



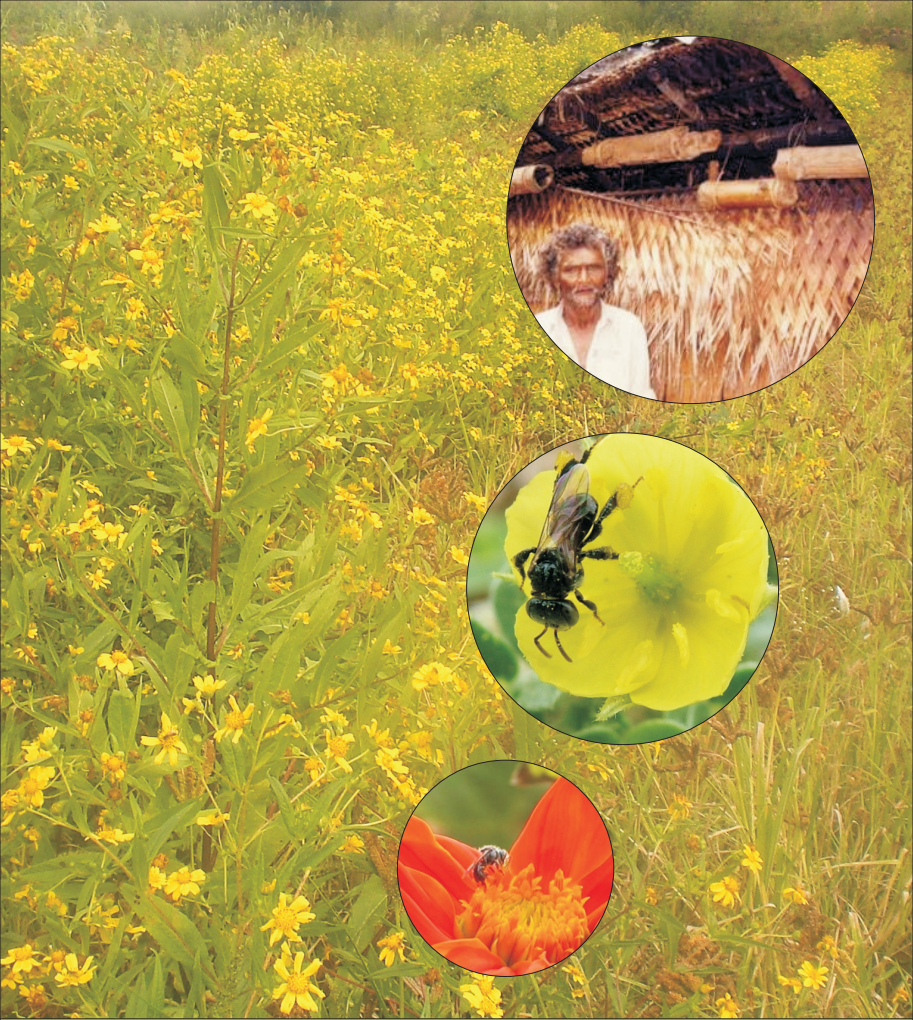
Apis dorsata known as Rock bee, is migratory in Nature and open nesting on tall trees, cliffs and tall buildings. These bees arrive to mountainous region on set of flowering season March-April for foraging and multiply their numbers. It pollinates food crops, medicinal plants, fruit plants, oil crops, spices and forest plants. And return to lower elevations or plains just on set of monsoon and pollinates most of Karif cultivation. A colony may have more than 60000bees and a pollinating army.



Apis cerana indica, the Indian hive bee nesting in cavities and stay many years if not badly disturbed. More than two swarms develop from every colony. Being a resident bee, all crop plants and forest plants are equally pollinated throughout all seasons will have more than 12000 bees in a grown stage.



Apis florea - little bee, migratory in nature, nesting in shrubs and medium size trees. It pollinates all type of plants.



Dammar bee-*Trigona irridepenis* is commonly found up to 1800MSL. Nesting in crevices of building, parapet walls, cavities in tree trunks, wooden boxes and bamboo tubes. Clay pots and bamboo nodes are ideal to rear. Dammar bees are extremely beneficial in pollinating fruit orchids'.



