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Thrips (Thysanoptera) New to Florida: I. Thripidae: Panchaetothripinae[1]

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INTRODUCTION: Division of Plant Industry (DPI) records indicate that about 140 species of thrips have been recorded from Florida, including the western flower thrips, *Frankliniella occidentalis* (Pergande), and the melon thrips, *Thrips palmi* Karny (Mead 1982, 1991). Since the introduction of these two species, especially the melon thrips, considerable attention has been given to surveying for these small insects. Recently, twelve species of exotic thrips have been found in Florida for the first time; many of these were also the first reports of these species in the continental U.S. This is the first of a series of circulars which will describe and discuss the importance of these introductions. Two of the more significant imported species, *Elixothrips brevisetis* (Bagnall) and *Retithrips syriacus* (Mayet) of the thripid subfamily Panchaetothripinae, are reported on in this circular.

Since thrips are small, individuals may pass unnoticed, but when large numbers are present their damage may be spectacular (Lewis 1973). Unfortunately, light infestations may be overlooked. Exotic thrips may be introduced on any number of imported plants, especially cut flowers and dried material imported by florists, and subtropical and tropical fruits and vegetables (Kim and Wheeler 1991), and yet remain undetected until they are widely distributed.

1. *Elixothrips brevisetis* (Bagnall)

This thrips was collected on 7 April 1994 from *Schefflera arboricola* (Hayata) Hayata by Karolynne M. Vanyo (FDACS-DPI) at Ft. Lauderdale, Florida. Specimen identifications were confirmed by S. Nakahara, U.S. Department of Agriculture -Systematic Entomology Laboratory (USDA-SEL).

Reported hosts include *Acalypha* sp., *Artocarpus altilis* (Parkinson) Fosb., *Canna indica* L., *Cestrum pallidum* Lam., *Colocasia esculenta* (L.) Schott, *Complaya triloba* (L.) Strother (=*Wedelia trilobata* (L.) A.S. Hitche.), *Ficus* sp., *Dioscorea* sp., *Ipomoea alba* L., *Morinda citrifolia* L., *Musa* sp., *Pandanus* sp., *Passiflora* sp., and *Schefflera arboricola*. It occurs on many cultivated plants in the Oriental Region (Stannard and Mitri 1962).

DISTRIBUTION: Seychelles Islands, Rodrigues Is., Philippines, Taiwan, Guam, Gilbert Is., Marshall Is., Hawaii, Guadeloupe, St. John, Virgin Is., and now the continental USA (Florida).

ECONOMIC IMPORTANCE: Muruvanda (1986) reported that this thrips caused scarification, cracking, and corky growth on banana fruits in Hawaii. So far in Florida it has primarily been a pest on *Schefflera arboricola*.

DESCRIPTION: The female (Fig. 1A) is about 1.13 mm long. The dorsal surface is deeply reticulate and the color is light brown to yellowish brown. The forewing is colorless to yellow with brown areas at fork and along veins in the basal third and subapically (Stannard and Mitri 1962). Antennae segments I-II, VI-VII brown with III-V yellow. Prothorax transverse, covered by large reticulations, setae small; posteromarginal transverse apodeme strong. Abdominal tergite I completely smooth, tergite II smooth in middle, but sides with a dense area of stout trichoid processes. Tergites III-VII each with anterior median half bearing weak transverse subparallel striations; posterior median half smooth; sides are reticulate (Wilson 1975). Hind margin of tergite VIII lacking a comb. Tergite X with a complete division; apical pair of stout setae with dilated, fan-shaped apices (Fig. 1B).

2. *Retithrips syriacus* (Mayet)

This thrips was collected by Bonnie Coy (FDACS-DPI) on *Terminalia catappa* L. on 7 September 1993 at Hollywood, Florida. On 30 April 1993, pre-departure agriculture inspection at San Juan, Puerto Rico, intercepted a specimen on *Jatropha curcas* L. cuttings destined for Florida. This is the first record for Puerto Rico (S. Nakahara, USDA-SEL, personal communication).

The host plants reported in Florida have been: *Bucida buceras* L., black olive; *Bursera simaruba* (L.) Sarg., gumbo limbo; *Diospyros kaki* L.f., Japanese persimmon; *Laguncularia racemosa* (L.) Gaertn.f., white mangrove; *Terminalia catappa*, tropical almond; and *T. muelleri* Benth. Additional hosts from the literature include: grape, cotton, pear, plum, quince, rose, pecan, walnut, avocado, castorbean, coffee, myrtle, and vegetables.

