

Weekly magazine

# PRAKRITI



Quest  
For Nature



**Flora of the week**

**Terminalia arjuna**  
Or  
Arjun

**Fauna of the week**

**Panthera pardus**  
Or  
Leopard

**Bird of the week**

**Glaucidium radiatum**  
Or  
owlet

**Officers' Club**

**Central Academy for State Forest Service, Dehradun**



# FLORA OF THE WEEK

## *Terminalia arjuna* (Arjun)

In India, Arjuna is one of the most religious and sacred trees. Leaves and flower of this tree are used for Lord Vishnu and Ganesh puja on the religious occasions. It is one of the most famous herbs known today. It has many effective medicinal uses specially for the heart and circulatory system which makes it such a valuable herbal component in the treatment of heart problem in Ayurveda. It belongs to Hara family Combretaceae and latin name of plant is *Terminalia arjuna*. The generic name *Terminalia* is derived from the Latin 'terminus' or 'terminalis' (ending), referring to the habit of its leaves being crowded at the tips of the shoots. The name 'Arjuna' for the tree occurs in the Rig Veda and Atharva Veda and means "white" or "bright", probably denoting its creamy-white flowers or the shining quality of its bark. One of the tree's Sanskrit names is 'Kakubha' which, inter alia, means "beauty" or "fascination"; it also means "several flowers held together in a cluster". Hindu mythology and astrology have several references to the Arjuna tree. The following story from the Bhagavatam illustrates how infant Krishna delivered two gods from a curse through which they had been born as Arjuna trees on earth.

It is large, deciduous/evergreen, up to 6- 15 (-25) m tall, often having a buttressed trunk, and a broad, oval crown with drooping branches. The bark is thin, smooth, shiny, and greenish-grey and peels off regularly.

The leaves are simple (undivided), oblong-elliptic, 7-18 (-25) cm long with short petioles, arranged opposite (sub-opposite) on the stem and often coriaceous (leathery) at maturity. Each leaf has a pair of knob-like glands on the dorsal (lower) side at the junction between the petiole and the lamina. The dorsal surface has downy hair but the ventral surface is smooth.

The flowers are greenish white or creamy and have a sweet scent. They are borne at the ends of shoots or in the axils of leaves in inflorescences. Lacking pedicels (and hence sessile), they are directly attached to the inflorescence axis. The calyx is cuplike, 5-lobed and constitutes the most prominent component of the flower. There are no petals. The 10 stamens are attached to the calyx cup. The ovary is encased in a disc with yellowish or reddish hairs. Flowers have a sweet scent.

The fruit is ovoid, up to 6 cm long, and at maturity, hard and woody. It has five wings in which the veins curve upwards from the axis.

<b>Kingdom:</b>	Plantae
<b>Subkingdom:</b>	Tracheobionta
<b>Division:</b>	Magnoliophyta
<b>Class:</b>	Magnoliopsida
<b>Subclass:</b>	Rosidae
<b>Order:</b>	Myrtales
<b>Family:</b>	Combretaceae
<b>Genus:</b>	<i>Terminalia</i>
<b>Species:</b>	<i>arjuna</i>

**Habitat:** A native of the Indian subcontinent, the Arjuna is also found eastwards in Myanmar and southwards in Sri Lanka. It occurs along the river banks of Uttar Pradesh, Bihar, Maharashtra, Madhya Pradesh, West Bengal and south and central India.

### Uses of Arjun

**Timber:** Sapwood (peripheral wood in which living cells are active, and the sap still flows) is pinkish white; heartwood (core part which has no living cells, and in which the sap has stopped flowing) is dark brown, very hard, lustrous and coarse-textured. Timber is mainly used locally for carts, agricultural implements, water troughs, boats, tool handles etc.

**Fuel:** Wood makes excellent firewood and charcoal, with calorific value of 5030 kcals/Kg (sapwood) and 5128 kcal/kg (heartwood).

**Tannin:** The bark (22-24%) and fruit (7-20%) are sources of tanning and dyeing material.

**Sericulture:** Arjuna leaves constitute one of the major feeds for the tropical tasar silkworm

**Medicine:** The bark is highly valued in Ayurveda as a cure for a range of ailments including heart-associated problems

**Propagation and survival:** A tree of dry to moist areas in the tropics. It grows best in areas where annual daytime annual temperatures are within the range 20 - 33°C, though it can tolerate 5 - 47°C. It can be killed by temperatures of -1°C. It prefers a mean annual rainfall of 1,000 - 1,500mm, but tolerates 750 - 1,800mm. Succeeds in any moderately fertile, well-drained soil and a position in full sun. It can tolerate short periods of the soil being inundated.

# FAUNA OF THE WEEK

## *Panthera pardus* (Leopard)



Central Academy for State Forest Service  
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The **leopard** (*Panthera pardus*) is one of the five extant species in the genus *Panthera*. It occurs in a wide range in sub-Saharan Africa, in small parts of Western and Central Asia, on the Indian subcontinent to Southeast and East Asia. Leopards are solitary nocturnal carnivores. They mark their territory with urine, faeces and claw marks. They are comfortable in water and are adequate swimmers. When hunting, they can run at bursts of up to 60 km/hr. Leopards have advanced vision and hearing, which makes them esp. adept at hunting in dense forests. Male leopards have a core range of about 12 km<sup>2</sup>, while female's have about 4 km<sup>2</sup>.



