

Garden Bees of Singapore

What Are Pollinators?

Pollinators are animals that move pollen from the male anther of a flower to the female stigma of a flower. This results in the fertilisation of the flower, which then leads to the development of fruits and seeds. Bees generally fall under two categories of pollinator:

- **Generalist pollinator**
An animal that visits a wide range of flowers and are not restricted to specific species or plant family.
- Generalists tend to favour flowers that are open, with easily accessible pollen and nectar.

- **Buzz pollinator**
An insect that is able to buzz at a specific frequency to release pollen from buzz-pollinated plants such as Singapore Rhododendron (*Melastoma malabathricum*) and Eggplant (*Solanum melongena*).
Buzz pollination can only be conducted by a few kinds of bees, such as the large carpenter bees (genus *Xylocopa*), bearly-banded bees (genus *Nomia*), and digger bees (genus *Amegilla*). Buzz-pollinated plants rely on these bees for pollination.

The Importance of Bees

Around 70% of native flora in Southeast Asian lowland forests depend on bee pollination. Bees are also key players for forest health and connectivity as they carry pollen over different forest patches, ensuring genetic diversity for a host of tropical tree species. Bees pollinate the majority of our food crops, including Sponge Gourd (*Luffa cylindrica*), Cashew (*Anacardium occidentale*) and Tomato (*Lycopersicon esculentum*).

You can help bees by planting their favourite plants, and reducing pesticide use in your garden!

How Do I Interact with Bees?

Bees foraging in parks and gardens will not sting unless provoked. Hang around the bees' favourite flowers and you are likely to see them visiting from 8 am to 12 noon, and sometimes even in the early afternoon and evening. You may even see bees flitting in and out of their nests in wooden poles, branches and even the soil!

However, if you see a honey bee hive, please keep your distance. Do not disturb the honey bees, as they will attack if they sense that their hive is threatened.

About Community In Bloom

Community In Bloom (CIB) is a programme that was launched by the National Parks Board (NParks) in 2005. It aims to nurture a gardening culture among Singaporeans by encouraging and facilitating community gardening efforts. It is also an opportunity to build community bonds and strengthen social resilience.

This brochure features 10 common bees found in parks and gardens in Singapore. Bees in Singapore are incredibly diverse, with around 120 species found in habitats ranging from forests to rooftop gardens. We hope that this brochure will help you identify some common bees in your garden, and help you appreciate our busy friends better.



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For more information, visit our website at www.nparks.gov.sg/cib or email us at CommunityInBloom@nparks.gov.sg

For more information on plants in Singapore, visit NParks Flora & Fauna Web at florafauweb.nparks.gov.sg

Asian Honey Bee



Scientific name
Apis cerana

Distinctive characteristics

- Brownish-grey body
- Orange and dark brown banding on abdomen
- Hive takes the form of multiple combs in cavities, e.g. tree holes

The most common species of bee in Singapore, the Asian Honey Bee can be reared in a box to produce honey and beeswax. A generalist pollinator, it favours open flowers with lots of nectar and pollen, like the Honolulu Creeper (*Antigonon leptopus*), Sunflower (*Helianthus annuus*), and False Heather (*Cuphea hyssopifolia*).



Black Dwarf Honey Bee



Scientific name
Apis andreniformis

Distinctive characteristics

- Black body
- Brown to black abdomen with cream banding
- Hive takes the form of a single comb that hangs from a thin branch

Like all honey bees, the Black Dwarf Honey Bee lives in a hive with many workers and a queen. This species is nomadic, with the whole colony shifting to form a new hive every three to four months. A generalist pollinator, the Black Dwarf Honey Bee frequents open flowers with lots of nectar and pollen, such as Buah Cheri (*Muntingia calabura*), Longan (*Dimocarpus longan*), and Honolulu Creeper (*Antigonon leptopus*).

Red Dwarf Honey Bee



Scientific name
Apis florea

Distinctive characteristics

- Light grey body
- Half red abdomen with black and white bands
- Hive takes the form of a single comb that hangs from a thin branch

The only non-native honey bee species in Singapore, the Red Dwarf Honey Bee lives in a hive with many workers and a queen. This generalist pollinator frequents open flowers with lots of nectar and pollen, such as Pucok Merah (*Leea rubra*), Beggar's Tick (*Bidens pilosa*) and Portulaca (*Portulaca oleracea*).

