Bibliography of the Tomato Pinworm, *Keiferia lycopersicella* (Walsingham) (Lepidoptera: Gelechiidae)

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The tomato pinworm (TPW), Keiferia lycopersicella (Walsingham), has been the subject of considerable taxonomic confusion since the first specimens were collected on tomatoes in the Imperial Valley of California in 1923 (28, 40). These specimens were misidentified as the eggplant leafminer, Pthorimaea glochinella (Zeller), and several early works treated K. lycopersicella under this name (40, 64, 66, 67, 69). In 1928, Busck described this pest as a new species, Pthorimaea lycopersicella, including material from Hawaii, California, and Mexico in the type-series (13, 101). He later (14) synonymized all members of the genus Pthorimaea Meyrick with the genus Gnorimoschema Busck, thus giving TPW the new combination, Gnorimoschema lycopersicella (Busck). Subsequently in 1939, Busck moved G. lycopersicella and three other members of Gnorimoschema to the new genus Keiferia, with Pthorimaea lycopersicella Busck (incorrectly given as Gnorimoschema lycopersicella) as the genotype. In 1965, K. lycopersicella (Busck) was determined to be conspecific with Eucatoptus lycopersicella Walsingham (1897), and the correct combination for this species became Keiferia lycopersicella (Walsingham) (39). References dealing with the systematics of TPW are listed in Table 1.

The TPW has become an important pest of tomatoes throughout North America. Shipment of infested fruits and seedlings has aided rapid dispersal into the major tomato producing regions of the United States (9, 28, 64, 107, and ref. in Table 2). This species has also been reported from Mexico, Cuba, and Peru (15, 23, 28, 51, 78). The larvae reduce the photosynthetic area available to tomatoes by mining and folding the foliage, but most economic losses occur when the fruit becomes contaminated (7, 28, 86).

Host suitability studies have shown that TPW can survive on a variety of solanaceous plants, including Solanum melongera L., S. dulcamara L., S. elaegnifolium Cav., and S. tuberosum L. (11, 46, 47, 115). Horsenettle, S. carolinense L., proved to be a suitable host in Pennsylvania (105), but not in Florida (86).

Although the braconids Apanteles dignus Muesebeck, A. epinotiae Viereck, A. scutellaris Muesebeck, and Diadegma blackburni (Cameron) commonly parasitize the TPW, population suppression has not proven economically feasible (20, 21, 26, 56, 68, 74, 112). Currently, pesticides offer the most effective control of TPW (75, 76, 81, 87, 93, 95, 96), but interest in alternate means of control and reducing pesticide use by improving sampling techniques is increasing (12, 32, 48, 88, 98, 118). References in these and related areas of research are categorized in Table 1.

The purpose of this manuscript is to provide an up-to-date reference list for research scientists interested in the biology, ecology, and population dynamics of TPW. The reference list contains proceedings, technical articles, and selected reports from the U.S. Bureau of Entomology Insect Pest Survey Bulletin. Other reports from the U.S. Bureau of Entomology Insect Pest Survey Bulletin, most of

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