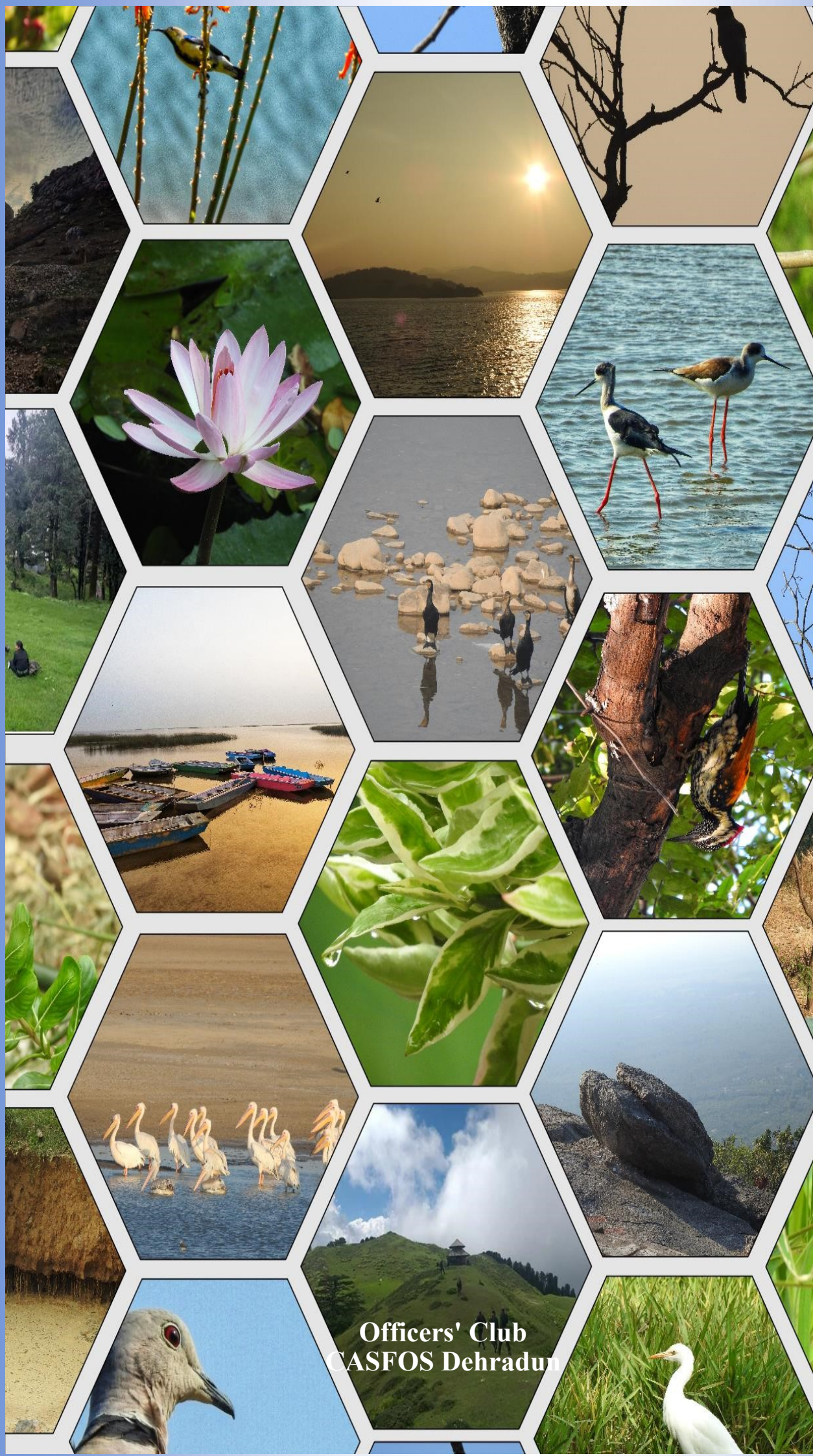




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PRAKRITI

Quest for nature



Officers' Club
CASFOS Dehradun



Central Academy for State Forest Service
Dehradun

FLORA OF THE WEEK

Schleichera oleosa

(Kusum)

Kusum is a beautiful tree with a broad, shady crown. This tree is mostly noticed because of its bright red leaves when they are new. In India this happens around March. The leaves are pinnate, with each leaf having 2-4 pairs of leaflets. Flowers are tiny, occurring in short dense yellow clusters. The flowers are hardly noticeable. The fruit is about the size of a small plum. Malay lac tree is a rather slow-growing, briefly deciduous tree that can reach a height of 40 metres. The bole, which is usually crooked and slightly buttressed, can be up to 2 metres in diameter, but is usually less. A multipurpose tree, supplying food, medicine and a range of commodities for local use. It is occasionally cultivated throughout the tropics, especially in India.