Giant Honey Bee



Scientific name
Apis dorsata

Distinctive characteristics

- Entirely black head and upper body
- Half orange abdomen marked with thick dark bands
- Active both in the day and night
- Hive takes the form of a single comb that hangs from a medium-sized to large branch

Also known locally as the Malayan Honey Bee, this is the largest honey bee species in Singapore. Found near or in forests, the Giant Honey Bee lives in a hive with many workers and a single queen. It is a pollinator for a large range of native plants such as Salam (*Syzygium polyanthum*), and Bintangor Bunut (*Calophyllum soulattri*). This species can also be found at night-flowering plants like the Durian (*Durio* spp.).

Smooth-headed Stingless Bee



Scientific name
Tetragonula laeviceps

Distinctive characteristics

- Very tiny
- Black head and body with chestnut brown abdomen
- Tends to hover with legs hanging in flight

The most common stingless bee species in Singapore, the Smooth-headed Stingless Bee forms hives in cavities with a queen and many workers. It produces and stores honey in pot-like structures that are made from a mixture of mostly plant resin and some beeswax. This generalist pollinator visits both small and large flowers, like Pucok Merah (*Leea rubra*), Red Fox (*Celosia argentea*) and Red Powder Puff (*Calliandra haematocephala*).

Broad-headed Carpenter Bee



Scientific name
Xylocopa latipes

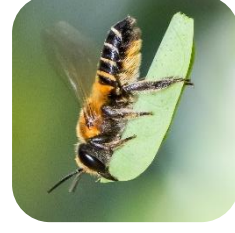
Distinctive characteristics

- Completely black in colour
- Relatively loud, buzzing flight

The largest bee in Singapore, the Broad-headed Carpenter Bee is commonly seen in urban areas. It excavates holes in dead wood to make its nests, and often leaves a small pile of sawdust behind, hence its name. This buzz pollinator can regularly be found at large tubular flowers like Blue Trumpet Vine (*Thunbergia grandiflora*) Elephant Climber (*Argyrea nervosa*), and Crepe Ginger (*Cheilocostus speciosus*).



Broad-headed Leafcutter Bee



Scientific name
Megachile laticeps

Distinctive characteristics

- Reddish-orange head and body
- Black banded abdomen
- Can be observed cutting leaves of particular plants for nesting

The Broad-headed Leafcutter Bee lines cavities for nesting with leaf discs cut from plants such as Rose (*Rosa* spp.) and Petai Laut (*Dendrobium umbellatum*). Because it is unable to make cavities in structures like carpenter bees, it may occupy holes in posts, walls or trees. Adapted to collect pollen from Fabaceae flowers, it has been seen pollinating Salang (*Derris trifoliata*) and Rattlebox (*Crotalaria retusa*). It is also fond of Delek-delek Jambu (*Memecylon caeruleum*) and Beggar's Tick (*Bidens pilosa*).

Striped Nomia



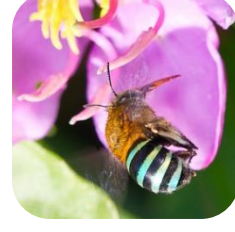
Scientific name
Nomia strigata

Distinctive characteristics

- Slender shape
- Largely black body
- Iridescent multi-coloured bands on abdomen

Found across all habitat types in Singapore, the Striped Nomia is sometimes mistaken for the Blue-banded Digger Bee as some have predominantly blue bands, but it is more slender-bodied with a black thorax. This buzz pollinator can be found pollinating Eggplant (*Solanum melongena*), Tomato (*Lycopersicon esculentum*) and Singapore Rhododendron (*Melastoma malabathricum*).

Sunda Banded-digger Bee



Scientific name
Amegilla andrewsi

Distinctive characteristics

- Body densely covered with orange hairs
- Black abdomen with iridescent blue bands

A common visitor to parks and gardens, the Sunda Banded-digger Bee can be recognised by its distinctive flight pattern of quickly zipping between flowers with abrupt stops. This buzz pollinator favours Indian Snakeweed (*Stachytarpheta indica*) and buzz-pollinated plants like the Singapore Rhododendron (*Melastoma malabathricum*) and Simpoh Air (*Dillenia suffruticosa*).



Himalayan Cloak-and-Dagger Bee



Scientific name
Thyreus himalayensis

Distinctive characteristics

- Black body with light blue markings
- Dark wings

Also known as the Neon Cuckoo Bee, the Himalayan Cloak-and-Dagger Bee sneaks into Blue-banded Digger Bee nests, and replaces the eggs with its own young. This bee can often be found around Indian Snakeweed (*Stachytarpheta indica*), Golden Dewdrop (*Duranta erecta*) and Golden Bells (*Tecoma stans*).

