

7. Native Stingless Bees- Environment

Amazonian stingless bees first insects to get legal rights in the world. The Provincial Municipality of Satipo in the Peruvian Amazon has created a global precedent by granting legal rights to native stingless bees, recognizing their intrinsic right to exist, thrive, and be free from pollution. This "Rights of Nature" approach aims to protect these critical pollinators—vital for 80% of Amazonian flora and indigenous livelihoods—from threats like deforestation and pesticides.

Legal Rights for Native Stingless Bees- A Conservation Milestone

Context and Legal Breakthrough

The provincial municipality of Satipo in the Peruvian Amazon has passed a landmark ordinance granting legal rights to native stingless bees. This move represents a significant shift from a human-centric utility model to an eco-centric legal framework under the "Rights of Nature."

Global First- This ordinance makes native stingless bees the first insects globally to achieve this legal status.

Jurisdiction- The ordinance applies within the Avireri VRAEM Biosphere Reserve, a large protected area in central Peru established by UNESCO in 2021.

Core Philosophy- The move recognizes the bees' vital role in Amazonian biodiversity and Indigenous livelihoods, shifting focus to their intrinsic right to exist.

The "Declaration of Rights" for Bees

The municipal ordinance legally establishes a specific set of rights for these insects-

1. **Right to Exist and Thrive-** Acknowledges the intrinsic right of the bees to live, flourish, and evolve.
2. **Right to Maintain Healthy Populations-** Protects the bees' ability to sustain their population numbers to ensure ecological balance.
3. **Right to a Healthy Habitat-** Guarantees a clean environment free from pollution and harmful substances, specifically pesticides.
4. **Right to Ecologically Stable Climatic Conditions-** Recognizes their specific need for a stable climate, addressing the threat of climate change.
5. **Right to Regenerate Natural Cycles-** Ensures that their essential life cycles—including nesting, foraging, and reproduction—are not disrupted by human activity.
6. **Right to Legal Representation-** Allows for legal action to be taken on behalf of the bees in cases where they are harmed or their existence is threatened.

About Stingless Bees (Meliponini)

Stingless bees belong to the tribe Meliponini, a diverse group comprising over 600 social bee species found in tropical and subtropical regions globally.

Key Characteristics

Identification

Size/Color- Small, black or dark-bodied with yellow markings.

Features- They possess two pairs of wings, short antennae, large oval eyes, and an oval face with a pointed chin.

Defense Mechanism

Stinger- Unlike common honey bees, they have highly reduced stingers that cannot be used for defense.

Method- They defend themselves by biting using their mandibles. Some species (e.g., *Trigona*) can inject venom when they bite.

Diet- Primarily feeds on nectar and pollen. Pollen is converted into "protein balls" to support larval growth. Some species are scavengers, feeding on rotting fruits or carrion.

Lifecycle- The queen mates only once.

Caste Determination- Fertilized eggs become workers or queens depending on their diet; unfertilized eggs develop into drones (males).

Habitat and Nesting

Locations- They nest in diverse locations including tree trunks, termite mounds, wall cavities, or wooden boxes.

Construction- Nests are built using resin, mud, and wax.

Internal Structure- Inside the nest, honey pots and brood cells are often arranged spirally or randomly, distinct from the hexagonal combs of honeybees.

Economic and Medicinal Value (Pot-Honey)

Stingless bee honey, often referred to as "pot-honey" or "sugarbag," is highly prized.

Flavor Profile- It is more liquid than commercial honey with a distinctive "bush" taste—a complex profile mixing sweet and sour notes with hints of fruit.

Medicinal Properties

1. **Traditional Use-** Used for treating wounds, burns, and respiratory issues.
2. **Scientific Backing-** Research confirms high levels of antioxidants and compounds with antimicrobial, anti-inflammatory, and potential anti-cancer properties.

Rare Sugar Content- Some species produce honey containing trehalulose, a rare sugar with a low glycemic index that prevents blood sugar spikes, making it healthier than standard table sugar.

Ecological and Biocultural Significance

Keystone Pollinators- They are responsible for pollinating over 80% of Amazonian flora. They are critical for forest regeneration and overall ecosystem stability.

Food Security- They pollinate globally vital crops such as coffee, chocolate (cacao), avocados, and blueberries.

Biocultural Heritage- Indigenous communities, such as the Asháninka, rely on these bees for honey and wax. The bees are integral to traditional medicine, food systems, and cultural rituals.

Major Threats to Survival

Despite their importance, these bees face severe risks-

Deforestation- The primary threat is widespread habitat loss caused by illegal logging, agricultural expansion, and cattle grazing.

Climate Change- Altered weather patterns and rising temperatures disrupt the bees' natural cycles and foraging habitats.

Pesticides- Extensive use of agrochemicals in farming kills these sensitive pollinators and contaminates their food sources.

Invasive Competition- The introduction of non-native European honeybees (*Apis mellifera*) creates fierce competition for resources, often displacing native bee populations.

Comparison- Stingless Bees vs. European Honey Bees

Feature	Native Stingless Bees (Meliponini)	European Honey Bees (Apis mellifera)
Defense	Cannot sting (reduced stinger); bite with mandibles.	Sting for defense (barbed stinger).
Nest Structure	Honey pots and brood cells arranged spirally/randomly; made of resin/mud/wax.	Hexagonal wax combs in vertical sheets.
Honey Texture	More liquid/runny; distinct sweet-sour taste.	Viscous/thick; distinct sweet taste.
Ecological Role	Pollinates 80% of Amazon flora; specialist pollinators.	Generalist pollinators; can outcompete natives.
Origin	Native to tropical/subtropical regions (e.g., Amazon).	Native to Europe, Africa, and the Middle East (introduced globally).

Source- <https://www.downtoearth.org.in/wildlife-biodiversity/amazonian-stingless-bees-first-insects-to-get-legal-rights-in-the-world>