Animal pests

False spider mites

Biology

False spider mites, orchid mites (Tenuipalpidae)

Tenuipalpidae are very small, 0.25-0.3 mm long, usually greenish to reddish coloured flat oval mites. They are relatively slow and appear to be almost immobile. The pest slowly spreads in the plant stand, some species can propagate very quickly in temperatures of 21°C and more. As soon as damage is visible, infestation has usually considerably already. The mites do not build any webs. Three species are particularly harmful to orchids: the bunch mite (Brevipalpus californicus Banks), the privet mite Brevipalpus obovatus Donn. and the phalaenopsis mite (Tenuipalpus pacificus Baker). The entire development cycle is 4-6 weeks for Brevipalpus and 2 to 3 months for Tenuipalpus depending on the temperature and humidity. Brevipalpus obovatus tend to mass propagation in temperatures above 21°C. The animals live on parts of the plant, but the main damage is done to the underside of the leaf. Large amounts of mites are usually found along the leaves veins. The mites are often introduced into greenhouses on plant material, especially from tropical and subtropical areas.

Damage

In general, older leaves are a dull green, on their undersides indented spots are visible, and the upper surfaces show bright silver spots. Infested leaves later get a bronze to yellow-orange colour. Infested areas may scar, leaves often dry up from the edge and finally fall off. There are no webs below the leaves. All orchid varieties are susceptible to infestation by Brevipalpus. However, the mites mainly occur on Phalaenopsis, Doritinopsis, Paphiopedilum and Masdevallia.

Control

In contrast to spider mites, Tenuipalpidae have only a very restricted action radius and spread very slowly in the stand. So the mites need a relatively long time to form a harmful population. When damage is clearly visible, the number of mites on the plants is relatively high already and the necessary treatment with acaricids will take more time. As Brevipalpus mainly stay on the undersides oft he leaves, chemical treatment is quite difficult. Treatment with insecticides must be done every 2-3 weeks until the new leaves are visibly free from infestation. When using wetting agents, the undersides of the leaves can at least be wetted partly. Spraying without wetting agents are insufficient for Phalaenopsis.

Biological plant protection

Brevipalpus may develop great dynamics particularly on Phalaenopsis and propagate quickly, if left undisturbed. However, as soon as an antagonist appears, the development is either reduced or, in the best case, stopped completely. The safest and most sustainable treatment is done with mesostigmata. Brevipalpus sp. can be treated excellently with Amblyseius swirskii. A number of 50 animals per square metre, every 14 days (medium dosage) is optimal. This quantity is sufficient to fight early infestation of Brevipalpus on the plants and to sustainable prevent the formation of a population. A dosage interval of 4 weeks (low dosage) is sufficient as prophylaxis for plants showing now symptoms. However, this will not be sufficient to avoid the development of a population. As soon as the first symptoms are visible, the quantity used must be increased. 100 animals per square metre (high dosage) makes sense in case of more serious infestation at the beginning, later on, the lower dosage may be applied. The use of Amblyseius swirskii is much more efficient than chemical treatments.

Animal pests

False spider mites

Phalaenopsis: false spider mite (Brevipalpus sp.)

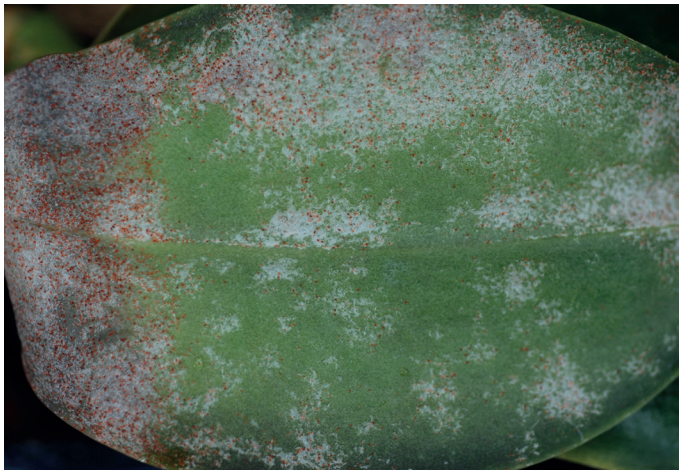
Phalaenopsis: false spider mite (Brevipalpus sp.)

Phalaenopsis: false spider mite (Brevipalpus sp.)

Phalaenopsis: false spider mite (Brevipalpus sp.)

Animal pests

False spider mites



Phalaenopsis: false spider mite (Brevipalpus sp.)

Phalaenopsis: predator mite Amblyseius swirskii vs. Brevipalpus

Phalaenopsis: false spider mite (Brevipalpus sp.)