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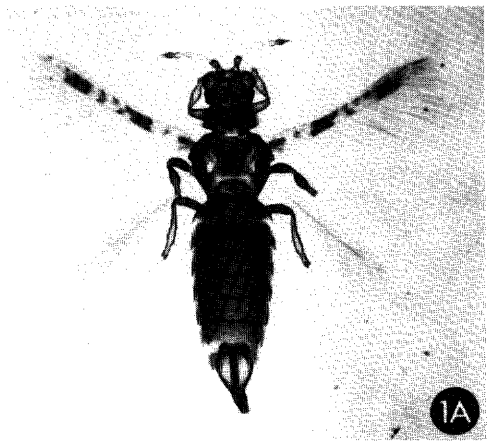
DISTRIBUTION: *Retithrips syriacus* is pantropical in distribution, known from Brazil, Egypt, Ghana, India, Israel, Kenya, Lebanon, Libya, Somalia, Sudan, Syria, Tanzania, Uganda (Wilson 1975), and now Puerto Rico and USA (Florida).

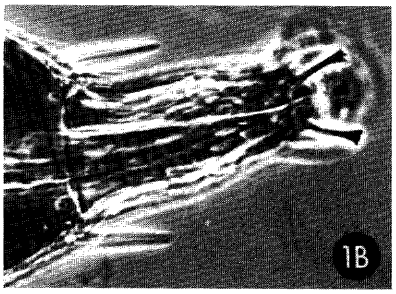
ECONOMIC IMPORTANCE: This thrips, commonly known as the black vine thrips, is principally a pest of grapevines in some parts of the world, and severely damages cotton in southern India and Tanzania where conditions are hot and dry (Anonymous 1967). Serious infestations of castorbeans have been recorded in the Near East, where this thrips is a pest of grapes, trees, and shrubs (Anonymous 1967). Numerous hosts have already been reported in Florida (see above).

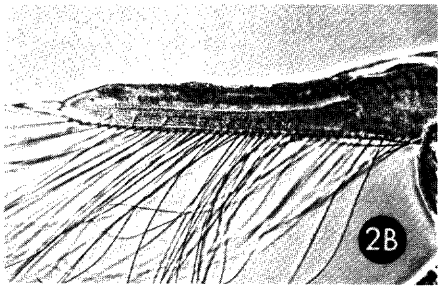
DESCRIPTION: A mature adult (Fig. 2A) is dark, blackish brown, with legs and antennae a lighter brown; newly emerged adults are lighter in color with a reddish tinge. The female is about 1.5 mm long, and the abdomen is stout, but tapers to a narrow apex. The forewing (Fig. 2B) is short, without visible bristles and with a large thickened area in the basal part, and three smaller thickened areas distally along the costal margin (Anonymous 1967).

The larvae (Fig. 2C) and pupae are vermillion red with yellow head and appendages (Anonymous 1967).

SURVEY AND DETECTION: Both species of thrips suck sap from the leaves. As a result, defoliation and shriveling occur. Leaf silvering may be noticeable. These thrips also may mar the fruit of many plants.







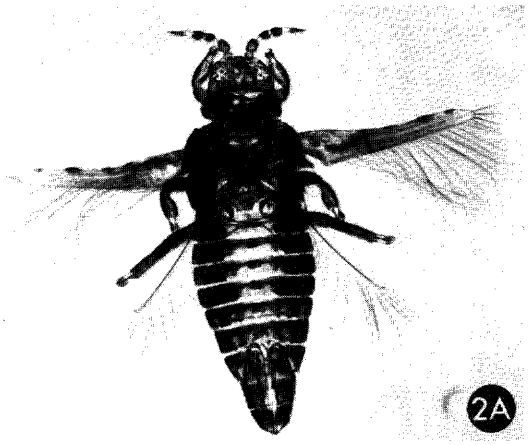


Fig. 1. *Elixothrips brevisetis* adult female. A. Habitus. B. Posterior with dilated setae.
Fig. 2. *Retithrips syriacus* adult female. A. Habitus. B. Wing. C. *R. syriacus* larva. Photography credit: A. B. Hamon.

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