



## Research Highlight

# European Red Spider Mite; An Alarming Threat Pest to Mulberry

**Mohd Yaqoob Dar**

School of Studies in Zoology, Jiwaji University,  
Gwalior, 474011, Madhya Pradesh, India  
Tel: +918269278125, +919596195627

Mulberry is a beneficial plant that provides food and shelter for numerous organisms because of its perennial and luxuriant foliage. It is the sole food of silkworm "*Bombyx mori*", which is considered as an economically important insect that produces silk.

The mulberry plant is infested with many insect pests and pathogens which cause different diseases in a plant that deteriorates the quality of the plant. Scientists have reported that there are more than 300 insect and non-insect species that infest mulberry plant<sup>1</sup>.

Accordingly, the European red spider mite scientifically known as *Panonychus ulmi* is a polyphagous pest that attacks a variety of crops and plants worldwide<sup>2</sup>. In India, this species attack peach, apple, wheat, plum, fig, tomato, hibiscus, apricot, and in Jammu and Kashmir this pest attacks on ivy<sup>3</sup> but for the first time, it has been reported as a devastating pest of mulberry in India<sup>4</sup>.

This is an alarming situation as mites drastically affect the quality of mulberry leaves and lead towards unfavorable effects on the biological as well as economic

parameters of silkworm that fed on these mulberry leaves, infested by *P. ulmi*<sup>5</sup>. These pests are being controlled by using Acaricides but, these synthetic chemicals possess a lot of side effects on the environment and pose a risk factor for the health of silkworms too. Moreover, these chemicals also become a cause of resistance in mites as well.

Therefore, a novel study was carried out to understand the population growth properties of *P. ulmi* and to observe the impacts of seasonal alterations of ambient conditions on developmental parameters of this pest on mulberry in Kashmir valley. Moreover, the purpose of this research was to design a strategy for the control measures of this mite in mulberry plantation<sup>6</sup>.

This research exhibited that summer with an average temperature of 25.72°C in Kashmir valley is the ideal season for increasing the population *P. ulmi* on mulberry. It also affects the developmental time, particularly egg duration as well as the fecundity of mite. Moreover, the dynamic parameters of *P. ulmi* were too found

### Key words:

Mulberry leaves, silkworm, insect pest,  
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to be superior during the summer season under ambient conditions as compared to autumn.

Conclusively, the knowledge regarding the population build-up at different seasons will assist to forecast the pest load and initiate the preventive as well as curative management measures to protect the mulberry leaf decline and protect the silkworm from pesticide exposure as well. In a nutshell, the summer season with an average temperature of 25.72°C is favorable for the development of *P. ulmi*.

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