

# The Leaf Cutter Bee

## Megachile anthracina (Megachilidae: Hymenoptera)

1. **Dr. L. N. NISHA**

Department of Agricultural Entomology

SRS Institute of Agriculture and Technology, Vendasandur-Dindigul,  
624 710

*Received: August, 2023; Accepted: September, 2023; Published: October, 2023*

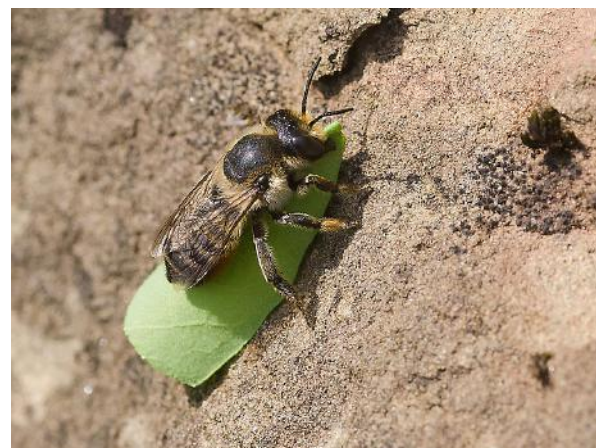
### Introduction

Megachilidae is a cosmopolitan family of most of the solitary bees. An important characteristic trait of this family are the restriction of their pollen carrying organ/structure called scope, which is ventral to the surface of the abdomen (rather than exclusively on the hind legs as in other bee families) and their typically elongated labrum. The genera Megachilid are most commonly known as mason bees and leaf cutter bees, reflecting the materials from

which they build their nest cells (soil or leaves, respectively). Few of them collect the plant or animal hairs and fibers and are called as carder bees, while others use plant resins in nest construction and are collectively called as resin bees. All these species feed on nectar and pollen but very few are kleptoparasites (cuckoo bees), feeding on pollen collected by other Megachilid bees. Parasitic species do not possess scopae.

### Systematic Position

**Domain:** Eukaryota  
**Kingdom:** Animalia  
**Phylum:** Arthropoda  
**Sub-phylum:** Uniramia  
**Class:** Insecta  
**Order:** Hymenoptera  
**Super family:** Apoidea  
**Clade:** Anthophila  
**Family:** Megachilidae  
**Genus:** Megachile  
**Species:** *M. anthracina*



### Nature and Symptoms of damage

- Adult make characteristic semi-circular cuts/ “C” shape cut/ crescent/ half-moon shaped cuts in the leaves
- Cut bit of leaves are used for construction of tubular nest cells
- Nest cell is provided with pollen paste and one egg is deposited in each cell



Damage caused by leaf cutter bees in rose leaves



Nests of *Megachile* bees from SRSIAT, Veda sandur



Entrance of the nest (without sealed)

### Pest identification

- Adult bees are hairy and medium sized dark insects with the base of the abdomen tinged with shiny blue bands
- They build cells in crevices and cavities in hedges or dead wood
- Bees are active before and after the monsoon



Dissected nest of leaf cutter bee with bees inside



Adult *Megachile anthracina*



Closer view of leaf cutter bee

### Management

- Insecticides are ineffective for controlling leaf cutter bees
- Cover the susceptible plants with cheese cloth or loose netting for preventing leaf injury damage
- Breeding sites should be eliminated
- Application of saw dust on the tunnel or thick stemmed plants with hollowed opening
- Number of leaf cutter bees in an area can be reduced once if the breeding sites are eliminated
- Rotting wooden boards with saw dust should be pushed out of excavated tunnels

### References

1. Ayyar, T.V.R. 1963. Hand Book of Economic Entomology for South India. Govt. Press, Madras, 516 p.
2. David, B.V. and T. Kumaraswami. 1982. Elements of Economic

- Entomology. Popular Book Depot, Madras, 536 p.
3. Dhaliwal, G.S. and E.A. Heinrichs. 1998. Critical issues in pest management. Commonwealth Publishers, New Delhi, 287 p.
  4. Pradhan, S. 1983. Agricultural Entomology and Pest Control – Indian Council of Agricultural Research, New Delhi, 267 p.

