A NEW MITE PEST ON WAX MYRTLE IN FLORIDA
(ACARI: ERIOPHYIDAE)

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ABSTRACT

A new Florida species of eriophyid mite, Calepitrimerus ceriferaphagus is reported from wax myrtle, Myrica cerifera L. This mite produces a virus-like mosaic on leaves. Blistering of leaves is caused by breakdown of mesophyll and distortion of palisade and spongy mesophyll cells.

RESUMEN

Se reporta una nueva especie de Florida de ácaro eriófido, Calepitrimerus ceriferaphagus de Myrica cerifera L. Este ácaro produce un mosaico en las hojas parecido al producido por un virus. La formación de ampollas en las hojas es causada por la destrucción del mesofilo y la distorsión de células emparlizadas y del mesofilo esponjoso.

In recent years, Myrica cerifera L., the southern wax myrtle or bayberry, has received consideration from ornamental horticulturalists as a native plant of commercial interest. It is a hardy, attractive plant that grows well in several different climatic zones with minimal maintenance requirements.

Cuttings of this plant which appeared healthy were brought into a greenhouse at the Univ. of Florida, Gainesville, FL, during the spring of 1983, potted and kept under optimal horticultural conditions. In the fall of the year, the flushes of new growth on several of the plants developed a blistered, mosaic appearance suggestive of a viral etiology. However, closer examination revealed that a new species of eriophyid mite was most likely responsible for the symptoms (Elliott et al., unpublished). This report describes the mite and the symptoms it induces on wax myrtle.

METHODS AND MATERIALS

Plant specimens were collected from greenhouse and field plants and placed in plastic bags. Leaves were washed in either 80% ethanol or 80% propanol. Mites were removed from washings with Pasteur pipets, placed in 10 ml labeled vials and then mounted on slides using the technique of Keifer (Krantz 1978). Scanning electron microscope (SEM) studies were done at the Institute of Food and Agricultural Sciences’ Ultrastructure Lab., Bartram Hall, Univ. of Florida, with an S450 Hitachi SEM. Specimens were either taken alive from leaves and placed directly on an aluminum stub with a double sticky tab for gold coating or were dehydrated and hardened according to Nation’s technique (1983) and then placed on stub and coated with gold with an Elko 1 B-2 ion coater. Measurements of mites were made with a Vickers image splitting eyepiece on Olympus microscope with a Zeiss adaptor. A minimum of 10 specimens were used for measurements and all measurements are given in microns.
Fig. 1. Dorsal view of *Caleptrimerus ceriferaphagus* at 710X. White bar indicates 50 micron length.

**RESULTS**

*Caleptrimerus ceriferaphagus* Cromroy, new species

Female: 132 (101-161) long; 42 (38-55) wide; spindleform; opalescent yellow in color. Rostrum 10 long; rostral seta 4; chelicera 17 long. Dorsal shield 30 long, 40 wide, shield with moderately acute anterior lobe which does not project over rostrum and roughly pentagonal in shape, central area of shield elevated (Fig. 1). Dorsal tubercles located
Fig. 2. Lateral view of *Calepitrimerus ceriferaphagus* at 710X showing lateral ridges and central hump on thanosome.

forward of rear shield margin 16 apart; with dorsal seta 6 long, pointed up and diverging. Foreleg 22 long; patella 4.5 long with seta 19 long; tibia 3.5 long with seta 15 long. Claw 7.5 long, knobbed; featherclaw 4-rayed, 5 long. Hindleg 20 long, patella 4 long, tibia 25 long. Coxae ornamented with small lines, hind coxal setae 22 long and 18 apart. Thanosome with 37 (32-40) tergites and 56 sternites. Sternites with ovoid microtubercles. Lateral seta 18 long, on sternite 12; 1st ventral seta 23 long, on sternite 26; 2nd ventral seta 12 long, on sternite 42. Telosome with 4 rings and 12 long seta. Caudal seta 39
Fig. 3. Genital plate of female showing striae on genital flap as well as coxal setae, venter of rostrum and projection of dorsal shield over rostrum at 1500X. White bar indicates 5 micron length.

long; accessory seta 3.5 long. Genitalia 10 long. 18 wide; cover flap with 8 (7-10) ribs; genital seta 15 apart, 17 long. Central ridge of abdomen run 2/3 abdominal length with sharp posterior slope.

Male: 111 long; shield 33 long; dorsal shield seta 2.5 long; abdomen with 35 tergites and 45 sternites; genitalia 13 wide; genital seta 16 apart.

Type locality: Univ. of Florida campus, Gainesville, FL
Collected: Jan. 3, 1984 by F. W. Zettler and M. S. Elliott

Host: *Myrica cerifera* L. (Myricaceae).

Relation to host: Mites found on underside of leaves can cause leaves to be distorted, reduced in size and have a yellow and green mosaic.

Type material: a holotype slide and 6 paratype slides and vial of paratype specimens. Deposited in Florida State Collection of Arthropods (Gainesville).

Distinguishing characteristics: This mite like two other pest species *C. baileyi* K., Bailey’s apple rust mite, and *C. vitis* (Nal.) K., the grape rust mite, has a 4-rayed featherclaw but is distinguished from all members of genus by very short dorsal shield setae which project up and diverge outward as well as shape and length of central abdominal ridge.

**Discussion**

This is the first eriophyid mite reported on wax myrtle. Morphologically, *C. ceriferaphagus* closely resembles the apple and grape rust mites, but can be distinguished from them on the basis of differences in their shield setae and the shape and length of their central abdominal ridges. In 1985, *Colepirimerus ceriferaphagus*, found originally in greenhouses, has since been detected on 8 of 23 wild wax myrtle plants examined in Alachua County, Florida in 1985. Mosaic symptoms were much more evident, however, on greenhouse grown plants than wild ones, indicating caution should be exercised when bringing native plants under greenhouse culture. Palisade and spongy mesophyll tissues of leaves with mosaic symptoms were very distorted and disorganized in comparison to their symptomless counterparts. When treated with the acaricide, oxamyl, greenhouse grown plants with mosaic symptoms produced new leaves without symptoms (Elliott et al. 1987). Because feeding damage by this mite can adversely affect the appearance of cultivated wax myrtle plants, control by acaricide treatment is recommended.

**Endnote**

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**References Cited**


