

## Bayberry Whitefly, *Parabemisia myricae* (Kuwana) (Insecta: Hemiptera: Aleyrodidae: Aleyrodinae)<sup>1</sup>

---

Avas B. Hamon, Ru Nguyen, and Harold Browning<sup>2</sup>

### Introduction

The whitefly, *Bemisia myricae*, was described by Kuwana (1927) from Japan on the hosts *Myrica rubra*, *Morus alba*, and *Citrus*. Takahashi (1952) transferred this whitefly to the genus *Parabemisia* because of long marginal setae on the so-called "pupal" case and blunt lateral tubercles at the base of the lingula.

Bayberry whitefly was first discovered in the United States by California agriculture officials in 1978 (Rose et al. 1981), and in Florida by agriculture officials in early 1984 (Hamon 1986). Early dense populations caused defoliation in California citrus (Rose et al. 1981), but this has not happened in Florida. The early finds in Florida were under natural biological control by hymenopterous parasites, including *Eretmocerus* sp. Apparently the parasites were introduced with the whitefly. According to Mike Rose (personal communication), the *Eretmocerus* species present in Florida is the same as that found in California.

It was not until 1989 that any population in Florida was large enough to cause damage. This occurred in a nursery/greenhouse of the United States Sugar Corporation, Clewiston, Florida, on small citrus seedlings. A chemical control program was being carried out which eliminated the *Eretmocerus* sp., but not the bayberry whitefly. Outdoors, this whitefly is under biological control in Florida, and is only a problem in situations where natural balances are disturbed by the use of chemicals.

### Distribution

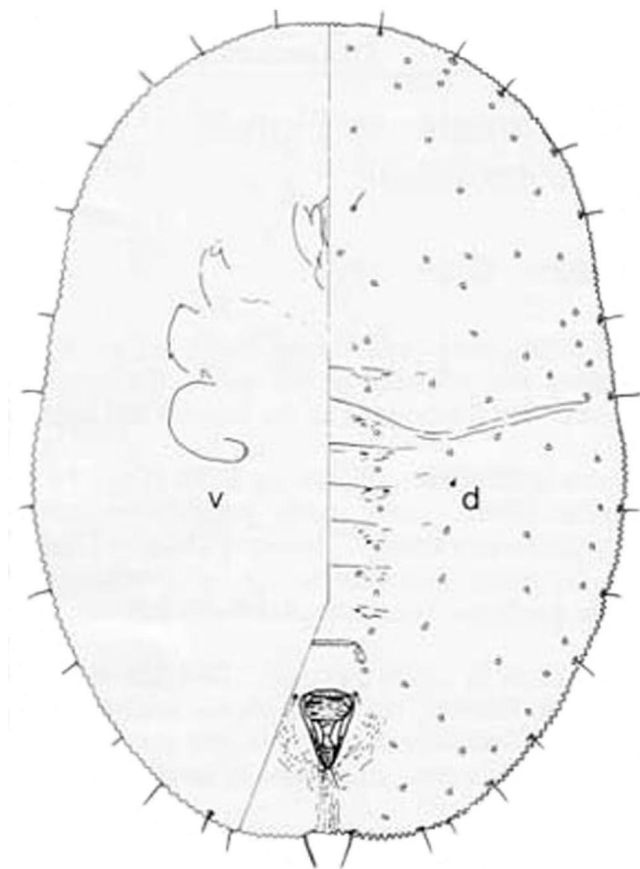
This whitefly is only known from California and Florida in the United States. Foreign distribution includes China, Hong Kong, Israel, Japan, Taiwan, Malaysia, and Venezuela.

### Description

The fourth nymphal skin has 30 to 32 marginal setae including the caudal setae. The anterior spiracular furrows are scarcely visible, but the caudal furrow is slightly ridged longitudinally. The vasiform

- 
1. This document is EENY-138 (IN295) (originally published as DPI Entomology Circular No. 328), one of a series of Featured Creatures from the Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Published: June 2000. Revised: November 2007. Reviewed: March 2008. This document is also available on Featured Creatures Website at <http://creatures.ifas.ufl.edu>. Please visit the EDIS Website at <http://edis.ifas.ufl.edu>.
  2. Avas B. Hamon, Ru Nguyen, Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, and Harold Browning, CREC, University of Florida, Lake Alfred, FL.

orifice is elongate triangular with the lingula included. The lingula has two blunt lateral tubercles and two long caudal lingular setae. The operculum covers only the anterior one-third of the vasiform orifice. In vivo, the nymphs are surrounded by a marginal fringe of clear wax.

