DOI: 10.55278/GXYW2405

Observations on stingless bees in St. Joseph's College (Autonomous), Bengaluru

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Tetragonula iridipennis (Stingless Bees) also called as Dammar bees (Hymenoptera: Apidae) are usually found in small groups in the crevices of stone or rock buildings, hollow tree trunks etc. These spatial generalists build their nest around human dwelling spaces by using human constructed materials for nesting (Karthick *et al*., 2018). They are reported as pollinators in different crop ecosystems in and around Bengaluru region on sunflower (Kumar *et al.,* 2020); *Cocos nucifera, Areca catechu, Eucalyptus sp., Helianthus annus, Peltophorum ferrugineum, Pongamia pinnata* (Shwetha, 2012). They are usually tropical bees and are found in the Indo-Malay region, Sri Lanka and Islands of Indonesia. Eight species of stingless bees are known from the Indian subcontinent: *Lepidotrigona arcifera* (Cockerell), *Lisotrigona cacciae* (Nurse), *Lisotrigona mohandasi* Jobiraj & Narendran, *Tetragonula* aff. *laeviceps* (Smith), *Tetragonula bengalensis* (Cameron), *Tetragonula gressitti* (Sakagami), *Tetragonula iridipennis* (Smith), *Tetragonula praeterita* (Walker), and *Tetragonula ruficornis* (Smith) (Rasmussen, 2013). Stingless bees are said to have honey with medicinal properties and meliponiculture is practiced in different parts of India. These bees cannot defend themselves by stinging but by biting.

Nesting preferences of the stingless bees was reported by Pavithra *et al*. (2013) in Jnana Bharathi Campus of the Bangalore University. This communication is based on observations on stingless bees in St. Joseph's College (Autonomous), Bengaluru during 2019-2020. The Ccllege located in the heart of the city of Bengaluru, India has 8.44 acres including the hostel block. The hostel block built in 1948 is a remarkable architecture with a semi-circular-crescent-shaped stone building. The numbers of bee colonies present in various areas around the college, the flowers these bees pollinate were noted. The nests were found to be from 1-4 feet above the ground level in the crevices of the stone wall. The average size dimension of the nest entrances was about 3-5 mm in length and about 2-3 mm in width. Some nests were constructed around wood pieces used for lighting purposes during celebrations and festivities. The surface of the nest was rough and irregular (Figs. 1 and 2).

Fig. 1. An active colony

Fig. 2. A abandoned nest

The stingless bees were found pollinating *Passiflora incarnata, Wedelia lobata, Vinca rosea*, *Passiflora coccinea*, *Pseuderanthemum reticulatum, Spathiphyllum.*

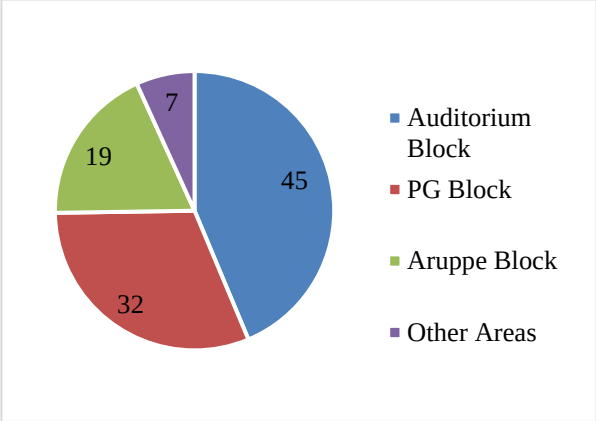

Fig. 3. Stingless bee colonies in SJC

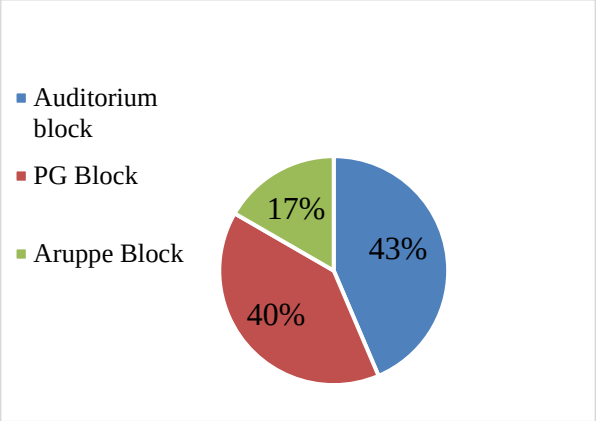

Fig. 4. No. of stingless bees in different sites in the campus

Figures 3 and 4 show the number of stingless bee colonies and their occurrence in the college campus. Most of the colonies are in the Hostel stone building (45) and the PG block (32). The stone building provides nesting spots with cervices between the stones. The antique building is secluded with less movement of individuals, availability of flowering plants. During the observational period, it was noticed that many of the nests were empty and very few number of stingless bees present which is a matter of concern. This could perhaps be due to the construction happening in and around the college. Stingless bees are very sensitive about their habitat and prefer a quiet and undisturbed area. The observations were that these bees are found near pollinating plants at various time intervals of the day. The legs of the stingless bees were observed and they were found to be of different

colors indicating the presence of pollens and that they are aiding in pollination**.** Measures including the planting of flowering plants and ensuring minimal movement will be undertaken.

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MS Received 06 February 2022
MS Accepted 27 February 2022