

Research Note

RETITHRIPS SYRIACUS (MAYET), THE BLACK VINE THRIPS (INSECTA: THYSANOPTERA: THRIPIDAE) NEW TO PUERTO RICO^{1,2}

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Specimens of thrips collected in 1994 doing damage to the foliage of the ornamental tree commonly called cayeput, *Melaleuca quinquenervia* (Canavilles) S. T. Blake, at two different localities and dates resulted in a new insect record for Puerto Rico. Although it was recorded 30 April 1993 in a pre-departure quarantine inspection in San Juan, Puerto Rico, on a *Jatropha curcas* L. leaf by the plant pest quarantine inspectors (PPQI) of the United States Department of Agriculture, the name was not available to us.

The thrips collected by the senior author as well as those collected by the PPQI were identified as *Retithrips syriacus* (Mayet) by Dr. S. Nakahara from the Systematic Entomology Laboratory, Communications & Taxonomic Services Unit, USDA at Beltsville, Maryland.

Notes and Records of the Black vine thrips *Retithrips syriacus* (Mayet)

Synonymy: This species was recorded originally as *Thrips (Heliothrips) syriacus* Mayet (1890). It is also known as *Retithrips syriacus* (Mayet); Bodenheimer (1930), *Retithrips aegypticus* Marchal (1910); *Dictyothrips aegyptiacus* (Marchal) Del Guercio (1918); *Dictyothrips zanoniana* Del Guercio (1918) and *Stylothrips bondari* Bondar (1924). All synonymies were recorded by Wilson (1975) who also presented a detailed account on the bionomics of this species.

Distribution: Recorded from South America: Brazil (Lima, 1936; Mound and Marullo, 1996); Africa: Egypt, Ghana, Kenya, Libya, Malawi, Somalia, Sudan, Tanzania and Uganda (Gentry, 1965; Pearson, 1958); India, Palestine, Java, Israel, Lebanon and Syria (Rivnay, 1939); also from USA: Florida (Mound and Marullo, 1996); and now in the Caribbean: Puerto Rico.

Description

Adult: The adult female measures about 1.4 to 1.5 mm long and the male 1.3 mm. It is a dark to blackish brown species with appendages lighter brown, tarsi and fifth antennal segment pale. Newly emerged adults lighter and reddish. Body with elaborated polygonal reticulations with no visible bristles. Setae on head and thorax small. The an-

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²We express to Dr. S. Nakahara our gratitude for this and other thrips specimen identifications, also for the information provided about this insect.

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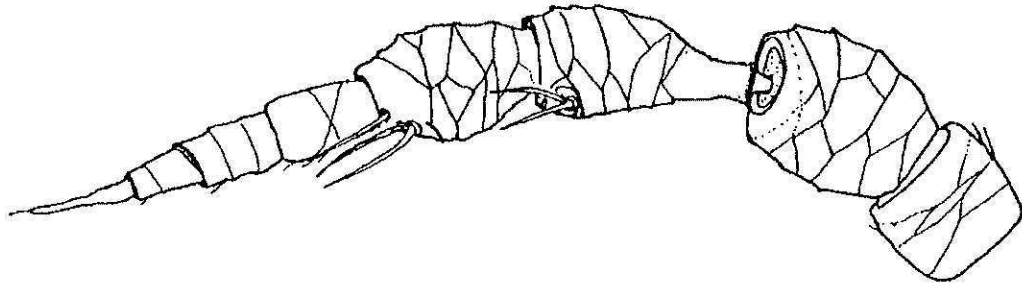


Figure 1. Antenna *Retithrips syriacus* (Mayet), after Wilson 1975.

tenna (Figure 1) is brown with base of segment III and all of segment V white, short, 8-segmented, with terminal style slender. It has a pronounced ocellar hump and overhanging frontal costa. Head and prothorax small, wider than long. Pterothorax very short in female, stout in male. Hind tibiae entirely blackish brown. Abdomen stout, as broad as pterothorax at base, tapering to a narrow apex. The forewings are broad, gray, veins reddish brown, short, about 0.9 mm, in male 0.7 mm., without visible bristles. This species is recognized by the large thickened areas in basal part of forewing (Figure 2) and three smaller thickened areas (calluses) distally along coastal margin (between the costal and anterior veins). The male has broad transverse glandular areas on sternites III-VII.

The female lays eggs in the leaf tissues, occasionally on the leaf surface. The egg stage lasts 10 to 30 days (Anonymous, 1967).

