



**MEGALOCARIA DILATATA (FABRICIUS, 1755) (COLEOPTERA: COCCINELLIDAE):  
FIRST RECORD FROM NORTH WESTERN GHATS OF MAHARASHTRA, INDIA.**

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Article Received on 21/09/2019

Article Revised on 11/10/2019

Article Accepted on 01/11/2019

**ABSTRACT**

*Megalocaria dilatata* is a predatory ladybird beetle widely distributed in India. Herein, the geographical range of the species in the Western ghats is extended northwards to Maharashtra state, i.e. Northern Western Ghats for the first time. This species is now reported for the first time in Kolhapur, Maharashtra, India and hence, it is an addition to the Fauna of Maharashtra. As Bamboo and sugarcane are major crops in Maharashtra and Woolly aphid is one of the destructive pests of these crops, this species can be used in biological control of woolly aphids in the area. Present communication provides diagnostics of habitus with color photographs.

**KEYWORDS:** *Megalocaria*, first record, Kolhapur, Northern Western Ghats.

**INTRODUCTION**

Coccinellidae is one of the important families of insect order Coleoptera consists of phytophagous, mycophagous as well as predatory ladybird beetles. Globally, there are 5000 species of this group.<sup>[1]</sup> Poorani<sup>[2]</sup> was first to provide a consolidated account of Coccinellidae of the Indian subregion. As far as Coccinellid fauna of Maharashtra is concerned, 20 species belonging to 15 genera of 6 subfamilies are reported so far by Jadhav and Sharma.<sup>[3]</sup> Bhatnagar<sup>[4]</sup> provided a checklist of 16 ladybird species from the Northern Western Ghats region of 13 districts of Maharashtra.

Genus *Megalocaria* Crotch is widely distributed in Australasia, Eurasia, Asia, and Palearctic regions with 7 species reported to date. In India, this is one of ladybird beetle genera belong to subfamily Coccinellinae represented by 2 species viz. *Megalocaria dilatata* and *Megalocaria pearsoni*.<sup>[2]</sup> *M. dilatata* is unique due to the large size and its feeding preference to woolly aphids which infest bamboo and sugar-cane.<sup>[5]</sup> Fabricius<sup>[6]</sup> named this species as *Coccinella dilatata*, later Mulsant<sup>[7]</sup> described this species as *Caria dilatata* but the widely used name of this species is *Anisolemnia dilatata* which was given by Korschefsky.<sup>[8]</sup> Iablokoff-Khnzorian<sup>[9]</sup> transferred the species into genus *Megalocaria* but the name *Anisolemnia* was kept as its type species.<sup>[2]</sup> The present communication reports both, the genus *Megalocaria* and species *dilatata* from the northern Western Ghats for the first time. An attempt has been made to provide diagnostic characters and illustrations of the habitus of the species.

**MATERIALS AND METHODS**

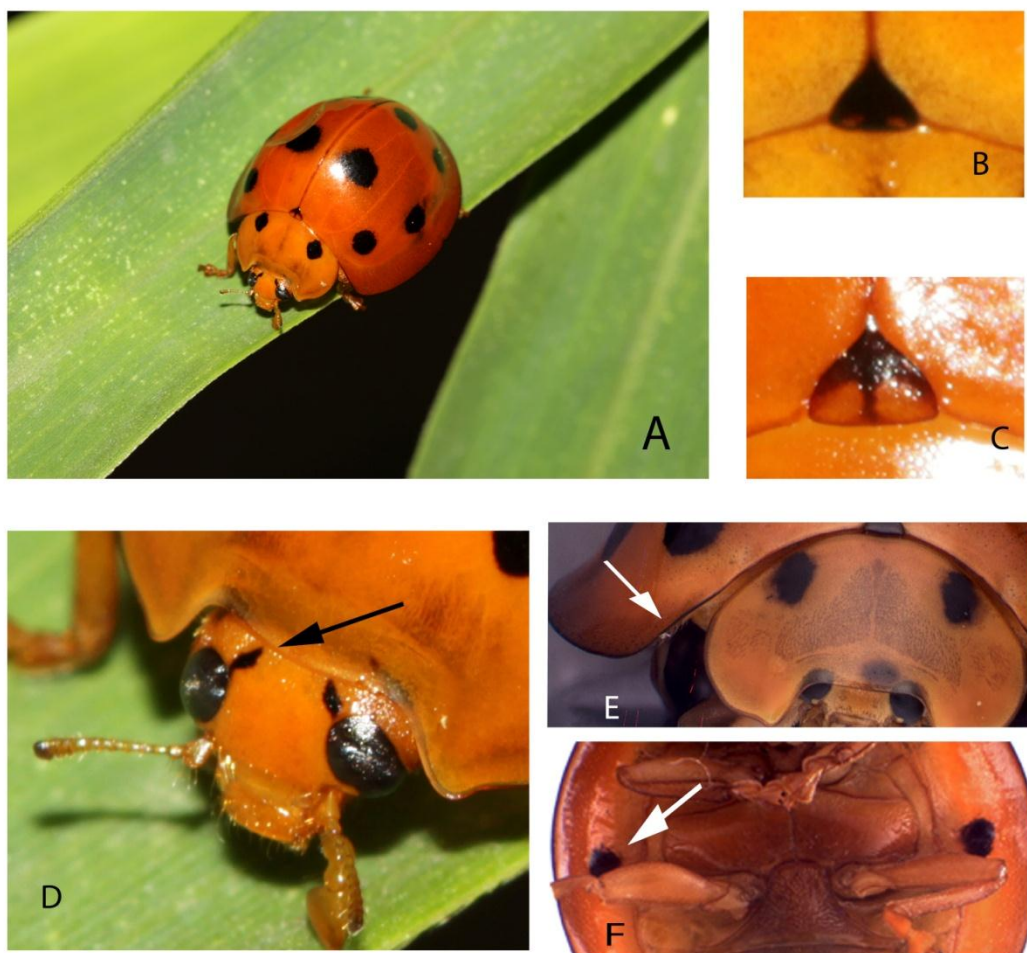
Specimens were collected from Palsambe (Gaganbawada) and Kanthewadi(Radhanagari) localities of the North-Western Ghats area of Maharashtra state. All specimens were captured by handpicking method, properly preserved and kept in the Department of Zoology, Shivaji University, Kolhapur. Images of the habitus were taken in the field as well as by using a Canon 550D DSLR CAMERA and Lawrence and Mayo LM52-3621 stereomicroscope fitted with a digital camera and measurements were taken by Image J software. The species is identified based on its original description given by Mulsant.<sup>[7]</sup>

