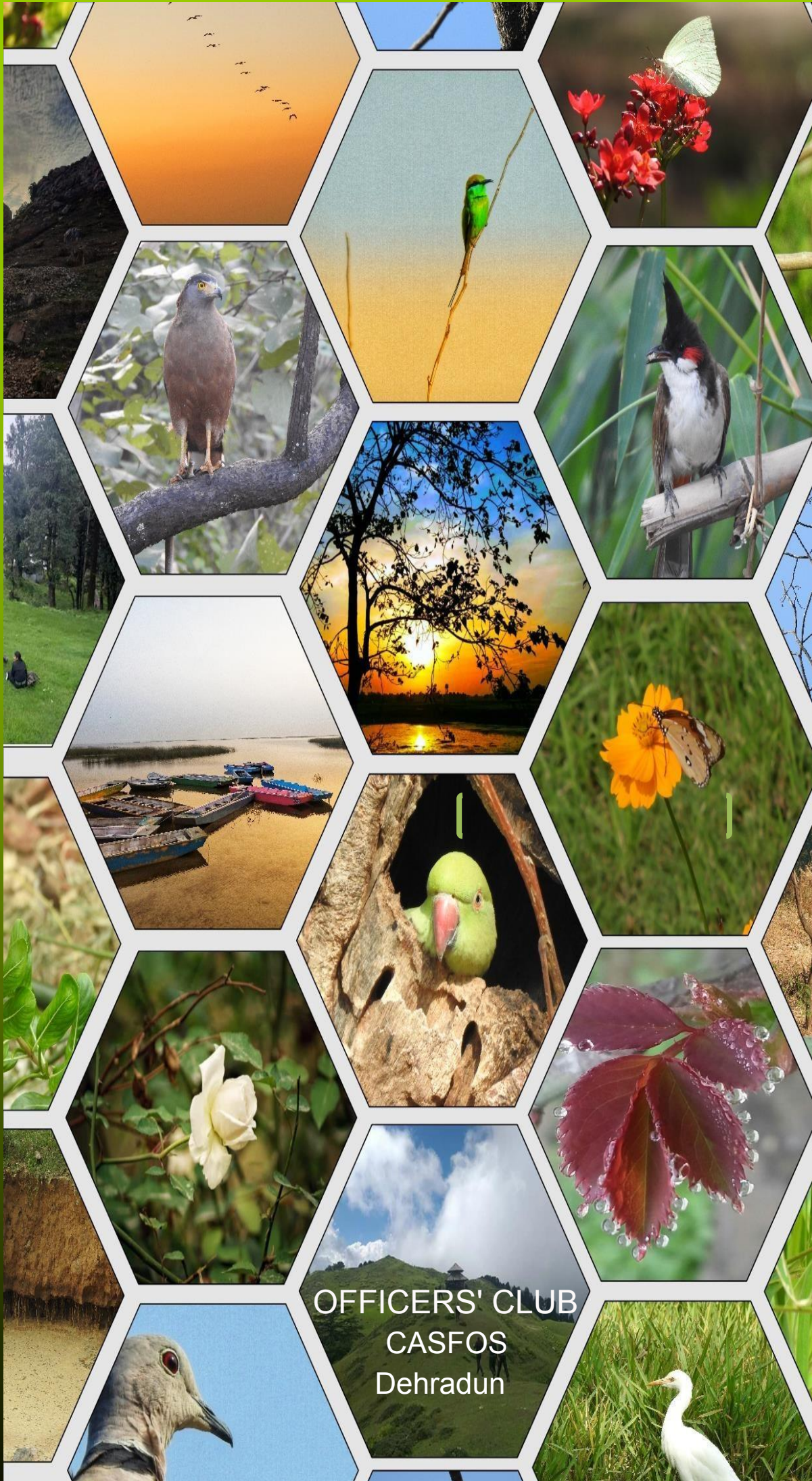




29th June, 2020
Volume I, Issue 1

PRAKRITI

Quest for nature



OFFICERS' CLUB
CASFOS
Dehradun

FLORA OF THE WEEK

Tinospora cordifolia Giloy



Tinospora cordifolia, which is known by the common names heart-leaved moon-seed, guduchi, and giloy, is an herbaceous vine of the family Menispermaceae indigenous to tropical regions of the Indian subcontinent.

It is a large, deciduous, extensively-spreading, climbing shrub with several elongated twining branches. Leaves are simple, alternate, and exstipulate with long petioles up to 15 cm (6 in) long which are roundish and pulvinate, both at the base and apex with the basal one longer and twisted partially and half way around.

Kingdom	Plantae
Clade	Tracheophytes
Clade	Angiosperms
Clade	Eudicots
Order	Ranunculales
Family	Menispermaceae
Genus	<i>Tinospora</i>
Species	<i>T. cordifolia</i>

In Sanskrit, Giloy is known as 'Amrita', which literally translates to 'the root of immortality', because of its abundant medicinal properties. The stem of Giloy is of maximum utility, but the root can also be used.



Flowers are unisexual, small on separate plants and appearing when plant is leafless, greenish yellow on axillary and terminal racemes. Male flowers are clustered, but female flowers are usually solitary.

It has six sepals in two series of three each. The outer ones are smaller than the inner. It has six petals which are smaller than sepals, obovate, and membranous.

Fruits aggregate in clusters of one to three. They are ovoid smooth drupelets on thick stalks with sub terminal style scars, scarlet or orange colored.

