

# 2

## **GIANT RED VELVET MITE: AN ASTONISHING CREATUR<sup>#</sup>**

*Satyapriya Singh<sup>a</sup>, Deepa Samant<sup>a</sup>, Venkatesh Y. N.<sup>b</sup>, Pratap A. Divekar<sup>c</sup>,  
Anindita Paul<sup>d</sup>, Sujan Majumder<sup>c\*</sup>*

---

### **Abstract**

Red velvet mite (RVM) is an arachnid arthropod, having bright red colour makes the creatures easy to attract. Among the mite species, it is one of the largest and grows up to 15mm to 20 mm. A thick layers of glossy hairs, gives it a velvety appearance. Usually fore pair legs are used for sensations. Like other mites, the adults have 4 pairs of legs while the larvae have only 3 pairs (fig.1). This creature is not only famous for its bright red velvety body which looks beautiful but also known for its therapeutic usage in the treatment of paralysis and sexual dysfunction (Oudhia, 2003). Further, the deep red color indicates the warning behavior to its predators to refrain their consumption. Apart from this, it is graced with dozens of common names such as rain's insect, scarlet fly, bride of the sea-farer, queen mite, rain mite, velvet bride, little old lady of monsoon and many more that are used invariably.

---

<sup>#</sup>General Article

<sup>\*a</sup>ICAR-IIHR-Central Horticultural Experiment Station, Bhubaneswar-751019, India

<sup>b</sup>ICAR- Central Agroforestry Research Institute, Jhansi- Gwalior Road, Jhansi-284003, UP

<sup>c</sup>ICAR-Indian Institute of Vegetable Research, Varanasi-221305, India

<sup>d</sup>ICAR-Central Tobacco Research Institute, Rajahmundry, Andhra Pradesh-533105, India

E-mail: [sujaniari@gmail.com](mailto:sujaniari@gmail.com)

---

## Habitat

RVM is found all over the world, surviving freezing cold of Antarctica region to extreme heat of 50°C in desert. In general, they are found up to depth of 33 feet. Hence, this strange and fascinating organism is unique to its type. But, normally the occurrence is more at forest areas or fruit orchards. Adult velvet mites spend most of their lives in subterranean burrows in a diapause-like state waiting for a specific set of ecological conditions triggered by summer rains. They only emerge to the surface just after heavy rain (hence called rain bug) and may only forage for a few hours per year. Being diurnal, RVM is rarely seen at night at ever.

## Taxonomic Hierarchy

<b>Kingdom</b>	<b>Animalia</b>
<b>Phylum</b>	Arthropoda
<b>Sub-phylum</b>	Chelicerta
<b>Class</b>	Arachnida
<b>Order</b>	Acari
<b>Family</b>	Thrombidiidae
<b>Genus</b>	<i>Dinothrombium</i>
<b>Species:</b>	<i>Sp</i>



**Figure-1:** Giant red velvet mite

## Biology

The RVM have very interesting life cycle. It has only one breeding cycle, during copulation, the male and female are involved in 'mating dance' which they encircle each other and tap with their forelegs. In general, male layout an intricate silken trail leading to a spermatophore (a protein capsule containing a mass of spermatozoa) in it. Thereafter, an intricate silken trail is laid out by the male for female to reach the love nest. With the arrival of female, the male breaks into specific body movements termed as 'mating dance'. The female follows the trail all the way up to the spermatophore, takes it and fertilizes its eggs. Sometimes, males are found engaged in an unusual and interesting phenomenon of mating war wherein, another male follows the trail and eliminates the mating competition by way of destroying already provided spermatophore and replacing it with its own. After successful reproduction, the female lays the eggs which varies from 60-1, 00,000. The lifecycle (6 stages) sustain in ecosystem which having some characteristics features.

Although the RVM is pretty good at keeping the pests off in agricultural crops, but they don't rise above a bit of cannibalism also.