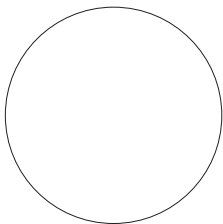
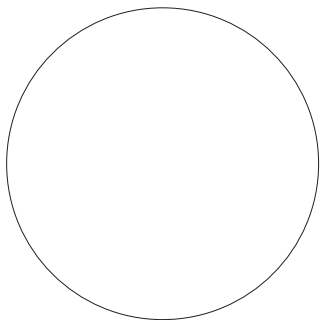
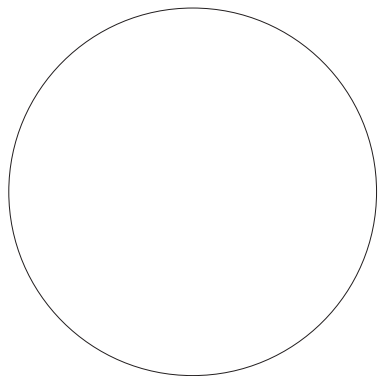
Blister beetle, *Mylabris Pustula* bright red spotted with large back, it pollinates while munching flower petals; especially cucurbits. Pollinated cucurbits are large and well shaped (crooked are absent) Using Bio extracts and organic pest & disease control agents will be an opportunity for protection of beetles. Black Blister beetle-coleoptera epicauta are commonly found in Pillur region



Amegilla The Blue banded *Amegilla cingulata*, was common in Kokode and Pillur region and black banded is common in Kotagiri region. Burrow tunnels in old wooden timber and logs, has to be conserved for pollination in Herbal and fruit plants



Depterian spp. It pollinates crop flowers especially which all flowers has strong odour.



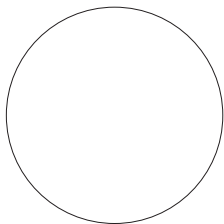
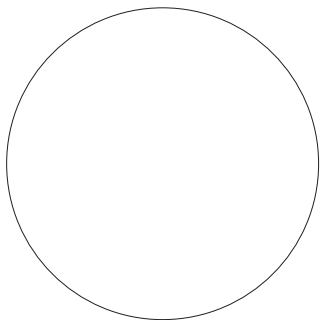
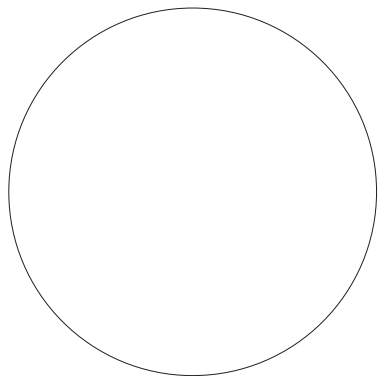
Blue bee : it is a solitary bee, fast flying.



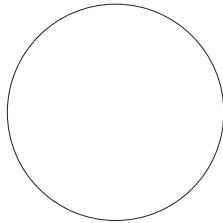
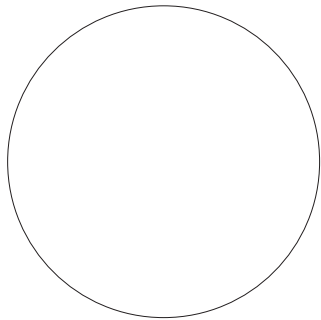
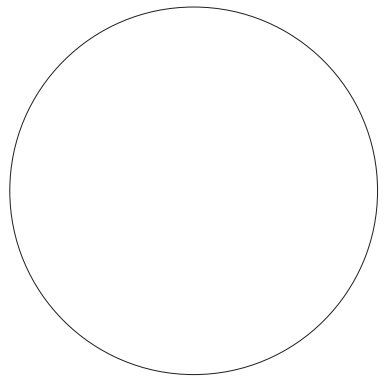
Leaf cutter bee *Megachile* spp. these bees burrows tubular holes in dead logs (soft wood) and build leaf cups for brood rearing. Rotten wood and logs are excellent habitats for these bees. We can create habitat by Placing such logs and stumps around field.



