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An introduction of Ram ki dukariya: Red velvet mite (*Dinothrombium grandissimum*) in national Chambal sanctuary forest

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Abstract

Dinothrombium grandissimum is an Arthropod belongs the subclass Acari and family Thrombididae are very much common in Chambal Sanctuary Forest area in district Etawah- Auraiya U.P. India. This might have peculiar body colour, Morphology, Behavior, Reproductive, Life cycle and ecological characteristics and this mites prefer specific habitat. Their extreme habitat and mode of living shows adaptive cope up with a harsh environment, Mite also plays significant role in the ecological balance of the ecosystem.

Keywords: Red velvet mite, chambal, protonymph and Ram ki dukariya

Introduction

Scientific classification

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: chelicerata

Class: Arachnida

Order: Trombidiformes

Super family: Trombidioidea

Family: Trombidiidae

Genus: dinothrombium

Species: Grandissimum

Though arachnid, mites are often mistaken to be insects, but they are not really insects and didn't have three pairs of walking legs as in insects, mites have four pairs of walking legs in their opisthosoma.

The largest amongst mites (12 mm), Red velvet mites are seen onset of the rain bug and not the whole year, also known as Rain bug. They hibernate in winter season. The emergence of these creatures with the emergence of winged ants and termites on which they feed. Which are parasites on Grasshoppers, beetles and aphids. The bright colour is attractive to children and also young people in occurrence places. Red velvet mites are not harmful to crops and humans. They are mostly seen early in the morning and evening not in mid of day and sunny day. These mites like sandy yellow soil for digging of the burrow. They make their own hole in moist soil after rain. They appear only early of rain, but not whole monsoon season during summer and winter season they live in deep holes in soil. They are slow moving animals and wandering search of prey to and fro. Locally it is known as Ram Ki Dukariya because it is a rumor about it that these mites comes from the sky with rain water from God house so called Ram ki dukariya but actually is a mite.

Very a few little published records available in books and also on internet sites related to this animal only taxonomy and general literatures are found, not any special data have been recorded till now so there is great need to conduct a comprehensive study on this species such as ecology biology and importance etc. very few people know about them detail about in it.



Photo BY C.P. SINGH

GPS N 26° 27' 19.1 E 079° 15' 01.7

Location National Chambal Sanctuary forest

Results and Discussion

A. Characteristics and Behaviour

1. These mites are bright red colour and their body has a velvety coating.
2. They have two tiny eyes.
3. The fore legs act as antennae, when they are going.
4. The adults have 4 pairs of legs while larvae only three pairs of legs.
5. The body segments are not distinct as in other arthropods.
6. These mites have chelicerae that used in sucking of food from the host's body
7. These are diurnal animals active only day time, especially when there is sunshine and conceal under soil during the night.
8. They hibernate during winter season.
9. They are appearing only onset of rainy season.
10. They make their burrow in sandy yellow soil.
11. Harmless to humans.
12. Blood is red color.
13. These are burrowing mites and digging its burrow in yellow mud or sandy, muddy soil during monsoon season.
14. When they are disturbed, hide legs under opisthosoma and inactive if a short time they are not disturbed or touch, start to walk.

B. Life cycle

Life cycle starts from eggs and end with adults. Stages of life cycle as given below

Eggs and pre larvae

The female laid clump of 60 to 1000,000 in wet soil. After about 2months, the eggs hatch and red velvet pre larvae appear.

Larvae

The larvae look like different from adults, having six legs. Each larva will find an insect, climb on its back, drill a hole through its body and then begin to drink haemolymph the insect can still move around.

Protonymph

During this stage the red velvet mite goes dormant and is surrounded by a cuticle looks like a pupa.

Deutonymph

After this stage, mite has developed eight legs and now called Deutonymph, The Deutonymph is predatory and spend its time in eating.

Tritonymph

This is the final stage like protonymph, this is the time of dormancy where the mite does not eat or move.

Adult

Finally, the mite enters the adult stage. Adult mites are inactive much of the year and come out onset of rain so called rain bug. During these period mites feed and mate only in rainy season and go underground and hang out until the rain returns.

And now for the best part: red velvet mite mating. The process begins with a male building a 'love garden' by placing a sperm bag called a spermatophore on grass or twig male will also construct a tail out of silk, leading to love gardening, where the male will wait until a female mite will walk by. At this time male dance for her.

C. Ecological significance

Red velvet mites are found in soil or a liter and other terrestrial habitat, which are predators of other arthropod like insects such as Grasshopper and Beetles that are harmful for crops and other green plants so considered as potential of biological control. And also enhance recycling of dead litter materials.



Pair of red velvet mite

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