

Yaupon psyllid, Gyropsylla ilicis (Ashmead)

(HOMOPTERA: PSYLLIDAE)<sup>1</sup>

Frank W. Mead<sup>2</sup>

SYNONYMY:

Psylla ilicis Ashmead 1881; Paurocephala ilicis, Crawford 1914; Metaphalara ilicis, Crawford 1925; Gyropsylla ilicis, Tuthill 1950.

**INTRODUCTION:** The yaupon psyllid causes young leaves of yaupon holly, Ilex vomitoria Ait., to deform into galls (fig. 1). Nurserymen or buyers may object to these galls on yaupon. Thus, it is a minor pest, but little or no damage is done to the general vigor of trees. Yaupon ranges primarily in the coastal plain area of southeastern states (Virginia, to central Florida, westward to Texas). This small native tree is desirable for its bright red berries and lustrous evergreen foliage. Dwarf cultivars of yaupon are widely used as ornamentals in the southern United States. These cultivars, possibly due to their smaller leaves, are much less subject to attack by yaupon psyllid than is the native tree.

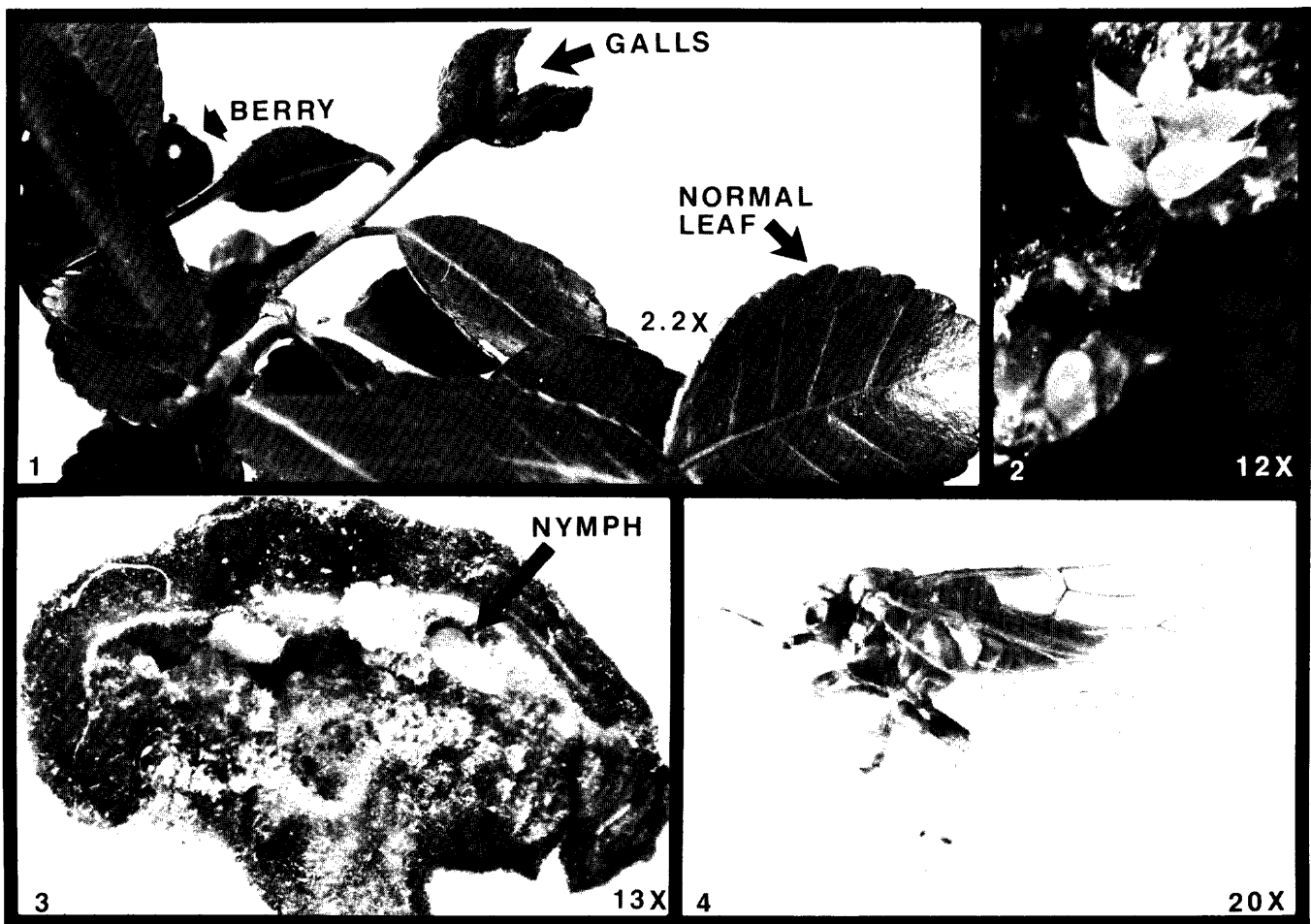


Fig. 1: Twig terminal of yaupon, Ilex vomitoria Ait. showing galls containing nymphs of the yaupon psyllid, Gyropsylla ilicis (Ashmead). Photo by E. M. Collins 1963, DPI Neg. 1398; fig. 2: Eggs of G. ilicis. Photo by F. W. Mead 1966; fig. 3: Dissected gall revealing nymphs of G. ilicis. Photo by V. Jane Windsor 1983, DPI Neg. #702675-15; fig. 4: Adult G. ilicis. Photo by Windsor 1983, Neg. #702675-19.

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DESCRIPTION: Adult as in fig. 4; length 5-6 mm, width 1.5-1.7 mm; antennae brownish, body color generally yellowish but variable, sometimes partially orange to orange-red, some specimens with patches of green; wings hyaline, elongate-oval. For a complete description and key see Crawford (1914). Nymphs (fig. 3) nearly flat, truncated at both ends, usually pale yellow to orange, but sometimes having greenish abdomens in late stages; 5 instars. Johnson and Lyon (1976) illustrated the psyllid, host, and galls.

IDENTIFICATION: This is the only known gall-making psyllid on Ilex vomitoria; therefore, a psyllid gall on yaupon is tantamount to specific determination of the insect.

HOSTS: Gyropsylla ilicis apparently breeds only on yaupon, Ilex vomitoria, and its cultivars. Near sand dunes yaupon is thicket-forming; in low moist woods it is a small tree that reaches 25 ft. high.