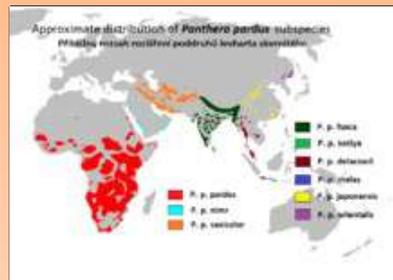
### Morphology

Body size and colour patterns of leopards varies geographically and probably reflects adaptations to particular habitats. Leopards have short legs relative to their long body. Their body is covered with black rosettes. They have solid black spots on their chest, feet, and face and rings on their tail. Each individual has a unique coat, which can be used for identification. Leopards are sexually dimorphic as males tend to be larger than females. Females range in body mass from 17 to 58 kg and in length from 1.7 to 1.9 m. Males range in mass from 31 to 65 kg and in length from 1.6 to 2.3 m.

### Conservation Status



### Wild Range



### Scientific Classification

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

### Food Habits

Leopards generally prey upon mid-sized ungulates which includes deer family, pigs, primates and domestic livestock. They are opportunistic carnivores and may also eat birds, reptiles and rodents.

### Reproduction

Leopards are promiscuous as both males and females have multiple mates. Females attract potential mates by excreting pheromones in their urine. Females initiate mating by walking back and forth in front of a male. The reproductive season is year-round but peaks during the rainy season in May. Gestation last 96 days and females usually give birth once every 15 to 24 months.

### Economic Importance for Humans:

#### Positive

Leopards help control baboon populations and disperse seeds that stick to their fur. Tribes suggest leopard skins as a remedy for bad omens.

### Economic Importance for Humans: Negative

When natural prey abundances are low, leopards have been known to kill livestock. Injured or sickly leopards have been known to hunt humans as easy prey.

### Ecosystem Role

When competition for larger prey items is high, leopards prey on smaller animals, which reduces interspecific competition.

### Major Threat

Leopards are declining in parts of their geographic range due to habitat loss and fragmentation, and hunting for trade and pest control. As a result, leopards are listed as 'near threatened' on the IUCN Red List of Threatened Species.

**Source:** Animal Diversity Web & Wikipedia.

# BIRD OF THE WEEK

## *Glaucidium radiatum*

### (owlet)



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It is a small bird with big and round eyes. However some species of owl are bigger. This bird is small in size but is a good predator for small prey like insects, lizards, chicks of birds etc. Its call at night is horrible. Its call is supposed to be an indication of loss of money due to robbery. So, no one wants the call of any owl family. Body parts and its blood are used in Tantrism. It is the reason that many wildlife criminals search these birds for hunting. India is the most vulnerable nation for hunting them for the purpose of Tantra related activities. If an owl enters into the house then it is supposed that money is about to come. Sometimes they are hunted for the purpose of food. Due to hunting by the people the number of owl is decreasing continuously. And so this species comes under the category of concerned status of conservation. It is used for medicinal purposes also.

I am the vehicle (vahan) of goddess Lakshmi (goddess of wealth).



### Behaviour and ecology:

This owlet is mainly active at dawn and dusk but is known to call and fly during the day time as well. The call is distinctive and consists of a rapid series of prao prao prao-prao-prao that increases and then fades in volume before ending abruptly. At their day-time roosts, they may mobbed by drongos, treepies and sunbirds. During the day, young nestlings produce tick calls not unlike that of a pale billed flowerpecker. They roost inside tree cavities and when disturbed they freeze and appear like a dead tree stump. They sometimes perch prominently on wires or bask in the morning sun before retiring to their roost. They have been known to capture small phylloscopus warblers during the day, although their peak foraging hours are an hour before sunrise and after sunset. Their diet consists of insects, small birds, reptiles and rodents.

Size: Length about 20cm. Wing length 120-136mm. Tail length 62-84mm. Weight 88-114g.



Wild Range



### Scientific Classification

Kingdom	Animalia
Phylum	Chordata
Class	Aves
Order	Strigiformes
Family	Strigidae
Genus	<i>Glaucidium</i>
Species	<i>radiatum</i>

**The jungle owlet, or barred jungle owlet, is found in the Indian Subcontinent. The species is often found singly, in pairs or small groups and are usually detected by their calls at dawn and dusk.**

**There are two subspecies with the form found in the Western Ghats sometimes considered a full species.**

**The species is often found singly, in pairs or small groups and are usually detected by their calls at dawn and dusk.**

### Reproduction:

The breeding season in India is March to May and they nest in the hollow of a tree at a height of three to five meters.

Nest sites are usually 3 to 8 metres from the ground. Three or four roundish white eggs are laid averaging 31.4 x 26.8mm.

### Hunting & Food:

**Barred Jungle Owlets feed mostly on grasshoppers, locusts, cicadas and other large insects. They will also take molluscs, lizards, mice and small birds.**



**Voice:** The song of the male is a loud, musical, wooden trill. It starts softly, becomes louder and then fades away - praorr-praorr-praorr-praorr. A phrase can contain 3-10 notes at a rate of about 1.5-2.5 notes per second. Phrases are repeated at intervals of several seconds. They are often uttered monotonously on moonlit nights.

There is also a sequence of trilled notes - **kwurr kwurr kwurr...**