



**RESEARCH ARTICLE**

**Role of Some Indian Megachilid Bees in Pollination of Plants Regarding their Economic Importance**

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**ABSTRACT**

*A field survey in different regions of India was conducted to observe the role of Indian Megachilid bees in pollination of different plant species regarding their economic importance (Popov, V-B 1955). The pollination of flowers by Megachilid bees made different plant species to produce fruitful results regarding the crop yields.*

**Key words:** *Megachilid bees, Pollination, crop yield*

**INTRODUCTION**

Bees of family Megachilidae are popularly known as “leaf cutter bees” constitute an economically most important group of social bees. They are instrumental in pollination of variety of cultivated and wild plants. Regarding their habits, two distinct groups of these bees are recognized i.e. non-parasitic and parasitic bees; (Graenicher, S.1905) they are cosmopolitan in distribution. In India they are common and occur in almost all the parts including plains and hills (Smith, 1853 and 1854 and Dalla Torre 1896). Their different habits are ‘leaf cutters’, ‘wood borers’, ‘mason bees’, ‘resin users’, etc. The Megachilid bees exhibits most uniformly charactered morphology, easily recognizable by their ventrally situated abdominal scopa, these are solitary bees sometimes one bee visits around 30-35 flowers within a minute. Their diurnal activities grows on as the sun moves up and reaches at the optimum when the temperature rise up to, at the most 32 degree Celsius. Further increase in temperature retards them and compelled to hide back in their nests.

**REVIEW LITERATURE**

Megachilidae is one of the largest family of bees represented by about an equal number of species in each of the zoogeographic regions. Many of them are rather specialized but morphologically uniform throughout the world. Some of its characteristics are shared with other families of the bees but some specific characters are distinguishly separate this family from others. The taxa description is based upon many specific characters of both the sexes. The method possessed by Mitchell (1973 and 1980).

**MATERIALS AND METHODS**

Through the survey of the country, which was conducted for last few years, I was able to collect around 40 species. The confirmation and identification has been done at various type preserving institutes of agriculture and researches. Particularly identification was done at ISRI, New Delhi and ISI Calcutta. The collection of some Megachilid bees during pollination of flowers made possible for the identification. During our survey we noted that the Megachilid bees are usually very fast movers, so fast that sometimes one bee visits around 30-35 flowers within a minute, which plays the key role in pollination of flowers.

**OBSERVATION**

Megachilid bees may be found in many of the fields of Indian regions during flowering season. They are robust, black or few bluish green in color with metallic or shining luster.

Integument maculated with puncture as well as pubescence of various colorations like white, snow white, black, grey, yellow, orange, reddish, pink, etc. varying from species to species.

All members have sub antennal sutures directed to the outer edges of antennal sockets, these sutures are completely absent in sub family lithurginae.

Their fore wings as a rule always carry two sub marginal or cuboital cells. Scopa only in females and restricted only from II to V or VI sternal plates at ventral side of abdomen (exception occurs in parasitic forms).

## RESULT

In our overall collection near about 37 species belonging to near about 15 genera, some of them are: *Megachile*, *Heriades*, *Chelostoma*, *Osmia*, *Coelioxys*, *Parevaspis*, *Anthidium*, etc. Many of them are either new or first reported from this country. The members of family Megachilidae are economically important as they play the key role in pollination of plants.

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