



First reports of some Megachilid bees (Hymenoptera) from Kerala, India

Family Megachilidae consists of long tongued bees which are easily recognized by the presence of two submarginal cells in the forewing (except in Fideiini) and the female bees from this family (except parasitic forms and Pararhophitini) can be distinguished by the presence of scopa underneath the abdomen (Michener 2007). Genus *Megachile* Latreille, 1802 is one of the most diverse bee genera and they play a significant role in pollination. This genus consists of leafcutter bees, mason bees and resin bees (Sardar *et al.* 2021).

Three female specimens of *M. (Eutricharaea) femoratella* Cockerell, 1918 were collected using a sweep net. One specimen was collected from Srayilkadavu (10.701201° N, 76.027474° E) of Malappuram District and two specimens were collected from Palakkal (10.478735° N, 76.21322° E), Thrissur District, Kerala, India. The specimens were collected from the flowers of *Crotalaria pallida* (Fabaceae) and *Mimosa pudica* (Fabaceae). In addition, three female specimens of *M. (Callomegachile) lerma* Cameron, 1908 were collected from Srayilkadavu (10.701201° N, 76.027474° E) and two from Nilambur (11.27191° N, 76.24101° E), in the Malappuram District of Kerala, India. The bees were collected from *Crotalaria pallida* (Fabaceae) and *Leucas aspera* (Lamiaceae). The specimens were examined using a Labomed Luxeo 6z stereo zoom microscope. Photographs of specimen were taken using a Canon 7D Mark II digital camera with 100mm F/2.8L macro lens. The specimens were deposited in the insect collection of Shadpada Entomology Research Lab, Kerala, India.

The diagnostic features (Fig. 1) of *M. (E.) femoratella* are, body black; mid and hind femora dull orange; pubescence on face white; thorax, fasciae of abdominal tergites yellowish white; scopa pale white except on S6 (6th

abdominal sclerite) where it is black. All the features of specimens collected matches with the original description except the colour of scopal hairs and pubescent fasciae of abdomen. In the original description the scopa is white except on the S6 but in the collected specimens it is pale white. The pubescent fasciae of abdominal segments are white in the original description. White fasciae are mixed with pale yellow pubescence in the collected specimens.

The diagnostic features (Fig. 2) of *M. (C.) lerma* are, body and pubescence on head black; anterior and lateral margins of thorax, T1 (first abdominal tergite) and fasciae of T2 with fulvous pubescence; T3, T4 and T5 with white fasciae; white fasciae of T3 mixed with fulvous pubescence; scopa pale white except on apex of S5 and disc of S6 where it is black. The characters of the collected specimen are in agreement with the original description by Cameron, 1908 except the colour of scopa which is white and the pubescence on the underside of tarsi. In the original description the pubescence is white but, in the specimens collected it is fulvous.

The species *M. (E.) femoratella* and *M. (C.) lerma* of the family Megachilidae collected at the sites above are the first records from Kerala. *Megachile (E.) femoratella* has previously been reported from Indian states of Rajasthan, Gujarat, Himachal Pradesh, Haryana, Maharashtra, West Bengal and Uttar Pradesh (Bingham 1897, Gupta 1993, Kumari *et al.* 2019, Ascher & Pickering 2021). *M. (C.) lerma* has previously been reported from Gujarat, Maharashtra, Karnataka and Chandigarh (Kumari & Kumar 2014, Veereshkumar 2015, Saini *et al.* 2020, Ascher & Pickering 2021).

We collected all the specimens of *M. (E.) femoratella* and three *M. (C.) lerma* specimens from the Kole wetlands, a unique Ramsar ecosystem (since 2002) in Kerala (Islam & Rahmani 2008). This ecosystem covers an area of 13,632 ha and is located in Malappuram and Thrissur Districts of the state (Johnkutty & Venugopal 1993).