**RESULTS AND DISCUSSION**

In the communication *Megalocaria dilatata* (Fabricius, 1755) is reported for the first time from North Western Ghats, based on the specimens collected from two localities of the Kolhapur district of Maharashtra. Up till now, this species was known from Haridwar (Uttarakhand),<sup>[10]</sup> Tripura,<sup>[11]</sup> Himachal Pradesh<sup>[12]</sup> and Assam, Karnataka and Tamil Nadu.<sup>[2]</sup>

Material Examined: ZSUK.LB.273, ZSUK.LB.274, ZSUK.LB.275, ZSUK.LB.276, 6.vi.2018 & ZSUK.LB.278, ZSUK.LB.279, 10.vi.2018, Palsambe, Gaganbawada Taluk, Kolhapur District; ZSUK.LB. 280, Kanthewadi, Radhanagari Taluk, Kolhapur District, 15.vi.2018. Coll. P. B. Patil.

**Diagnostics:** Length- 10.74 mm, width-10.35 mm.



**Image 1: *Megalocaria dilatata*** A. Habitus in natural habitat, B. & C. Note the scutellum color pattern, D. Arrows showing peculiar markings on head, E. Note the elytral anterolateral margin, F. Arrow indicating spot on elytral epipleuron (ventral view).

Body is large sized with circular outline, bright orange to yellowish colored and hemispherical strongly convex dorsum with ten black spots on elytra (Image 1, A). The roughly rounded elytral spots are arranged in 1-2-2 pattern as follows- 1 pair of black spots- one on basal margin, one on either side of scutellum, two pairs are just before the middle of which one on lateral side very close to middle and one near the sutural line and 2 pairs are located just after the middle of elytra; one on lateral side and one near the sutural line. Pronotum's lateral margin and elytral anterolateral margins black colored (Image 1, E). Head with roughly diamond-shaped elongate spot on either side of inner margin of eyes (Image 1, D). Scutellum is totally black or having base color matching to the elytral color, which appears as an arrow pointing straight towards sutural line (Image 1, B & C). Elytral marginal portion is dark colored than the rest of the portion of the elytra. Elytra are glabrous and finely punctate. The interspace between punctures is with micro sculptures. Ventrally, at the line of metasternum, elytral epipleuron have a prominent black spot (Image 1, F). Pronotum is faint orange to yellow with two prominent black spots located on either side of scutellum

just near the elytral basal line. Legs show pseudotrimerous tarsi, having tarsal claws with basal tooth. Terminal segment of maxillary palp is securiform i.e large and axe shaped. Postcoxal line is incomplete.

Absence of previous records of *M. dilatata* in Maharashtra may due to the lack of insect inventorization in the Western Ghats of the Maharashtra state. The first record of this species from the northern Western Ghats, Maharashtra is based on the specimens collected from Gaganbawada and Radhanagari Tehsils of Kolhapur district. In the Fauna of Maharashtra,<sup>[3]</sup> enlisted 20 species of Coccinellid beetles in which not only species *dilatata* is mentioned but also genus *Megalocaria* is too. Hence, the genus *Megalocaria* is also becoming a new genus for the Coccinellid fauna of Maharashtra. *M. dilatata* can prey on *Astegopteryx minima*, *A. bambusae*, *Ceratovacuna silvestrii*, *Pyrolachnus pyri* and *Pseudoregma bucktoni*.<sup>[13]</sup> The feeding potential of most of the aphid predating Ladybirds is about 700 aphids, but *M. dilatata* is a dominating predator, can devour up to 3000 aphids in its life span.<sup>[14]</sup> Maharashtra is one of the important Sugarcane growing states of India and

sugarcane wooly aphid's (*Ceratovacuna lanigera*) outbreak was observed in Maharashtra and Karnataka.<sup>[15]</sup> Taking into consideration, the role of this species in biological control of crop pest, this species can be used as a potential biocontrol agent against the bamboo and sugarcane crop of Maharashtra through IPM program.

### CONCLUSION

The record of *M. dilatata* is an addition of genus *Megalocaria* and species *dilatata* to the Fauna of Maharashtra and North Western Ghats.

### ACKNOWLEDGMENTS

The authors would like to thank Head, Department of Zoology, Shivaji University, Kolhapur for providing laboratory facilities and DST-PURSE Phase II for Research Assistant fellowship.

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