Animal pests

Aphids

Biology

Aphids are winged or wingless insects of 1.0-4.0 mm in size with long legs and antennae. Their development happens in different cycles, it is often complicated and should not be described in detail here. In greenhouses there is often virgin birth (parthenogenesis), the females regularly produce new insects without being fecundated. This results in high reproductivity, usually there are infestive nests with high population density. Mainly young sprouts and soft leaves are infested. The appearance of the aphids shows some significant features. The sucking beak is bent backwards in its resting position and is below the body. At the back laterally there are so- called siphuncles which discharge a secretion. Between these parts there is a little tail called the cauda. Cauda and siphuncles are very important to determine the different species. All aphids on orchids are phloem suckers, so there is considerable formation of honeydew. Aphid infestation might result in virus transmission, some species are probably vectors for the Short Orchid Rhabdovirus (KORV).

Major aphid species in greenhouses:

Green peach aphid (Myzus persicae Sulz.): Green to reddish colour with antennae as long as their body, marked frontal tubercle, length 1.2-2.6 mm. Resistant to various insecticides.

Green melon aphid, cotton aphid (Aphis gossypii Glover): Dark green marbled, light green to yellow with dark siphuncles, no frontal tubercles, marked honey formation, length 0.9-1.8 mm. Marked resistance tendency e.g. to Pirimicarb.

Foxglove aphid (Aulacorthum solani Kalt.): Light green with antennae longer than her body, siphuncles with dark spot, base of siphuncles with dark green spots, terete with pointed hind body, length 1.8-3.0 mm.

Potato aphid (Macrosiphum euphorbiae Thomas): yellowish-green with black siphuncles and antennae longer than its body, length 1.7-3.6 mm.

Other aphids that might occur on orchids are the Crescent-marked Lily Aphid or Mottled Arum Aphid (Myzus circumflexus Buckton) and the Violet Aphid (Myzus ornatus Laing.). In individual cases a differential diagnosis had to be carried out by experts.

Damage

Aphids usually infest blossoms; infestation on young sprouts and soft leaves is generally connected with marked honeydew formation. This results in settlements of dark mildew. Poisonous saliva causes malformation, deformation, crinkles or torsion of the leaves.

Control

When using chemical products for spraying, integrable agents should be preferred.

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Biological plant protection

Due to their ability of mass propagation, infestation should be treated as quickly as possible. Curative use of beneficial animals is not effective enough on orchids, prophylactic release of Aphidius ervi, Aphidius colemani, Lysiphlebus testaceipes or Aphelinus abdominalis parasitic wasps is necessary. The parasitic wasps are released into the greenhouse from glass tubes and usually infest the aphids that are common on orchids. In cases of regular aphid infestation in a company, "open breeding" of aphid-parasitic wasps on cereal plants is recommended. In practical gardening, a combination of parasitic wasps and the midge Aphidoletes aphidimyza has proven to be successful. Spontaneous appearance of various other beneficial arthropods in greenhouses may result in a considerable reduction of aphids.

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„open breeding“ of aphid-parasitic wasps

aphid-parasitic wasps at culture vessel

Lycaste: aphids on a flower bud

Lycaste: aphids on the lower leaf surface

Lycaste: leaf damage caused by aphids