

Spider mites

Biology

The common spider mite found on Phalaenopsis (*Tetranychus urticae* Koch) is about 0.5 mm long, of yellow, red or green colour with two dark spots on its back. It is also called red spider resulting from the red colour the winter females get in autumn due to climatic conditions. The development period from egg and larvae to the eight-legged adult animal depends largely on the temperature and humidity and takes between 10 and 20 days. Spider mites have optimal multiplication conditions in high temperatures around 27°C and low air humidity. During their life, which lasts about 4-5 weeks, the females lay their eggs mainly on the underside of the leaf. When there is marked infestation, the animals form webs. Buds and blossoms are infested by spider mites, too. Especially during the summer months, there may be a population explosion in spider mites.

Damage

Spider mites empty individual cells by sucking them and subsequently air gets into the cell. Therefore, in the beginning, the leaves show silvery or white spots. With increasing infestation the spots unite, the leaves become lurid and finally dry. On the underside of the leaves, fine bright webs can be seen and in them eggs and sloughs are visible with a magnifying glass. Spider mites mainly suck on orchids with softer leaves such as *Cycnoides*, *Calanthe* or *Phaius*, but also occur on *Phalaenopsis* and *Paphiopedilum*.

Control

To avoid infestation, relative humidity must not drop below 60 %. Chemical treatment is difficult, spider mites become resistant quite soon. It is absolutely necessary to change the active substances used for treatment. Spraying must be done repeatedly and to protect useful predatory mites, integratable substances should be used.

Biological plant protection

Biological plant protection is possible using predatory mites (*Phytoseiulus persimilis*, *Amblyseius swirskii*, *Amblyseius californicus*) and the predatory gall midge (*Feltsiella acarisuga*). However, the most important predator is *Phytoseiulus*. The adult animals suck the eggs and larvae of the spider mites. In temperatures between 17°C and 25°C and relatively high humidity of 75%, the predatory mites have ideal multiplication conditions and develop better than the spider mites. When the first spider mites occur, *Phytoseiulus* is distributed in the infested areas. When there is only slight infestation, 5 animals per m² should be placed every 14 days, in areas of marked infestation up to 30 animals per m² will be necessary.

Animal pests

Spider mites



Cycnodes: sucking injuries by common spider mite (*Tetranychus urticae*)

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