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Plate 11

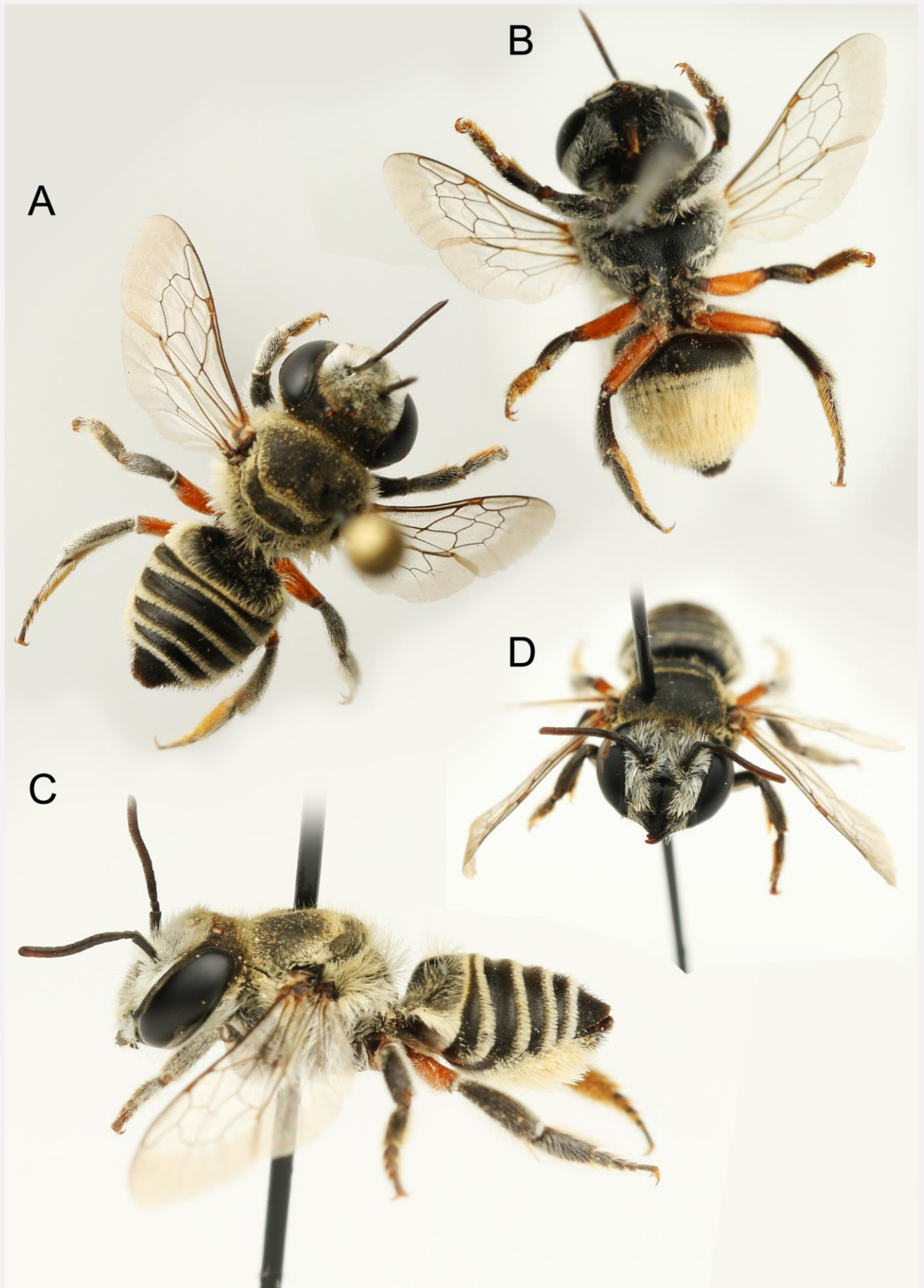


Figure 1. *Megachile (Eutricharaea) femoratella*: habitus of (A) dorsal (B) ventral, (C) lateral views; and head (D) dorsal view