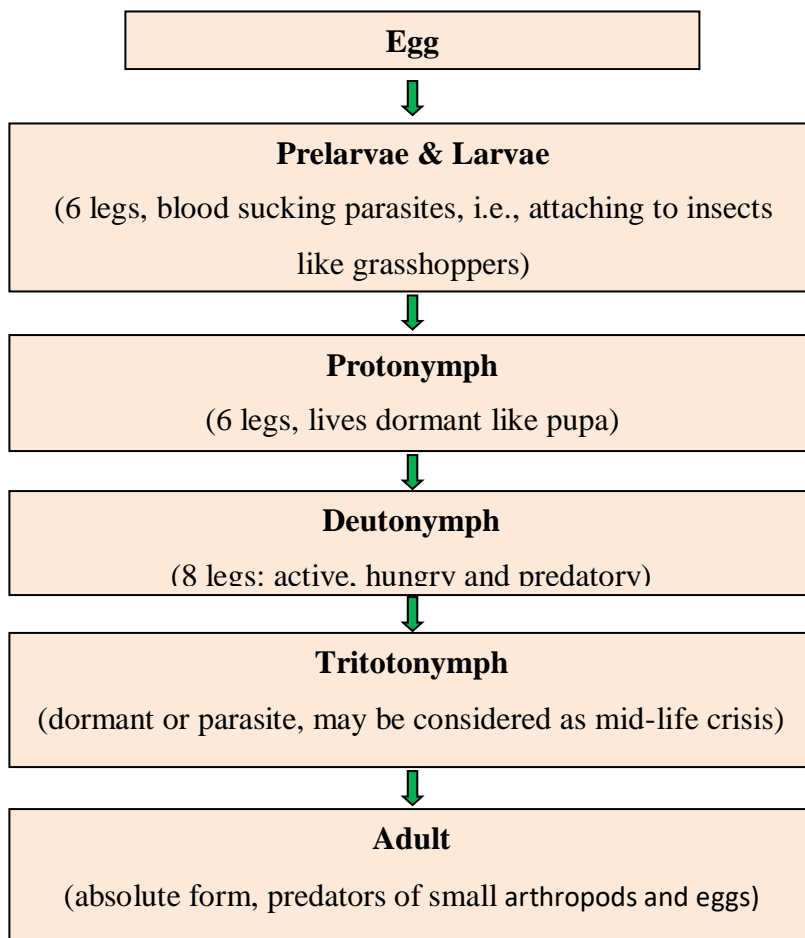
## RVM is friend or foe?

Although most of the mites are caused considerable losses to the agricultural sector, the RVM is known for its multi-spectrum benefits.

1. Biological control: They are not ticks but mites which feed on other harmful insects and small arthropods such as termite eggs, nymphs of hemipteran insects, resulting in strengthening the natural biological control

2. Enhance soil fertility: They participate in the decomposition process within the soil matter
3. Ethno-medicinal properties (George et al. 2011)
  - Treat paralysis
  - Enhance sexual desire i.e. acts as aphrodisiacs
  - Increase immune response

In many parts of India, it is considered for business purpose i.e. unlikely pet. This is due to the brilliant colour where the sells price ranges between Rs. 2 to 5 each.



**Pictorial Diagram of Life Cycle of RVM**

## Conclusion

The RVM are extremely important to environment. The vibrant arachnid not only bestowed with lavish beauty, but also has stringent characteristics in agricultural ecosystem as natural biological agent and has a vital role towards medicinal attributes.

This amazed arachnid is having multiple benefits which need to be explored in more diverse manner.

## References

- Oudhia, P. (2003). Interactions with the traditional healers and natives of Bhopalpatnam region, Chhattisgarh, India having rich traditional medicinal knowledge about common herbs insects and other animals. In *Research note at Botanical. com*.
- George, L., Padmalatha, C., Ranjitsingh, A. J. A., & Dhasarathan, P. (2011). Antifungal Efficiency of Haemolymph and Aqueous Extraction of Red Velvet Mite, *T. Grandissimum*. *International Journal of Biology*, 3 (1), 111.