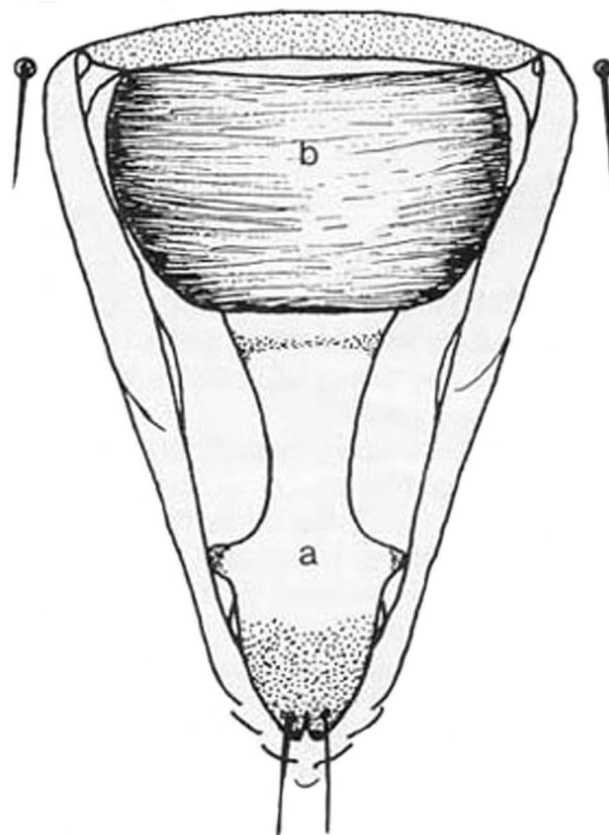


**Figure 1.** Fourth nymphal skin "pupal case" of the bayberry whitefly, *Parabemisia myricae* (Kuwana), v=ventral view, d= dorsal view Credits: Division of Plant Industry

The adult is a small whitish-yellow moth-like insect that flits about when disturbed. The adults have a strong ovipositional preference for very young foliage in the "feather" stage (Walker & Aitken 1985). The adult will frequently place eggs along the leaf margin. At first, the eggs are white, but turn black in a few days.

## Hosts

*Camellia sinensis*, *Chiococca alba*, *Citrus* spp., *Diospyros kaki*, *Elaeocarpus serratus*, *Ficus carica*, *Gardenia jasminoides*, *Machilus* sp., *Maesa japonica*, *Morus alba*, *Myrica rubra*, *Prunus mume*, *Prunus persica*, *Prunus triflora*, *Psidium guajava*, *Quercus*



**Figure 2.** Vasiform orifice [ a - lingula, b - operculum ] of the nymph of the bayberry whitefly, *Parabemisia myricae* (Kuwana) Credits: Division of Plant Industry



**Figure 3.** Nymph of the bayberry whitefly, *Parabemisia myricae* (Kuwana). Credits: Jeffrey Lotz, Division of Plant Industry

*serrata*, *Rhododendron* sp., *Salix babylonica*, and *Salix gracilistyla*. The most favored hosts are *Citrus* spp. and *gardenia*.



**Figure 4.** Adult of the bayberry whitefly, *Parabemisia myricae* (Kuwana). Credits: Harold Browning, University of Florida

Walker, G.P., and D.C.G. Aitken. 1985. Oviposition and survival of bayberry whitefly, *Parabemisia myricae* (Homoptera: Aleyrodidae) on lemons as a function of leaf age. *Environ. Entomol.* 14: 254-257.

Walker, G.P. 1987. Probing and oviposition behavior of the bayberry whitefly (Homoptera: Aleyrodidae) on young and mature lemon leaves. *Ann. Entomol. Soc. America* 80: 524-529.

### Selected References

Evans, G.A. and A.B. Hamon. (5 November 2002). Whitefly taxonomic and ecological Web site: an on-line interactive catalog of the whiteflies (Homoptera: Aleyrodidae) of the world and their parasites and predators. [http://www.fsca-dpi.org/homoptera\\_hemiptera/Whitefly/whitefly\\_catalog.htm](http://www.fsca-dpi.org/homoptera_hemiptera/Whitefly/whitefly_catalog.htm) (13 November 2002).

Hamon, A.B. 1986. *Parabemisia myricae* (Kuwana). p. 33. In 35th Biennial Report, Div. of Plant Industry. Florida Dept. Agric. and Cons. Serv.

Kuwana, I. 1927. On the genus *Bemisia* (Family Aleyrodidae) found in Japan, with description of new species. *Annotnes Zool. Japan.* 11: 245-253. (Not seen)

Mound, L.A., and S.H. Halsey. 1978. Whitefly of the world. A systematic catalogue of the Aleyrodidae (Homoptera) with host plant and natural enemy data. BM (NH) and John Wiley & Sons. Chichester. 340 p.

Rose, M., P. DeBach, and J. Woolley. 1981. Potential new citrus pest: Japanese bayberry whitefly. *California Agric.* 35: 22-24, illus.

Rose, M., and P. DeBach. 1982. A native parasite of bayberry whitefly. *Citrography-* October: 272-276.

Takahashi, R. 1952. *Aleurotuberculatus* and *Parabemisia* of Japan (Aleyrodidae: Homoptera). *Misc. Rep. Res. Inst. Nat. Resour. Tokyo* 25: 17-24.