Morphology:

Schleichera oleosa, kusum tree, Ceylon oak, lac tree, gum lac tree. It is a large deciduous (nearly evergreen) tree with a comparatively short fluted trunk and a shade spreading crown. It is frost and drought hardy and is subject to damage by grazing. It produces root-suckers freely, and it has good cropping power. The wood is very hard and reddish brown. This tree is noted for its growth of new leaves that are bright red. In India the growth of these bright red leaves happens around March.

Leaves: pinnate, with each leaf having 2-4 leaflets. The tree is host to Kusumi Lac (*Kerria lacca*), a lac insect which is native to India. Its seeds are the source of Kusum oil.

Flowers: The flowers are tiny and hardly noticeable, occurring in short dense yellow clusters.

Fruit: The fruit is 2.5 to 3 cm long - roughly the size of a small plum - and ovoid, 1-3 celled, and more or less abruptly tapering to a point, dry indehiscent.

Ethno-botanical uses:

The leaves, twigs and the seed-cake are used as fodder to feed cattle and wood is suitable as firewood and makes excellent charcoal.

Pressed oil cakes from kusum tree are rich source of crude protein, carbohydrate, fibre and other minerals and serves as nutritive cattle feed.

The oil extracted from the seed, called as kusum oil is used for culinary and lighting purposes and oil is being used

Kingdom:	Plantae
Clade:	Rosids
Order:	Sapindales
Family:	Sapindaceae
Genus:	<i>Schleichera</i>
Species:	<i>oleosa</i>

Medicinal uses:

Different plant parts (stem bark, seed, fruit and seed oil) of kusum are used in traditional medicines.

□ The seed oil is used by the local Vaidas for curing skin diseases like scabies, itching, and acne.

□ The bark decoction is also used against skin inflammation and ulcers.

□ The bark decoction is also infused for curing malaria.

□ The fine paste of the bark of Kusum is often used to control tissue swelling.

□ The bark is known to contain medically important compounds like lupeol used in preparing analgesic and anti-tumorous agents like betulin and betulinic acids.

□ It balances kaph, useful in productive cough and asthma.

□ It cleanses intestine.

(T. P. Mall and S. C. Tripathi)



The bark of kusum tree produces tannins and dyes that are occasionally used in small-scale industries like tanning in leather industry. The pinkish-brown heart wood is very hard, durable and excellent to make pestles, cartwheels, axles, ploughs, tool handles and rollers of sugar mills and oil presses. Bark is used for skin inflammations and ulcers.

Kusum plant is known for lac cultivation. It is one of the major host plant commercially exploited for cultivation of the Indian lac insect (*Kerria lacca*). It supports the kusmi strain of lac insect, which produces good quality, natural, biodegradable and commercially important, light coloured lac resin of demand by lac industry, thus fetching high remunerative prices to lac growers. The lac resins serves as a livelihood support to millions of poor farmers in states like Jharkhand, Chattisgarh, Orissa, Andhra Pradesh and West Bengal.

Highlights:

Schleichera oleosa in the central Western Ghats region of Karnataka in India is studied for endophytic fungal occurrence for the first time.

The endophytic fungal occurrence was more in leaves during the winter.

Endophytic fungi *Arcopilus cupreus* with high antimicrobial activity also exhibited high antioxidant activity.

Distribution-

found widespread in Tropical Himalayas (Punjab to Nepal), India, Ceylon, Burma, Thailand, Indo-China, Malaysia. Occurs spontaneously in dry, mixed deciduous forest and savannah with only scattered trees, sometimes gregariously. Found at elevations from sea level to about 980 metres. *S. oleosa* occurs naturally from the foothills of the Himalayas and the western Deccan to Sri Lanka and Indo-China.



Central Academy for State Forest Service
Dehradun

FAUNA OF THE WEEK

Capricornis rubidus

Red Serow

The coarse pelage of the Red Serow is a distinctive reddish-brown color. The undersides are whitish. A thin dark dorsal stripe runs along the spine from the shoulders to the tail. The top of the neck has a mane of longer hairs which can be erected when excited. The face has no distinctive markings, but large preorbital glands are present in front of the eyes. A white patch beneath the jaw extends to a white bib at the top of the throat. The ears are long and pointed, conical, backward-curving horns are found in both sexes, growing 15-25 cm long and tend to be longer and thicker in males.