LIFE HISTORY: There is one generation per year. Adults in northern Florida have been observed from mid-November until mid-April, with peak numbers usually occurring in February. Early appearing adults seem to "mark time" and do not lay eggs until new growth appears in late February or early March. Eggs have been observed until late April. Eggs (fig. 2) are deposited on expanding leaf buds at twig terminals. Feeding causes the leaves to be stunted and deformed into galls, the sides of the leaves folding together to form a pocket with a tight suture. When nymphal development is complete nearly a year later, the gall suture opens enough to permit last instar nymphs (5th) to emerge and transform into adults. On a given yaupon tree some generation overlap occurs during March, a few last instar nymphs have been observed as late as March 26 at Gainesville, Florida, with new generation 1st instar nymphs beginning to appear earlier in the month. Nymphal development is slow, with first instar nymphs persisting into summer. The greatest mix of instars occurs in November and December when 2nd through 5th instar nymphs can be observed. The majority of nymphs observed in November have been in the 3rd instar. By middle to late December, 4th instar nymphs predominate, while in January the 5th instars are most abundant. The largest galls attain a length of 14 mm. Smaller galls sometimes contain more nymphs than larger ones. The most nymphs per gall in those examined were 19. Eggs are laid in small clusters, are pale at first then become yellowish-orange, and are pointed at one end, expanding to broadly rounded at the other (fig. 2).

CONTROL: Control normally is not needed. Once galls are formed, it is too late to attempt control. If there is a special need to maintain plants that are gall-free, it is suggested that some chemical cleared for general use on ornamentals, such as malathion or diazinon, be applied approximately every 2 weeks during February, March, and into April. Follow label directions.

DISTRIBUTION: Presumably the yaupon psyllid can be found in most, if not all, southeastern states having the native host plants. Counties in Florida known to be infested are: Alachua, Baker, Bay, Dixie, Duval, Escambia, Flagler, Franklin, Hillsborough, Jefferson, Lake, Levy, Marion, St. Johns, Volusia, and Walton.

SURVEY AND DETECTION:

1. Look for leaf galls, usually 2-3 times as long as wide, near the twig terminals of yaupon, Ilex vomitoria. Young galls are green and comparatively smooth. Older galls (autumn and winter) take on a partial raspberry color and a wrinkled "cockscorb" texture.
2. Galls normally are lined with mealy white powder and contain one or more droplets of honeydew covered with white powder, several pale yellow to orange colored nymphs (often coated with white powder), and moult skins.
3. Submit galls (with nymphs) for identification either in a plastic bag or in vials containing 75% isopropyl alcohol. Sweep nets and aspirator are good tools for collecting adults.

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LITERATURE CITED:

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