DEFENSE SUPPLY CENTER PHILADELPHIA
WEST COAST SUPPORT OFFICE

Excerpt News

Phytosanitary/Quarantine Information

Purdue University CERIS/
USDA-APHIS
12 September 2001
Volume 1, Number 4

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Taiwan

On or after September 16, 2001 the export of the entire plant or any part of the plant of the following commodities require an Additional declaration that, "The products have been thoroughly inspected and found free from ***Rhizoglyphus echinopus*** (Bulb Mite)." The commodities are: *Allium sativum* (garlic); *Allium cepa* (onion); *Arctium lappa* (burdock); *Brassica oleracea* var. *capitata* (cabbage); *Buxus microphylla* (boxwood); *Capsicum annum* (pepper); *Curcuma longa*; *Daucus carota* var. *sativa* (carrot); *Eucharis grandiflora* (Amazon lily); Freesia x hybrida (freesia); *Gentiana scabra* var. *buergeri* (Gentian); Gladiolus x hortulanus (gladiolus); *Glycine max* (soybean); *Hyacinthus orientalis* (hyacinth); *Narcissus tazetta* (narcissus); *Panax* sp. (ginseng); *Paeonia suffruticosa* (peony); *Raphanus sativus* (radish); *Secale cereale* (rye); *Solanum melongena* (eggplant); *Solanum tuberosum* (potato); *Tulipa gesnerana* (tulip); *Vicia faba* (broad bean); *Verbena officinalis* (vervain); *Pleurotus sajor-caju* and *P. ostreatus* (abalone mushroom).

Bulb mites

DESCRIPTION

Adult

Mature bulb mites vary from 0.5 to 0.9 mm long and have four pairs of legs. Their bodies are shiny, white, somewhat transparent, and smooth with reddish brown appendages.

Egg

The egg is white and translucent, 0.12 mm long, and ellipsoidal.

Larva

Shortly after hatching, the larva is 0.15 to 0.2 mm long and when well developed is 0.25 mm long. White and oval, larvae have only three pairs of legs and lack genital suckers.

Protonymph

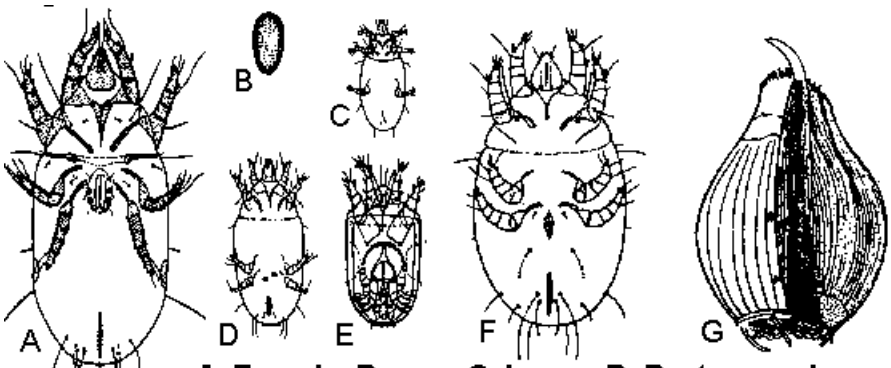
The protonymph has four pairs of legs; it is oval and approximately 0.4 mm long. This stage may be distinguished from the tritonymph by having two genital suckers, whereas the tritonymph has three or four suckers.

Deutonymph or Hypopus

This quiescent stage is oval, convex on top, flattened below, brown, and 0.2 to 0.3 mm long. The mouthpart are absent. On the back lower side is a conspicuous sucker plate.

Tritonymph

The tritonymph is about 0.5 mm in length and has not yet developed a distinct genital aperture.



A, Female. B, egg. C, Larva. D, Protonymph. E, Hypopus. F, Tritionymph. G, Damaged bulb.

BIOLOGY

Distribution

From their original discovery in Europe, bulb mites have now been found throughout the United States, Canada, Japan, and the Bermuda Islands. These mites are easily transported in shipments of infested bulbs.

Host Plants

Bulb mites have been recorded feeding on forced iris, lily, narcissus, *Gloriosa*, *Hippeastrum*, *Eucharis*, orchid, hyacinth and tulip bulbs, dahlia tubers, and freesia and gladiolus corms. These mites also infest vegetable bulbs.

Damage

Bulbs infested with bulb mites may rot and fail to produce new growth, or new growth may be off color, stunted, and distorted. Although the bulb mite is not considered a primary pest of bulbs, it is often responsible for serious losses; the slightest injury to a bulb will allow bulb mites to enter and become established. Once the mites are inside the bulb, they rapidly turn the bulbs into rotten pulp. Infestations of the bulb mite generally indicate that the bulbs have already been injured. This damage could have been caused by other pests, such as the bulb scale mite or bulb flies, mechanical injury, or improper storage. The root primordia of freesia and gladiolus may be bruised at planting. Apparently, bulb mites can attack healthy new roots and corms, especially in greenhouses. The mites may penetrate into lily stems which become brittle. Infested lilies are often dwarfed, distorted, and the stem roots are suppressed. Bulb mites attack the young root tips of *Hippeastrum* and *Eucharis*. When bulb mites attack *Gloriosa*, the new tubers get numerous small cavities and tunnels and become distorted. Bulb mites may enter prematurely opened tulip buds (due to high storage temperatures or ethylene generated by diseased bulbs in storage) and cause bud necrosis.

Life History

Bulb mites are rarely noticed as isolated individuals, but rather as large colonies. All stages of the mite can be found throughout the year. Development may occur in five or six stages (a hypopal stage is sometimes

produced). In those forms with six stages, the life cycle proceeds from egg to larva to protonymph to hypopus to tritonymph to adult.

Information obtained from North Carolina State University

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