Larvae: The hatched larvae start feeding almost immediately, usually in groups. The larva is vermilion red, head and appendages yellow. First four antennal segments large and bulky; last three filiform, with 16 to 18 anal bristles. The larvae stage lasts six to 35 days (Anonymous, 1967).

Pupa: It is less brilliant red than the larva. Body truncate with setae long with a small round flat disc at the apex. Wing pads longer than in pre-pupa. Eyes large, compound, resembling those of the adults. The pupal stage lasts two to 21 days (Anonymous, 1967).

Hosts: This species is principally a pest of grapevine (*Vitis*). The list of hosts of this thrips includes more than 50 species of plants including plants of agricultural economic importance such as grapes, cotton, pear, plum, quince, pecan, walnut, persimmon, avo-

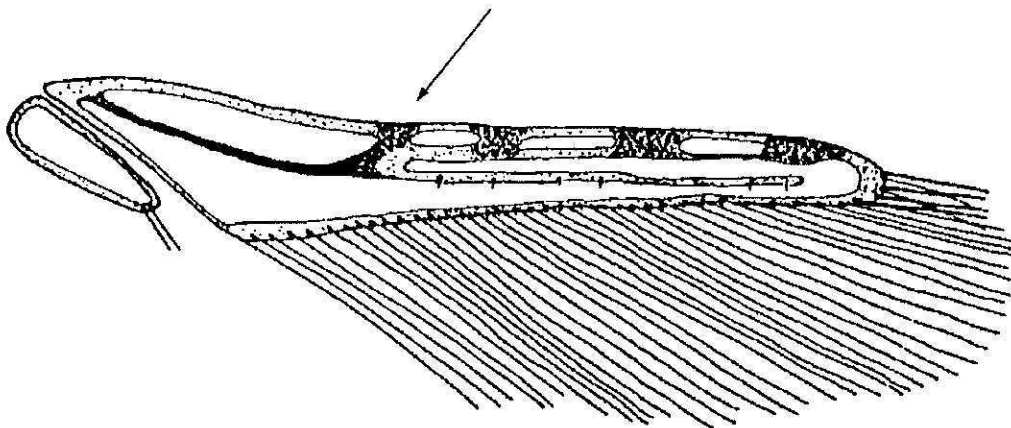


Figure 2. Forewing *Retithrips syriacus* (Mayet), after Wilson 1975.