Plate 12

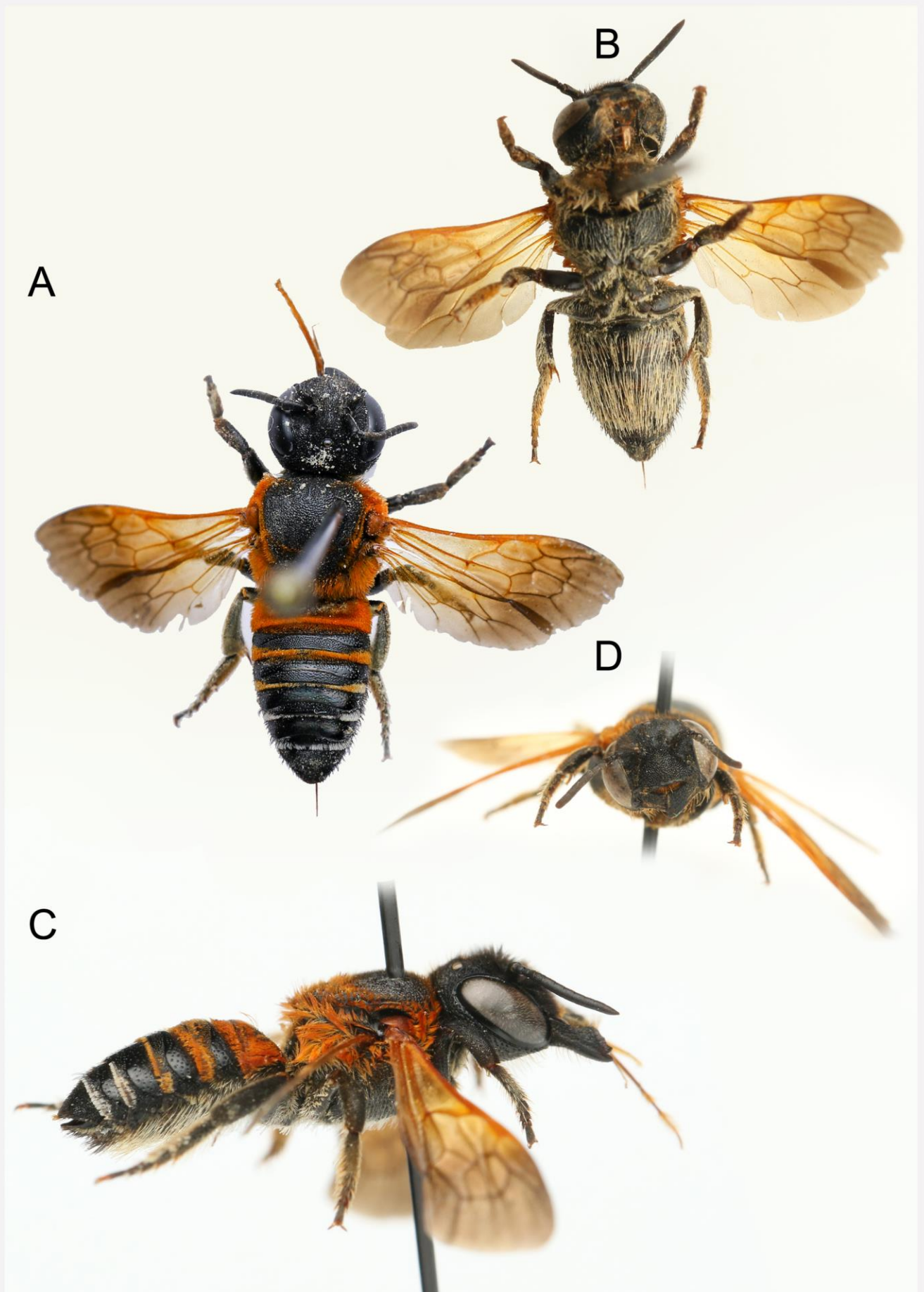


Figure 2. *Megachile (Callomegachile) lerma*: habitus of (A) dorsal (B) ventral, (C) lateral views; and head (D) dorsal view