

Insects

There is a wide variety of insect species on Earth, which account for 75 to 80 percent of all animal species. With over a million insect species discovered, making them an important indicator of biodiversity. Biologists keep discovering new insect species and it is estimated that there are actually about five million insect species, while humans have identified one-fifth only. Insects play a very critical role in the ecosystem, and some of them are keystone species and an indispensable part for the functioning of the ecosystem.

Insects have existed on Earth long before dinosaurs. Scientists have discovered the traces of insect species in amber dating back 400 million years. Insects have evolved over time to adapt to a variety of environments and changing conditions, resulting in the diversity of living insects. The “islands”, according to the studies by scientists, are often the cradle of species evolution. Macao is made up of the Macao Peninsula and several small islands (Hill of Ilha Verde, Taipa and Coloane), and its distinctive coastline and woodland ecosystem nurture and populate a varied range of species, including those that are exclusive in Macao.

This set of stamp issue features a selection of five insect species from Macao, all of which are essential to the local insect diversity. These philatelic products seek to raise awareness about biodiversity protection and the necessity of natural habitat in preserving a healthy ecosystem. Insects are important pollinators in nature, allowing plants to reproduce for future generations. Insects are also traditional Chinese medicinal ingredients, a valuable natural medicinal resource in Chinese culture. Beneficial insects and pest work in tandem to ensure stable food production and a plentiful supply of food for all households.

The four stamps illustrate the species of *Chlorophorus macaumensis*, *Mortonagrion hirosei*, *Toxorhynchites macaensis* and *Pyrocoelia analis*. The *Chlorophorus macaumensis* is a species named after Macao and can be found in southern China. The markings on its back are reminiscent of a Cantonese opera mask. The *Mortonagrion hirosei* is a rare insect that lives in the salt and freshwater junction near the entrance of the Pearl River in Macao, a unique ecological setting, and is distinguished by its exquisite form and four spots on its back. The *Toxorhynchites macaensis* is also a rare species named after Macao. The larvae of this giant mosquito feed on other mosquito larvae and do not suck on blood for life. It is the nemesis of vector mosquitoes, with their flashy scales and massive body size distinguishing them from regular mosquitoes. The *Pyrocoelia analis*, Macao’s only known terrestrial firefly species, flashes in the night sky and seeks mates in spring, summer and autumn, shining brightly in the darkness of the forest and beaming a light of hope for biodiversity conservation.

The *Leptanilla macauensis* is illustrated on the souvenir sheet, a globally uncommon species, was found on the Hill of Ilha Verde in 2017. They have an extremely mysterious life history and dwell in a subterranean world which is difficult to study. The queen ant of the *Leptanilla macauensis*, which lacks wings and is unable to fly, crawls and spreads solely on the Hill of Ilha Verde. The *Leptanilla macauensis* may have developed as a result of the islands’ isolation. The discovery of the *Leptanilla macauensis* has increased public awareness about the necessity of environmental

protection and species diversity investigation in Macao.

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