



The broad-headed leafcutter bee (*Megachile laticeps*) is a solitary creature and nests in small, pre-existing holes. The 1.5cm-long insect cuts leaves and folds them to form its nest. It is also among the few groups of bees that can reach the pollen of the pea flower. Its favourite flowers are the yellow cow wood, nipis kulik and the rattlebox plant.



The broad-handed carpenter bee (*Xylocopa latipes*) is one of the larger species to occur in Singapore, measuring 3cm long. It is a semi-social insect, with multiple females that can reproduce and live together. It nests in wood and likes to visit the melastoma, dillenia, luffa and thunbergia plants for pollen. Like the Andrew's blue-banded digger bee, it is a buzz pollinator. It is also sometimes confused with the bumblebee, but bumblebees do not occur in Singapore.



The pearly-banded bee (*Nomia strigata*) is a 1cm-long solitary insect that nests in the soil. It is a buzz pollinator and likely the key pollinator of chillies, tomatoes and brinjals in community gardens. Its favourite plant, however, is the Singapore rhododendron.

Abuzz over Singapore's bees

A Bee Trail opening at the HortPark next Saturday will give visitors the chance to spot up to 20 different bee species, learn where these fascinating creatures live and the many beneficial roles they play in nature. **Jose Hong** sneaks a peek at some of the bees buzzing about.

Andrew's blue-banded digger bee (*Amegilla andrewsi*) lives on its own in the soil. The 1cm-long creature likes to visit the flowers of the snakeweed, melastoma, dissotis and ardisia plants. It is a buzz pollinator. The pollen of some plants are held within a part of the flower called the anthers, and they can be unlocked only through a special action: the buzzing of a bee. The special frequency of the bee's buzzing causes the anthers to shake and the pollen to fly out. This phenomenon is known as "buzz pollination".
PHOTOS: ZESTIN SOH/NPARKS



About the trail

The Bee Trail that opens on Sept 15 winds its way through three bee habitats at HortPark.

Eagle-eyed visitors may spot up to 20 species living in the gardens and learn about how native bees benefit us.

Apart from pollinating edible food plants, they also promote genetic exchange between plants in different forests. This leads to healthier individuals with each generation.

The trail also features elements designed to provide shelter for non-aggressive native bee species, such as bee hotels, which are man-made structures that provide nesting areas.

People can explore the trail on their own or take a guided walk. There will also be regular bee ecology talks and National Parks Board (NParks) advice for anyone who wants to put pollinator-friendly plants in their garden.

Registration for the bee trail opened last Saturday. To sign up for the guided walk and for more information, visit www.nparks.gov.sg/hortpark or contact the HortPark Visitor Services Centre at NParks, HortPark@nparks.gov.sg.

There will also be a talk – "Amazing Bees of Singapore" – by Dr John Ascher, an assistant professor at the National University of Singapore's biological science department, on Sept 15 from 9am to 9.45am at HortPark's Fruit Room.



Ridley's small carpenter is named after Singapore Botanic Gardens' first director, Henry Nicholas Ridley.



The gold-margined stingless bees are native pollinators found on islands such as Pulau Ubin.



The cerulean carpenter bee has a dense coat of blue hair and has been featured on a Singapore 20-cent stamp.



The Singapore sweat bee is so far known to be found only in Singapore.

More than 120 bee species here

There are more than 120 species of bees in Singapore, mostly solitary species that are either non-aggressive or stingless.

Bees also appear in a wide range of colours, not just the famous black and yellow, and play an essential role in the natural ecosys-

tem by helping native plants reproduce.

They also support local biodiversity – many native bee-pollinated plants produce fruits that are food for native mammals and birds.

These plants include the simpho air (*Dillenia suffruticosa*), red tree-vine (*Leea rubra*), rose myrtle (*Rhodomyrtus tomentosa*) and Singapore rhododendron (*Melastoma malabathricum*).

NParks and the National University of Singapore are collaborating on a research project to document the ecology, local distribution and conservation status of bees here.

The project has already recorded several new species and improved NParks' understanding of how bees contribute to the forest ecosystem through pollination.

The results so far reveal that various native solitary and stingless

bees are likely the major pollinators for a wide range of locally vulnerable or endangered plant species in forests and mangroves.

For example, the mangrove pearly-banded bee (*Nomia lusoria*) has been found to be a potential pollinator for the locally vulnerable sea holly (*Acanthus ebracteatus*), which grows in mangrove forests.

NParks is trying to boost the populations of a few locally threatened



The fiery resin bee was first sighted in Singapore's forests in 2012.
PHOTOS: ZESTIN SOH, NPARKS

bee species through species-specific approaches and overall habitat enhancement.

These species are rarer than honey bees, more docile and tend to be found only in or around forests.

One is the gold-margined stingless bee (*Lepidotrigona terminata*), a native pollinator found on islands such as Pulau Ubin and Pulau Tekong.