Reproduction and Development

Gestation period- 7 months

Litter size- 1

Weaning – 5-6 months

Sexual maturity- Females at 30 months and males at 30-36 months

Lifespan- 10-20 years



WPA, 1972: Schedule I **IUCN Status:** Vulnerable

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Artiodactyla
Family	Bovidae
Sub family	Caprinae
Genus	Capricornis

State Animal of Mizoram

ECOLOGY AND BEHAVIOUR

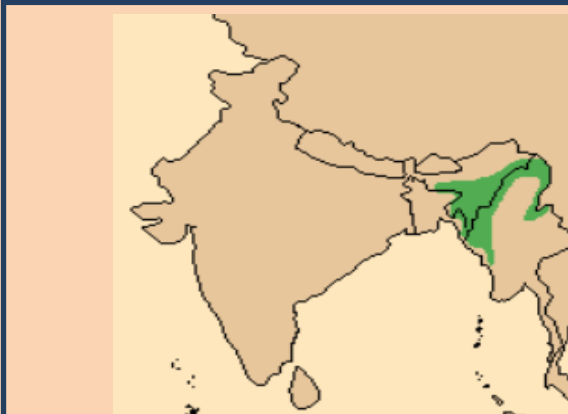
Serow tend to be most active in the morning and late afternoon or early evening. Caves and overhangin cliffs may be used for shelter. When alarmed, serow vocalize with a loud whistle or a snort.

Their diet consists mainly of Grasses, shoots and leaves.

Main Predators are Leopards, Dholes and Eagles

HABITAT AND DISTRIBUTION:

The Red Serow is found in hilly tropical forests in NE India (south of the Brahmaputra River), Bangladesh (east of the Jamuna River) and Northern Myanmar. Populations from India and Bangladesh, although reddish in colour, may belong to either *C. rubidus* or *C. thar*. The approximate range is depicted in the map below



Compiled by:

Bryan Zorintluanga | SFS 2019 - 21|

P3



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BIRD OF THE WEEK

Pavo Cristatus

(Indian Peafowl/Common Peafowl/ Blue Peafowl)

Introduction

The Indian peafowl is a peafowl species native to the Indian subcontinent. It has been introduced to many other countries. Indian peafowl is a species in a group of birds called pheasants. The males are called peacocks, while the females are called peahens. Together, they are peafowl. The male peacock is brightly coloured, with a predominantly blue fan-like crest of spatula-tipped wire-like feathers and is best known for the long train made up of elongated upper-tail covert feathers which bear colorful eyespots. These stiff feathers are raised into a fan and quivered in a display during courtship. The Indian peafowl lives mainly on the ground in open forest or on land under cultivation where they forage for berries, grains but also prey on snakes, lizards, and small rodents. Their loud calls make them easy to detect. They forage on the ground in small groups and usually try to escape on foot through undergrowth and avoid flying, though they fly into tall trees to roost.



Peacock

Feeding

Peafowl are omnivorous and eat seeds, insects, fruits, small mammals and reptiles. They feed on small snakes but keep their distance from larger ones.

Behavior and Ecology

1. Peafowl is best known for the male's extravagant display feathers which, despite actually growing from their back, are thought of as a tail. The "train" is in reality made up of the enormously elongated upper tail coverts.



2. The long train feathers of the male develop only after the second year of life. Fully developed trains are found in birds older than four years.

3. Peafowl forage on the ground in small groups, known as musters, that usually have a cock and 3 to 5 hens. After the breeding season, the flocks tend to be made up only of females and young.

4. Peafowl produce loud calls especially in the breeding season. They may call at night when alarmed and neighboring birds may call in a relay like series.

5. Peafowl roost in groups during the night on tall trees. Birds arrive at dusk and call frequently before taking their position on the roost trees.

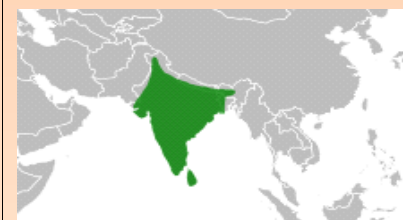
Conservation status



Least Concern (IUCN 3.1)^[1]

Scientific Classification

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Galliformes
Family	Phasianidae
Genus	<i>Pavo</i>
Species	<i>Cristatus</i>



Map showing native range

In culture

Prominent in many cultures, the peacock has been used in numerous iconic representations, including being designated the national bird of India in 1963. The peacock, known as *Mayura* in Sanskrit, has enjoyed a fabled place in India since and is frequently depicted in temple art, mythology, poetry, folk music and traditions.

Breeding

Peacocks are polygamous, and the breeding season is spread out but appears to be dependent on the rains. Peafowl usually reach sexual maturity at the age of 2 to 3 years old. Several males may congregate at a lek site and these males are often closely related. The males display in courtship by raising the upper-tail coverts into an arched fan. The wings are held half open and drooped and it periodically vibrates the long feathers producing a ruffling sound. The nest is a shallow scrape in the ground lined with leaves, sticks and other debris. The clutch consists of 4–8 fawn to buff white eggs which are incubated only by the female. The eggs take about 28 days to hatch. The chicks are nidifugous and follow the mother around after hatching.

Mortality Factors

Adult peafowl can usually escape ground predators by flying into trees. Large animals such as leopards, dhholes, wolves, lions, tigers and can sometimes be hunted by domestic dogs. In captivity, birds have been known to live for 23 years but it is estimated that they live for only about 15 years in the wild.