species that grows best on deep moist, alluvial sites often in secondary forest along riverbanks and in transitional zones between swampy, permanently flooded areas. Light is an important factor for its growth and rainfall 200-1500 mm.



Distribution:

It is a large tree, frequently found in southern tropical semi-evergreen forests, tropical moist deciduous forest and tropical fresh water swamp forest and distributed throughout the greater part of India and in **Western Ghats in South**, in Central Maharashtra - Sahyadris, in North Eastern part - Assam, lower hills of Darjeeling, Terai, Bihar, Orissa, in Singhbhum valley and also in Andaman Islands.

Cultural significance

In north India it is associated with Krishna while in south it is known as Parvati tree. In Buddhism the cadamba tree was where Sumedha Buddha achieved enlightenment. Cadamba is mentioned in Bhagavat Purana so cadamba is a holy tree. Karam cadamba is a popular harvest festival also celebrated in month Bhadra in which twig of tree worshipped.



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FAUNA OF THE WEEK

Neofelis nebulosa

(Clouded leopard)

Introduction: Due to its forest habitat, clouded leopards have large, dexterous paws with specialized footpads for gripping branches. Specialized anklebones allow varied position for climbing, including climbing headfirst down trees. It is also called mainland clouded leopard to distinguish it from the sunda clouded leopard (*N. diardi*). While more closely related to big cats, the clouded leopard is frequently described as bridging the gap between big and small cats due largely to its smaller stature. It has proportionately short legs and a long tail. The coat is brown or yellowish-gray and covered with irregular dark stripes, spots and blotches. Black and pale, whitish individuals have been reported from Borneo indicating the species may exhibit dark and albino forms.



Conservation status



Habitat and Distribution: Clouded Leopard prefers grassland, shrubs, subtropical and dense tropical forest up to a height of 7,000 feet from the Himalayan foothills in Nepal, Bhutan and India to Myanmar, south-eastern Bangladesh, Thailand, Peninsular Malaysia to the south of the Yangtze river in China. In India it occurs in Sikkim, West Bengal, Meghalaya, Tripura, Mizoram, Manipur, Assam, Nagaland and Arunachal Pradesh. Dampa Tiger Reserve in Mizoram had one of the highest population.

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Felidae
Genus	<i>Neofelis</i>
Species	<i>nebulosa</i>

Ecology and Behaviour: The clouded leopard is a solitary cat. It is one of the most talented climbers among the cats. Captive clouded leopards have been observed to climb down the vertical tree trunks. They are capable of supination and can even hang down from branches only by bending their hind paws and their tail around them. They can climb on horizontal branches with their back on the ground and in this position make short jumps forward. When balancing on thin branches, they use their long tails to steer. They can easily jump up to 1.2 m high. They use trees as daytime rest sites, but also spend time on the ground when hunting at night. Captive clouded leopards have been observed to scent mark by spraying urine and rubbing their heads on prominent objects. Their vocalisations include a short high-pitched meow call, a loud crying call, both emitted when a cat is trying to locate another.



Reproduction: Both male and females averages 26 months at first reproduction. Mating usually occurs between December and March. Males tend to be very aggressive during sexual encounters and to bite the female on the neck during courtship. serving her vertebrae.

Fun Facts:

- ❖ The canine teeth of the clouded leopard are the longest, relative to body size, of any feline.
- ❖ In Malaysia, the clouded leopard is known as the tree tiger.
- ❖ In China, the clouded leopard is called the mint leopard because its spots look like mint leaves.
- ❖ Male clouded leopards can be more than twice the size of females. This is the largest gender size difference in the cat family.

The Rukai people of Taiwan considered the hunting of clouded leopards a taboo



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BIRD OF THE WEEK

Alcedo atthis

(Common Kingfisher)

Physical Description;

These are small to medium sized, brightly coloured birds. The Kingfisher family contains about 114 species. They have large heads, long, sharp, pointed bills, short legs and stubby tails. Most of the species have bright plumages with green and blue being the most common colours. The female is identical in appearance to male except that her lower mandible is orange-red with a black tip.

Reproduction: Sexual Dimorphism

Mating system - Monogamous

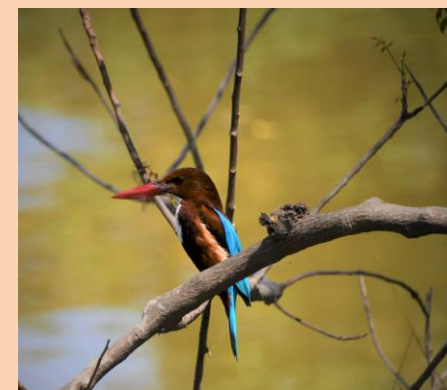
Breeding season – April to Early October

Average eggs per season – 6

Range eggs per season – 4 to 10

Range time to hatching - 18 to 21 days

Range fledging age – 23 to 27 days



IUCN Status: Least Concern



Fun Facts:

The brilliant blue colours of Kingfisher's back feathers are not due to pigments but the result of scattering of light striking especially on modified layer of feather cells which is known as Tyndall Effect.

Kingfishers fly at only one pace: fast and straight, but they can hover while fishing

The Kingfisher doesn't have a song, though it does have a distinctive flight call, a shrill whistle.

In the winter a Kingfisher needs to eat around 15-16 minnows a day.

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Coraciiformes
Family	Alcedinidae
Genus	<i>Alcedo</i>
Species	<i>atthis</i>

Behavior and Ecology:

Kingfishers feed on a wide variety of prey. Some species do specialize in catching fishes but other species take crustaceans, amphibians, annelid worms, molluscs, insects, and reptiles including snakes, and even birds and mammals as their prey.

Common Kingfishers are very territorial as they eat around 60% of their body weight each day. They defend their territory from their mates and offspring.

Kingfishers are capable of binocular vision with ability to polarize light and compensate the effects refraction and reflection which allow them catching prey more effectively.

Kingfishers are good indicators of freshwater ecosystem health. They are very high on the food chain.

Distribution and migration:

A.atthis is found throughout Europe and Asia as far east as Japan. They are also found in Africa, South of Sahara desert. Common Kingfishers are yearlong residents in their southern habitats, while northern populations travel south during the winter to escape freezing conditions of water.

Biogeographic regions – Palaearctic, Oriental, Ethiopian

Threats and conservation:

Paucity of food in extreme winter, Traffic and Window collisions, Human disturbances to nests and Biomagnification are major threats.

Untreated Industrial effluents and contaminants by Agricultural runoff must be prevented to be poured directly into water bodies.