Phytochemicals

Tinospora contains diverse phytochemicals, including alkaloids, phytosterols, glycosides, and mixed other chemical compounds. Columbin, tinosporaside, jatrorrhizine, palmatine, berberrine, tembetarine, tinocordifolioside, phenylpropene disaccharides, choline, tinosporic acid, tinosporal, and tinosporon have been isolated from *Tinospora cordifolia*.

Ecology

Endophytic fungi colonize the living, internal tissues of their host without causing any harmful effects. A recent study has shown that 29 endophytes belonging to different taxa were present in the samples collected from *T. cordifolia*.

Extracts of the endophytic fungus *Nigrospora sphaerica* obtained from *T. cordifolia* were found to have insecticidal properties against the Oriental leafworm moth (*Spodoptera litura*), a polyphagous pest.

Tinospora cordifolia is used for diabetes, high cholesterol, allergic rhinitis (hay fever), upset stomach, gout, lymphoma and other cancers, rheumatoid arthritis (RA), hepatitis, peptic ulcer disease (PUD), fever, gonorrhea, syphilis, and to boost the immune system.

FAUNA OF THE WEEK



Argiope anasuja

Signature Spider

Argiope anasuja is a species of orb-weaver spiders found from Seychelles to India, Pakistan and Sri Lanka and in the Maldives. It is also known as the Signature spider, Writing spider or Black and Yellow Garden spider. The female of this species is much larger than the male with female ranging from 8-14mm long and male 3.5-4.5mm long.

Scientific classification:

- * Kingdom: Animalia
- * Phylum: Arthropoda
- * Class: Arachnida
- * Order: Araneae
- * Family: Araneidae
- * Genus: *Argiope*
- * Species: *anasuja*



Food habit:

These spiders build their webs only about few meters off the ground to catch low flying insects such as bees and wasps and insects such as flies, aphids and grasshoppers.

Into the web:

These spiders are expert weavers and build orb type of web. They are almost invisible except for the shiny white broader zig-zag strips known as the “stabilimentum” which looks like X. They form these zig-zag strips to warn the bigger animals of their location, so they won’t destroy it.

The centre of the web is hollow and this is where they sit face down. They group their legs to appear as four legged, so that the hair on their legs act as light reflector and along with the bright X, fools the insects into thinking they are flowers.

Reproduction:

The female will kill the male after mating. The male spins a web alongside the female’s web known as the companion web. After mating, the female lays the egg in this companion web and wrap them up in a sac. Spiders are cannibals and eat each other to stay strong until they come out of the sac.

Are they venomous?

The venom is harmless to human. They are used for therapeutic medical agents and in beauty products.



BIRD OF THE WEEK

Circaetus gallicus

Short Toed Snake Eagle



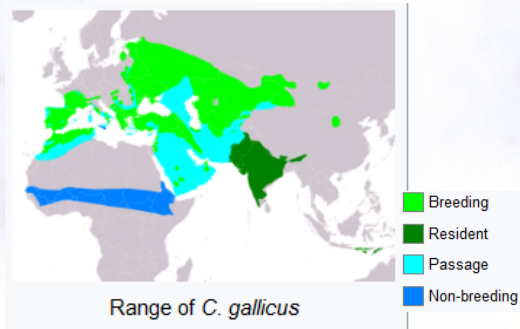
Hii !!

You can call me "**Short toed Snake Eagle**"

I am a Snake specialist, 1 of 15 species of snake eagles and serpent eagles in 5 genera

Range

Mediterranean region, including France, Spain, and Greece & Algeria, Africa, China and India



Vital Statistics

Weight & Length: 2.5-5 lbs. & 24-27.5"

Wingspan: 5.5-6'

Sexual Maturity: 3-4 yrs

Breeding Season: Varies with region

Eggs: Singly laid, oval, smooth & white-tinted blue

Incubation Period: 45-47 days

Fledging Period: 70-75 days

Breeding Interval: 1-2 yrs

Lifespan: 17 yrs

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Accipitriformes

Family: Accipitridae

Genus: *Circaetus*

Species: *C. gallicus*

My Characteristics

- # an expert snake hunter, searching year-round for snakes. generally hunts at altitudes between 65-500'
- # We prefer warm, open habitats with scattered trees, meadows, forest and rocky slopes
- # We are very faithful, Pairs mate for life
- # Our newborn chicks are downy-white with gray eyes that later turn a brilliant orange or yellow
- # Our mates are very sensitive, if her egg fails to hatch, she will incubate for up to 90 days before giving up
- # Diet chart: 70-80% - snakes (main course) & snacks - other reptiles, frogs, wounded birds or rodents, and small mammals
- # We feed our mates or chicks by leaning back as the other bird pulls the snake back out of the throat
- # Young ones instinctively know to swallow snakes head first



My adventures !!

- # I can attack prey from 1,500' away — thanks to my exceptional eyesight & can kill a 6'-long spitting cobra
- # I love to Perform an elaborate sky dance during nuptial displays & "snake-tossing" is one of my favorite move
- # I hover above my prey for long periods before parachuting down to grasp it on the ground, smash the head or tear it off with my talons/beak
- # I swallow snakes head first; tails can be seen protruding from my mouth
- # We are not immune to venomous snakes, but i can swallow them without being bitten, digesting the poison in the gut.
- # Externally, my thick feathers on the legs provides protection from bites

