SHORT COMMUNICATION

An Unusual Nesting Site by Leaf Cutter Bee Megachile (Aethomegachile) laticeps Smith

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Leaf cutter bees are solitary and usually nest in the pre-existing cavities in wooden structures, plants and man-made structures (Richards 1978; Michener 2007; Alqarni et al., 2014). These solitary bees are reported to be vital pollinators of important crops like alfalfa, canola, and low-bush blueberry (Sheffield, 2008; Pitts-Singer and Cane, 2011). Megachile species also show high seasonality in behavior, with short flight seasons tracking the bloom of their preferred host plants. As these bees construct their nests in pre-existing cavities, they could be potentially managed through deployment of trap-nests (Ascher et al., 2016). Leafcutter bees are known to nest in soil, in holes, in wood, and in plant stems, shells of dead snails, holes in concrete walls and other holes in man-made objects. The present study recorded the selection of a dried, fallen flower on a bush as a nesting site by M. laticeps. There were no prior reports on utilization of flower as a nesting site and use of floral parts for nest construction in the genus Megachile. But the use of petals for nest construction is not confined to M. laticeps. Some Osmine bee species, Hoplitis bicusculatae (Cockerell) (Rust, 1980), Osmia rufohirta Latreille (Grandi, 1961) and O. caerulescens (Linnaeus) (Westrich, 1990) which usually utilize green leaves as nest-building material but occasionally also use petals. O. lunata, O. rhodoensis and O. tergestensis uses Helianthemum (Benoist, 1931), Geranium, Linum (Zanden, 1994) and Geranium, Helianthemum, Hieracium, Ononis petals (Ducke, 1990), respectively. The chewed petals of Dalea are used by Ashmeadiella rubrella Michener to build entire brood cells (Yanega, 1994). However, Rozen et al. (2010) reported the use of whole petals or large petals of Hedysarum elymaiticum and Onobrychis vicifolia for construction of nest by O. avosetta. Even Wainia species use petals to make partitions between the brood cells (Gess and Gess, 2008).

The female bees make typical circular and oval cuts of leaf bits as per the diameter of the nesting substrate and cap each cell with a circular piece of leaf bit. In each cell, adult bee will make the pollen provision and lays an egg singly to ensure the immediate availability of pollen food to the hatching larvae (Richards 1994). Ascher et al. (2016) reported that Megachile laticeps nested in bamboo trap-nests with entrance diameter of 7–9 mm, making it potentially manageable. Larval-to-adult stage was approximately one month.

The leaf cutter bee, M. laticeps has a wide distribution in India: Karnataka, (Veeresh Kumar, 2015); Indonesia: Moluccas; Malaysia: Pahang (Tioman Island), Penang, Sarawak; Philippines, Luzon, Panay; Singapore; Thailand. New Caledonia and oceanic islands including Federated States of Micronesia (East Caroline Islands): Chuuk (Truk); Fiji (Davies et al., 2013); French Polynesia; Republic of the Maldives; Guam; Northern Mariana Islands: Saipan; Palau; Seychelles; United States: Hawaii: Hawaii (Ascher et al., 2016). The present study is a first report on an unusual nesting site selection made by the leaf cutter bee M. laticeps.

Materials and Methods

On 26 October 2016, we observed a single nest constructed by the leaf cutter bee in the Pollinator garden of ICAR-National Bureau of Agricultural Insect Resources (NBAIR) Bangalore Yelahanka Campus (13.096932N, 77.56759E) and later the species was confirmed as Megachile laticeps. Since the nest was not complete, we waited for the bee to visit the nesting site, which was quite unusual compared to the nesting sites of megachilid bees. The