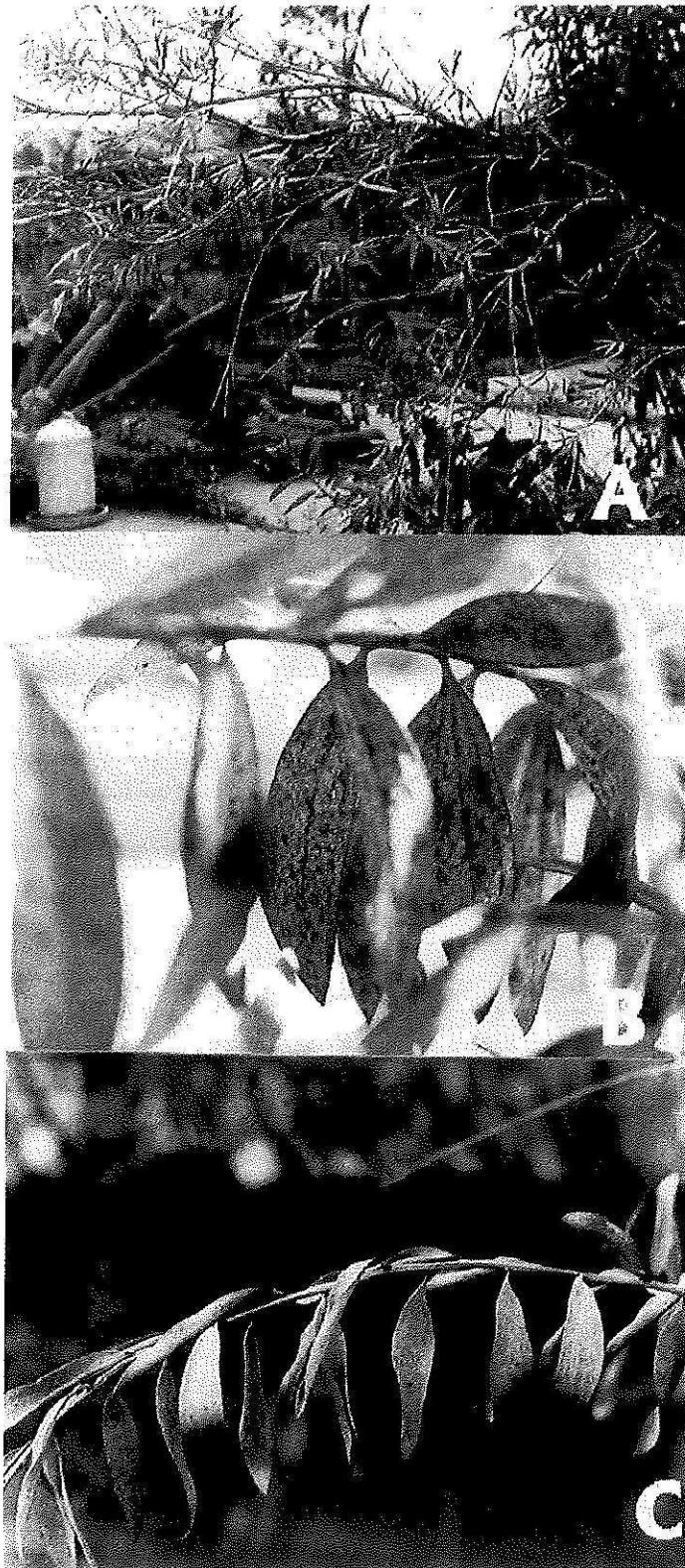


Figure 3A-C. Damage of *Retithrips syriacus* (Mayet) on *Melaleuca* leaves.

cado, castor bean, coffee, myrtle, rose, vegetables and other plants (Anonymous, 1967). Mound and Marullo (1996) recorded it from Minas Geraes, Brazil, breeding on mature leaves of *Eucalyptus* trees; they also listed it from Florida (USA).

Economic Importance: The black vine thrips larvae as well as the adult suck sap from the host leaves, thus causing defoliation and shriveling. It also mars the fruits of many plants. The larva, while feeding, always carries on the tip of the abdomen droplets of feces that are deposited on the leaf causing a staining. This thrips larva causes severe loss to leaves and bolls of cotton in southern India, Malawi and Tanzania under hot and dry conditions (Anonymous, 1967). In the near East, this species is a pest of grapes, trees and shrubs and causes heavy infestations in castor bean plants. In general, the damage of this thrips interferes with the normal development of the host plants (Ananthakrishnan, 1955).

Records in Puerto Rico

The black vine thrips, *Retithrips syriacus* (Mayet) was first detected in Puerto Rico in San Juan, in a pre-departure quarantine inspection in 30 April 1993 on a *Jatropha curcas* L. leaf. Two collections done in 1994 by the senior author, in two different localities of Puerto Rico, revealed the presence of this thrips, which is a new record for Puerto Rico.

The voucher specimens in our collection at the Museum of Entomology and Tropical Biodiversity at the Agricultural Experiment Station, Río Piedras, P.R., are 12 adult specimens (sex undetermined) eight pupae and 21 larvae, under the Puerto Rico Accession Number—P.R. Acc. No. 1-94 collected at Río Piedras, P.R., Urb. University Gardens, on cayeput leaves, *Melaleuca quinquenervia*, 10 Jan 1994 by S. Medina-Gaud and O. Vélez. The other specimens are 38 adults, six pupae and eight larvae under P.R. Acc. No. 5-94 collected in Gurabo, P.R., Bo. Santa Bárbara, Rd. 189, Km 3.8 on leaves of *Melaleuca quinquenervia*, 15 April 1994 by S. Medina-Gaud. Specimens with the accession numbers P.R. Acc. No. 1-94 (6 specimens) and P.R. Acc. No. 5-94 (36 specimens) are deposited in the U.S. National Museum, at Beltsville, Maryland. In Puerto Rico *R. syriacus* has been collected only on the leaves of *Melaleuca quinquenervia* and *Jatropha curcas*. The feeding on the leaves of *Melaleuca* damages the beauty of the foliage of this plant, which is used as an ornamental tree in Puerto Rico. Feeding stages of the insect occur in colonies on the leaves sucking the sap, thus causing a silvery damage and the eventual death of leaves and small branches (Figure 3a-c). The deposit of fecal drops on the leaves also causes an ugly appearance. This species interferes with the normal development of *M. quinquenervia*.

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