Hoverfly - *Syrphus* spp. - dipterans (one pair winged) capable of pollinating flowers which has long corolla and compound flowers.



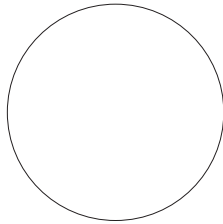
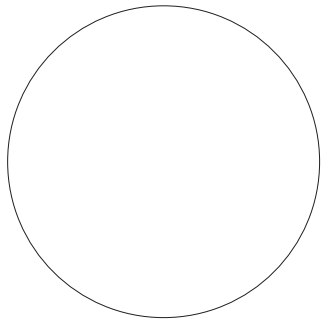
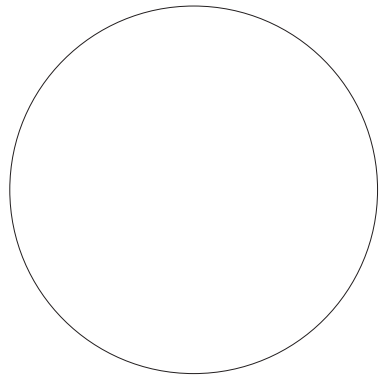
Scrap spider - does pollination while waiting for prey, usually the honey bees.



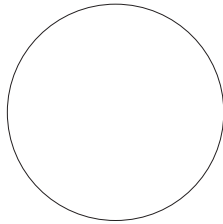
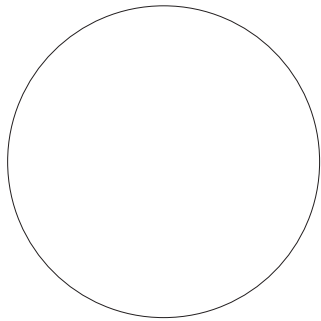
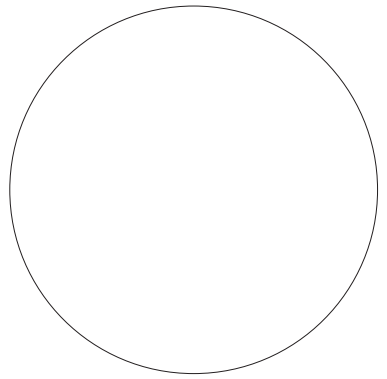
Paper wasp : large population in single nest, extremely good pollinator on brassica plants species



Amegilla, xylocop spp : popularly known as carpenter bee, pollinates most of leguminous plants. The buzzing noise make everybody's attention to it and nesting in burrows of wood or bamboo tubes. The large body size and metallic blue are distinct to recognise it.



Ceratina spp.



Bee green silver metali-ant-



Halictus sp. Amegilla - abdomen Lasioglossum sp black Tetragnola sp. Ceratina spp. Braunsapis spp - trigona type body size, is smaller than dammar, Autacophora foveicollis - bumblebee type

Role of Indigenous Pollinators in traditional farming in Nilgiris



Plain Tiger
(*Danais Chrysippus*)

The Pollination : The transfer of pollen grains from the anthers of a flower to the stigma of the same flower or of another flower is known as self or cross pollination. In this process, the fusion of nuclei from the pollen grain with nuclei in the ovule completes with Fertilization. This allows the flower to develop seeds. When pollen and pistil are from the same plant (self pollination) flowers will develop seeds. But not always, many plants require pollen and pistil must be from different plants (cross pollination) where numerous insects plays a carrier role or agents for cross pollination.

Insects and animals moves pollen from the anthers to the stigmas of flowers, thus effecting pollination. Bees, butterflies, beetles, hummingbirds, moths, some flies, some reptiles, some wasps, and nectar feeding bats are recognised as important agents in effective pollination.



- ◆ The effect of pollination is increase in yield like in coffee 35%, citrus 32%, sunflower 45%, Sesam 35%,Vegetables 8 to 27%.
- ◆ Conserving trees and forest will sustain rock bee species.
- ◆ Habitat loss and alternation(land use).
- ◆ Diversify what can be grown locally.
- ◆ Reduce chemical in Farming.

CS fund Supported project & Native Pollinator's booklet.

Project implemented by : Keystone Foundation, Kotagiri